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Before the
COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.

In the Matter of: DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords IV)	Docket No. 21–CRB–0001–PR (2023–2027)

WRITTEN REBUTTAL STATEMENT OF COPYRIGHT OWNERS

VOLUME III

PUBLIC VERSION

PUBLIC VERSION

Before the

UNITED STATES COPYRIGHT ROYALTY JUDGES

The Library of Congress

Washington, D.C.

In the Matter of: **DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (*Phonorecords IV*)**	Docket No. 21-CRB-0001-PR (2023–2027)

Written Testimony of Christopher C. Barry, CPA, MBA

(on behalf of the Copyright Owners)

April 22, 2022

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I. SCOPE OF MY ASSIGNMENT

1. I was engaged by counsel for the National Music Publishers Association ("NMPA") and Nashville Songwriters Association International ("NSAI") (collectively, the "Copyright Owners") to provide rebuttal testimony in response to the proposals for compulsory mechanical license rates and terms ("Rate Proposals") that were submitted in this rate setting proceeding by Amazon.com Services LLC ("Amazon"); Apple, Inc. ("Apple"); Alphabet, Inc. ("Google"); Pandora Media, a subsidiary of Sirius XM Holdings, Inc. ("Pandora"); and Spotify USA, Inc. ("Spotify") (collectively, the "Services"), and the accompanying testimony of the Services' expert witnesses. My focus is providing an accounting perspective on the Services' Rate Proposals and addressing the reasonableness of the Services' proposed terms and definitions relating to Service Provider Revenue and Total Cost of Content ("TCC").

II. QUALIFICATIONS

2. I was a Partner in the Forensic Services practice of PricewaterhouseCoopers LLP ("PwC"), where I worked for over 33 years. PwC is a member of an international network of accounting, tax, and advisory firms. I retired from PwC in 2017, and am now an independent consultant, often working with staff from other professional services organizations on forensic accounting and litigation projects. I earned a B.A. in Accounting from Franklin & Marshall College and a master's degree in Business Administration from the University of California at Berkeley. I am a licensed Certified Public Accountant ("CPA") in both Massachusetts and California and have over 40 years of professional experience. I am a member of the American Institute of Certified Public Accountants ("AICPA") and the Licensing Executives Society. My C.V. and a list of my testimony in the last four years is attached as **Appendix A**.
3. I was qualified by the Copyright Royalty Judges as an expert witness in the fields of forensic accounting and financial accounting, in connection with my testimony on behalf of the Copyright Owners in the *Phonorecords III* proceeding.[1] I have served as an expert witness many times over the course of my career, testifying at trial in over 70 matters in state and

[1] Determination of Royalty Rates & Terms for Making & Distributing Phonorecords, 84 Fed. Reg. 1918 (Feb. 5, 2019) ("*Phonorecords III*").

federal courts as well as in private arbitrations. In addition to my litigation-related work, I have provided advisory services related to intellectual property and business valuation. My professional experience covers a wide range of industries including, among others, media and entertainment, medical equipment and devices, distributors, pharmaceuticals, consumer products, electronics, construction, semiconductors, industrial/building products, insurance, energy, and transportation. Most of these projects have involved the application of financial and/or cost accounting principles and practices, as well as financial and valuation analyses.

4. I am compensated for the time spent on this matter at a standard hourly rate for my work. My compensation is in no way dependent on the substance of my opinions or the outcome of the rate proceeding. I was assisted in my work by members of PricewaterhouseCoopers, who I understand are also being compensated for their work based on standard hourly rates and have no economic interest in the outcome of the case.

III. DOCUMENTS CONSIDERED

5. In forming my expert opinions, I analyzed a number of documents related to this matter. Attached hereto as **Appendix B** is a list of the documents that I considered upon in formulating my opinions in this matter. I understand discovery is ongoing, and I reserve the right to modify or supplement the opinions set forth herein as additional documents, opposing expert reports, testimony, or other information becomes available.

IV. SUMMARY OF OPINIONS

6. The Copyright Owners have proposed a definition of Service Provider Revenue in this proceeding, which I will describe herein with the term "Service Provider Revenue." The five Services have between them proposed four different definitions of Service Provider Revenue, each of which includes various exclusions of revenue attributed to certain content available within offerings as well as related to refunds, chargebacks/declined payments and taxes, and various deductions for expenses such as commissions and fees and costs to obtain the revenue.[2]

[2] Amazon Amended Written Direct Statement at (eCRB Dkt. No. 26305) ("Amazon WDS"), Ex. A.1, pp. 6-8; Apple Amended Written Direct Statement ("Apple WDS") (eCRB Dkt. No. 26286) at Am. Proposed Regs, pp. 5, 8; Corrected Written Direct Statement of Google LLC ("Google WDS") (eCRB Dkt. No. 26256) at Tab B, pp. 4-5, 7;

For clarity, I will collectively describe the Services' definitions for Service Provider Revenue with the term "Net Service Provider Revenue."

7. Each Service has included language in its proposal stipulating that revenues be calculated in accordance with "Generally Accepted Accounting Principles" ("GAAP"), which are the accounting standards developed by the Financial Accounting Standards Board ("FASB") that govern how companies' financial reporting information is prepared. As described in more detail below, these references to GAAP do not completely restrain the discretion of the Services in measuring revenue. Rather, the Services' Rate Proposals would allow them ample discretion and opportunity to depress revenues attributable to the music offerings, and thus the royalties payable to the Copyright Owners, even while remaining "in accordance with GAAP."
8. GAAP provides the principles-based framework for recognition, measurement, presentation, and disclosures of financial reporting information, including revenue, on a consistent basis. However, GAAP does not dictate the particular amount of revenue a company must recognize in a given situation. Rather, GAAP's framework relies on management's judgment and estimation to determine what revenue a company reports.
9. In particular, GAAP's revenue recognition principles are subject to broad management discretion with respect to the allocation of revenue to the specific components of a customer offering, whether that offering is deemed a "bundle" under the Copyright Royalty Board ("CRB")'s regulations or not. The definitions and terms proposed by the Services and GAAP principles would allow the Services to exercise their own judgment in deciding how much Net Service Provider Revenue they deem as includable in the all-in royalty pool, which under the Services' proposals, provides the initial basis[3] of the Services' royalty payments to the Copyright Owners.[4]

Pandora Written Direct Statement (Dkt. No. 25854) ("Pandora WDS") at Proposed Rates & Terms, pp. 7-8; Spotify Written Direct Statement ("Pandora WDS") (eCRB Dkt. No. 25876) at Vol. 1, Tab B, pp. 7-8. The foregoing submissions are sometimes referred to individually or collectively as the Services' "Rate Proposal(s)."

[3] Each of the Services' Rate Proposals outline rate calculations whose first step is calculating the all-in revenue pool as a percent of Net Service Provider Revenue from offerings. This is supplemented by various *greater of* calculations involving either a percent of TCC or royalty floors defined generally by per subscriber monthly rates. Amazon WDS at Ex. A.1, pp. 10-12; Apple WDS at Am. Proposed Regs, pp. 11-13; Google WDS at Tab B, pp. 9-12; Pandora WDS at Proposed Rates & Terms, pp. 10-13; Spotify WDS at Vol. 1, Tab B, pp. 11-15.

[4] Amazon, Spotify, and Pandora define Net Service Provider Revenue in their Rate Proposals as only the portion representing Licensed (or Covered) Activity, and specifically exclude the portion for Non-Licensed Activity. Amazon

10. The Services also propose certain deductions be made in determining Net Service Provider Revenue. These expenses are not well defined within the proposals, and the Services would have significant discretion as to how much the gross revenues should be reduced based on these purported expenses in the determination of Net Service Provider Revenue. Some of the deductions that the Services propose are not even recognized by GAAP as deductions in the determination of net revenue. Thus, while the Services incorrectly imply that GAAP will ensure appropriate accounting of revenues, they omit this claim when it comes to the deductions from revenue that they seek. As will be explained in detail within this report, nearly every aspect of the Services' determination of Net Service Provider Revenue allows for management judgment in measurement, and even the limited guidance of GAAP is only applicable to some aspects.

V. THE SERVICES' RATE PROPOSALS ALLOW FOR MANAGEMENT DISCRETION IN DETERMINING THE REVENUE BASE ON WHICH ROYALTIES WOULD BE CALCULATED

A. GAAP Requires Management Estimates and Judgment, which is Inherently Discretionary.

11. GAAP represents the accounting standards developed by the FASB that govern how companies' financial reporting information should be prepared. Financial reporting information details the financial position (*i.e.*, balance sheet), results of operations (*i.e.*, income statement), and explanatory disclosures for a reporting entity. The FASB is recognized by the U.S. Securities and Exchange Commission's (the "SEC")[5] as the designated accounting standard setter for public companies, such as the Services.
12. GAAP is based on the established concepts, objectives, standards, and conventions that guide how financial statements are prepared and presented and lays out the principles-based

WDS at Ex. A.1, p. 7; Pandora WDS at Proposed Rates & Terms, p. 8; Spotify WDS at Vol. 1, Tab B, p. 8. Apple's and Google's Rate Proposals impose a similar limitation by allocating Net Service Provider Revenue to Licensed or Covered Activity to determine the all-in or payable royalty pool. Apple WDS at Am. Proposed Regs, pp. 12-13; Google WDS at Tab B, pp. 10. All five Services' Rate Proposals thereby end up at the same place, *i.e.* allocating revenues between Licensed and Non-Licensed Activity and excluding the latter from the royalty base.

[5] The SEC is an entity created by Congress with the mission of protecting investors; maintaining fair, orderly, and efficient capital markets; and facilitating capital formation (https://www.investor.gov/introduction-investing/investing-basics/role-sec).

framework for recognition, measurement, presentation, and disclosures of financial reporting information.[6,7] However, within that framework, the FASB explicitly recognizes the integral requirement for management judgment in reporting financial information in accordance with GAAP, stating "[t]o a large extent, **financial reports are based on estimates, judgments and models rather than exact depictions** [emphasis added]."[8]

13. In response to the limitations of financial reporting under GAAP, the SEC established an Advisory Committee on Improvements to Financial Reporting (the "Advisory Committee") to provide "recommendations to increase the usefulness of financial information to investors, while reducing the complexity of the financial reporting system to investors, preparers, and auditors."[9] The Advisory Committee's Final Report dedicated an entire section to the level of judgment required in the principles-based GAAP standards.[10] The Advisory Committee identified the following areas where judgments are made in the preparation of financial statements:[11]
    i. Selection of an accounting standard
    ii. Implementation of an accounting standard
    iii. Lack of applicable accounting standards
    iv. Financial statement presentation
    v. Estimating the actual amount to record
    vi. Evaluating the sufficiency of evidence
14. The Advisory Committee recognized that "[e]ven when there is little debate as to which accounting standard to apply to a transaction, there can be significant judgments that need to be made in estimating the actual amount to record."[12] Further, in estimating that amount,

[6] https://fasb.org/page/PageContent?pageId=/standards/concepts-statements.html.
[7] The Accounting Standards Codification ("ASC" or "Codification") is the single authoritative source of GAAP recognized by the FASB (FASB Accounting Standards Codification: About the Codification v 4.10). Additionally, rules and interpretative releases of the SEC are considered authoritative GAAP for SEC registrants (ASC 105-10-05).
[8] CON 8, Chapter 1, OB11 (emphasis added).
[9] Final Report of the Advisory Committee on Improvements to Financial Reporting to the United States SEC, August 1, 2008, pg. ii (the "Advisory Committee's Final Report").
[10] Final Report, Section III. Judgment, pg. 88.
[11] Final Report, Section III. Judgment, pgs. 80–91.
[12] Final Report, Section III. Judgment, pg. 90. Examples of areas with significant judgment provided by the Advisory Committee include the assumptions and methodology used by management to the allowance for loan losses or to determine an impairment of an asset.

management must assess the sufficiency of the evidence used to support management's conclusion on the amount recorded, which the Advisory Committee recognizes as "the most subjective and difficult judgments to make."[13] Thus, although a particular GAAP principle may apply, that does not mean that management does not exercise substantial control over the final determination of how much revenue should be recorded, through choices made both in applying the principle and in deciding how much evidence is required to support that choice.

B. GAAP Allows the Services to Exercise Discretion Over Their Revenue Recognition.

15. The Services have each submitted Rate Proposals that determine the royalty payments owed to the Copyright Owners initially based on Net Service Provider Revenue. Although some of the Services define Net Service Provider Revenue differently, one common theme throughout the Rate Proposals is that the royalties owed to the Copyright Owners decrease as Net Service Provider Revenue decreases (unless and until an alternative rate prong, such as TCC or a per-subscriber or per-play rate, governs). This structure thus creates a clear incentive for the Services to report lower Net Service Provider Revenue, to the extent possible.
16. In each of their Rate Proposals, the Services have asserted that their revenue calculations will be "subject to" or "in accordance with" GAAP, which appears to suggest that the Services will be limited in the use of their discretion to measure and determine Net Service Provider Revenue. However, GAAP provides management with considerable discretion on how revenues may be recognized. As described below, GAAP allows for significant management input to revenue recognition, and thus does not reliably protect against lower royalty payments based on reduced Net Service Provider Revenue.
17. Moreover, Amazon's, Spotify's and Pandora's definitions of Net Service Provider Revenue further increase the control that management can exercise over the revenue upon which royalties to Copyright Owners may be based, by defining Net Service Provider Revenue to exclude any revenue that is not "directly derived" from Licensed Activity.[14] What constitutes "directly derived" is not defined within the proposals nor within GAAP, meaning GAAP would

[13] Final Report, Section III. Judgment, pg. 91.
[14] *See* Amazon WDS at Ex. A.1, pp. 6-8; Apple WDS at Am. Proposed Regs, pp. 5, 8; Google WDS at Tab B, pp. 4-5, 7; Pandora WDS at Proposed Rates & Terms, pp. 7-8; Spotify WDS at Vol. 1, Tab B, pp. 7-8.

not constrain management's discretion in determining what revenue is considered "directly derived" from the offering.

18. GAAP guidance for the recognition of revenue is codified in ASC 606, Revenue from Contracts with Customers. The objective of ASC 606 is "to report useful information to users of financial statements about the nature, amount, timing, and uncertainty of revenue and cash flows arising from a contract with a customer"[15] by "recogniz[ing] revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services."[16]
19. ASC 606 identifies five steps needed to determine the revenue to be recognized during a period, certain of which require significant management judgment:[17]
    i. Identify the contract(s) with a customer;
    ii. Identify the separate performance obligations in the contract;
    iii. Determine the transaction price;
    iv. Allocate the transaction price to the performance obligations in the contract; and
    v. Recognize revenue when or as the entity satisfies a performance obligation.
20. This guidance, does not, however, restrict the Services from exercising discretion in determining which revenue a Service wishes to recognize in connection with its service offerings. That is especially true where the Services' proposals all seek to allocate revenue between Licensed Activities and other types of content offered within a single offering.
21. The GAAP requirement to "allocate the transaction price to the performance obligations in the contract" in determining revenue is very significant to a key aspect of the Services' business—selling combined offerings to their customers.[18] As explained above, GAAP inherently requires management judgment with respect to revenue recognition. That exercise of judgment is particularly applicable when it comes to revenue related to the Services' offerings in instances where the elements' standalone selling prices ("SSPs") are not directly observable in the market. To the extent the Services claim the need to allocate revenues between Licensed

[15] ASC 606-10-10-1.
[16] ASC 606-10-10-2.
[17] ASC 606-10-25; ASC 606-10-32.
[18] *See* Services' proposed definitions of "Bundled Subscription Offering," "Mixed Service Bundle," and "Hardware Bundles" at See Amazon WDS at Ex. A.1, pp. 1-4; Apple WDS at Am. Proposed Regs, pp. 2, 4; Google WDS at Tab B, pp. 2, 4; Pandora WDS at Proposed Rates & Terms, pp. 2,4; Spotify WDS at Vol. 1, Tab B, pp. 1-2, 4.

Activity and non-Licensed Activity that are offered together, GAAP still provides management discretion in making that allocation, and that discretion could be used to diminish Net Service Provider Revenues to the detriment of the Copyright Owners. On the other hand, the Copyright Owners' proposed definition of Service Provider Revenues would not allow for such management discretion and diminution of the revenues used for calculating royalties.

22. For example, GAAP provides that discounts for multi-component offerings (where there is not observable evidence to specifically attribute the discount to some, but not all, of the components) should be allocated in proportion to the components' SSPs. In doing such allocation, management starts with actual, observable SSPs, where such exists for each component. When SSPs are not available, such as when a Service offers a service only in a "bundle" and not as a standalone product, or has a highly variable price for the service, then GAAP permits management to estimate the standalone prices for the parts of the bundle using one of several methods of management's choosing. Since ultimately the Services can decide what products or services to bundle together, management will thus have the option to structure a bundle in such a way as to bypass GAAP's "actual" SSP allocation and instead trigger GAAP's discretionary "estimated" SSP allocation method.

23. Accordingly, GAAP alone does not provide sufficient restrictions on the Services' revenue recognition and allocation and would leave such decisions to each Services' management. Rather, requiring the Services to use observable evidence such as the existing SSP of that offering on a standalone basis, if available, or the SSP of the closest comparable offering available in the market, would better restrict discretion and encourage universal revenue recognition and allocation by all Services.

24. [redacted] While Prime Music is one benefit aimed at inducing customers to purchase Amazon Prime subscriptions (and thus, to spend more on the Amazon platform overall), the value of Prime Music in relation to the other components of Amazon Prime would be wholly within Amazon's discretion. I analyzed a variety of Amazon's internal financial documents and communications from 2017 through 2022, which I understand were produced by Amazon in discovery in this proceeding. [redacted]

[redacted][19]

i. [redacted]

ii. [redacted].

iii. [redacted]

iv. [redacted]

v. [redacted]

vi. [redacted]

vii. [redacted]

[19] COEX.13.1 at AMZN_PHONO IV_00015718. [redacted]

[redacted]"

25. Based on its Rate Proposal, Amazon's GAAP model is presumably the methodology that it would use to determine Net Service Provider Revenue. [redacted][20]

[redacted]

26. [redacted]

[20] [redacted]

[21] [redacted]

[22] COEX.13.1 at AMZN_PHONO IV_00015718.
[23] COEX 13.2 at AMZN_PHONO IV_00015759.
[24] COEX 13.3 at AMZN_PHONO IV_00015823.
[25] COEX 13.4 at AMZN_PHONO IV_00015862.
[26] COEX 13.5 at AMZN_PHONO IV_00015950.
[27] COEX 13.6 at AMZN_PHONO IV_00017168.

[redacted][28] [redacted]

28. [redacted][29] [redacted]

C. <u>The Services' proposal to deduct certain expenses in the determination of Service Provider Revenue is not in accordance with GAAP.</u>

29. The Services also propose that a number of expenses be deducted in the determination of Net Service Provider Revenue, which would further reduce the revenue base used to calculate the Copyright Owners' royalty payments. The expenses proposed for deduction vary by Service and include refunds, charge-backs, declined payments, applicable taxes, in-app commission fees, third party fees, other fees payable to partners, and the actual cost of obtaining the revenue

[28] COEX 13.6 at AMZN_PHONO IV_00017168.
[29] COEX 13.7 at AMZN_PHONO IV_00015880.

(generally subject to certain percentage caps).[30] As proposed, the determination of these expense amounts is left to the discretion of management. Further, some of these expenses are not appropriate deductions in the determination of net revenue under GAAP.

30. The expenses the Services seek to deduct generally are not well defined (if at all) within the proposed terms, leaving management significant discretion in determining what expenses can be deducted for each category. For example, the Services propose a deduction from Net Service Provider Revenue for the "actual cost of obtaining that revenue, not to exceed 15%." However, what constitutes "actual costs to obtain revenue" is not defined within the proposed terms, nor is it clear whether the 15% limitation refers to the total of such costs or service revenue.[31] Another example of an ambiguous expense term by the Services is "applicable taxes," which could mean anything from sales taxes (presumably what is meant in this context) to property, excise, other business taxes, or even income taxes. The vagueness of these definitions suggests that management—without even any reference to GAAP—can decide which expenses and how much in these expenses can be used to reduce Net Service Provider Revenues and thus the Copyright Owners' royalty payments.

31. For example, Amazon excludes sales taxes collected from end users from its Net Service Provider Revenues.[32] [redacted].[33] [redacted]

[30] The Rate Proposals' expense caps are generally 15% for costs to acquire advertising or sponsorship revenue, 30% of revenue for carriage or in-app commissions and 10% of revenue for third-party and partner fees. Googles' Rate Proposal does not limit carriage / in-app commissions or third-party / partner fees it could deduct. *See* Amazon WDS at Ex. A.1, pp. 6-9; Apple WDS at Am. Proposed Regs, pp. 5, 8; Google WDS at Tab B, pp. 4-5, 7; Pandora WDS at Proposed Rates & Terms, pp. 7-8; Spotify WDS at Vol. 1, Tab B, pp. 7-8.

[31] Furthermore, ASC 340-40-25-1, Contracts with Customers, states that "[a]n entity shall recognize as an asset the incremental costs of obtaining a contract with a customer if the entity expects to recover those costs." The asset is then expensed over the life of the related contract (e.g., over the anticipated or average length of the subscriber or advertiser relationship). The Services' proposal to deduct the actual cost of obtaining the revenue could be inconsistent with GAAP if they advocate deducting the expense immediately rather than over the period benefitted.

[32] COEX 13.8 at p. 2 (Amazon Am. Response to Interrogatory No. 13).

[33] *See* Amazon Opp. to CO's Motion to Compel Production of Documents and Information from the Services Concerning their Rate Proposals (eCRB Dkt. No. 26103), Declaration and Certification of Kristin Bosworth Regarding Production Burdens at ¶4.

[redacted]

32. Additionally, the Services generally do not propose that the expenses to be deducted even be determined in accordance with GAAP, as they do for revenue. That omission is significant, because GAAP recognizes only certain items as proper deductions in the determination of net revenue, as opposed to expenses that would reduce a company's profit. For example, GAAP does not allow the deductions from revenue that the Services propose for carriage/in-app commission fees, third party fees, other fees payable to partners, and costs to obtain revenues. Rather, under GAAP these items should be presented as expenses, and thus would reduce the Services' profit rather than net revenue. Thus, to the extent the Services are proposing rate calculations that are premised on their *revenue* rather than their *profit*, such deductions are not proper under GAAP.
33. Moreover, even requiring that expenses be calculated in accordance with GAAP may still result in instances that disadvantage the Copyright Owners in the determination of Net Service Provider Revenue. For example, Google's definition of Net Subscription Revenue (one of the components of its Net Service Provider Revenue definition) contains a deduction for "carriage or in-app commission fees or any other fees payable to platform, device, or other distribution partners in connection with the Subscription Service transactions."[34] As disclosed in Google's annual report for fiscal year 2020, Google's "most significant judgment is determining whether [Google is] the principal or agent for app sales and in-app purchases through the Google Play store" for YouTube related revenues.[35] Google receives the full revenue from that subscription (albeit split between the Google Play Store commission revenue and YouTube Music subscription revenue). However, Google proposes the commission fee paid to Google Play Store be deducted in determining Net Subscription Revenue of YouTube Music. The practical impact of Google's treatment is that while consolidated Google recognizes the 100% combined

[34] Google WDS at Tab B, pp. 4-5, 7.
[35] COEX 13.9 at GOOG-PHONOIV-00004653.

revenues, the Copyright Owners' royalties would be calibrated on only the net remainder revenue bookkept to YouTube Music.[36]

34. As another example, Spotify / Pandora's proposed definitions of TCC allows the Services to exercise discretion in tabulating expenses for the content it offers.[37] Spotify / Pandora define TCC to mean:

> The total amount expensed by a Service Provider or any of its Affiliates in accordance with GAAP for rights to make Eligible Interactive Streams or Eligible Limited Downloads of a musical work embodied in a sound recording through the Service Provider for the Accounting Period, which amount shall equal the Applicable Consideration for those rights at the time the Applicable Consideration is properly recognized as an expense under GAAP. . . . **For the avoidance of doubt, Applicable Consideration shall not include any consideration paid to a Sound Recording Company (or Affiliate thereof) for Non-Covered Works, with any allocation of TCC between Licensed Activity and Non-Covered Works to be made in accordance with GAAP [emphasis added]**.

35. The proposed definition thus would allow the Services to exclude the portion of the amounts paid to Sound Recording Companies that the Services, in their discretion, attribute to Non-Covered Works (as compared to Licensed Activity). While such allocation of expenses are "to be made in accordance with GAAP," as set forth above, GAAP would still allow the Services' management discretion in determining such an allocation. GAAP does not prescribe a particular methodology for determining how much of an expense such as the amount paid to a Sound Recording Company should be allocated to the value of Licensed Activity versus other activities.

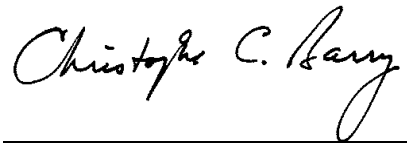
[36] Apple's App Store and Apple Music likely have the same issue with consolidated music subscription revenue sold through an in-app purchase, a percent of which Apple would herein seek to exclude from Net Service Provider Revenue under its proposed definition of Net Subscription Revenue. Apple WDS at Am. Proposed Regs, pp. 5, 8.
[37] Google's Rate Proposal also would exclude from TCC the non-covered works portion through its Allocation percentage, per Section 385.21(b). Google WDS at Tab B, pp. 9-12.

VI. CONCLUSION

36. The Services' Rate Proposals create a direct link between their Net Service Provider Revenues and the royalty payments owed to the Copyright Owners, thus creating an inherent incentive for the Services to lower their Net Service Provider Revenue whenever possible. The Services' suggestion that their Net Service Provider Revenue be calculated according to GAAP does not provide a meaningful check on the Services' ability to act on this incentive, however, because GAAP permits certain management discretion with respect to recognizing and allocating revenue. In addition, the Services' proposals for calculating Net Service Provider Revenue would allow the Services to deduct "expenses" from their revenue that are ill-defined; not recognized by GAAP as contra-revenue; or, even if in accordance with GAAP, could be used by the Services to disadvantage the Copyright Owners. The Services would also have discretion under Google's, and Spotify's/Pandora's Rate Proposals with respect to apportionment of TCC expenses. Finally, Amazon's proposed net remittance of sales taxes deducted could artificially reduce Net Service Provider Revenue. Accordingly, it is my opinion that, from an accounting perspective, the Services' Rate Proposals would provide ample opportunity for the Services to depress the Copyright Owners' royalty payments.

I, Christopher C. Barry, declare under penalty of perjury that the statements contained herein are true and correct to the best of my knowledge, information and belief.

Executed on April 22, 2022 in Naples, Florida.



Christopher C. Barry, CPA, MBA

Appendix A

Christopher C. Barry, CPA, MBA

Forensic Accountant

Professional History

- Independent Consultant: 2017 - present
- PricewaterhouseCoopers: Forensic Services - 1984 to 2017
  - San Francisco 1984 - 1987
  - Boston 1987 – 2017
    - Partner 1991-2017
- Other Big-4 Accounting: Accounting and Auditing Services, 1979 to 1982
- CPA since 1982 (licensed in CA and MA)

Experience

Several years' experience in auditing financial statements for a wide variety of companies, including some in manufacturing, franchising, retailing, banking, publishing and agribusiness. Handled accounting issues concerning financial statement reporting, including classification, recognition and disclosures.

Consulting experience in financial matters, with an emphasis on business valuation, accounting investigations, contract compliance verification and various litigation support matters. Assisted management in the areas of quantifying damages/claims related to litigation, evaluating appropriateness of financial and cost accounting procedures, financial modelling and other analytical procedures.

Substantial damage quantification experience, including cases involving intellectual property, breach of contract, antitrust, forensic accounting investigation, dealer termination, valuation of closely-held businesses, securities fraud, wrongful death/personal injury, post-closing disputes and accountant's liability. Numerous forensic accounting investigations, including financial reporting fraud, False Claims Act analyses, diversion of funds and embezzlements. Expert testimony in approximately 70 cases, in both Federal and State courts and arbitrations. Served as expert witness on behalf of the National Music Publishers Association and Nashville Songwriters Association International in *In the Matter of Determination of Rates and Terms for Making and Distributing Phonorecord*s, Docket No. 16–CRB–0003–PR ("Phonorecords III").

Education and Affiliations

- B.A., Accounting, Franklin & Marshall College, cum laude, 1979
- M.B.A., University of California at Berkeley, 1984
- Certified Public Accountant (licensed in MA and CA)
- Member, American Institute of CPAs
- Member, Licensing Executive Society

Publications

- *Implications of the eBay case on Patent Infringement Damages*; AIPLA Meeting, Spring 2009
- Co-author of *Patent Infringement Damages* chapter in 5th Edition of Litigation Services Handbook, John Wiley & Sons 2012
- *PwC's Patent Litigation Studies: 2009 through 2017.*
- Co-author of *Patterns in Patent Litigation*, The Patent Lawyer, Sept/Oct. 2014 issue.

Testimony of Christopher C. Barry, Last Four Years

1. Hologic, Inc. and Cytyc Surgical Products v. Minerva Surgical, Inc.
   U.S. District Court, Delaware
   Case No.: C.A. No. 15-1031-SLR-SRF

2. Advice Interactive Group, LLC v. Web.com Group, Inc.
   U.S. District Court, Middle District Florida, Jacksonville Division
   Case No. 3:17-CV-00801-BJD-MCR
3. Surf City Corp. v. Mitsubishi Motors Credit of America, Inc., et al.
   Superior Court of California, Orange County
   Case No.: 30-2015-00788702-CU-CO-CJC

4. America's Test Kitchen, Inc. v. Christopher Kimball, CPK Media, et al.
   MA Superior Court, Suffolk County
   Case No.: 16-3325-BLS-2

5. Lantheus, Inc. v. Pharmalucence / Sun Pharmaceuticals
   AAA Arbitration, Boston
   Case No.: 01-17-0006-8524

6. Mahindra Automotive North America v. Fiat-Chrysler Automotive
   USDC, E.D. MI
   Case No.: 2:18-CV-12645-GAD-SDD

7. CardioNet LLC v. InfoBionic, Inc.
   USDC, MA
   Case No.: 1:15-cv-11803-IT

8. Wiremold v. Thomas & Betts
   USDC, CT
   Case No.: 3:16-cv-02133-VLB

9. Inline Plastics Corp. v. Lacerta Group, Inc.
   USDC, MA
   Case No.: 1:18-cv-11631

10. Braman Motors, Inc. et al. v. BMW of North America, LLC
    USDC, S.D. FL
    Case No.: 17-cv-23360-DPG

11. Hologic, Inc. v. Minerva Surgical, Inc.
    USDC, DE
    Case No. CA-20-925-JFB-SLR

12. Quentin Keefe v. LendUS, LLC
    USDC, N.H.
    Case No.: 1:20-CV-00195-JD

Appendix B

Phonorecords IV
Appendix B - Documents Considered

No.	Production Bates - Beginning	Production Bates - Ending	File Name	File Type	Party	File Description
1	AMZN_Phono IV_00000001	AMZN_Phono IV_00000001	[redacted]	xlsx	Amazon	[redacted]
2	AMZN_Phono IV_00003113	AMZN_Phono IV_00003113	[redacted]	xlsx	Amazon	N/A
3	AMZN_Phono IV_00003128	AMZN_Phono IV_00003128	AMZN_Phono IV_00003113	xlsx	Amazon	N/A
4	AMZN_Phono IV_00003147	AMZN_Phono IV_00003147	[redacted]	xlsx	Amazon	[redacted]
5	AMZN_Phono IV_00003550	AMZN_Phono IV_00003550	[redacted]	xlsx	Amazon	[redacted]
6	AMZN_Phono IV_00009318	AMZN_Phono IV_00009332	[redacted]	pdf	Amazon	[redacted]
7	AMZN_Phono IV_00015463	AMZN_Phono IV_00015463	[redacted]	xlsx	Amazon	[redacted]
8	AMZN_Phono IV_00015465	AMZN_Phono IV_00015465	[redacted]	xlsx	Amazon	[redacted]
9	AMZN_Phono IV_00015534	AMZN_Phono IV_00015534	[redacted]	xlsx	Amazon	[redacted]
10	AMZN_Phono IV_00015537	AMZN_Phono IV_00015537	[redacted]	xlsx	Amazon	[redacted]
11	AMZN_Phono IV_00015545	AMZN_Phono IV_00015545	[redacted]	xlsx	Amazon	[redacted]
12	AMZN_Phono IV_00015558	AMZN_Phono IV_00015558	[redacted]	xlsx	Amazon	[redacted]
13	AMZN_Phono IV_00015564	AMZN_Phono IV_00015564	AMZN_Phono IV_00015558	xlsx	Amazon	[redacted]
14	AMZN_Phono IV_00015646	AMZN_Phono IV_00015646	[redacted]	xlsx	Amazon	[redacted]
15	AMZN_Phono IV_00015701	AMZN_Phono IV_00015735	[redacted]	pdf	Amazon	[redacted]
16	AMZN_Phono IV_00015736	AMZN_Phono IV_00015769	[redacted]	doc	Amazon	[redacted]
17	AMZN_Phono IV_00015770	AMZN_Phono IV_00015798	[redacted]	pdf	Amazon	[redacted]
18	AMZN_Phono IV_00015799	AMZN_Phono IV_00015815	[redacted]	pdf	Amazon	[redacted]
19	AMZN_Phono IV_00015816	AMZN_Phono IV_00015831	[redacted]	pdf	Amazon	[redacted]
20	AMZN_Phono IV_00015835	AMZN_Phono IV_00015849	[redacted]	pdf	Amazon	[redacted]
21	AMZN_Phono IV_00015850	AMZN_Phono IV_00015877	[redacted]	pdf	Amazon	[redacted]
22	AMZN_Phono IV_00015878	AMZN_Phono IV_00015881	[redacted]	pdf	Amazon	[redacted]
23	AMZN_Phono IV_00015882	AMZN_Phono IV_00015889	[redacted]	pdf	Amazon	[redacted]
24	AMZN_Phono IV_00015900	AMZN_Phono IV_00015926	[redacted]	pdf	Amazon	[redacted]
25	AMZN_Phono IV_00015930	AMZN_Phono IV_00015962	[redacted]	pdf	Amazon	[redacted]
26	AMZN_Phono IV_00015963	AMZN_Phono IV_00015980	[redacted]	pdf	Amazon	[redacted]
27	AMZN_Phono IV_00015981	AMZN_Phono IV_00015997	[redacted]	pdf	Amazon	[redacted]
28	AMZN_Phono IV_00015998	AMZN_Phono IV_00016011	[redacted]	pdf	Amazon	[redacted]
29	AMZN_Phono IV_00016012	AMZN_Phono IV_00016030	[redacted]	pdf	Amazon	[redacted]
30	AMZN_Phono IV_00016118	AMZN_Phono IV_00016135	[redacted]	pdf	Amazon	[redacted]
31	AMZN_Phono IV_00016167	AMZN_Phono IV_00016183	[redacted]	pdf	Amazon	[redacted]
32	AMZN_Phono IV_00016191	AMZN_Phono IV_00016205	[redacted]	doc	Amazon	[redacted]
33	AMZN_Phono IV_00016213	AMZN_Phono IV_00016249	[redacted]	doc	Amazon	[redacted]
34	AMZN_Phono IV_00016250	AMZN_Phono IV_00016292	[redacted]	doc	Amazon	[redacted]
35	AMZN_Phono IV_00016293	AMZN_Phono IV_00016329	[redacted]	doc	Amazon	[redacted]
36	AMZN_Phono IV_00016330	AMZN_Phono IV_00016371	[redacted]	doc	Amazon	[redacted]

Phonorecords IV
Appendix B - Documents Considered

No.	Production Bates - Beginning	Production Bates - Ending	File Name	File Type	Party	File Description
37	AMZN_Phono IV_00016372	AMZN_Phono IV_00016408	[redacted]	doc	Amazon	[redacted]
38	AMZN_Phono IV_00016416	AMZN_Phono IV_00016452	[redacted]	doc	Amazon	[redacted]
39	AMZN_Phono IV_00016460	AMZN_Phono IV_00016496	[redacted]	doc	Amazon	[redacted]
40	AMZN_Phono IV_00016497	AMZN_Phono IV_00016541	[redacted]	doc	Amazon	[redacted]
41	AMZN_Phono IV_00016542	AMZN_Phono IV_00016557	[redacted]	doc	Amazon	[redacted]
42	AMZN_Phono IV_00016558	AMZN_Phono IV_00016594	[redacted]	doc	Amazon	[redacted]
43	AMZN_Phono IV_00016595	AMZN_Phono IV_00016635	[redacted]	doc	Amazon	[redacted]
44	AMZN_Phono IV_00016643	AMZN_Phono IV_00016694	[redacted]	doc	Amazon	[redacted]
45	AMZN_Phono IV_00016695	AMZN_Phono IV_00016733	[redacted]	doc	Amazon	[redacted]
46	AMZN_Phono IV_00016734	AMZN_Phono IV_00016768	[redacted]	doc	Amazon	[redacted]
47	AMZN_Phono IV_00016783	AMZN_Phono IV_00016797	[redacted]	doc	Amazon	[redacted]
48	AMZN_Phono IV_00016798	AMZN_Phono IV_00016840	[redacted]	doc	Amazon	[redacted]
49	AMZN_Phono IV_00016841	AMZN_Phono IV_00016875	[redacted]	pdf	Amazon	[redacted]
50	AMZN_Phono IV_00016883	AMZN_Phono IV_00016905	[redacted]	doc	Amazon	[redacted]
51	AMZN_Phono IV_00016906	AMZN_Phono IV_00016916	[redacted]	pdf	Amazon	[redacted]
52	AMZN_Phono IV_00016917	AMZN_Phono IV_00016957	[redacted]	doc	Amazon	[redacted]
53	AMZN_Phono IV_00016958	AMZN_Phono IV_00016999	[redacted]	doc	Amazon	[redacted]
54	AMZN_Phono IV_00017000	AMZN_Phono IV_00017038	[redacted]	doc	Amazon	[redacted]
55	AMZN_Phono IV_00017046	AMZN_Phono IV_00017099	[redacted]	doc	Amazon	[redacted]
56	AMZN_Phono IV_00017108	AMZN_Phono IV_00017150	[redacted]	pdf	Amazon	[redacted]
57	AMZN_Phono IV_00017167	AMZN_Phono IV_00017182	[redacted]	doc	Amazon	[redacted]
58	AMZN_Phono IV_00018685	AMZN_Phono IV_00018692	[redacted]	msg	Amazon	[redacted]
59	AMZN_Phono IV_00020180	AMZN_Phono IV_00020203	[redacted]	pdf	Amazon	[redacted]
60	AMZN_Phono IV_00020214	AMZN_Phono IV_00020228	[redacted]	doc	Amazon	[redacted]
61	AMZN_Phono IV_00020229	AMZN_Phono IV_00020250	[redacted]	doc	Amazon	[redacted]
62	AMZN_Phono IV_00020251	AMZN_Phono IV_00020294	[redacted]	pdf	Amazon	[redacted]
63	AMZN_Phono IV_00020305	AMZN_Phono IV_00020326	[redacted]	pdf	Amazon	[redacted]
64	AMZN_Phono IV_00020341	AMZN_Phono IV_00020357	[redacted]	doc	Amazon	[redacted]
65	AMZN_Phono IV_00020811	AMZN_Phono IV_00020833	[redacted]	pdf	Amazon	[redacted]
66	AMZN_Phono IV_00020841	AMZN_Phono IV_00020869	[redacted]	doc	Amazon	[redacted]
67	AMZN_Phono IV_00020870	AMZN_Phono IV_00020899	[redacted]	doc	Amazon	[redacted]
68	AMZN_Phono IV_00020900	AMZN_Phono IV_00020939	[redacted]	doc	Amazon	[redacted]
69	AMZN_Phono IV_00020940	AMZN_Phono IV_00020975	[redacted]	doc	Amazon	[redacted]
70	AMZN_Phono IV_00020976	AMZN_Phono IV_00021003	[redacted]	doc	Amazon	[redacted]
71	AMZN_Phono IV_00045242	AMZN_Phono IV_00045278	[redacted]	pdf	Amazon	[redacted]
72	AMZN_Phono IV_00045279	AMZN_Phono IV_00045315	[redacted]	pdf	Amazon	[redacted]

Phonorecords IV
Appendix B - Documents Considered

No.	Production Bates - Beginning	Production Bates - Ending	File Name	File Type	Party	File Description
73	AMZN_Phono IV_00045316	AMZN_Phono IV_00045352	[redacted]	pdf	Amazon	[redacted]
74	AMZN_Phono IV_00045353	AMZN_Phono IV_00045395	[redacted]	pdf	Amazon	[redacted]
75	AMZN_Phono IV_00045396	AMZN_Phono IV_00045439	[redacted]	pdf	Amazon	[redacted]
76	AMZN_Phono IV_00045440	AMZN_Phono IV_00045483	[redacted]	pdf	Amazon	[redacted]
77	AMZN_Phono IV_00045484	AMZN_Phono IV_00045513	[redacted]	pdf	Amazon	[redacted]
78	AMZN_Phono IV_00045514	AMZN_Phono IV_00045546	[redacted]	pdf	Amazon	[redacted]
79	AMZN_Phono IV_00045547	AMZN_Phono IV_00045572	[redacted]	pdf	Amazon	[redacted]
80	AMZN_Phono IV_00045587	AMZN_Phono IV_00045619	[redacted]	pdf	Amazon	[redacted]
81	AMZN_Phono IV_00045620	AMZN_Phono IV_00045649	[redacted]	pdf	Amazon	[redacted]
82	AMZN_Phono IV_00045650	AMZN_Phono IV_00045674	[redacted]	pdf	Amazon	[redacted]
83	AMZN_Phono IV_00045675	AMZN_Phono IV_00045706	[redacted]	pdf	Amazon	[redacted]
84	AMZN_Phono IV_00045707	AMZN_Phono IV_00045734	[redacted]	pdf	Amazon	[redacted]
85	AMZN_Phono IV_00045735	AMZN_Phono IV_00045764	[redacted]	pdf	Amazon	[redacted]
86	AMZN_Phono IV_00045765	AMZN_Phono IV_00045794	[redacted]	pdf	Amazon	[redacted]
87	AMZN_Phono IV_00045795	AMZN_Phono IV_00045822	[redacted]	pdf	Amazon	[redacted]
88	AMZN_Phono IV_00045823	AMZN_Phono IV_00045852	[redacted]	pdf	Amazon	[redacted]
89	AMZN_Phono IV_00045853	AMZN_Phono IV_00045883	[redacted]	pdf	Amazon	[redacted]
90	AMZN_Phono IV_00045884	AMZN_Phono IV_00045913	[redacted]	pdf	Amazon	[redacted]
91	AMZN_Phono IV_00045914	AMZN_Phono IV_00045942	[redacted]	pdf	Amazon	[redacted]
92	AMZN_Phono IV_00045943	AMZN_Phono IV_00045969	[redacted]	pdf	Amazon	[redacted]
93	AMZN_Phono IV_00045970	AMZN_Phono IV_00046000	[redacted]	pdf	Amazon	[redacted]
94	AMZN_Phono IV_00046001	AMZN_Phono IV_00046031	[redacted]	pdf	Amazon	[redacted]
95	AMZN_Phono IV_00046032	AMZN_Phono IV_00046054	[redacted]	pdf	Amazon	[redacted]
96	AMZN_Phono IV_00046055	AMZN_Phono IV_00046085	[redacted]	pdf	Amazon	[redacted]
97	AMZN_Phono IV_00046109	AMZN_Phono IV_00046131	[redacted]	pdf	Amazon	[redacted]
98	AMZN_Phono IV_00046132	AMZN_Phono IV_00046154	[redacted]	pdf	Amazon	[redacted]
99	AMZN_Phono IV_00046155	AMZN_Phono IV_00046167	[redacted]	pdf	Amazon	[redacted]
100	AMZN_Phono IV_00046168	AMZN_Phono IV_00046190	[redacted]	pdf	Amazon	[redacted]
101	AMZN_Phono IV_00046191	AMZN_Phono IV_00046214	[redacted]	pdf	Amazon	[redacted]
102	AMZN_Phono IV_00046360	AMZN_Phono IV_00046370	[redacted]	pdf	Amazon	[redacted]
103	AMZN_Phono IV_00046371	AMZN_Phono IV_00046381	[redacted]	pdf	Amazon	[redacted]
104	AMZN_Phono IV_00046397	AMZN_Phono IV_00046414	[redacted]	pdf	Amazon	[redacted]
105	AMZN_Phono IV_00047466	AMZN_Phono IV_00047482	[redacted]	doc	Amazon	[redacted]
106	AMZN_Phono IV_00047566	AMZN_Phono IV_00047575	[redacted]	doc	Amazon	[redacted]
107	AMZN_Phono IV_00047588	AMZN_Phono IV_00047607	[redacted]	pdf	Amazon	[redacted]
108	AMZN_Phono IV_00047624	AMZN_Phono IV_00047634	[redacted]	pdf	Amazon	[redacted]
109	AMZN_Phono IV_00047635	AMZN_Phono IV_00047645	[redacted]	pdf	Amazon	[redacted]
110	AMZN_Phono IV_00047646	AMZN_Phono IV_00047655	[redacted]	pdf	Amazon	[redacted]
111	AMZN_Phono IV_00047656	AMZN_Phono IV_00047667	[redacted]	pdf	Amazon	[redacted]
112	AMZN_Remand_00001176	AMZN_Remand_00001189	[redacted]	pdf	Amazon	[redacted]
113	AMZN_Remand_00004009	AMZN_Remand_00004030	[redacted]	Email	Amazon	[redacted]
114	AMZN_Remand_00005991	AMZN_Remand_00006004	[redacted]	pdf	Amazon	[redacted]
115	AMZN_Remand_00006088	AMZN_Remand_00006100	[redacted]	pdf	Amazon	[redacted]
116	APL-PHONO4_00000339	APL-PHONO4_00000339	[redacted]	pdf	Apple	[redacted]

Phonorecords IV
Appendix B - Documents Considered

No.	Production Bates - Beginning	Production Bates - Ending	File Name	File Type	Party	File Description
117	APL-PHONO4_00000471	APL-PHONO4_00000471	[redacted]	xlsx	Apple	[redacted]
118	APL-PHONO4_00000472	APL-PHONO4_00000472	[redacted]	xlsx	Apple	[redacted]
119	APL-PHONO4_00001848	APL-PHONO4_00001848	[redacted]	pdf	Apple	[redacted]
120	APL-PHONO4_00008370	APL-PHONO4_00008370	[redacted]	xlsx	Apple	[redacted]
121	GOOG-PHONOIV-00002444	GOOG-PHONOIV-00002444	GOOG-PHONOIV-00002444	xlsx	Google	[redacted]
122	GOOG-PHONOIV-00003635	GOOG-PHONOIV-00003635	[redacted]	xlsx	Google	[redacted]
123	GOOG-PHONOIV-00004503	GOOG-PHONOIV-00004503	[redacted]	xlsx	Google	[redacted]
124	GOOG-PHONOIV-00004553	GOOG-PHONOIV-00004709	[redacted]	pdf	Google	[redacted]
125	GOOG-PHONOIV-00004710	GOOG-PHONOIV-00004846	[redacted]	pdf	Google	[redacted]
126	PAN_PHONO4_00000421	PAN_PHONO4_00000421	[redacted]	xlsx	Pandora	[redacted]
127	PAN_PHONO4_00000774	PAN_PHONO4_00000774	[redacted]	xlsx	Pandora	[redacted]
128	PAN_PHONO4_00000775	PAN_PHONO4_00000775	[redacted]	xlsx	Pandora	[redacted]
129	PAN_PHONO4_00001663	PAN_PHONO4_00001663	[redacted]	xlsx	Pandora	[redacted]
130	PAN_PHONO4_00002673	PAN_PHONO4_00002673	[redacted]	xlsx	Pandora	[redacted]
131	PAN_PHONO4_00002727	PAN_PHONO4_00002727	[redacted]	xlsx	Pandora	[redacted]
132	PAN_PHONO4_00002811	PAN_PHONO4_00002824	[redacted]	pdf	Pandora	[redacted]
133	PAN_PHONO4_00005638	PAN_PHONO4_00005671	[redacted]	ppt	Pandora	[redacted]
134	PAN_PHONO4_00007013	PAN_PHONO4_00007013	[redacted]	xlsx	Pandora	[redacted]
135	PAN_PRIII_Remand_00025550	PAN_PRIII_Remand_00025550	[redacted]	xlsx	Pandora	[redacted]
136	SPOT_P4_000001491	SPOT_P4_000001491	[redacted]	xlsx	Spotify	[redacted]
137	SPOT_P4_000002079	SPOT_P4_000002079	[redacted]	xlsx	Spotify	[redacted]
138	SPOT_P4_000002098	SPOT_P4_000002098	[redacted]	xlsx	Spotify	[redacted]
139	SPOT_P4_000002103	SPOT_P4_000002103	[redacted]	xlsx	Spotify	[redacted]
140	SPOT_P4_000003881	SPOT_P4_000003881	[redacted]	xlsx	Spotify	[redacted]
141	SPOT_P4_000005528	SPOT_P4_000005583	[redacted]	doc	Spotify	[redacted]
142	SPOT_P4_000005725	SPOT_P4_000005732	[redacted]	pdf	Spotify	[redacted]
143	SPOT_P4_000008368	SPOT_P4_000008368	[redacted]	xlsx	Spotify	[redacted]
144	SPOT_P4_000009061	SPOT_P4_000009061	[redacted]	xlsx	Spotify	[redacted]
145	N/A	N/A	RULING ON REGULATORY INTERPRETATION REFERRED BY UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA	pdf	N/A	Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services (SDARS 1)
146	N/A	N/A	10/13/2021 Written Direct Statement of Amazon.com Services LLC, Volume I – Proposed Rates and Terms	pdf	Amazon	N/A
147	N/A	N/A	03/08/2022 Amazon's Amended Written Direct Statement, Ex. A.1– Amended Proposed Rates and Terms	pdf	Amazon	N/A
148	N/A	N/A	10/13/2021 Written Direct Statement of Apple, Inc., Volume 1 – Proposed Rates and Terms	pdf	Apple	N/A

Phonorecords IV
Appendix B - Documents Considered

No.	Production Bates - Beginning	Production Bates - Ending	File Name	File Type	Party	File Description
149	N/A	N/A	03/08/2022 Amended Written Direct Statement of Apple Inc., Volume 1 – Amended Proposed Rates and Terms	pdf	Apple	N/A
150	N/A	N/A	10/13/2021 Written Direct Statement of Google LLC, Tab B – Proposed Rates and Terms of Google LLC	pdf	Google	N/A
151	N/A	N/A	03/03/2022 Corrected Written Direct Statement of Google LLC, Tab B – Proposed Rates and Terms	pdf	Google	N/A
152	N/A	N/A	10/26/2021 Corrected Written Direct Statement of Pandora Media LLC, Proposed Rates and Terms	pdf	Pandora	N/A
153	N/A	N/A	10/29/2021 Corrected Written Direct Statement of Spotify USA, Inc., Volume 1 Tab B – Proposed Rates and Terms	pdf	Spotify	N/A
154	N/A	N/A	2022-01-31 RESTRICTED Amazon Amended Responses to Copyright Owenrs' Third Set of Interrogatories	pdf	Amazon	Amazon.com Services LLC's Amended Responses to Copyright Owners' Third Set of Interrogatories
155	N/A	N/A	2022-02-03 RESTRICTED Amazon's Opposition to Copyright Owners' Motion to Compel Production of Documents and Informationfrom the Services Concerning Their Rate Proposal	pdf	Amazon	2022-02-03 RESTRICTED Amazon's Opposition to Copyright Owners' Motion to Compel Production of Documents and Informationfrom the Services Concerning Their Rate Proposal
156	N/A	N/A	2021-10-27 RESTRICTED Corrected Written Direct Statement of Copyright Owners, Volume 1 - Introductory Memorandum and Proposed Rates and Terms	pdf	Copyright Owners	2021-10-27 RESTRICTED Corrected Written Direct Statement of Copyright Owners, Volume 1 - Introductory Memorandum and Proposed Rates and Terms

PUBLIC VERSION

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
Library of Congress
Washington, D.C.

In re	)	
DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords IV)	)	Docket No. 21-CRB-0001-PR (2023-2027)

WRITTEN REBUTTAL TESTIMONY OF JEFFREY A. EISENACH, PH.D.

Expert Witness for Copyright Owners

April 22, 2022

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EXHIBITS

Exhibit No.	Description
7.83	[redacted] (AMZN_Phono IV_00004040)
7.84	[redacted] (AMZN_Phono IV_00015835)
7.85	[redacted] (AMZN_Phono IV_00016118)
7.86	[redacted] (AMZN_Phono IV_00020327)
7.87	[redacted] (AMZN_Phono IV_00017167)
7.88	[redacted] (AMZN_Phono IV_00015981)
7.89	[redacted] Review (AMZN_Phono IV_00020870)
7.90	[redacted] (AMZN_Phono IV_00020209)
7.91	[redacted] (AMZN_Phono IV_00015799)
7.92	[redacted] (February, 2021) (AMZN_Phono IV_00015221)
7.93	[redacted] (AMZN_Phono IV_00016031)
7.94	[redacted]
7.95	[redacted]
7.96	[redacted] (AMZN_Phono_IV_00020127)
7.97	[redacted] (SPOT_P4_000007250)
7.98	[redacted]., dated May 18, 2014 (GOOG-PHONOIII-00005484)
7.99	[redacted] (SPOT_P4_000004809)
7.100	Mirchandani *Phonorecords III* Hearing Testimony (Excerpts)
7.101	[redacted] (AMZN_Phono IV_00009287)
7.102	[redacted] (AMZN_Phono IV_00009369)
7.103	[redacted] (P4-SMP00003353)
7.104	[redacted] (APL-PHONO4_00009550)
7.105	[redacted] (PAN_CRB115_00093719)
7.106	[redacted] (SPOT_P4_000002101)

7.107	[redacted] (PAN_PHONO4_00001480)
7.108	[redacted] (AMZN_Phono IV_00000043)
7.109	[redacted] (PANWEBV_00005463; PAN_PHONO4_00004022)
7.110	Professor Marx Testimony Phonorecords III Hearing Testimony (Excepts)
7.111	[redacted] (APL-PHONO4_00000062)
7.112	[redacted] (APL-PHONO4_00000093)
7.113	[redacted] (APL-PHONO4_0000055)
7.114	[redacted] (APL-PHONO4_000000182)
7.115	[redacted] (APL-PHONO4_00000058)
7.116	[redacted] dated September 30, 2019 (APL-PHONO4_00000227)
7.117	[redacted] (APL-PHONO4_00000042)
7.118	[redacted]. (APL-PHONO4_00000128)
7.119	[redacted] (APL-PHONO4_00000156)
7.120	[redacted] (APL-PHONO4_00000082)
7.121	[redacted] (APL-PHONO4_00000123)
7.122	[redacted] (APL-PHONO4_00000049)

7.123	[redacted] (APL-PHONO4_00000130)
7.124	[redacted] (APL-PHONO4_00000176)
7.125	[redacted] (AMZN_Phono IV _00015882)
7.126	[redacted] (AMZN00075576)
7.127	[redacted] (AMZN_Remand_00001625)
7.128	[redacted] (AMZN_Remand_00000398)
7.129	[redacted] (APL-PHONO4_00001401)
7.130	[redacted], dated May 1, 2017 (GOOG-PHONOIV-00001460)
7.131	[redacted] (GOOG-PHONOIV-00001637)
7.132	[redacted] (SPOT_P4_000004572)
7.133	Transcript of Spotify: For the Record, August 11, 2020 (SPOT_P4_000007346)
7.134	[redacted] (GOOG-PHONOIII-00005484)
7.135	[redacted] (APL-PHONO4_00000234)
7.136	[redacted] (GOOG-PHONOIV-00002401)
7.137	Levine *Phonorecords III* Hearing Testimony (Excerpt)
7.138	Sony Music and Anghami Launch Arabic Record Label – Billboard
7.139	[redacted] 2019 (P4-SMP00003481)
7.140	Dominick Reuter, Amazon Just Hiked the Cost of Prime Membership by 16% to $139 for Millions of Its Existing Customers. The New Charges Start Friday
7.141	INTENTIONALLY OMITTED
7.142	Jennifer Maas, Amazon Closes $8.5 Billion Acquisition of MGM
7.143	Elena Segal, Songwriters and Publishers Should Never Be An Afterthoughts for Digital Services
7.144	RIAA 2021-Year-End-Music-Industry-Revenue-Report
7.145	Statement of Bureau of Competition Director Richard A. Feinstein In the Matter of Vivendi, S.A. and EMI Recorded Music September 21, 2012

7.146	Statement of Chair Lina M. Khan, Commissioner Rohit Chopra, and Commissioner Rebecca Kelly Slaughter on the Withdrawal of the Vertical Merger Guidelines
7.147	S&P Global, The Economics of Mobile Music, 2020
7.148	Ty Pendlebury, Best Music Streaming Service for 2022
7.149	Amazon Not Stocking New Beyonce CD Following iTunes Exclusive
7.150	Spotify Technology SA's (SPOT) Management on 2022 Morgan Stanley Technology, Media and Telecom Conference - Transcript
7.151	Amazon, MGM joins Prime Video and Amazon Studios
7.152	Amazon, Amazon Prime Price Change as of February 3, 2022
7.153	Amazon, Which Music Services are Available on Alexa?
7.154	Amazon, Amazon Music Prime Streaming Limit on Multiple Devices
7.155	Apple, Apple Music
7.156	Apple, Introducing Apple Music -- All the Ways You Love Music. All in One Place.
7.157	U.S. v. ASCAP Second Amended Final Judgment, Civ Action No. 41-1395, dated June 11, 2001
7.158	U.S. v. BMI Final Judgment, Civ No. 64-Civ-3787, dated December 29, 1966
7.159	INTENTIONALLY OMITTED
7.160	Dan Whateley, How TikTok is changing the music industry
7.161	[redacted] (AMZN_Phono IV_00047363)
7.162	[redacted] (APL-PHONO4_00005017)

I. INTRODUCTION AND SUMMARY OF FINDINGS

1. My name is Jeffrey A. Eisenach. I am a Managing Director at National Economic Research Associates (NERA). I have been engaged by the National Music Publishers' Association ("NMPA") and Nashville Songwriters Association International ("NSAI") ("Copyright Owners") to provide my expert economic opinion on economic issues in this proceeding. I am being paid for my participation in this matter at my standard hourly rate, as are the NERA staff members who have assisted me in preparing this report. My compensation is not dependent upon my findings or on the outcome of this proceeding. I submitted direct testimony in this proceeding on October 13, 2021 ("Eisenach WDT"). My credentials were described in my WDT; an updated copy of my curriculum vitae is attached as Appendix A.

2. I have now been asked to examine the evidence and arguments put forward in direct testimony by Amazon.com Services LLC ("Amazon"), Apple Inc. ("Apple"), Google LLC ("Google"), Pandora Media, LLC ("Pandora"), and Spotify USA Inc. ("Spotify") (the Services), including specifically the testimonies of Dr. Joseph Farrell (Farrell WDT),[1] Dr. Gregory K. Leonard (Leonard WDT),[2] Dr. Leslie M. Marx (Marx WDT),[3] and Dr. Stephen D. Prowse (Prowse

[1] eCRB Docket No. 26920, Amended Corrected Written Direct Testimony of Joseph Farrell, D.Phil. (on Behalf of Spotify USA Inc.) (March 8, 2022) ("Farrell WDT").

[2] eCRB Docket No. 25775, Written Direct Testimony of Dr. Gregory K. Leonard (on Behalf of Google LLC) (October 13, 2021) ("Leonard WDT").

[3] eCRB Docket No. 26305, *Written Direct Testimony of Leslie M. Marx,* PhD (March 8, 2022) ("Marx WDT").

WDT),[4] (together, the Service Experts) and to provide my expert economic opinion on issues raised by their testimonies as well as by additional evidence made available through discovery.[5]

3. I have also submitted testimony in previous proceedings which bear on the issues in this proceeding. My original *Phonorecords III* Written Direct Testimony ("WDT") and Written Rebuttal Testimony ("WRT") and my Remand Written Rebuttal Testimony ("RWRT") from the *Phonorecords III* remand proceeding were included with Copyright Owners' Written Direct Statement in this proceeding. As rebuttal to the amended testimony of Professor Farrell that was not stricken by the Judges' April 20, 2022 order, my January 24, 2022 Additional Written Direct Testimony ("AWDT") and February 24, 2022 Additional Written Rebuttal Testimony ("AWRT") in the *Phonorecords III* remand proceeding are attached as Appendices D and E, respectively.

A. Summary of Findings and Opinions

4. My primary findings and opinions include the following:

- The Services' Proposals and the testimony of the Service Experts provide support for the multi-pronged rate structure put forward by Copyright Owners.
  - The Service Experts <u>generally acknowledge that revenue displacement, deferral and manipulation can result in royalty diminution</u> and that <u>backstops are needed</u> to the percentage-of-revenue rate prong to limit its extent.
  - Collectively, <u>the Services' Proposals contain each of the four prongs included in Copyright Owners' proposal</u>, including a percentage-of-revenue prong, a per-play prong, a per-subscriber prong and a TCC prong with no per-subscriber cap (a "True TCC").

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[4] eCRB Docket No. 26291, Amended Written Direct Testimony of Stephen D. Prowse, Ph.D. (on Behalf of Apple Inc.) (March 8, 2022) ("Prowse WDT").

[5] Pandora submitted designated testimony of Dr. Michael L. Katz from the *Phonorecords III* proceeding. See eCRB 25776, Written Testimony of Michael L. Katz (on Behalf of Pandora Media, Inc.) (November 1, 2016). I responded to this testimony in my written rebuttal testimony in *Phonorecords III*, which was included with Copyright Owners' Written Direct Statement in this proceeding.

- The Service Experts generally acknowledge that each prong has an economically valid role in the Section 115 rate structure.

- Each Service Expert also argues against inclusion of prongs not included in his or her sponsoring Service's proposal, and limits his or her support for each prong to the specific forms or applications proposed by his or her sponsoring Service. As I explain, their arguments against each of the prongs, or in favor of drastically limiting their application to specific offerings, are unpersuasive and incorrect.

- Because each Service Proposal is characterized by a combination of low rates and limited backstops, each of the rate structures proposed would be vulnerable to royalty diminution as a result of revenue displacement, deferral and manipulation.

  - Evidence produced by the Services in discovery confirms that the royalty diminution problem is real, significant and growing. For example, [redacted] provide further support for my conclusion regarding the large and growing complementary value of music streaming to the Services and also demonstrate the Services' ability to manipulate revenue definitions and rate structures to minimize royalties.

  - The evidence also demonstrates the frailty of the TCC prong as a key backstop, including showing the extent to which Services are capable of producing their own sound recordings, or even buying a record label, and thereby eliminating sound recording royalties altogether. Documents produced by [redacted]

  - Given the significance of revenue displacement, deferral and manipulation, it is clear that, in a willing buyer/willing seller (WBWS) negotiation, Copyright Owners would naturally insist on effective mechanisms to protect royalty payments against royalty diminution – especially given the five-year term of the compulsory license. Thus, only a rate structure that incorporates adequate protections against royalty diminution can satisfy the WBWS standard.

  - While the failure of Apple and Google to propose specific rates prevents me from estimating empirically the vulnerability of their proposals to royalty diminution, I demonstrate that under conservative estimates of the extent of revenue displacement, deferral and manipulation over the five-year *Phonorecords IV* rate period, the impact of the Amazon and Spotify/Pandora proposals on royalties would be severe, producing royalties well below the royalties that would be payable under the pre-remand *Phonorecords III* rates.[6]

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[6] As I explain, each of these proposals would reduce royalties significantly even in the absence of revenue displacement, deferral and manipulation. Further royalty diminution from these factors would, in effect, add insult to injury.

- The terms and definitions proposed by the Services would further increase the revenue diminution problem. First, the Services propose to include and expand the student and family discounts in the *Phonorecords III* rates, despite the fact that evidence submitted in response to discovery provides further support for my finding that these discounts have little or nothing to do with efforts to attract low willingness-to-pay customers; rather, they reduce royalties while subsidizing the Services' efforts to attract the most lucrative customers based on customer lifetime value. Service proposals to exclude various forms of revenue, and to redefine how revenues associated with bundles are accounted for would also faciliate revenue displacement and lead to further royalty diminution.

- The Service Experts' assessments of the appropriate rate levels for interactive streaming services do not support the rate levels in the Services' Proposals. Their benchmarking analyses utilize inappropriate and selectively chosen benchmarks, and Professor Farrell's bargaining model is both methodologically flawed and empirically incorrect.

  - Professor Marx's use of [redacted] to calculate a ratio of sound recording to musical works royalty rates ("SR/MW royalty ratio") and to justify Amazon's proposed per-play rate for Mixed Services Bundles [redacted]. Her analysis is fundamentally flawed in multiple respects, including that it mischaracterizes the rate actually paid ([redacted]), that she fails to consider that the deal was negotiated under the shadow of the compulsory license, and that the rates chosen [redacted]. As a result, the rates she infers from these benchmarks are far below reasonable levels.

  - Dr. Leonard's use [redacted] to justify Google's proposal to keep rates under *Phonorecords IV* at whatever level the judges determine in *Phonorecords III* also suffers from multiple flaws, including that [redacted] reflect "willing buyer" rates, they do not reflect "willing seller" rates.

  - Professors Marx's and Farrell's attempts to use [redacted]

[redacted]

- The Service Experts' reliance on the *Phonorecords II* settlement and, relatedly, the rates in the proposed but rejected Permanent Digital Downloads (PDD) settlement are inappropriate and lead to erroneous results for a multitude of reasons, not least of which is the fact that those rates were first negotiated in 2007 and adopted in 2008. As the Judges recognized in their decision rejecting the PDD settlement, "[i]n the dynamic music industry, there is insufficient reason to conclude that a static musical works rate is reasonable. The determination rendered in 2008, with an effective date of 2006, cannot continue to bind the parties sixteen years later, absent sufficient record evidence that the status quo remains grounded in current facts and is a reasonable option."[7] I demonstrated in my WDT and provide further evidence below that changes in the music streaming marketplace – including and especially the entry of Amazon, Apple and Google – have fundamentally altered both the economics and the competitive dynamics of the marketplace.

- Professor Marx errs in dismissing the [redacted]

- Professor Farrell's Nash-in-Nash bargaining model is both methodologically and empirically flawed and its results are incorrect. It is methodologically flawed because it introduces a "power ratio" parameter which has the effect of according disproportionate bargaining power to the Services, invalidating Professor Farrell's claim that the model divides the surplus equally between Services and publishers. It is empirically flawed because Professor Farrell assumes values for the "power ratio" which are both unsupported and demonstrably biased. However, when more reasonable values for the power ratio are assumed, Professor Farrell's corrected model produces results which fully support Copyright Owners' proposed rate levels.

- The Service Experts' arguments regarding market power, "must-have" catalogues and "complementary oligopoly power" are both unsupported and wrong; and, their proposed "market power adjustments" are arbitrary and unfounded. Rather than acknowledging and addressing the effects of the profound changes that have occurred in the marketplace, or

[7] Proposed Rule; Withdrawal, 87 FR 18342,18347 (Mar. 30, 2022) (the "March 30 Subpart B Order").

confronting the overwhelming evidence that rates are effectively competitive, they fall back on citing prior decisions and academic theories that do not apply to the markets here.

- Evidence produced in this proceeding demonstrates that the Services can and do leverage their market power in adjacent markets to achieve their objectives in interactive streaming negotiations. Most notably, [redacted]

- The Service Experts base their claims that rates are not "effectively competitive" on vague assertions about the extent of market power or references to particular types of conduct, but fail to confront the extensive body of evidence showing that the music streaming marketplace is performing in a way that is not consistent with supracompetitive royalty rates. Specifically, as I show, output is surging and real prices are falling – results that cannot be reconciled with royalty rates above effectively competitive levels.

- The evidence does not support Professor Marx's claim that the Services are "struggling" with profitability, let alone that the Services are failing to earn an ecomomic return, as would be expected if rates were above effectively competitive levels. The evidence, including the continuing rapid growth in Spotify's cash reserves and the statements of its senior executives, [redacted], and the fact that the Services continue to pour more money into their streaming businesses, all refute any claim that they are incurring economic losses.

- Professor Farrell presents no evidence that [redacted]

- The Service Experts fail to provide any meaningful economic evidence or analysis that "complementary oligopoly power" actually exists or plays a role in the music licensing marketplace. Rather than producing such evidence, they revert to invocations of past Copyright Royalty Board (CRB) decisions and citations to a 2012 statement by the Federal Trade Commission. Apart from not constituting economic evidence or analysis, these citations refer to different markets involving different participants at a different time. When it comes to presenting economic evidence, the best the Service Experts can do is cite academic papers which broadly describe how the Cournot Complements theory might play out in markets that bear little or no relationship to bargaining markets like the one at issue here.

- The specific market power adjustments proposed by Professors Marx and Farrell are both arbitrary and unfounded. Their arguments in favor of applying the *Web V* adjustment to this market fail to acknowledge important differences between the ones at issue there and the interactive streaming market. And, their attempts to estimate a market power adjustment [redacted]

5. The analyses and conclusions contained herein are based on information available to me at the time this testimony was prepared. A list of documents which I reviewed in creating this report, in addition to the Copyright Owners' Exhibits, is attached as Appendix B. I understand that discovery in this matter is incomplete and ongoing. Should additional information come to light through discovery or otherwise which causes me to modify my findings, I reserve the right to do so.

B. Structure of this Report

6. The remainder of this report is structured as follows. In Section II, I describe the Service's proposals. In Section III, I discuss the Services' proposed rate structures and the rate structure arguments put forward by the Service Experts. Section IV discusses how the Services' proposed rate structures and terms fail to protect against royalty diminution. Section V presents my assesment of the Service Experts' benchmarking and game-theoretic analyses of appropriate rate levels. Section VI addresses the Service Experts' contentions regarding market power, complementary oligopoly power and relative bargaining power of copyright owners and platforms and explains why the "market power adjustments" they advocate are both arbitrary and unnecessary. Section VII provides a brief conclusion.

II. THE SERVICES' PROPOSALS

7. In this section, I describe the main components of the Services' Proposals, which are summarized in Table 1. For Apple and Google, which each propose to carry forward certain of the rates

adopted by the Judges in the remand proceeding, the table shows the rates from the *Phonorecords III Final Determination*, though of course these rates may change based on the Judges' final decision. As a result, my analyses of both of these proposals are by necessity tentative and subject to revision.

TABLE 1:
PROPOSED RATE STRUCTURES

	Greater of						
	All-In MW "Pool" (Less Performance Royalties)					Mechanical-Only	
	Greater of					Greater of	
Rate Structure	Percentage of Revenue	Lesser of		Per-Subscriber	Per-Play	Per-Subscriber	Per-Play
		Percentage of TCC	Per-Subscriber				
Copyright Owners	20.0%	40.0%				$0.00 - $1.50	$0.0015
Phonorecords III (2022)	15.1%	26.2%				$0.00 - $0.50	
Amazon	0.0% - 10.54%	0.0% - 19.1%		$0.00 - $0.80	$0.00 - $0.00085		
Apple	12.0% - 15.1%			$0.00 - $0.18		$0.00 - $0.50	
Google	15.1%	26.2%				$0.00 - $0.50	
Spotify/Pandora	10.5% - 12.0%	20.65% - 22.0%	$0.00 - $0.80			$0.00 - $0.50	

Sources: Copyright Royalty Board, Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), 84 Fed. Reg. 1918 (Feb. 5, 2019), at IV.C., Copyright Owners' Proposed Rates and Terms (Oct. 13, 2021), at A-10-A-11; eCRB Docket No. 25900, Written Direct Statement of Spotify USA Inc., Volume 1, Tab B, Proposed Rates and Terms (Oct. 13, 2021) ("Spotify Rate Proposal"), at 12-14; eCRB Docket No. 25744, Written Direct Statement of Apple Inc., Volume 1, Proposed Rates and Terms (March 8, 2022)("Apple Rate Proposal"), at 11-14; eCRB Docket No. 25778, Written Direct Statement of Amazon.com Services LLC, Volume 1, Amazon's Proposed Rates and Terms (March 8, 2022) ("Amazon Rate Proposal"), at 10-14; eCRB Docket No. 25774, Written Direct Statement of Google LLC, Volume 1, Tab B, Proposed Rates and Terms of Google (Oct. 13, 2021) ("Google Rate Proposal"), at 10-14.
Notes: [1] A value range beginning with $0.00 or 0.0% indicates that prong is not proposed for some offering types; [2] A dark shaded cell indicates that Apple and Google are proposing to adopt the Phonorecords III Remand final rate levels for those prongs; the Phonorecords III Final Determination values are reported here.

8. As the table shows, between them the Services acknowledge the value of each of the four types of rate prongs that Copyright Owners propose: per-subscriber, per-play, TCC and revenue-based. However, their four distinct proposals each include provisions designed to reduce total royalties

through some combination of lowering rates, omitting or weakening important backstops, and changing terms and definitions. For example:

- Spotify and Pandora seek a return to the low 2012 *Phonorecords II* rates and rate structures, but also propose retaining and even expanding the student and family discounts from *Phonorecords III*;
- Amazon proposes "independent" revenue and TCC rates that are the same as, or below, *Phonorecords II* rates;
- Apple, Amazon and Google put forward proposals that together form a "collect them all" of TCC prong removals: Apple would remove the TCC prong for all offerings; Amazon would remove the TCC prong from subscription offerings, but not free/ad-supported; Google would remove the TCC prong from free/ad-supported, but not subscription offerings;
- Individual Services propose a number of new "bespoke" rates and terms that would advantage their particular business models. Apple seeks a discounted rate to apply to its new voice-based "Siri-only" offering (which it would label a "Full-Catalogue Limited Offering"). Amazon seeks a low per-play rate to apply to its Amazon Prime Music offering. Google focuses on gaining full discretion to "allocate" its revenues to accommodate its audiovisual offerings without being subject to the protections of bundled subscription revenue measurement terms.

9. In the subsections below, I describe further significant aspects of the each of the Services' Proposals that bear on the Judges' rate-setting mandate.

A. Amazon

10. Amazon proposes a headline rate of 10.54 percent of revenue for all offering types except for a Mixed Service Bundle, for which it proposes a per-play only rate, and would eliminate the TCC prong entirely except for Free Non-Subscription/Ad-Supported Services, for which it proposes a TCC rate of 19.1 percent (one that is not part of a lesser-of formula).[8] Amazon's proposal

[8] eCRB Docket No. 25778, Volume 1, Introductory Memorandum to the Amazon WDS ("Amazon Introductory Memorandum"), at 2.

would also eliminate the mechanical-only floor of $0.50 per subscriber while retaining (from Phonorecords II) an all-in per-subscriber rate for only two offering types: Standalone Portable Subscription Offering ($0.80 per subscriber) and Standalone Non-Portable Subscription Offering-Streaming Only ($0.40 per subscriber).[9]

11. Amazon is explicit in framing its Mixed Service Bundle rate category as being about accommodating its own Prime Music offering, asserting that Prime Music is unique because it is "part of a disparate bundle of benefits – including free shipping, shopping discounts, and Prime Video – within which music has no standalone price."[10] As I explain below, I agree that a per-play rate is economically reasonable, but do not agree that Prime Music is unique in raising revenue measurement problems, as such problems exist for all of the Services' offerings and certainly for all bundles. Critically, as discussed in connection with Amazon's rate level arguments below, Amazon purports to justify the $0.00085 micro-penny rate for this entire category [redacted].[11] [redacted], the Mixed Service Bundle category is not defined to be limited to the Prime Music category as currently constituted. Rather, it is defined as a far broader category that would cover a far larger set of offerings for the entire 2023 to 2027 period.

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[9]Amazon Introductory Memorandum, at 3; eCRB Docket No. 26305, Proposed Rates and Terms, Amazon Amended WDS, Exhibit A.1 at 11. Amazon proposal covers only Standalone Portable Subscription, Standalone Non-Portable Subscription/Streaming Only and Mixed Service Bundles. Introductory Memorandum to the Amazon WDS at 2 and n. 4

[10]Amazon Introductory Memorandum, at 5.

[11] As I also explain below, the rate used by Professor Marx fails to take into account the effect of a minimum guarantee that was not recouped. See *supra*, at ¶107.

B. Apple

12. For the percentage of revenue rate "Apple proposes adopting the headline rate the Judges decide in the *Phonorecords III* remand in this proceeding, provided the rate is reasonable under the WBWS standard."[12] Apple proposes a rate structure that combines an all-in percentage of revenue rate and an all-in or mechanical per-subscriber floor while removing the TCC prong from all categories.[13] (Unsurprisingly, [redacted][14])

13. Apple also proposes to add a per-user mechanical floor for free/ad-supported offerings[15] and to add a new Hardware Bundle offering type, covering "bundles in which a music streaming service is sold as a bundle with hardware," and where the royalty rate would be determined solely as "a fixed mechanical floor of 33 cents per per active user with no revenue prong for up to two years per subscription plan, after which the royalty for the standalone service shall apply."[16] This offering type, which would not be limited to nonportable devices, would represent a significant

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[12]eCRB Docket No. 26293, Amended Introductory Memorandum to the Apple Amended WDS ("Apple Amended Introductory Memorandum"), at 3. Apple makes an exception for "paid music lockers" for which it proposes a 12 percent headline rate, *see id.* at n. 2. In order to assess the impact of Apple's proposal, I assume the Final Determination's 15.1 percentage of revenue rate. I note, however, that if the Judges ultimately choose a different rate the effect could be to significantly distort the interaction of different rate prongs.

[13]Apple Amended Introductory Memorandum, at 2-3.

[14] Prowse WDT at ¶239 ("[redacted]").

[15]Apple Amended Introductory Memorandum, at 5 ("To promote consistency and offset the elimination of TCC as a backstop mechanism, Apple proposes expanding the tiered mechanical floor system from *Phonorecords II* (and the *Phonorecords III* remand proposals), so all service types have either a mechanical floor or an all-in minimum."). Neither *Phonorecords II* nor the *Phonorecords III Final Determination* included a mechanical floor for ad-supported services. See Apple Amended Introductory Memorandum, at Amended Subpart A—Regulations of General Application, § 2. ("Active Subscriber means an End User of a Standalone Free Nonsubscription/Ad-Supported Service, Bundled Subscription Offering, or Hardware Bundle, in each case who has made at least one Play during the Accounting Period."). Apple proposes a rate of $0.50 per subscriber, see Apple Amended Introductory Memorandum, at Amended Subpart A—Regulations of General Application, § 7(b)(3)(ii).

[16]Apple Amended Introductory Memorandum, at 7.

reduction from the 50-cent mechanical floor for standalone portable offerings first set in *2008*.[17] Apple also proposes a 50 percent discount for another new, "limited functionality" offering type, Full-Catalog Limited Offering, which is intended to apply to offerings that can only be accessed through voice commands, such as Apple's Siri, and which would be subject to a 25-cent mechanical floor rather than the 50-cent mechanical floor that applies to a standalone portable subscriptions.[18] Apple proposes "that revenue attributable to the music component of the bundle be discounted based on the proportional value of the standalone price of the components of the bundle."[19]

C. Google

14. Google states that it "requests that the Copyright Royalty Judges adopt for the entire *Phonorecords IV* period the rates determined for 2022 in the *Phonorecords III* remand proceeding, provided such rates do not exceed the rates parties are advocating for in that proceeding or include a per play rate."[20] Google does propose two changes, however. First, it proposes to eliminate the TCC prong for Free Non-Subscription/Ad-Supported Services. Second, while the proposal retains the *Phonorecords III Final Determination* mechanical per subscriber floors, for Bundled Subscription Offering it proposes a $0.25 per subscriber rate regardless of the rate that would apply to the music streaming element of the bundle were it offered on a standalone basis.[21]

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[17] Apple Amended Introductory Memorandum, at 9.

[18] Apple Amended Introductory Memorandum, at 5.

[19] Apple Introductory Memorandum, at 6.

[20] eCRB Docket No. 26250, Introductory Memorandum to the Google WDS ("Google Introductory Memorandum"), at 4. As with Apple, for purposes of analysis I assume rates and rate structure in the *Final Determination*. I note, however, that if the Judges ultimately choose different rates, it would be necessary to update my analysis.

[21] Google Rate Proposal, at 13.

15. In addition, Google proposes allocation methodologies for dividing service revenue and TCC between music and non-music content and between Section 115-eligible and non-Section 115-eligible content.[22] For ad-supported services Google proposes that royalties be payable "solely on the revenues that are directly attributable to their content."[23] For subscription services Google argues that "direct attribution is not feasible"[24] and states that [redacted][25] and includes this definition in its proposed rates and terms.[26] Google also proposed that only subscription revenues arising from subscribers in the United States be subject to royalties and excludes, for example, "any e-commerce and referral fees received by Licensee and its Affiliates, including fees for tickets, merchandise and any 'upsells.'"[27] Google argues that, [redacted].

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[22] Google Introductory Memorandum, at 4.
[23] Google Introductory Memorandum, at 14.
[24] Google Introductory Memorandum, at 10.
[25] Google Introductory Memorandum, at 11. Google argues that the [redacted]. *See* Google Introductory Memorandum, at 12 ("[redacted]").
[26] See Google Rate Proposal, at 1.
[27] Google Introductory Memorandum, at 4.

D. Spotify/Pandora

16. Spotify's proposal, seconded by Pandora,[28] essentially returns to the *Phonorecords II* rate levels and structure, with all-in percentage of revenue rates between 10.5 percent and 12.0 percent. The all-in percentage of TCC rates, between 20.65 and 22.0 percent, are capped for standalone offering types with per subscriber rates of $0.50 to $0.80. As before, the structure includes per subscriber floors of $0.15 to $0.50 for some offering types.[29]

17. However, Spotify/Pandora also propose changes to that former structure. They propose to continue the use of the family and student discounts established in the *Phonorecords III Final Determination* (and in fact to expand it to their proposed per-subscriber TCC caps), while also changing the family plan definition to a "household" plan without an actual family member requirement.[30] This is notable because the reasoning offered by the Judges for adopting a family plan discount in *Phonorecords III* was the Services' claims that families had a lower willingness to pay for music. Spotify and Pandora do not provide any evidence of the relative willingness to pay of households.

18. Spotify and Pandora also propose a change to the method of allocating bundle revenue to the licensed activity in the bundle.[31] Rather than employ the standalone price of the music streaming service to determine service revenues from a bundle, Spotify and Pandora would permit the service to "reasonably determine[]" the amount of revenue in the bundle that is attributable to

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[28] eCRB Docket No. 25776, Introductory Memorandum to the Pandora WDS ("Pandora Introductory Memornadum"), at 2 ("Pandora's proposed rates and terms—which are the same as those being proposed in this proceeding by Spotify").

[29] eCRB Docket No. 26288, Second Corrected Introductory Memorandum to the Spotify WDS at 2 (discussing "the interim rates paid today for Spotify's standalone premium and free offerings (which are themselves the product of the voluntary industry-wide Phonorecords II settlement)"); Spotify Rate Proposal, at 12-14.

[30] Spotify Rate Proposal, at 12.

[31] Spotify Rate Proposal, at 8.

the music streaming component "in accordance with GAAP."[32] As I also discuss further below, Spotify and Pandora do not address the economic indeterminacy problems with bundle revenues that have been discussed by the Judges in multiple proceedings, and which underlie the use of standalone published price to measure revenue in the case of bundles.

III. THE SERVICES' RATE STRUCTURE PROPOSALS AND THE TESTIMONY OF THEIR EXPERTS PROVIDE SUPPORT FOR A MULTI-PRONGED RATE STRUCTURE

19. In this section I assess the different rate structure proposals put forward by the Services. While each Service builds its rate proposal around a percentage of revenue rate prong, they all acknowledge the need for alternative rate prongs given the problem of royalty diminution due to revenue displacement and deferral or gaming. Each Service puts forward alternative prongs that collectively include each of the three alternative prongs proposed by Copyright Owners – that is, a per-play prong, a per-subscriber prong and a TCC prong. As I explain, the rationales put forward by the Services for the inclusion of each prong are generally consistent with my analysis in my WDT of why a multi-pronged rate structure is necessary. Further, to the extent Service Experts oppose any of the alternative prongs, I also address and rebut their arguments in opposition.

A. Overview of the Services' Proposed Rate Structures

20. Table 2 provides a summary of the rate prongs included in each of the Services' Proposals as well as other proposed terms that enable royalty diminution.

[32] Spotify Rate Proposal, at 8.

TABLE 2:
SUMMARY OF SELECT TERMS FROM RATE STRUCTURE PROPOSALS

	Amazon	Apple	Google	Spotify/ Pandora	Copyright Owners
RATE PRONGS					
Revenue prong	Yes	Yes	Yes	Yes	Yes
TCC prong (Subscription offerings)	No	No	Yes	Capped	Yes
TCC prong (Non-subscription offerings)	Yes	No	No	Yes	Yes
Per-subscriber prong (all-in)	Yes	Yes	No	No	No
Per-subscriber prong (mechanical)	No	Yes	Yes	Yes	Yes
Per-play prong	Yes	No	No	No	Yes
ROYALTY DIMINUTION TERMS					
Reductions through definition of revenue	Yes	Yes	Yes	Yes	No
Reductions through "allocation"	Yes	Yes	Yes	Yes	No
Student/family plan royalty discounts	Yes	Yes	Yes	Yes	No
Additional plan royalty discounts	No	Yes	Yes	No	No

Sources: Written Direct Statement of Copyright Owners, Volume I – Introduction, Copyright Owners' Proposed Rates and Terms (Oct. 13, 2021), at A-10-A-11; Spotify Rate Proposal at 12-14; Apple Rate Proposal at 11-14; Amazon Rate Proposal at 10-14; Google Rate Proposal at 10-14. Note: The capped TCC prong in the Spotify/Pandora proposal applies only to standalone portable subscription and standalone non-portable subscription offerings – the TCC prong is uncapped for all other offerings.

21. As I explained in my WDT, the four-prong rate structure put forward by Copyright Owners is economically necessary in order to protect against royalty diminution, especially given the five-year length of the rate period – which is a much longer term than any market agreement – and the dynamic nature of the music streaming marketplace and diverse nature of the Services' current and potential business models.[33] I also showed that the revenue, per-subscriber, and per-play prongs are present in market-based agreements entered into by record labels and Services and that, while the TCC prong is not applicable to record labels agreements, it is important for musical works rightsholders to capture evolving market developments embodied in the labels'

[33] Eisenach WDT at ¶¶74-80, 123-132, 148-153.

more frequently renegotiated licensing agreements.[34] The Services' Proposals and the testimony of their experts reflect the fact that the four prongs proposed by Copyright Owners are indeed present in the marketplace and that they are thus consistent with the WBWS standard. The five-year length of the compulsory license rate period, combined with the remarkable dynamism in the current interactive services marketplace, requires a multi-pronged approach to ensure reasonable rates.

22. As summarized in Table 3, the Service Experts support the inclusion of their proposed prongs based on a variety of benchmarking analyses.

TABLE 3:
BENCHMARKS RELIED UPON BY SERVICE EXPERTS TO JUSTIFY PROPOSED RATE PRONGS

[redacted]

Sources: Marx WDT at ¶¶164-166, 175-182, 186, 194-195; Prowse WDT at ¶¶166-186, 256-266, 279-284, 295, Exs. 6-7; Leonard WDT at ¶¶64-79; Farrell WDT at ¶¶115-121.

[34] Eisenach WDT at ¶72 ("[redacted] – lead to the conclusion that the TCC rate is an important alternative prong to capture these benchmark bargains."). See also Eisenach WDT at ¶¶72-80.

23. In addition to benchmarking, both Professor Marx and Dr. Prowse (on behalf of Amazon and Apple, respectively) argue in favor of alternative rate prongs as an appropriate response to royalty diminution.[35] Professor Marx, for example, states that "alternatives to percent-of-revenue rates that can supersede percent-of-revenue rates if those rates fall below a certain level … can be seen as ways to allocate risk, as protection against difficulties in measuring revenue attributable to music, or as a way to maintain royalties in the face of pricing strategies that defer or displace revenue from music streaming."[36] Similarly, Dr. Prowse acknowledges "revenue

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[35] Spotify's expert Professor Farrell attempts to address the issue of "revenue displacement or obfuscation, rather than simple deferral" by suggesting that publishers "could potentially pursue 'financial engineering' initiatives" to address it, "as they already do to respond to timing and risk issues by giving advances to songwriters." Farrell WDT at ¶121. This suggestion is not a solution for multiple reasons. First, the suggestion only speaks to revenue deferral problems, not displacement and obfuscation problems. As explained in the *Phonorecords III Final Determination*, the displacement of revenue is not being used to expand the music streaming market, but rather the Platforms' ecosystems, as each service attempts to take customers from other services and attach them to their own platform. *Phonorecords III Final Determination*, Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), Dkt. No. 16-CRB-0003-PR (2018-2022) ("*Phonorecords III Final Determination"*), at 20. Obfuscation results in revenues being under-counted or excluded entirely. Therefore, displaced and obfuscated revenues will never be included in the revenue reported by the services for the purposes of calculating royalties and will never be recovered; hence, no financial engineering could be used to address the issue. Moreover, even as to deferral, Prof. Farrell ignores that (a) when revenues are deferred, there is no guarantee that the deferred revenues will actually materialize in the future as mechanical royalties, since the business might not succeed, or might later displace the revenues (as Spotify is currently doing with its podcast ventures) and (b) even if deferred revenues were to be realized in the future as royalties, there is no viable way to identify that occurrence and administratively connect the royalties with the songwriters to which they should have been due.

For his part, Dr. Leonard testifies that "However, publishers are apparently not sufficiently concerned with the potential for service provider manipulation of revenues [redacted] and argues that publisher concerns about revenue manipulation "should not be given any weight." Leonard WDT at ¶69. However, Dr. Leonard ignores three important facts. First, publishers have been "sufficiently concerned" about revenue manipulation [redacted] See Eisenach WDT at ¶79, n. 82 ("With respect to YouTube, Google has increased bargaining power in negotiations with copyright owners, because it is partially protected from copyright infringement liability due to the Digital Millennium Copyright Act of 1998 ('DMCA') 'safe harbor.'") (citing 17 U.S.C. § 512; Kokakis WDT at ¶76, n. 33).

[36] Marx WDT at ¶167.

deferral" and "sacrificing short-term profits for long-term growth" as "common economic issues and strategies,"[37] and argues in support of all-in and/or mechanical-only per-subscriber and per-user minima as mechanisms to address revenue deferral and displacement.[38]

24. In the three subsections below, I address Service Experts' opinions regarding a per-play prong, a per-subscriber prong and a TCC prong.

B. The Amazon Proposal Includes and Professor Marx Supports a Per-Play Prong

25. As I explained in my WDT, the inclusion of per-play prongs in interactive service licensing agreements is increasingly commonplace. Indeed, I identified and discussed [redacted][39]

26. Noting that all of these [redacted] had come about subsequent to the admission of evidence in *Phonorecords III*, I explained:

> I interpret this trend as a response [redacted] to . . . the increasing use of (increasingly large) music catalogs as tools for customer acquisition and retention, with the attendant increase in displaced revenues, resulting in increased market value for music (but not in attributable revenues); and, to the complexity, diversity and opacity of the Platforms' business models, which creates the need for more easily

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[37] Prowse WDT at ¶247.

[38] Prowse WDT at ¶¶247-254. See also at ¶266 ("[A] zero minimum will not be acceptable because a zero minimum under the rate structure I propose would mean no protection against revenue measurement and deferral concerns.").

[39] See Eisenach WDT at ¶¶74-80, 92. [redacted]. See Eisenach WDT at ¶79, n. 82.

observable, difficult-to-manipulate measures of value to be incorporated in the rate structures.[40]

27. Documents [redacted][41] [redacted][42] [redacted][43]

28. Professor Marx of course acknowledges that [redacted] Prime Music "presents particular problems in calculating service revenue and subscribers."[44] While I agree with Professor Marx that a per-play rate is an appropriate mechanism for addressing royalty

[40] Eisenach WDT at ¶80.
[41] COEX-7.83 (AMZN_Phono IV_00004040) at -4042.
[42] *Id.* at AMZN_Phono IV_00004042.
[43] *Id.*
[44] Marx WDT at ¶183.

diminution in cases where measuring revenues is problematic, I do not agree that revenue measurement issues are in any way unique to Prime Music.

29. As an initial matter, [redacted][45] Further, as Professor Marx notes, [redacted][46] [redacted].[47] [redacted][48]

30. At a more fundamental level, Professor Marx's effort to limit her support for a per-play rate based on the supposedly "unique" characteristics of Amazon Prime is inconsistent with both economic theory and the realities of the music streaming business. Professor Marx discusses

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[45] COEX-7.22 ([redacted]), at AMZN_Remand_0000169-170, 172-174, 177; COEX-7.24 ([redacted]), at AMZN_Remand_00008072-8074, 8077, 8080-8081; COEX-7.23 ([redacted]), at AMZN_Remand_0000256, 273-274.

[46] Marx WDT at ¶186.

[47] COEX-7.37 ([redacted]); COEX-7.45 ([redacted]); COEX-7.46 ([redacted]); COEX-2.18 ([redacted]) at p. 14; COEX-2.18 ([redacted]) at P4-SMP00000328, P4-SMP00000011, P4-SMP00000013, P4-SMP00000008, P4-SMP00000295, P4-SMP00000002; COEX-2.19 ([redacted]), at P4-SMP00000880, SONY-ATV-00000222, P4-SMP00000010, at P4-SMP00000885, P4-SMP00000329, P4-SMP00000012, P4-SMP00000014, P4-SMP00000001, P4-SMP00000256, P4-SMP00000002; Brodsky WDT, at ¶ 76, n. 25; COEX-7.47 ([redacted]) at AMZN_Phono IV_00003063-064.

[48] COEX-7.83 (AMZN_Phono IV_00004040) at -4042.

objections to per-play and per-subscriber rates in a section titled "[p]er-subscriber and per-play rates can induce inefficiencies."[49] I disagree with her conclusions regarding the efficiency impact of per-play rates. I also note that Professor Marx offers no basis for concluding that agreements based on revenue-only – that is, without effective alternative prongs such as per-subscriber or per-play rates (or flat fees) – would meet the WBWS rate standard that applies in this proceeding.

31. Professor Marx bases her objections to per-play rates on her argument that per-play rates "raise the marginal cost to the service of a play above its true marginal cost."[50] But as she recognizes elsewhere, "for products with essentially zero marginal cost, such as digital music, setting the efficient marginal price does not allow a producer to generate revenue sufficient to cover its fixed costs."[51] Setting royalty rates above marginal cost is thus an unavoidable component of any rate structure, or the business would not exist.

32. Professor Marx's other "efficiency" arguments are similarly problematic. She argues against per-play rates on the grounds that they "can discourage efficient, surplus maximizing behaviors that encourage listening"[52] and they "can distort decision making toward recommending longer songs and generally reducing incentives to increase listening by individual subscribers."[53] However, Professor Marx fails to explain how or whether Amazon's decisions on whether to "encourage listening" relate to surplus maximization, nor does she explain how, if at all, she

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[49] Marx WDT at ¶¶170-173.
[50] Marx WDT at ¶172.
[51] Marx WDT at ¶¶161-162
[52] Marx WDT at ¶172.
[53] Marx WDT at ¶173.

believes her arguments against per-play (or per-subscriber) rates are relevant under the WBWS standard.

33. Professor Marx's efficiency arguments against per-play rates ignore the process by which music streaming offerings generate value for online platforms. Specifically, the evidence demonstrates that Amazon and other music streaming platforms *receive increasing benefits from increasing plays* and that there is thus a direct nexus between per-play based royalties and the value of the license to the service. This connection is not just present for ad-supported services, where revenues are directly generated on a per-play basis because plays correlate directly with the number of advertisements served to users. Rather, online platforms receive increasing value from increasing plays because the number of plays is a direct measure of user engagement that promotes complementary benefits generated across the entire platform.

34. Amazon's internal documents demonstrate without question that [redacted][54]

35. Similarly, [redacted] Amazon's "Voice" (i.e. Alexa) service (which can be used with Amazon Music Unlimited

[54] COEX-7.84 (AMZN_Phono IV_00015835) at -15838.

(AMU), Prime or Free)[55] [redacted][56]

36. Most notably [redacted]

[redacted][57]

37. In other words, [redacted].

38. From an economic perspective, this evidence demonstrates that per-play rates are accurate reflections of the value of music streaming to the Services and thus constitute an efficient form of distributing the fixed costs of producing music across customers (that is, the Services). Further, the fact that plays are highly correlated with value creation shows that a per-play rate is

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[55] COEX-7.153 (Amazon, "Which Music Services Are Available on Alexa?" (available at https://www.amazon.com/gp/help/customer/display.html?nodeId=GVJ7368ZJGFBDQHW) (last accessed April 11, 2022)); Amazon, "What is Amazon Music Free?" (available at https://www.amazon.com/gp/help/customer/display.html?nodeId=GKXEFZF5BJHNU43G) (last accessed April 11, 2022).

[56] COEX-7.85 (AMZN_Phono IV_00016118) at -16128.

[57] COEX-7.86 (AMZN_Phono IV_00020327) at 7

an appropriate rate structure in the context of the WBWS standard. Lastly, the fact that the value of streaming to the Services is increasing in plays means that they have strong incentives to encourage increased listening, which means in practice that the per-play price charged to consumers (zero) reflects the marginal cost of the product, thereby achieving the economically efficient result and directly contravening Professor Marx's arguments regarding economic efficiency.[58]

C. The Services' Proposals Include and Their Experts' Testimonies Support a Per-Subscriber Prong

39. All four of the Services' Proposals include a per-subscriber prong and three of the four – Apple, Google and Spotify/Pandora – incorporate a mechanical only per-subscriber floor. Each of the Service Experts agrees that a per-subscriber prong is reasonable for at least some offerings.

40. The first and most important fact that needs to be understood with respect to a per-subscriber rate prong is that [redacted].[59] What this means is that, in general,

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[58] Marx WDT at ¶¶161-162. The same logic applies to arguments made by other Service Experts against per-play rates. See e.g, Leonard WDT at ¶68, n. 63. Professor Marx also worries that per-play rates "can encourage strategies such as aggressively checking to ensure that someone is actively listening at all times or induce reducing or discontinuing practices such as automatically playing related songs after a requested song is finished." Marx WDT at ¶173. However, the authority she relies upon for this claim is Amazon Music's Vice President for Global Marketing and Growth Tami Hurwitz, who explained that [redacted] Marx WDT at ¶173, n. 276 citing Hurwitz WDT at ¶77. Ms. Hurwitz does not claim and Professor Marx does not demonstrate that [redacted].

[59] See e.g.,eCRB Docket No. 25779, Written Direct Testimony of Kajal Gayadien ("Gayadien WDT") at ¶¶11, 13 ("[redacted]").

[redacted] – and that is because the Services are not trying to maximize revenue, but rather are trying to maximize user growth and engagement, which translates into more market share, more valuable user bases and more revenues across ecosystems. Thus, despite the Service Experts' focus on revenue-based rate prongs, [redacted], which is consistent with the revenue displacement, deferral and mismeasurement strategies of the Services.

41. Professor Marx explains her support for Amazon's proposed per-subscriber prong[60] specifically on the basis of the need to remedy "difficulties in defining the appropriate revenue," such as "when a service is sold in conjunction with a bundle of unrelated services, or when revenue is difficult to attribute to a music service."[61] She agrees that "[a] targeted per-subscriber fee can provide a useful backstop for paid subscription services that offer similar catalog size and

[60] I note that Amazon proposes only an "all-in" per-subscriber prong, and that Professor Marx's testimony argues in favor of eliminating the mechanical-only floor. As the Judges explained in the *Phonorecords III Final Determination*, however, mechanical royalties play a distinct role in supporting songwriting and the mechanical floor is therefore necessary maintain that role. See *Phonorecords III Final Determination* at 37.

[61] Marx WDT at ¶159.

features,"[62] but avers that per-subscriber prongs should be "targeted" to a "particular service or service type" in order to ameliorate "inefficiences associated with non-percent-of-revenue rate structures."[63] Further, she argues that because different services have "different features and thus different revenue bases, the appropriate per-subscriber minimum depends on the service category."[64] Here again, I agree with Professor Marx that per-subscriber minima are an appropriate mechanism for addressing revenue attribution issues.

42. Thus, Professor Marx does not object to per-subscriber royalties in principle – nor could she, as the Services largely collect their revenues on a per-subscriber basis. Rather, she speculates about potential efficiency concerns with "high" per-subscriber rates but provides no analysis, offers no evidence and states no opinions concerning what rate level would be sufficiently "high" to implicate her efficiency concerns.[65] Thus, her objection is not to per-subscriber structures as such, but rather to some undefined level of overly "high" per-subscriber rates.

43. Dr. Prowse also supports per-subscriber minima – unsurprisingly given Apple's proposal to apply a per-subscriber prong to all services – and does so without any of Professor Marx's qualifications. He points out that per-subscriber minima and mechanical floors are included in both the *Phonorecords II* and *Phonerecords III* rate structures,[66] argues that they provide "an easy way to calculate the minimum payments under the rate structure,"[67] and notes that the floors and minima also have corresponded with considerable growth in the interactive streaming market

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[62] Marx WDT at ¶180.
[63] Marx WDT at ¶159.
[64] Marx WDT at ¶180.
[65] Marx WDT at ¶172.
[66] Prowse WDT at ¶250.
[67] Prowse WDT at ¶251.

and increasing royalties for publishers and songwriters."[68] Further, he finds that "All-In Minima and/or Mechanical Floors are the only backstop against revenue deferral concerns that the Copyright Owners raise, and also guarantee a minimum payment to them." Thus, he concludes:

> [I]n my opinion, All-In Minima and/or Mechanical Floors should be added to the rate structures for the Streaming Products which currently do not have any minima and could generate concerns of revenue deferral.[69]

44. I agree with Dr. Prowse on each of these points, and simply clarify that *all* streaming products generate concerns of revenue deferral (and *all* of the Services' streaming products generate revenue displacement concerns as well).[70]

D. The Services' Proposals Include, and Their Experts Support, an Uncapped TCC Prong

45. All of the Service's Proposals except Apple's contain a TCC prong, though two of them propose to limit it to certain services: Google proposes to eliminate it for ad-supported services, while Amazon proposes to eliminate it for all offerings *except* ad-supported services. Further, Spotify would revert to the "capped" TCC structure of the *Phonorecords II* structure for standalone subscription offerings, but leaving the TCC prong uncapped for all other offerings.

46. I explained in depth in my WDT, and also in my remand testimony in the *Phonorecords III* proceeding, why in my view an uncapped (or "True") TCC prong is an essential component of the rate structure, including that it protects publishers against unanticipated changes in the

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[68] Prowse WDT at ¶258.

[69] Prowse WDT at ¶259.

[70] Both Dr. Leonard and Dr. Farrell support the use of per-subscriber prongs in at least some circumstances. Dr. Leonard bases his support on [redacted]. (Leonard WDT at ¶72.) Dr. Farrell argues in favor of carrying forward the all-in per-subscriber elements of the Phonorecords II rate structure, but does not explain specifically why. Surprisingly, given that Spotify proposes to retain the mechanical-only floor, Dr. Farrell testifies that he "would recommend eliminating" it. (Farrell WDT at ¶118.)

business models and offerings during the five-year term of the compulsory licenses – [redacted].[71] Accordingly, I limit my testimony here to addressing specifically the arguments put forward by the Service experts – primarily Dr. Prowse – in favor of eliminating the TCC altogether.[72]

47. Dr. Prowse's argument for removing the TCC prong altogether focuses on his contention that it necessarily "imports" record label market power into the Section 115 rate structure.[73] For the reasons I explain in Section VI below, I disagree [redacted].[74]

48. Dr. Prowse also argues that the TCC prong is no longer needed because, "to the extent that the TCC prong could be justified as a protection against uncertainty, that justification is largely moot, as the interactive streaming market is no longer a nascent industry."[75] To the contrary, as I explain in Section IV.B.1 below, the evidence in this proceeding demonstrates beyond any

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[71] Eisenach WDT at ¶72 and Appendix E at ¶¶64-67.

[72] I note that Professor Marx specifically concludes that an uncapped TCC prong "can protect against problems of revenue displacement or attribution in certain circumstances" (Marx WDT at ¶176) and that it is "a reasonable backstop for [ad-supported services]" (Marx WDT at ¶181). Dr. Leonard notes that [redacted] (Leonard WDT at ¶73.)

[73] Prowse WDT at ¶215.

[74] Dr. Prowse also argues that the TCC prong should be jettisoned because [redacted] See Prowse WDT at ¶¶279-284. However, he fails to acknowledge that [redacted] See Brodsky WDT at ¶73, n.18 ("Particularly given that the digital music market is rapidly changing, we would not make a deal that locks us in to rates and terms for a period of five years or greater. We keep the term short precisely to afford the parties flexibility to adjust to changed market conditions. Were a prospective digital licensee to demand a term longer than three years, we would only consider making such a license if the licensee paid us some sort of a risk premium.")

[75] Prowse WDT at ¶245. See also Prowse WDT at ¶177.

doubt that while the interactive streaming may no longer be "nascent," it remains highly dynamic, with dramatic changes in business models occurring on a regular basis.

49. Dr. Prowse also argues that a TCC prong is inappropriate because it violates the "same parties" test inherent in a WBWS analysis, which he asserts means that the compulsory license should not incorporate provisions negotiated between parties who are not subject to the compulsory license.[76] Dr. Prowse is simply mistaken: In this instance, the "same parties" test is satisfied by the fact that all of the [redacted]

I also note that Dr. Prowse provides no explanation for why he believes the *Phonorecords II* settlement constitutes a sound benchmark for "rate structures consistent with the new WBWS standard"[77] in every respect *except* for the TCC Prong.

50. Lastly, I note that Apple itself has argued that the rate structure in the *Phonorecords II* settlement was inappropriate overall. In *Phonorecords III* Apple argued that the rate structure in *Phonorecords II* originated in the *Phonorecords I* Settlement which "was adopted at a time when the streaming market was very different"[78] and "was in its early years and untested;"[79] that "[i]t reflected the uncertainty at the time as to the future viability of the interactive streaming industry;"[80] and, that "[t]he parties recognized . . . that the market could change over time and thus they agreed that [the] current rate structure would [redacted]."[81] Overall, Apple

[76] See Prowse WDT at ¶137, ¶170.
[77] Prowse WDT at ¶194.
[78] eCRB Docket No. 14158 *Phonorecords III*, Apple Inc.'s Response to the Other Services' Joint Proposed Findings of Fact and Conclusions of Law, at ALOPP-JPCL54.
[79] *Id*. at APLOPP-JPCL53.
[80] *Id*.
[81] *Id*.

stated that it "*disagrees*" that the *Phonorecords II* settlement is "one of the best available benchmarks" to use."[82]

IV. THE SERVICES' PROPOSED RATE STRUCTURES AND TERMS DO NOT PROTECT AGAINST ROYALTY DIMINUTION

51. The *Phonorecords III Final Determination* recognized the problem of royalty diminution resulting from revenue displacement, explaining that:

> The Services might also use music as a 'loss leader,' displacing streaming revenue to encourage consumers to enter into the so-called economic 'ecosystem' of the streaming services, especially the multi-product/service firms in this proceeding, such as Amazon, Apple, and Google. The operators of these multi-product environments might assume music consumers can be exposed to other goods and services available for purchase.[83]

52. As I explained in my WDT, the Platforms "are using music to exploit complementary network effects and increase the long-run value of their platform businesses such that the value they receive from their use of music is always and by design greater than the price they charge or the revenues they accrue."[84] I also noted that:

> [I]t is a general principle of economic theory that when a multiproduct firm sells a product that is a complement for other products sold by the firm, the firm will set the price of the product below its standalone price. The discount relative to the standalone price may be substantial, and in some cases, large enough such that the product is sold below its cost as a 'loss leader.[85]

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[82] *Id*. at APLOPP-JPCL54 (*emphasis added*).

[83] *Phonorecords III Final Determination* at 20. See also written rebuttal testimony of Professor Marc Rysman, extensively citing testimony by Services' Experts regarding strategies undertaken by Amazon, Apple, Google, Pandora and Spotfy, such as loss leaders, complementary products, using music to drive other revenue and profit sources, bundling, and ecosystem growth. eCRB Docket No. 4589, Written Rebuttal Testimony of Marc Rysman, Ph.D. (February 13, 2017) (*Phonorecords III*) at ¶¶15-37.

[84] Eisenach WDT at ¶9.

[85] Eisenach WDT at ¶61 (citing Jean Tirole, *The Theory of Industrial Organization* (Cambridge: The MIT Press, 1988) at 70-71; Kevin F. Forbes, "Pricing of Related Products by a Multiproduct Monopolist," *Review of Industrial Organization* 3;3 (1988) 57-73; George W. Ladd, "Costs and Goals of the Multiproduct Firm," *Managerial and Decision Economics* 9 (1988) 279-281). See generally Eisenach WDT at Section III.B.

53. I also note that, while Professor Marx in her testimony in this proceeding carefully circumscribes her opinions regarding revenue displacement and deferral, she has in the past expressed opinions very similar to the ones I offered in my WDT. For example, testifying on behalf of Pandora in 2014, she offered the opinion that:

> [W]hen you have complementary products, if you're going to maximize your profits overall, you wouldn't be maximizing the revenue streams on each individual one. That's the nature of having complementary revenue streams. … I presume [Apple is] using iTunes Radio to best maximize the overall profits of the business. So using it to promote hardware sales, its iTunes Match service, music downloads. ... [W]hen you're trying to figure out the right revenue base to use for a license, it may be that the best revenue base to use is just that advertising because it's easy to measure, it's well defined. But the rate that you then apply to that revenue base would need to take into account whether the music used is generating other revenue streams for Apple.[86]

54. As I explain in the first subsection below, evidence submitted in this proceeding provides further support for my opinion that royalty diminution is a real, significant and growing problem. In the second subsection, I demonstrate how the Services' Proposals, by failing to incorporate sufficient backstops, are vulnerable to royalty diminution as a result of revenue displacement and deferral and other strategies that are now or may in the future be employed by the Services.

A. Evidence Produced by the Services Shows the Potential for Royalty Diminution Is Real, Significant and Growing

55. A fundamental implication of the WBWS standard that governs this proceeding is that rates should reflect a reasonable allocation of the *value* created by the bargain between the parties.[87] Thus, any rate structure which fails to deliver royalities that reasonably correspond to the value

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[86] Cross-Examination of Dr. Leslie Marx, Trial Tr. at 874-875 (January 29, 2014), *United States v. ASCAP (In re Petition of Pandora Media, Inc.),* 6 F.Supp.3d 317 (S.D.N.Y. 2014) (Nos. 12 Civ. 8035(DLC), 41 Civ. 1395(DLC) (*emphasis added*).

[87] See Eisenach WDT at ¶¶40-43.

generated by the bargain is not consistent with the WBWS criteria. I use the phrase "royalty diminution" to refer to the gap between royalties paid and rightsholders' reasonable share of the value received by the Services. Royalty diminution may result from revenue deferral (e.g., when profit is viewed as "a managed outcome" which is maximized in the long-run but sacrificed in favor of growth in the short run),[88] revenue displacement (e.g., when a Service profits from its streaming offering in ways not reflected in its declared revenues), or through various forms of manipulation (e.g., as I explain below, when Amazon reports revenues based on its assessment of the gains from underreporting versus its legal risks). The evidence in this proceeding provides further support for the conclusion that all of these forms of revenue diminution are real, significant and growing.

56. First, the evidence produced in this proceeding clearly demonstrates the significance of the complementary value created by music streaming services for the online platforms. This is value that is not captured in declared revenues for royalty purposes and therefore not shared with copyright owners through a revenue rate prong. For example, as shown in Figure 1, [redacted]

[88] Spotify's former CFO, Barry McCarthy, and its current CFO, Paul Vogel, have each repeatedly stated that for Spotify profit is a "managed outcome" and that Spotify is instead focused on growth, not profits, as I discuss below at ¶207, n. 328, *supra*.

FIGURE 1:

[redacted]

Source: COEX-7.87 (*AMZN_Phono IV_00017167) at -17182.*

57. This evidence further supports my conclusion that there is a large and growing gap between the value of music streaming to the licensees and that a multi-pronged rate structure with reasonable rates for all prongs is necessary to ensure Copyright Owners an economically reasonable share of that value.

58. Second, the evidence also demonstrates the potential for business model changes to further weaken the relationship between revenues and value. For example, [redacted].[89] These business models reduce realized revenues (and thus royalties) while at the same time increasing engagement and producing greater complementary benefits for the Services.

59. Third, the evidence also provides further support for concerns about revenue obfuscation or underreporting. An illustrative example is [redacted]

[89] COEX-7.88 (AMZN_Phono IV_00015981) at -15989 (emphasis added).

[redacted].[90] [redacted]

[redacted].[91]

60. The definition of service revenue under the pre-remand *Phonorecords III* rate structure [redacted], specifying that revenue should be reported for offerings like Prime Music based on the following rule:

> [T]he lesser of the revenue recognized from End Users for the bundle and the aggregate standalone published prices for End Users for each of the component(s) of the bundle that are Licensed Activities; provided that, if there is no standalone published price for a component of the bundle, then the Service Provider shall use the average standalone published price for End Users for the most closely

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[90] Amazon reported [redacted] active members for Prime Music in December 2020. Prime Music can be streamed on just one device at a time, meaning the number of monthly active members is equivalent to the number of Prime memberships under which Prime Music was being used in a given month. In December 2020, the price of Prime membership was $119 per year or $12.99 per month, implying average monthly revenue from [redacted] memberships of [redacted] See COEX-7.1; COEX-7.140 *Dominick Reuter, "Amazon Just Hiked the Cost of Prime Membership by 16% to $139 for Millions of Its Existing Customers. The New Charges Start Friday," *Business Insider* (March 25, 2022) (available at https://www.businessinsider.com/when-will-my-amazon-prime-subscription-price-increase-2022-3)); COEX-7.154 (Amazon, "Amazon Music Prime Streaming Limit on Multiple Devices" (available at https://www.amazon.com/gp/help/customer/display.html?ref_=hp_left_v4_sib&nodeId=GVQSB3QARNU9AQ78) (last accessed April 7, 2022)). On February 3, 2022, Amazon announced price increases for Prime membership to $139 per year or $14.99 per month. See COEX-7.152 (Amazon, "Amazon Prime Price Change" (available at https://www.amazon.com/gp/help/customer/display.html?nodeId=202213110) (last accessed April 7, 2022)). Amazon Prime Music royalty statements since the price change have not yet been made available to me.

[91] COEX-7.1. It is my understanding that [redacted]. See 37 CFR 385.11 (2017) ("Where the licensed activity is provided to end users as part of the same transaction with one or more other products or services that are not a music service engaged in licensed activity, then the revenue deemed to be recognized from end users for the service for the purpose of the definition…of 'Service revenue' shall be the revenue recognized from end users for the bundle less the standalone published price for end users for each of the other component(s) of the bundle; provided that, if there is no such standalone published price for a component of the bundle, then the average standalone published price for end users for the most closely comparable product or service in the U.S. shall be used or, if more than one such comparable exists, the average of such standalone prices for such comparables shall be used.").

comparable product or service in the U.S. or, if more than one comparable exists, the average of standalone prices for comparables.[92]

61. To assess its obligations under this definition, [redacted].[93] [redacted].[94]

62. Ultimately, however, [redacted],[95] and because it [redacted][96] The significance of [redacted]

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[92] 37 CFR §385.2 (2020). See also Amazon Ex. 92.

[93] See e.g., eCRB Docket No. 25791, Volume III – Exhibits ("Amazon Ex.") Amazon Ex. 92 (AMZN_Phono IV_00015404).

[94] See e.g., COEX-7.89 (Amazon_Phono IV_00020870) at 00020882; COEX-7.87 (AMZN_Phono IV_00017167) at -17175-17176.

[95] Amazon Ex. 92 at 2-3 (AMZN_Phono IV_00015404 at -15405-6).

[96] Amazon Ex. 92 at 5 (AMZN_Phono IV_00015404 at -15408). However, Amazon made clear that [redacted] See also eCRB Docket No. 25771, Written Direct Testimony of Timothy Cohan ("Cohan WDT") at ¶¶36-37; eCRB Docket No. 25779, Written Direct Testimony of James Duffett-Smith ("Duffett-Smith WDT") at ¶¶199-210, ¶201 [redacted]; and Written Rebuttal Testimony of Natalie Madaj ("Madaj WRT") at ¶25.

[redacted], [97] [redacted].

FIGURE 2:

[redacted]

Source: COEX-7.90 (*AMZN_Phono IV_00020209*) *at -20211.*

63. The evidence also demonstrates the ability of Services to engage in royalty avoidance by exploiting the differences between rate structures in their different offerings. [redacted] [98] [redacted]

[97] See also COEX-7.85 (AMZN_Phono IV_00016118) at -16127 ([redacted]."). [98] See e.g., COEX-7.91 (AMZN_Phono IV_00015799) at 12; COEX-7.92 (AMZN_Phono IV_00015221) at 1,2.

[redacted].[99]

64. Fourth, the evidence in this proceeding also raises concerns about the going-forward ability of the TCC prong, by itself, to ensure publishers receive a reasonable share of the value associated with musical works licenses. As I explained in my WDT, [redacted].[100] [redacted].[101] Moreover, record labels and artists have different promotional interests than music publishers and songwriters, since record companies and artists have other revenue that may be promoted by streaming services, including concerts and merchandise.[102] As a result, record label licenses may well underprice streaming royalties in light of the value from the additional promotion of streaming activity.

65. Moreover, and crucially, the Services are fully capable of amassing sound recording rights by producing their own sound recordings, acquiring sound recording rights, or buying a record label, thereby eliminating sound recording royalties altogether. Indeed, [redacted]. As explained further in the WRT of Robin Flynn, [redacted]

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[99] This information asymmetry is so broad that Amazon has convinced record labels that [redacted].

[100] Eisenach WDT at ¶¶98-99.

[101] COEX-7.93 (AMZN_Phono IV_00016031) at -16035. ("[redacted].")

[102] COEX-7.161 (AMZN_Phono IV_00047363); COEX-14.70 (AMZN_Phono IV_00009318) at -9327-9328.

[redacted].[103] Ms. Flynn also discusses how [redacted].[104] Further, [redacted].[105]

66. [redacted][106] [redacted].[107] Other Services appear to be following similar strategies,

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[103] Flynn WRT at ¶¶58-59; COEX-8.216 (AMZN_Phono IV_00015517) at -15520; COEX-8.217 (AMZN_Phono IV_00015538) at -15538.

[104] Flynn WRT at ¶¶60-61; COEX-8.216 (AMZN_Phono IV_00015517) at -15520; COEX-7.87 (AMZN_Phono IV_00017167) at -17176.

[105] Flynn WRT at ¶¶62-63; COEX-8.216 (AMZN_Phono IV_00015517) at -15520; COEX-7.87 (AMZN_Phono IV_00017167) at -17178.

[106] COEX-7.94 ([redacted]); COEX-7.95 ([redacted]). [redacted].

[107] Id. It is not entirely clear how [redacted].

and there is no reason to doubt they will continue down this path.[108] Moreover, as demonstrated by Amazon's just-completed $8.5 billion purchase of film and television studio MGM,[109] the Services are fully capable of entering content markets by acquisition – a development which would eviscerate the TCC prong altogether. Given these developments, it is inconceivable that a publisher would willingly enter into an agreement with a Service *for a five-year period beginning in 2023* in which the only backstop was a TCC prong.

B. The Services' Proposals Are Vulnerable to Royalty Diminution

67. Given the significance of revenue displacement, deferral and manipulation demonstrated in the subsection above, it is clear that, in a WBWS negotiation, Copyright Owners would naturally insist on effective mechanisms to protect royalty payments against royalty diminution from these sources – especially given the five-year term of the compulsory license. Thus, only a rate structure that incorporates such mechanisms can satisify the WBWS standard.

68. To assess the robustness of the Services' Proposals to these factors, I estimated royalities that would be paid under the Amazon and Spotify/Pandora proposals using the Royalty Pool Inputs from June 2020-May 2021, but assuming reductions in both reported revenues and TCC, such as would result from the factors discussed above or from other factors, such as the Services' proposed changes in revenue definitions. (Since Apple and Google do not propose specific rate

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[108] See also COEX-7.80 (Tim Ingham, Apple Just Bought a Company that Acts Like a Record Label. Why?, *Rolling Stone* (Jan. 4, 2019), https://www rollingstone.com/music/music-features/apple-just-bought-a-company-that-actslike-a-record-label-why-774480/); COEX-7.81 (Rita Liao, Tencent Music now has joint labels with all 'big three' record labels, *TechCrunch* (Mar. 22, 2021), https://techcrunch.com/2021/03/22/tencent-music-joint-labels-warner/); COEX-7.138 (Chris Eggertsen, "Sony Music, Anghami Form Arabic Record Label with a Global Scope," *Billboard* (December 15, 2021) (available at https://www.billboard.com/pro/sony-music-anghami-vibe-music-arabia/)).

[109] COEX-7.142 (Jennifer Maas, "Amazon Closes $8.5 Billion Acquisition of MGM," *Variety* (March 17, 2022) (available at https://variety.com/2022/tv/news/amazon-mgm-merger-close-1235207852/)); COEX-7.151 (Amazon Staff, "MGM joins Prime Video and Amazon Studios," About Amazon (March 17, 2022) (available at https://www.aboutamazon.com/news/entertainment/mgm-joins-prime-video-and-amazon-studios)).

levels, they are omitted, but I reserve the right to supplement this should they make their proposals more definite.)

69. Specifically, I calculate the impact on royalties of estimated revenue reductions of 10 percent to 50 percent combined with TCC reductions half as large. The range of assumptions is reasonable in the context of the evidence presented in the previous section and in my WDT regarding the divergence between reported revenues, on the one hand, and the value of music to the Services, on the other, as well as the level of actual and potential divergence between value and reported TCC.[110] The results are reported in Table 4.

[110] See *supra* at ¶¶55-66, Eisenach WDT at ¶¶58-67, 97-101. Under the current label contracts, revenue displacement alone might not have a large effect on TCC because most sound recording royalty amounts are determined by per-subscriber minima rather than the percentage of revenue prong. However, as discussed above, label contracts with Services increasingly include considerations that are not included in TCC; further, incursion by the Services into the sound recording business – up to and including purchase of a record label by a Service – could substantially reduce TCC and thus weaken the TCC prong.

TABLE 4:
EFFECTS OF REVENUE DISPLACEMENT AND TCC DILUTION ON MECHANICAL ROYALTIES

[redacted]

Sources: COEX-7.1-7.20, 7.35; Eisenach WDT Appendix C; eCRB Docket No. 25770, Written Direct Statement of Copyright Owners, Volume I – Introduction, Copyright Owners' Proposed Rates and Terms (Oct. 13, 2021) ("Copyright Owners' Rate Proposal"), at A-10-A-11; Spotify Rate Proposal, at 12-14; Apple Rate Proposal, at 11-14; Amazon Rate Proposal, at 10-14; Google Rate Proposal, at 10-14. Note: Note: Apple and Google are omitted because they have not proposed rate levels for all of their proposed rate prongs..

70. The data above demonstrate that, based on conservative assumptions about potential levels of revenue displacement/deferral and TCC dilution, the Services' Proposals result in substantial reductions in mechanical royalties compared with the *Phonorecords III* baseline and fail to provide robust protection against royalty diminution.[111] For example, lowering revenues by 30 percent and TCC by 15 percent reduces royalties payable under Amazon's plan by more than [redacted] and reduces royalties under Spotify's plan by more than [redacted] from an already very low base.[112] Further, these figures are based on the June 2020-May 2021 period;

[111] My calculations assume that performance royalties are are held constant. While I understand there is a possibility performance royalties could change as a result of changes in Section 115 statutory rates, I have no reason to assume a specific direction or magnitude of the potential change.

[112] While the diminution effect is smaller under Spotify's plan (about [redacted]), it starts from such a low base that royalties would still be more than [redacted] below the *Phonorecords III* level.

the losses going forward would be significantly higher.[113] While the precise mechanisms behind these royalty reductions are complex and vary by proposal, at the end of the day the underlying cause is that the rate structures fail to provide adequate backstops to prevent revenue displacement and other sources of royalty diminution.

C. The Terms and Definitions Proposed by the Services Increase the Risk of Revenue Displacement and Deferral

The Services' Proposals also include discounts, exclusions for Service Provider Revenue, and bundle revenue definitions that further increase the risk of revenue displacement and deferral and reduce payable mechanical royalties. I describe these changes and provide my opinions on each in the subsections below.

1. Discount Plans

71. As I noted above, all of the Services' Proposals propose to continue (or even expand) the Student and Family discount rates included in the *Phonorecords III Final Determination*. The proffered rationale for these reduced rates is that they allow the Services to offer discounted plans to customers with low "willingness to pay" (WTP) and thus constitute efficient price discrimination.[114]

72. I explained in my WDT that these plans do not serve their alleged purpose of promoting sales to customers with WTP. Specifically, I noted that services, and in particular those services operating a large platform, are instead promoting sales to "customers with high customer lifetime

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[113] These estimates are also conservative because they take the level of revenue displacement, deferral and manipulation already embedded in the Services' June 2020-May 2021 revenue reporting as given. Thus, they should be thought of as incremental to the level of revenue diminution that occurred under the *Phonorecords III* rate structure, which as I have explained was substantial. See Eisenach WDT at Appendix C.

[114] See e.g., Leonard WDT at ¶68 ("[A] service provider may be able to profitably increase its revenues (which benefits publishers) by offering a menu of plans targeted to users with different WTP.").

values – and not lifetime values for just their streaming services, which account for a tiny percentage of their overall businesses, but for the other, larger products and services that drive their businesses."[115]

73. The evidence in this proceeding provides further support for my conclusion that student and family plans are not motivated by a desire to attract low WTP consumers but rather are designed to attract and retain customers with the highest "lifetime customer value." For example, an internal Amazon document titled "[redacted]," shown in Figure 3, explains that [redacted]."[116] Further, it notes that [redacted].[117] None of these justifications relate to price discrimination for low willingness to pay customers. Rather it is clear that Amazon is offering discounts in an effort to sign up customers with high customer lifetime values, as I explained in my WDT.[118]

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[115] Eisenach WDT at ¶64.

[116] COEX-7.96 (AMZN_Phono IV_00020127) at -20128, line 70.

[117] COEX-7.97 (AMZN_Phono IV_00020127) at -20128, lines 73 and 75. I also note that the document refers to [redacted]." However, a [redacted] is not necessarily one with a low WTP, but may instead refer to a customer who is likely to choose between competing services based on price.

[118] I also note that the same document reveals that [redacted]. See COEX-7.96 (AMZN_Phono IV_00020127) at -20130, line 169.

FIGURE 3:

Source: COEX-7.96 (AMZN_Phono IV_00020127) at -20128.

74. As Figure 3 also reflects, the concept of bu also had nothing to do with low willingness to pay but instead was a means of .

75. I also note that Spotify and Pandora propose to change the basis for a family plan from "family" to "household," defined as an offering "shared by two or more members of the same household for a single subscription price."[119] One effect of this would be to extend the discount to Spotify's "Duo" offering,[120] but in general it would result in lower royalties for any discount plan made available to two or more people who share a living space, regardless of income level or other

[119] Spotify Rate Proposal at 2-3.
[120] Spotify Rate Proposal at 3.

characteristics.[121] Spotify and Pandora present no explanation for how this proposal bears any relationship to efficient price discrimination or willingness to pay, and I am aware of no economic basis for assuming that the willingness to pay for music is lower among people who live together than people who live apart. Indeed, Spotify's internal analyses [redacted].[122]

76. As shown in Table 5 below, the adoption of reduced rates for student and family discount plans would significantly lower the royalties that would otherwise be payable under the Service plans.[123]

TABLE 5:
IMPACT ON MECHANICAL ROYALTIES OF END USER DISCOUNTS

[redacted]

Sources: COEX-7.1-7.20, 7.35; Eisenach WDT Appendix C.

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[121] The term "household" is not defined in the proposal, but presumably refers to Census Bureau, "Subject Definitions: Household," (available at https://www.census.gov/programs-surveys/cps/technical-documentation/subject-definitions html).

[122] For example, [redacted] "[redacted]," COEX-7.97 (SPOT_P4_00007250 at SPOT_P4_00007262, 7270. [redacted] COEX-7.99 (SPOT_P4_000004809).

[123] In Table 5 the No End User Discount Column reports the royalties that would be due if the rate structure and levels of each proposal were in force but for the provision, first applied in the *Phonorecords III* Determination, that family plans be treated as if accounts on average had 1.5 end users and student plans had on average 0.5 end users. Thus, the amount reported for Copyright Owners' proposal represents its impact as proposed, as it does not specify a discount, while the amounts reported for the other proposals reflect the their impact if they specified no discount. The End User Column reports the royalties that would be due, were the discount provisions described above to apply. Thus, the amount reported for each of the Services' Proposals represents their impact as specified while the amount reported for Copyright Owners' proposal represents its impact had it specified that discount structure.

77. The right-hand column of Table 5 shows that the end user discount has a substantial effect on royalties received by rightsholders for many of the proposals, reducing royalties by [redacted]. These reductions occur primarily because the discount reduces the protection against royalty diminution otherwise provided by the per-subscriber minimum.

2. Revenue Exclusions

78. The Services' Proposals also include new terms and definitions that would allow them to further reduce reported revenues and thus the royalties that would be payable under the percentage of revenue prong. The primary changes they propose would give them broad discretion to allocate royalties away from the Service Provider Revenue pool and would narrow the criteria for recognition of advertising revenues.

a. Allocation

79. All of the Services propose giving themselves broad discretion to "allocate" royalties away from the Service Provider Revenue pool on which royalties are to be calculated. Some of the Services seek to accomplish this through language in their definition of Service Provider Revenue that gives them discretion to allocate portions of such revenue to non-Section-115 eligible content that they also choose to offer as part of their Section-115 eligible streaming services (such as podcasts, or videos).[124] Others do so by allocating a portion of the payable royalty pool (whether based on a revenue prong or another prong) to such non-covered activities.[125] Google proposes to apply an "allocation" calculation to revenue, TCC, and per-subscriber prongs.[126]

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[124] See, e.g., Spotify Rate Proposal at 4, 7-8 (excluding revenue from the "delivery of Non-Covered Works," such as podcasts, on the applicable service offering); Pandora Rate Proposal at 5, 8.

[125] See, e.g., Amazon Rate Proposal at 15; Apple Rate Proposal at 13.

[126] See, e.g., Google Rate Proposal at 2, 13, 16, 19.

80. The proposals of Spotify, Pandora and Amazon fail to describe precisely how they would allocate revenue between "covered" musical works and other works that are available on the same offering at the same subscription price.[127] Further, because the allocation would be made "off the top," it would be impossible for Copyright Owners to know without conducting an audit (if it could be uncovered in an audit) whether and how large of a slice of the revenue pie was carved out by the Services before calculating royalties. From an economic perspective, such provisions create the potential for opportunistic behavior and increase monitoring costs.

81. In cases where a Service chooses to include both Section-115-eligible and non-Section-115 eligible content in an offering, the Board in setting a rate is confronted with the same economic indeterminacy and revenue measurement problems I discussed in my WDT in the context of bundled offerings.[128] The Services have incentives to devalue or ascribe an unreasonably low value to the Section-115 music content in order to lower their royalties, while assigning higher values to non-Section-115 eligible content that carries no royalty obligation. The way to solve this problem is to treat the product like any other bundle, and deploy a reasonable bundle revenue

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[127] See e.g., Spotify Rate Proposal at 8 (noting that "Service Provider Revenue shall exclude revenue derived by the Service Provider solely in connection with activities other than Licensed Activity, including delivery of Non-Covered Works," but failing to describe how to determine whether revenues were derived in such a way).

[128] Eisenach WDT at ¶156. See also Copyright Royalty Board, *Determination of Royalty Rates and Terms for Transmission of Sound Recording by Satellite Radio and "Preexisting" Subscription Services (SDARS III)*, *Final Determination*, Docket No. 16–CRB–0001 SR/PSSR (2018–2022), 83 FR 65210, 65264 (December 19, 2018) ("In a context in which the retailers pay for their inputs on a per unit basis, bundled retail pricing is benign, because input suppliers would be indifferent to downstream pricing and bundling. However, when the input suppler, as here, is paid as a percent of retail revenue, and the bundled revenue consists of some revenue attributable to the royalty base and other revenue excluded from the royalty base, the economic indeterminacy of the revenue attributable to each bucket creates ameasurement problem, absent further information regarding the WTP of buyers/subscribers to the bundle."); United States Copyright Royalty Judges, *Order Regardging Proceedings on Remand*, Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (*Phonorecords III* Remand) Docket No. 16-CRB-0003-PR (2018-2022) (Remand)(December 15, 2020) ("The Services and Copyright Owners agree that the proceedings on remand should be limited to three issues: … and the adoption of a revised definition of "service revenue" for bundled offerings between issuing their Initial Determination and Final Determination.").

definition that fairly values the music content. Copyright Owners have suggested the approach adopted by the Board in the *Phonorecords III Final Determination* that allocates the standalone price of the music content (e.g., if the offering includes a full catalog, fully-interactive music offering, then the $9.99 comparable standalone price should be used). As discussed further below, this approach is further supported by certain of the Services' own proferred benchmarks.

82. Google proposes a more specific method of allocation for its YouTube subscription offerings, which would allocate subscription revenue between what it determines to be Section-115-eligible content and what it deems to not be such content (including both royalty-bearing and non-royalty bearing YouTube videos).[129] Google argues that this type of allocation is supported by [redacted]. As I have explained, YouTube agreements are not good benchmarks because of the leverage Google holds over content owners as a result of its ability to rely on the "safe harbor" protections of the DMCA to use content without paying royalties, forcing copyright owners to rely on arcane and ineffective notice and take down procedures.[130]

83. Moreover, even YouTube agreements upon which Google relies provide support for the conclusion that these combinations of Section 115 and non-Section 115 content should be treated as bundles and the Section 115 service should be valued at the standalone price of the music offering or a comparable music offering.[131] For example, some of those agreements contain

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[129] *See* Google Rate Proposal LLC at 1-2 (proposed 37 C.F.R. § 385.2, definition of "Allocation"), 8 (proposed 37 C.F.R. § 385.21(b), "Rate Calculation").)

[130] Eisenach WDT at ¶79, n. 82.

[131] See e.g., COEX-2.16 (P4-SMP00000138); eCRB Docket No. 25777, Written Statement of Google, Exhibits ("Google Ex.") 16 (GOOG-PHONOIV-00002209) (as amended by Google Exs. 17-20). See also COEX-5.21 (P4-UMPG00000146).

[redacted].[132]

[redacted]:

FIGURE 4:

[redacted]

Source: COEX-2.16 at 19 (P4-SMP00000138 at -156).

84. In other words, [redacted]

[132] COEX-2.16 at 19 (P4-SMP00000138 at -156); Google Ex. 16 at 26 (GOOG-PHONOIV-00002209 at -2234) (as amended by Google Exs. 17-20 (GOOG-PHONOIV-00000014-17; GOOG-PHONOIV-00003636-41; GOOG-PHONOIV-00003642-46; GOOG-PHONOIV-00003647-51). See also COEX-5.21 (P4-UMPG00000146 at -175).

[redacted].[133]

b. **Advertising Revenues**

85. The Services all propose to exclude advertising revenues from advertisements that are not "includ[ed]" or "placed"[134] or "displayed or streamed" with or alongside licensed musical works (including those that are "embedded or served within a copy or phonorecord that constitutes a Non-Covered Work").[135] Even where such advertisements are placed before or after licensed musical works, Amazon's, Spotify's and Pandora's proposals would only count "50% of revenue" from ads that are "placed between content that constitutes Licensed Activity and content that constitutes non-Licensed Activity."[136]

86. As explained in the testimony of Adam Heimlich, these aspects of the Services' Proposals disgregard a number of the Services' real-world advertising practices, including that the Services are sometimes compensated for advertising on their offerings not merely on the basis of the "place[ment]" or "inclusion" of advertising but rather when, for example, the advertisement is clicked on; and, further that the Services often realize higher revenues from advertisements

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[133] Note too that there is a difference in the parties agreeing to an allocation across various content types in a voluntary agreement where the various content types are licensed and bear different royalty rates ([redacted]), and incorporating an allocation in a federal regulation that concerns only one such content type [redacted] No willing seller would ever agree to such a "heads you win, tails I lose" arrangement in a voluntary license.

[134] Apple Rate Proposal § 385.2 (definition of "Net Advertising Revenues"); Google Rate Proposal § 385.2 (same).

[135] Amazon Rate Proposal § 385.2 (definition of "Service Provider Revenue"); Pandora Rate Proposal § 385.2 (same); Spotify Rate Proposal § 385.2 (same).

[136] Amazon Rate Proposal § 385.2 (definition of "Service Provider Revenue"); Pandora Rate Proposal LLC § 385.2 (same); Spotify Rate Proposal § 385.2 (same).

within or related to "non-Licensed activity" (e.g., podcast advertisements) based on their use of listening data collected from the consumption of licensed music.[137] The Services' Proposals also limit the types of ad revenues to be recognized for the purpose of the mechanical license to those from "third party" advertisements, thus assigning a value of $0 to the Services' own "house" advertisements, even though those advertisements may be included in lieu of such third-party ads and presumably generate value for the Services' overall business enterprises. In both cases, the Services' Proposals would drive a wedge between the value generated by the use of the licensed content and the quantum used as the basis for calculating royalty payments. From an economic perspective, the more correct measure is one which captures *all* of the economic value associated with the use of the licensed content.

3. Bundle Revenue Definitions

87. The Services' Proposals no longer embrace the *Phonorecords II* bundle revenue definition. Instead, each Service now offers a distinct method for calculating revenue attributable to a music streaming offering when bundled with other products or services.[138]

88. Pandora and Spotify propose a definition of Service Provider Revenue for bundles that would give the Services complete discretion to determine the revenue attributable to the subscription music streaming component of a bundle based on the service's "reasonabl[e] determin[ation] . . . in accordance with GAAP."[139]

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[137] Written Rebuttal Testimony of Adam Heimlich, Sections IIIC-D & IV.

[138] I cannot adequately address Google's proposal because key components are unspecified – that is, because Google proposes to multiply the "dollar value" of the bundled subscription offering by an unspecified "Bundle Percentage," which Google states is "TBD based upon the final, non-appealable determination in *Phonorecords III*." Google Rate Proposal, at 2, 4.

[139] Pandora Rate Proposal, at 8; Spotify Rate Proposal, at 8.

89. For most bundles, Apple proposes to discount the payable royalty pool resulting from the standalone price of the music streaming service by the percentage discount that the total bundle provides to consumers as compared against the sum of the standalone prices of the bundle components.[140] For bundles that include a music streaming service and a hardware device, Apple proposes a fixed mechanical floor of 33 cents per subscriber for two years, after which royalties are calculated as if the offering were sold on a standalone basis.[141]

90. For what Amazon defines as a Bundled Subscription Offering – that is, in cases where End Users can obtain each product or service comprising the Bundle on a standalone basis – Amazon proposes to multiply the standalone price of the subscription music streaming service by the quotient obtained when the price of the bundled offering is divided by the sum of the standalone prices for the bundled components.[142] Further, as noted above, Amazon also proposes to define a Mixed Service Bundle as an offering, like Prime Music, that is not available on a standalone basis. For that category, Amazon proposes its $0.00085 per-play rate which, as I explain below, is unreasonably low.[143]

91. None of the Service proposals solves for the acknowledged problem of revenue measurement (the "economic indeterminacy" issue extensively litigated in *Phonorecords III*) that I reference in my WDT.[144] Nor do any of the Service proposals address the concerns I noted in my WDT

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[140] Apple Rate Proposal, at 13.
[141] *Id.* at 3-4. 12.
[142] Amazon Rate Proposal, at 1, 7-8.
[143] *Id.* at 16. See *supra,* at ¶¶102-121.
[144] Eisenach WDT at ¶156.

where the Services accomplish their bundling and related Service Provider Revenue diminution in non-simultaneous transactions.[145]

92. As to the first issue, the proposal of Spotify and Pandora is subject entirely to the Services' own internal accounting practices and not based on on any observable metric, such as the standalone price of the music offering, any comparable standalone price, or even on the prices or comparable prices of other products in the bundle. The allocation is left completely to the Services' discretion subject only to GAAP accounting rules.[146]

93. While Apple's and Amazon's proposals do at least factor the standalone price of the music service in the valuation – at least for non-hardware bundles (Apple) and non-Prime bundles (Amazon)[147] – their approaches are also problematic because they too can lead to ascribing a value to the music service component of the bundle that is not proportionate to its true value to either consumers or to the Service itself. For example, where the Service offers and prices all or most of the products in the bundle, such as the case with Apple and Amazon, it may have both the

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[145] Eisenach WDT at ¶¶157-159.

[146] The *Phonorecords III* Written Rebuttal Testimony of Christopher Barry discusses how GAAP does not provide meaningful constraints on the discretion of management with respect to these determinations. See Barry *Phonorecords III* WRT at ¶8 ("From an accounting perspective, quantifying Indirect Revenues is very subjective and accounting principles do not provide methodologies to quantify the Indirect Revenues. This is a significant shortcoming in a rate structure in which mechanical royalties are paid based on a percentage of Service revenue") More generally, he states that "many companies supplement traditional financial statements with non-GAAP measures that they, and market analysts, feel give better insight into operating results and future performance" eCRB Docket No. 4589, Written Rebuttal Testimony of Christopher Barry (*Phonorecords III*) ("*Phonorecords III* Barry WRT") at ¶10. Mr. Barry defines Indirect Revenues as follows: "the Services' interactive music services provide significant cross-selling benefits to the Services' other business lines and ecosystems (e.g., iPhones, "Echo" smart speakers, Prime membership fees and increased product sales and hence Amazon revenues generated by Prime members, and Pandora ticket sales for events advertised on its music streaming services ("Indirect Revenues"))." See *Phonorecords III* Barry WRT at ¶7.

[147] The problem with the bundle rate for Prime Music—which Amazon broadly defines as a Mixed Service Bundle that would not only include Prime Music as bundles in Amazon Prime but a host of other possible business models, are discussed *supra* at ¶11. As for Apple's hardware bundle proposal, there is no economic basis for valuing an interactive music streaming service differently when it is bundled with hardware rather than with another type of streaming service or any other product or service.

discretion and an incentive to inflate the undiscounted standalone price for the non-music products in order to reduce its royalty obligation for the music component. Indeed, the standalone prices ascribed to the non-music products in determining the Service Provider Revenue for the music products may not be real market prices if they are frequently or routinely discounted. This is precisely what occurred with the [redacted].[148] By contrast, requiring the Services to use the standalone price of the music component, or the standalone price of a comparable offering, in ascribing a value to that component in the bundle is not subject to manipulation or Service discretion, but based on observable marketplace evidence.[149]

94. Finally, as noted, none of the Service proposals addresses the situation when the exact same bundle is accomplished in consecutive transactions. The Copyright Owner's proposal addresses this situation, which, as I discussed in my WDT is indistinguishable from an economic perspective from a transaction where the bundling is accomplished in a simultaneous transaction.[150] The Copyright Owners' approach is also consistent with market agreements.[151]

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[148] COEX-7.100 (*Phonorecords III* Tr. 1478:20-1487:18 (Mirchandani)).

[149] Moreover, there is nothing that prohibits a Service that wishes to offer a unique bundle to negotiate the royalty payment for the music component of the bundle directly with the relevant music rightsowners. Not every possible discount or bundle plan needs to be incorporated into the federal regulations that set rates in this constantly-evolving market through 2027.

[150] See Eisenach WDT at ¶¶157-159. I discussed the example of [redacted].

[151] See *id.*

V. THE SERVICE EXPERTS' ANALYSES DO NOT SUPPORT THE RATE LEVELS IN THE SERVICES' PROPOSALS

95. As I have demonstrated above, the Services' Proposals would result in substantial reductions in mechanical royalities, especially after accounting for the likelihood of substantial revenue displacement and deferral.[152] In this section I address the analyses put forward by the Service Experts in support of these reductions. The first subsection below addresses the Service Experts' benchmarking analyses and explains why, in my opinion, they are fundamentally flawed and yield erroneous results The second subsection addresses Dr. Farrell's Nash-in-Nash bargaining model and explains why, once corrected to utilize economically reasonable assumptions, it supports Copyright Owners' proposed rates.[153]

A. The Service Experts' Rate Benchmarks Are Fundamentally Flawed and Their Results Are Biased and Erroneous

96. In support of the Services' Proposals, Service Experts put forward a variety of benchmarking analyses to derive royalty rate levels, relying on direct agreements between Services and both record labels and publishers, agreements between the Services and Performing Rights Organizations (PROs) for both non-interactive and interactive offerings, the settlement between the record labels and publishers for rates for PDDs and (somewhat remarkably in my opinion) the decade-old *Phonorecords II* settlement.

97. As summarized in Table 6 and discussed in more detail below, both Professor Marx and Professor Farrell calculate benchmark royalty ratios between sound recording and musical works rates ("SR/MW royalty ratios") which they then apply to other sound recording rates to derive

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[152] As noted above, I estimated royalty payments for Amazon and Spotify/Pandora. Royalties under the Apple and Google proposals are indeterminate since neither Service proposed actual rates.

[153] My analysis of the "market power adjustments" put forward by Service Experts is covered in Section VI.

musical works rates. Both Professor Marx and Professor Farrell calculate a SR/MW royalty ratio based on Pandora's [redacted]. Professor Marx also calculates SR/MW royalty ratios using PDD rates as well as [redacted].

TABLE 6:

[redacted]

Sources: Marx WDT at ¶¶205-212, 214-216, 234-244, 254-258; Farrell WDT at ¶¶122-125.

98. In addition to deriving musical works rate levels using SR/MW royalty ratios, the Service Experts also attempt to derive rate levels directly or indirectly using other benchmarking analyses, as summarized in Table 7.

TABLE 7:

[redacted]

Sources: Marx WDT at ¶¶247-253, 256-258; Prowse WDT at ¶¶262, 265, 299; Leonard WDT at ¶¶72-74, 81-82, 84-88; Farrell WDT at ¶¶102-114, 134-143.

99. While I agree direct deals between Services and both labels and publishers can in some circumstances inform the appropriate rate for the rights at issue in this proceeding, the Service Experts' analyses of these benchmarks are in many respects fundamentally flawed and as a result many of their conclusions are incorrect. With respect to their other [redacted].[154] In the sections that follow, I first address the Service Experts' reliance on direct agreements between Services and both labels and publishers. The following sections explain, in turn, why in my opinion [redacted], PDD settlement and *Phonorecords II* settlement do not constitute comparable bargains. In the last section below I address Professor Marx's arguments regarding blanket licenses for audio visual streaming.

1. Direct Agreements

100. In the subsections below, I evaluate the three ways in which Service Experts utilize direct agreements to develop benchmarks for rate levels:

- Professor Marx's use of royalty rates for [redacted] on the other for musical works, which she uses to:
  - Calculate a SR/MW royalty ratio, which she then applies to other sound recording rates to derive musical works rates; and,
  - Argue that Amazon's proposed per-play rate for Mixed Services Bundle is justified.

[154] As I explain below, [redacted] and may constitute comparable bargains.

- Dr. Leonard's use of [redacted];
- [redacted]

101. As discussed below, each of these benchmarks is fundamentally flawed and cannot serve as a reasonable benchmarks for rates. As discussed, the conclusions Professor Marx, Dr. Leonard and Dr. Prowse draw concerning these deals are unwarranted.

[redacted]

102. Professor Marx seeks to derive a benchmark SR/MW ratio using [redacted]. As I explain below, Professor Marx's results are incorrect.

103. As a preliminary matter, however, I note that Professor Marx, like Professor Farrell, accepts and advocates as appropriate a benchmarking approach in which a benchmark SR/MW royalty ratio is calculated, and then applied to sound recording royalties to derive a musical works royalty rate. I agree with this approach. Since sound recordings and musical works royalties are perfect complements, and sound recording rates are determined in the marketplace, there is no better benchmark than those rates.[155] I utilize this approach in my direct testimony, and explain how it supports Copyright Owners' proposed rate levels.[156]

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[155] Eisenach WDT at ¶72 ("[redacted] which in my opinion provide powerful economic evidence of the appropriate rates for this proceeding. These agreements are strong benchmarks for both rate structure and rate levels.").

[156] Eisenach WDT at ¶81 ("In addition to supporting Copyright Owners' proposed multi-pronged rate structure, [redacted].").

104. Professor Marx arrives at her ratio using two data points: [redacted].[157]

105. Professor Marx then calculates her proposed musical works rates by applying that [redacted], based on the data used in my direct testimony.[158] This results in a musical works rate of [redacted].[159] Professor Marx does not explore the vast majority of sound recording agreements in the space, nor explore musical works rates outside of the shadow of the compulsory license or even [redacted]. As discussed below, her approach is highly biased and selective, and is not a reasonable approach to identifying a marketplace benchmark SR/MW royalty ratio.

106. Professor Marx states that she [redacted]."[160] As a result, she also uses the [redacted] as her primary benchmark for calculating an [redacted]

[157] Marx WDT at ¶216.
[158] Marx WDT at ¶234, n. 365.
[159] Marx WDT at ¶244, Figure 41. As described in more detail in Section VI, Professor Marx also applies market power adjustments to both the sound recording and musical works rates resulting in benchmarked rates ranging from [redacted] of revenue.
[160] Marx WDT at ¶186.

[redacted].[161] But, [redacted] is an unreasonable benchmark for multiple reasons.

107. First, Professor Marx ignores that the [redacted].[162] As Mr. Brodsky testifies, [redacted],[164] [redacted].[165]

108. Second, the agreement [redacted]"[166] it was negotiated in the shadow of the Section 115 compulsory license, in which "rightsholders are not permitted to withhold a license from a licensee who is prepared to pay the statutory rates."[167] Rates negotiated under the shadow of compulsory license do not reflect fair market value of the rights at issue and are therefore not appropriate benchmarks. As explained in my WDT, licenses negotiated in the shadow of compulsory licensing suffer from the fact that the compulsory nature of the license is one-sided. According to the Copyright Office, "while copyright owners and

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[161] Marx WDT at ¶256. [redacted]. See Marx WDT at ¶¶245-255. [redacted].

[162] Brodsky WRT at ¶¶ 38, 39.

[163] Brodsky WRT at ¶¶ 38, 39. [redacted].

[164] See e.g., Marx WDT at ¶234.

[165] [redacted].

[166] COEX-2.18 (P4-SMP00000002 at -004) at 23.

[167] Eisenach WDT at ¶32.

users are free to negotiate voluntary licenses that depart from the statutory rates and terms, in practical effect the CRB-set rate acts as a ceiling for what the owner may charge" and "the terms of the statutory license act as a ghost in the attic, effectively establishing the maximum amount a copyright owner can seek under a negotiated mechanical license."[168]

109. Thus, regardless of whether [redacted],[169] Amazon always had recourse to the statutory rates during those negotiations. Indeed, Amazon's [redacted].[170] [redacted].[171] As I explain below, [redacted]

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[168] U.S. Copyright Office, *Copyright and the Music Marketplace* (February 2015) at 29, 31 (available at http://www.copyright.gov/policy/musiclicensingstudy/copyright-and-the-music-marketplace.pdf) ("CMM"). See also Farrell WDT at ¶264 ("I assume that regulation determines the maximum price that firm 2 may charge (nothing prohibits it from charging less.").

[169] Marx WDT at ¶216. As I noted above, Amazon is not proposing a Prime Music rate category that is limited to the very "unique" offering that Professor Marx describes Prime Music to be. Rather, Amazon is proposing a broad Mixed Service Bundle rate category that would potentially apply to a far larger category of offerings than Prime Music. Thus, Professor Marx's heavy reliance on the "unique characteristics" and "unique nature of Prime Music," which "presents particular problems," and points to rates that "will not be the same" as for other offerings, invalidates her use of a Prime Music rate – [redacted] (Marx WDT at ¶¶182, 185, n. 288, ¶193, n. 301.) Again, I disagree [redacted]

[170] See COEX-7.83 (AMZN_Phono IV_00004040); Amazon Ex. 49; Amazon Ex. 50; COEX-7.101 (AMZN_Phono IV_00009287); Amazon Ex. 52; COEX-7.102 (AMZN_Phono IV_00009369); Duffett-Smith WDT at ¶¶109, 113-115, 117.

[171] Professor Marx references [redacted]. See Marx WDT at ¶216, n. 325. [redacted]. See P4-SMP00003481 ("[redacted]

[redacted].

110. Indeed, according to Peter Brodsky, Executive Vice President, Business and Legal Affairs at SMP, who negotiated the agreement:

[redacted].[172]

111. Mr, Brodsky further testifies in rebuttal to Professor Marx and Amazon's James Duffett-Smith [redacted].[173]

112. Third, Mr. Brodsky further concedes that, [redacted]

[redacted] See COEX-7.103 (P4-SMP00003353) at -3370.

[172] Brodsky WDT at ¶77, n. 26 (emphases added).

[173] Brodsky WRT ¶ 4; *see also, generally id.* § I.A.

[redacted].[174] [redacted].[175]

113. Fourth, Professor Marx selects [redacted]. [redacted],"[176] [redacted].[177] [redacted].[178]

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[174] Brodsky WRT ¶¶ 4, 21; *see also, generally id.* § II.A.
[175] Brodsky WRT ¶¶ 2,18, 31, 41; *see also, generally id.* § II.A.
[176] Marx WDT at ¶217.
[177] While [redacted].
[178] I understand that [redacted] the Written Rebutal Tesimony of David Kokakis ("Kokakis WRT") at ¶22.

FIGURE 5:

Source: Amazon Ex. 52.

114. As these documents show, [redacted].[179] [redacted]

[179] U.S. Copyright Royalty Judges, *In re Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (Web V), Final Determination*, Docket No. 19-CRB-0005-WR (July 22, 2021) at 207 n. 287 ("*Web V* Final Determination") ("One of the necessary conditions for a market to be effective is the absence of asymmetric information.").

[redacted].

115. In this way, [redacted].[180] This is in contrast to the [redacted] together can easily lead to rates that are below those that reflect effective competition.

116. Further, [redacted] excerpted in Figure 6, [redacted].[181]

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[180] Transcript of Videotape Deposition Via Zoom of Michael L. Katz Before the United States Copyright Royalty Judges, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (June 8, 2021) at 86:8-18, 90:7-18.

[181] See also Amazon Ex. 50 ([redacted]).

FIGURE 6:

[redacted]

117. [redacted].[182]

118. Professor Marx also provides no justification for her decision to calculate her benchmark ratio based on the [redacted].[183] As shown below [redacted]. Table 8 below shows the SR/MW ratios

[182] COEX-7.101 (AMZN_Phono IV_00009287) at -9289.
[183] Marx WDT at ¶216; COEX-7.1.

and TCC rates [redacted]

[redacted]:

TABLE 8:

[redacted]

Sources: Amazon Ex. 52; COEX-7.1.

119. For the reasons explained above, [redacted] cannot reasonably be considered a willing seller rate.[184] [redacted].[185]

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[184] [redacted]. Madaj WRT at ¶38; Amazon Ex. 72.

[185] Professor Marx's conclusions are also shown to be incorrect when one considers the [redacted] (discussed in ¶107 above), which ranged from

120. I also find it notable that Professor Marx's own analysis [redacted]).[186]

121. Finally, in addition to all of the other errors and omissions in Professor Marx's analysis, all of which bias her estimate downwards, she argues [redacted].[188] For the reasons I explain in Section VI below, this adjustment is also biased and unsound.

[redacted]

122. As explained above, [redacted] to support Google's proposal that the *Phonorecords IV* rates should "remain unchanged from those that are

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[redacted].

[186] Marx WDT at ¶119, Figure 22 ([redacted]).

[187] Marx WDT at ¶256.

[188] Marx WDT at ¶256.

finally determined in the *Phonorecords III* proceeding for 2022."[189] The [redacted]."[190] [redacted]. Moreover, as I discussed in my Remand testimony, the Services experienced unprecedented success and growth under those rates, further validating that they are reasonable *for the Services*, and therefore should be considered a floor on rate levels.

123. Based on his understanding that "[redacted]"[191] Dr.

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[189] Leonard WDT at ¶13. See Leonard WDT at ¶¶72-74, 81-82. Dr. Leonard provides information about his [redacted] Leonard WDT at Appendices C1, C2 and C3.

[190] Leonard WDT at ¶82. [redacted]" See Leonard WDT at ¶48 (citing Google Ex. 06 (GOOG-PHONOIV-00002944-66), [redacted]). As [redacted]" Leonard WDT at ¶48 (citing Carletta Higginson, *Phonorecords IV*, *Written Direct Testimony of Carletta Higginson* (October 13, 2021) at ¶18).

[191] Leonard WDT at ¶64.

Leonard argues that [redacted],"[192] explaining:

[redacted] 15.[193]

124. Dr. Leonard's analysis is fundamentally flawed. First, with respect to uses that may be subject to the Section 115 license, [redacted], rates negotiated under the shadow of the Section 115 compulsory license do not reflect fair market value of the rights at issue; therefore, they are not appropriate benchmarks.

125. Moreover, Dr. Leonard's and Google's [redacted].[194]

126. Second, [redacted]

[192] Leonard WDT at ¶81.
[193] Leonard WDT at ¶81.
[194] Brodsky WRT ¶¶ 27-28; Kokakis WRT ¶38 n.12; Cohan WRT ¶ 16.

[redacted]. "[195] [redacted]. [196]

c. [redacted]

127. [redacted]

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[195] Leonard WDT at ¶55. See also Leonard WDT at ¶82 ("[redacted]."). [196] See *supra*, n. 35. See also 17 U.S.C. § 512; Eisenach WDT at ¶79, n. 82 ("[redacted]") (citing 17 U.S.C. § 512; Kokakis WDT at ¶76, n. 33); Brodsky WRT ¶¶ 55-56; eCRB Docket No. 25771, Written Direct Testimony of David Kokakis (Oct. 13, 2021) ("Kokakis WRT") ¶18; Cohan WRT ¶22.

[197]

. .[198]

,[199]

[200]

2. PRO Agreements

128. Professor Marx relies on as a benchmark for a SR/MW royalty ratio.[201] , from which Professor Marx

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[197] Prowse WDT at ¶299. The Apple witness testimony cited by Dr. Prowse also references agreements with . See Elena Segal, *Phonorecords IV*, *Amended Testimony of Elena Segal* (October 13, 2021) at ¶132.

[198] See); COEX-7.104 ( ) at –9550-9551; at 2 (; Amended Written Direct Statement of Apple, Amended Subpart A--Regulations of General Application at 4.

[199] See e.g., Prowse WDT at ¶208.

[200] As noted above, Apple's proposal calls on the Judges to adopt whatever percentage of revenue rate they decide upon in the *Phonorecords III* remand.

[201] Marx WDT at ¶209.

infers a [redacted] SR/MW royalty ratio.[202] [redacted][203]

129. From this, Professor Marx identifies a [redacted].[204] However, as described in more detail in Section VI below, Professor Marx then applies market power adjustments to account for supposedly "supracompetitive sound recording rates,"[205] using which she arrives at royalty rates from [redacted].[206] As it happens, this range, which is based on an apparently arbitrary selection of data points drawn from multiple different contexts, has at its near-exact midpoint the *Phonorecords II* revenue rate.

130. Professor Farrell also relies on the [redacted].[207] Applying this rate to [redacted]

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[202] Amazon Ex. 114 (PAN_PHONO4_00001507); COEX-7.105 (PAN_CRB115_00093719). Note that the [redacted]. See *id.* at -93723. The [redacted]. See Amazon Ex. 114 at 11 (PAN_PHONO4_00001507 at -1517).

[203] Marx WDT at ¶234, n. 365.

[204] Marx WDT at ¶238, Figure 39.

[205] Marx WDT at ¶221, ¶238, Figure 39.

[206] Professor Marx also applies the [redacted]. See Marx WDT at ¶¶245-255. [redacted].

[207] Farrell WDT at ¶¶122-125. Note that Professor Farrell [redacted], but rather references SiriusXM's 2020 Form 10-K and presents as an example one [redacted]. See Farrell WDT at ¶122, n. 178.

[redacted].[208] Professor Farrell also claims that an adjustment to the sound recording royalties is required to account for "label market power,"[209] though he does not provide any empirical analysis of what an appropriate adjustment would be.

131. In addition to the [redacted], Professor Farrell relies on [redacted].[210] On an assumption of a 50/50 split between performance and mechanical musical works royalties,[211] he calculates an all-in musical works rate by simply [redacted].[212] [redacted].[213] [redacted].[215] [redacted]

[208] Farrell WDT at ¶124.
[209] Farrell WDT at ¶125.
[210] Farrell WDT at ¶¶134-143.
[211] Farrell WDT at ¶¶138-141, 143.
[212] Farrell WDT at ¶143.
[213] Farrell WDT at ¶143.
[214] Farrell WDT at ¶¶142-143.
[215] COEX-7.16 ([redacted]).

[redacted].[216]

132. Professor Marx's and Professor Farrell's reliance on licenses for performance rights negotiated with ASCAP and BMI are flawed for three primary reasons: (1) They do not reflect fair market value; (2) ASCAP and BMI are meaningfully different from the parties involved in this proceeding; and, (3) with respect to at least some of the Services' licenses, there is circularity between how the PRO royalties are negotiated and the rates set in this proceeding.

133. First, as acknowledged by Professor Farrell: "[T]he two largest PROs, ASCAP and BMI, are under a form of compulsory license enforced (if no agreement is voluntarily reached) by a New York federal court, but smaller PROs such as GMR and SESAC are not under such a constraint with respect to interactive streaming services."[217]

134. The ASCAP and BMI rates do not reflect fair market values because they result from government regulation rather than voluntary market transactions. The essence of benchmarking analysis is the use of *market-based*, *voluntary* bargains between willing buyers and willing sellers. The ASCAP/BMI licenses, by contrast, are not market-based bargains, but rather reflect the cumulative result of more than 80 years of government rate setting. Moreover, particular aspects of the ASCAP and BMI consent decrees, and the ways in which they have been implemented, have operated to skew bargaining power in favor of licensees and away from the PROs and their

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[216] Farrell WDT at ¶142, Figure 10 and ¶143; COEX-7.106 (SPOT_P4_000002101.xlsx ("[redacted]t.

[217] Farrell WDT at ¶88, n. 128.

affiliates. My conclusions in this regard are consistent with the findings of both the U.S. Copyright Office and Judge Louis Stanton, who oversaw the BMI rate court before passage of the Music Modernization Act (MMA) in 2018.

135. First, both decrees contain interim license provisions that require the PROs to grant interim licenses to any qualified applicant.[218] The terms of such interim licenses allow the licensee to perform the licensed works indefinitely, pending completion of either a successful negotiation or of a rate court proceeding to set an interim or final fee.[219] During this period, there is no requirement for licensees to make interim or contingent payments. The effect of the interim license provisions is to reduce the costs borne by the licensee of failure to reach an agreement and increase the costs borne by the licensor, increasing the licensees' bargaining power and thus biasing the resulting rates in their favor.[220]

136. As the U.S. Copyright Office explained:

> Since the consent decrees do not provide for immediate and concurrent payment for uses made during these periods – and do not establish a timeframe for

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[218] COEX-7.157 (*United States v. ASCAP*, *Second Amended Final Judgment*, 41 Civ. 1395 (S.D.N.Y. 2001) ("ASCAP Consent Decree")); COEX-7.158 (*United States v. BMI*, [Amended] *Final Judgment*, 64 Civ. 3787 (S.D.N.Y. 1994) ("BMI Consent Decree")); Pilar Tschollar, *Phonorecords IV*, *Corrected Written Direct Testimony of Pilar Tschollar* (October 29, 2021) at ¶5 ("Tschollar WDT") ("[redacted]").

[219] COEX-7.157 (ASCAP Consent Decree); COEX-7.158 (BMI Consent Decree). See e.g., Braun WDT at ¶44 ("[redacted]").

[220] See generally John Nash, "The Bargaining Problem," *Econometrica* 18;2 (1950) 155–162; see also Ken Binmore, Ariel Rubinstein, and Asher Wolinsky, "The Nash Bargaining Solution in Economic Modeling," *The RAND Journal of Economics* 17;2 (1986) 176-188.

> the commencement of a rate court proceeding – an applicant is able to publicly perform a PRO's catalog of works for an indefinite period without paying.
>
> . . . The problem is exacerbated by the substantial burden and expense of litigating a rate in federal court – a contingency both sides seek to avoid. Licensees may pay nothing or greatly reduced fees for years as negotiations drag on, while still enjoying all of the benefits of a license. The Office agrees with those commenters who have suggested that this system – under which services may launch and continue to operate without an agreed rate – significantly increases the leverage of licensees at the expense of the PROs and their members. Because the licensee already has access to the works it needs, there is no urgency to agree to a rate.[221]

137. I also note that events in the market for interactive music services suggest that the rate courts have exerted a downward bias on rates in that market. Beginning in 2010, major publishers sought to withdraw their digital works licenses from the PROs in favor of direct licensing because they believe the rate courts have held those rates below competitive levels. As the BMI rate court found:

> There is an unambiguous body of evidence that the prevailing BMI and ASCAP rates were believed to be too low. The publishers made their unprecedented withdrawals from the PROs because of their convictions that what those PROs were obtaining was well below what could be obtained through free market negotiations.[222]

138. As a result of these and other factors, the Copyright Office concluded that:

> There is substantial evidence to support the view that government-regulated licensing processes imposed on publishers and songwriters have resulted in depressed rates, at least in comparison to noncompulsory rates for the same uses on the sound recording side.[223]

139. Similarly, Judge Stanton found a "disparity between the high fees digital performing services pay to record companies for sound recording rights, and the significantly lower fees they pay to

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[221] CMM at 157-158.

[222] See *Broadcast Music, Inc. v. Pandora Media, Inc.*, 140 F. Supp. 3d 267 (S.D.N.Y. 2015) at 284 ("Stanton Opinion").

[223] CMM at 159

the PROs (and hence to the copyright holder, authors and composers) for public performance rights."[224] Moreover, based on two direct licenses Pandora had negotiated with publishers (during the brief period that publishers had withdrawn their rights from the regulated PROs), Judge Stanton found that the market rate for public performance rights to music used by Pandora (2.5 percent of revenue) was more than 40 percent higher than Pandora's pre-existing BMI rate (1.75 percent of revenue), which had been negotiated in the shadow of the rate court.

140. On the basis of all of these facts, it is my opinion that the rates embodied in the ASCAP and BMI agreements do not constitute a market-based bargain and cannot be relied upon as a benchmark for fair market value.

141. Second, and relatedly, the Judges recognized the flaw of relying on ASCAP and BMI agreements in *Web V*, where they explained that "PRO negotiations and agreements cover different rights, and involve different parties from those at issue" and "the rights at issue [in ASCAP and BMI agreements] are often subject to detailed on-going government oversight via consent decrees."[225] The same criticisms apply here.

142. Another central flaw in the PRO benchmarking approach is that it is circular: royalties paid to ASCAP and BMI for interactive streaming are often calculated based on Section 115 statutory rates. For example although the royalties Spotify pays to ASCAP are lump sums,[226] Spotify's Senior Director, Global Head of Music Publishing Licensing Pilar Tschollar notes that "[redacted]

[224] Stanton Opinion at 275.
[225] *Web V* Final Determination at 222-225.
[226] Farrell WDT at ¶135, n. 207.

[redacted]."[227] In [redacted].[228] [redacted].[229] Thus, PRO rates which are based on the outcome of this proceeding cannot serve as benchmarks for the rates in this proceeding. Moreover, when, as here,

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[227] Tschollar WDT at ¶22.

[228] COEX-7.107 (PAN_PHONO4_00001480) at -1486 ("[redacted]"); Amazon Ex. 114 (PAN_PHONO4_00001507) at -1515 ("[redacted]

[229] COEX-7.108 (AMZN_Phono IV 00000043) at -043 ("[redacted]); Amazon Ex. 107.1 (Noting that "[redacted]); Amazon Ex. 128; Amazon Ex. 134; Amazon Ex. 146; Amazon Ex. 147; George White, *Phonorecords IV*, *Corrected Written Direct Testimony of George White (on Behalf of Pandora Media, LLC)* (October 13, 2021) at ¶36 ("White WDT") ("[redacted]); Braun WDT at ¶38 ("While the D.C. Circuit has since vacated the *Phonorecords III* determination in part, [redacted]").

the performance royalty rate is set to be 50 percent of the CRB rate, doubling the performance royalty rate can only return the CRB rate, implying as a matter of mathematics (not economics) that the CRB rates should remain unchanged.

143. Professor Farrell also relies in part on [redacted].”[230] In my opinion, for the very reasons Professor Farrell notes, [redacted].

144. While Professor Farrell includes [redacted][231] Table 9 [redacted]. In my opinion, these are more appropriate marketplace benchmarks.[232]

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[230] [redacted]” citing testimony from Pilar Tschollar, Spotify’s Senior Director, Global Head of Music Publishing Licensing. Farrell WDT at ¶155, n. 223.

[232] Indeed, [redacted]….” See Marx WDT at ¶231.

TABLE 9:

[redacted]

Sources: Farrell WDT at ¶142, Figure 10; COEX-7.106 (SPOT_P4_000002101.xlsx ("[redacted].

145. [redacted][233]

146. Amy Braun, Amazon's Head of Music Publishing in the Americas, testified that, from Amazon's perspective, "[T]he mechanical-performance split is arbitrary," and "[B]oth licenses have value only as part of broader musical-works right."[234] Similarly, "Amazon is agnostic about the split between mechanical and performance royalties and [redacted]."[235] [redacted]

[233] Farrell WDT at ¶141.
[234] Braun WDT at ¶23.
[235] Braun WDT at ¶74.

[redacted]." [236] Ms. Braun also testified: "[redacted]," [237] [redacted]" [238] Elena Segal of Apple has also stated publicly that Apple and other streaming services "don't have skin in this game," and that it's "no business of ours" what the mechanical/performance split is (noting examples such as "70/30, or 50/50, or 85/15"), "so long as it doesn't add up to more than 100." [239]

147. Furthermore, [redacted]

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[236] Braun WDT at ¶36 ("[redacted]").

[237] Braun WDT at ¶25.

[238] Braun WDT at ¶36. See also Madaj WRT at ¶29 ([redacted]).

[239] COEX-7.143 (Tim Ingham, Songwriters and Publishers Should Never be An Afterthoughts For Digitial Services, *Music Business Worldwide*, avaialble at https://www.musicbusinessworldwide.com/elena-segal-songwriters-and-publishers-should-never-be-an-afterthought-for-digital-services/

[redacted].[240]

148. In sum, [redacted].

3. PDD

149. Each of the Service Experts cites to the proposed, recently rejected, 2021 PDD Settlement (Section 385 Subpart B),[241] and Professor Farrell, Professor Marx, and Dr. Leonard rely on it as a benchmark to calculate royalty rates.[242]

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[240] COEX-5.24 at 5 (P4-UMPG00001863 at -1867) ("'[redacted].

[241] Copyright Royalty Board, *Determination of Rates and Terms for Making and Distributing Phonorecords (Phonorecords IV)*, Docket No. 21-CRB-0001-PR (2023-2027) (June 25, 2021) at 33601–03 ("PDD Settlement").

[242] Dr. Prowse observes "[R]ecent negotiations (under Phono IV) between the Copyright Owners and the Majors for royalty rates for other products (i.e., physical phonorecords, PDDs, and ringtones) under the WBWS standard resulted in the Phono II Settlement rates and rate structure for those products." See Prowse WDT at ¶257. He then argues that "Copyright Owners have a revealed preference for using the Phono II Settlement rate and rate structure even under the WBWS standard" and "from an economic perspective, the 'revealed preference' of the Copyright Owners in the Phono IV Subpart B Settlement informs me that the Phono II Settlement rate structures for Streaming Products are a reasonable starting point for identifying rate structures consistent with the new WBWS standard." See Prowse WDT at ¶¶194, 257. This argument is incorrect for a number of reasons: first, Dr. Prowse is claiming that Copyright Owners' agreement regarding *other* "royalty rates for other products" suggests a "revealed preference" for royalty rates that Copyright Owners *rejected* in both this proceeding and the last one; second, the aspect of Dr. Prowse's argument that claims that Copyright Owners' agreement to rates (for physical records, downloads and ringtones) in which there is no deduction for performance royalties (because no performance royalties are owed) demonstrates a "revealed preference" for an all-in rate where performance royalties *are* deducted is completely illogical. I also note that Dr. Prowse does not put forward a specific rate proposal based on the physical, PDD, and ringtone rate. See also Prowse WDT at ¶167.

150. [redacted]. [243] [redacted]," [244] [redacted]."[245]

151. Professor Marx uses the PDD rates to calculate [redacted] and applies it to effective sound recording royalties, resulting in musical works rates ranging from [redacted] (after applying the market power adjustments discussed in Section VI below).[246] However, Professor Marx concedes, "I conclude that the ultimate headline rate should be set closer to the ones implied by the [redacted]," [247] [redacted].[248]

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[243] Professor Farrell [redacted]. See Farrell WDT at ¶114. See also Farrell WDT at ¶13, n. 8 and ¶100, n. 143.

[244] Farrell WDT at ¶13, n. 8 ("I also consider the rates to license the copyrights of musical works made and distributed via permanent digital downloads [hereinafter 'the digital downloads benchmark'] that were determined through settlements reached as part of *Phonorecords II*, *III*, and *IV*.")

[245] Farrell WDT at ¶101, Figure 9.

[246] Marx WDT at ¶¶210-212, Figure 35 and ¶¶239-242, Figure 40. As with her other benchmark SR/MW ratios, Professor Marx applies the [redacted], with market power adjustments, to evaluate the reasonableness of Amazon's proposed backstops to percent-of-revenue rates. See Marx WDT at ¶¶245-255. With respect to the per-subscriber backstop for standalone portable subscription services, she finds: "[redacted]." See Marx WDT at ¶251, n. 374. [redacted]." See Marx WDT at ¶253, n. 375. For free non-subscription / ad-supported services, she directly calculates a range of percentage-of-TCC backstops by applying her market power adjustments to the [redacted], yielding rates ranging from 11.0 percent to 14.7 percent of TCC.

[247] Marx WDT at ¶251, n. 374 and Marx WDT at ¶253, n. 375.

[248] Marx WDT at ¶238, Figure 39 and ¶244, Figure 41.

152. Similar to Professor Farrell, Dr. Leonard uses the PDD rates to estimate a musical works percent-of-revenue rate, [redacted].[249] Despite the exact level of Google's proposed percent-of-revenue rate being unknown (because it is the not-yet-announced post-remand *Phonorecords III* rate for 2022), Dr. Leonard claims "At a minimum, the rates proposed by Google are consistent with the 'zone of reasonableness' suggested by the PDD settlement."[250]

153. The usefulness of the PDD benchmark was fully debated in the *Phonorecords III* proceeding.[251] There, the Judges concluded that the then-existing PDD settlement was "at best a guideline as to the rates below which [interactive streaming rates] cannot fall."[252] Its usefulness, the Judges concluded, was limited for three main reasons: "(1) the access value of downstream services is greater than the access value of an individual purchase of a sound recording/musical work; (2) there is a partial difference in economic risk to the licensors between a per-unit royalty and a royalty based on a percent-of-revenue (with minima); and (3) the licensees in the benchmark market are not the same."[253]

154. On March 24, 2022, the Judges issued an order further finding that conditions in the current music marketplace have indeed changed and, in part as a result of that finding, rejected the current PDD proposed settlement. Specificially, the Judges found that:

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[249] Leonard WDT at ¶84.

[250] Leonard WDT at ¶88.

[251] *See* Eisenach *Phonorecords III* WRT at ¶¶32-52, where I address the arguments made by Services' Experts.

[252] *Phonorecords III Final Determination* at 59 (emphasis added).

[253] *Phonorecords III Final Determination* at 59. The Judges' findings regarding the importance of access value is reflected in the Services' internal documents. [redacted], COEX-7.109 (PAN_PHONO4_00004022) at -4027-29.

> In the dynamic music industry, there is insufficient reason to conclude that a static musical works rate is reasonable. The determination rendered in 2008, with an effective date of 2006, cannot continue to bind the parties sixteen years later, absent sufficient record evidence that the status quo remains grounded in current facts and is a reasonable option. Since 2006, the retail marketplace for music has changed dramatically with regard to the Subpart B Configurations. From 2006 to 2008 (and, indeed, in years prior) the Subpart B Configurations dominated the recorded music marketplace.[254]

155. As the Judges further explained, "The 2022 recorded music marketplace is not the 2006 marketplace. The Judges' determination of current rates and terms <u>should be reflective of the current marketplace</u>."[255]

156. The Services' arguments that the settlement reflects a WBWS rate also ignore clear evidence that the settlement was driven by litigation concerns, not by marketplace value. As the Judges explained, Copyright Owners and record companies "justified their negotiating strategy and the outcome by asserting that the Judges previously continued existing rates after the interested parties spent 'tens of millions' of dollars litigating the same rates in the mid-2000s."[256]

157. While I offer no opinion on the Judges' decision to reject the Proposed Settlement, for the reasons I have explained here and elsewhere I agree that the conditions in the music marketplace have changed dramatically and the settlement did not reflect marketplace economics, and that for

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[254] March 30 Subpart B Order, at 18.

[255] *Id.* at 21 (emphasis added).

[256] In her Written Rebuttal Testimony, Danielle Aguirre ("Aguirre WRT") of NMPA explains how litigation concerns drove the settlement. (Aguirre WRT at ¶¶39-49). The Subpart B settlement thus suffers from the same infirmity that caused the Judges to reject a settlement benchmark in *Web V*, where the Judges reiterated their holding from *Phonorecords III* that, "settlement agreements, unlike voluntary agreements reached outside the context of litigation, are not 'free from trade-offs motivated by avoiding litigation cost, as distinguished from the underlying economics of the transaction,'" and found that the expert proposing the settlement as a benchmark "did not perform any analysis to disaggregate trade-offs motivated by avoiding litigation cost from the underlying economics of the deal," and that, "in the absence of evidence concerning the effect of avoidance of litigation costs on the royalty rate agreed to," the analysis was "not adequately informative of a willing buyer/willing seller rate in the target market." See Copyright Royalty Board, *Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies To Facilitate Those Performances (Web V)*, Docket No. 19–CRB–0005–WR (2021–2025) ("Web V"), 86 Fed. Reg. 59452, 59570 (October 27, 2021).

those reasons (and others identified by the Judges and noted in my previous testimony) it does not constitute a valid benchmark.[257]

4. Phonorecords II

158. All of the Services rely in one way or another on the *Phonorecords II* settlement as a "benchmark." Spotify and Pandora seek to adopt it wholesale (while adding on student and family discounts and other royalty-reducing terms). Apple seeks to replace the calibrated all-in per subscriber minima in its direct deals with publishers (which it puts forward as benchmarks for rate s*tructure*) with *Phonorecords II's* much lower mechanical floors. Amazon borrows the TCC "caps" from *Phonorecords II* but deploys them instead as all-in per-subscriber minima. Google also seeks to import the rate structure from *Phonorecords II*, but also only in part.

159. I explained at length in the *Phonorecords III* proceeding (including during the remand) my reasons for concluding that the *Phonorecords II* settlement does not constitute a valid benchmark. Specifically, I explained that the proposed *Phonorecords II* benchmark was not valid both because it was negotiated in the shadow of the compulsory license[258] and because of the dramatic changes that have taken place in the interactive streaming market since 2012.[259] Indeed, several Service experts have conceded that at the time of *Phonorecords II*, the interactive streaming market was still "nascent."[260] In my February 2017 Written Rebuttal Testimony in

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[257] *See* Eisenach *Phonorecords III* WRT at ¶¶32-52, where I demonstrate that the PDD rate was negotiated in the shadow of a compulsory license, that the marketplace had substantively changed, and that PDDs and interactive streaming are substantially different means of consuming music.

[258] Eisenach *Phonorecords III* WRT at ¶¶23-31.

[259] Eisenach *Phonorecords III* WRT at ¶¶32-37.

[260] See, e.g., Prowse WDT at ¶32 ("[T]he interactive streaming market is no longer a nascent industry."); Farrell WDT at ¶109 ("Changes in the market and a change in the regulatory standard raise the question of whether a

Phonorecords III I quoted Apple's expert, Dr. Ramaprasad, who explained that at that time the streaming industry "had not demonstrated its viability."[261]

160. Both of these arguments are even stronger today.

161. First, the *Phonorecords II* settlement was not only negotiated under the shadow of a compulsory licence – it was negotiated under the shadow of a different rate standard (the 801(b) standard) than the one that applies in this proceeding (WBWS). Both Professor Marx and Professor Katz argued that the *Phonorecords II* settlement was a valid benchmark for the *Phonorecords III* rates precisely *because* it reflected the 801(b)(1) standard and *not* the WBWS standard.[262] Indeed, Professor Marx testified specifically that the rates under the 801(b) shadow were not likely to be market rates: "I wouldn't have a reason to believe that a market outcome would likely reflect the 801(b) factors and that's what I was looking for."[263] Moreover, four of the five Services (Amazon, Google, Pandora and Spotify) stated in the *Phonorecords III* proceeding that "t[]he Section 801(b)(1) standard is less favorable to the Copyright Owners than a market-based standard like the willing buyer, willing seller standard"[264] and acknowledged that application of the willing buyer, willing seller standard to the mechanical license "would lead to higher rates

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2012 Interactive Streaming Settlement remains appropriate in 2021."); Marx WDT at ¶41 ("In the last five years in particular, interactive streaming has been the fastest growing way in which Americans listen to audio."); Marx WDT at Figure 5 displays the number of interacdtive streaming subscribers since 2011 and shows that those subscribers have increased over 15-fold since 2012.

[261] See e.g., Eisenach *Phonorecords III* WRT at ¶32, quoting eCRB Docket No. 12375, Written Direct Testimony of Jui Ramaprasad (*Phonorecords III*) at ¶51 ("The interactive streaming industry today is markedly different than it was in the mid-2000s, when the current royalty rates were adopted. At that time, interactive music streaming was a nascent industry that had not demonstrated its viability.").

[262] See Eisenach *Phonorecords III* WRT at ¶¶26-31.

[263] See Eisenach *Phonorecords III* WRT at ¶29, citing Marx Deposition at 37. As I explain in the following subsection, Service Experts' arguments that the proposed PDD settlement shows that the change in the standard should not imply a change in rates are meritless.

[264] eCRB Docket No.26063, *Phonorecords III*, Services' Joint Reply to Copyright Owners' Proposed Findings of Fact and Conclusions of Law ("Services' Joint Reply"), Introduction at 5.

than those compelled by the application of the Section 801(b) policy objectives."[265] The Services attributed the same understanding to the Copyright Owners, stating that "The Copyright Owners are well aware of the fact that the "willing buyer/willing seller" model is not the market standard under § 115."[266]

162. Second, as I explained at length in my WDT in this proceeding, the last five years have seen a further transformation of the interactive streaming business, characterized by the integration of the music streaming business into the commercial "ecosystems" of the various Platforms.[267] One primary result of that transformation has been to increase the divergence between the surplus generated by music and the revenues charged by the Platforms to their downstream customers.[268] Another has been to give the Platforms the ability to extract a disproportionate share of the bargain.[269] The evidence and analysis I present in this testimony further strengthen all of these findings.[270] As I noted above, the Judges emphasized the profundity of these changes last month, stating in their Subpart B Settlement Order that "[i]n the dynamic music industry, there is

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[265] *Id*. at COL-130 ("The Copyright Owners have repeatedly expressed the desire to have the Section 115 license rates unregulated entirely or, failing that, governed by a willing buyer, willing seller standard because either result would lead to higher rates than those compelled by the application of the Section 801(b) policy objectives to this marketplace. Indeed, both Dr. Eisenach and Mr. Israelite have criticized the Section 801(b) standard because it is not a market rate. . . . But if Congress wanted the Judges to set a market rate, it would have written the statute accordingly. . . . And although the Copyright Owners have repeatedly petitioned Congress for a more favorable standard, their requests have always been denied."). The fifth Service participant, Apple, similarly claimed that "The standard to be applied in a Section 115 proceeding under Section 801(b) . . . differs significantly from the standard that applies to a rate setting proceeding under Sections 112(e)(4) or 114(f)(2) of the Copyright Act" and that "the CRB has repeatedly emphasized the differences between the willing buyer/willing seller standard applied in proceedings under 17 U.S.C. § 112(e)(4) or 17 U.S.C. § 114(f)(2) and the Section 801(b) standard applicable here." eCRB Docket No. 3416, *Phonorecords III*, Apple Inc.'s Findings of Fact and Conclusions of Law, at APL-F456 – F457.

[266] *Id*. at Services' Joint Reply to COL-47.

[267] Eisenach WDT at ¶¶54-57. I note that Spotify's testimony confirms that it continues to expand its business model beyond the music streaming business. See Kaefer WDT at ¶21 (stating that [redacted]").

[268] Eisenach WDT at ¶¶59-65.

[269] Eisenach WDT at ¶¶66-67.

[270] See e.g., *supra*, at ¶¶55-66, *infra* at ¶¶190-199.

insufficient reason to conclude that a static musical works rate is reasonable. The determination rendered in 2008, with an effective date of 2006, cannot continue to bind the parties sixteen years later, absent sufficient evidence that the status quo remains grounded in current facts and is a reasonable option."[271] Similarly, to argue that a settlement negotiated in 2008 and last approved by the Judges in 2013 is a valid benchmark given the extent of these changes is economically irrational.[272]

163. The evidence demonstrates that rates for other musical rights overseen by the Board have risen substantially since 2008 while Section 115 rates have remained constant or, assuming the *Phonorecords III* pre-remand rates are adopted, risen only slightly. As shown in Appendix C, *SDARS* rates increased from 6.0 percent to 15.5 percent (a 158 percent increase) from 2008 to 2022, while non-interactive streaming rates rose from $0.0014 to $0.0028 (a 100 percent increase). By contrast, the per-subscriber rate for standalone portable interactive streaming has remained constant and, even with the increase in the pre-remand *Phonorecords III Final Determination*, the percentage of revenue rate will have risen by just 44 percent, from 10.5 percent to 15.1 percent.

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[271] March 30 Subpart B Order.

[272] Professor Farrell's attempts to address these issues are specious. First, he argues that the 2012 settlement is not outdated because it "accounts for significant changes… before 2012" (Farrell WDT at ¶110), yet he identifies no such changes. In any event, it is now ten years since *Phonorecords II* and fourteen years since *Phonorecords I*, in which the rates and rate structure were first agreed, and the rates being determined here will apply through 2027. Next, he posits the strawman that Copyright Owners might assert that the growth of streaming since 2012 has "led to increasing and problematic buyer market power," which would support using the 2012 rates. (Farrell WDT at ¶110.) To the contrary, the point is that rates negotiated in the free market are superior as benchmarks to rates negotiated under the shadow of a compulsory license. Lastly, he argues that PDD rates have remained unchanged [redacted]. (Farrell WDT at ¶111.) The first point was mooted by the Judges' March 24 Settlement Order. [redacted]

164. For all of these reasons, the *Phonorecords II* settlement is not a valid benchmark for the rates and rate structure that should prevail in this proceeding, in whole or in part. In addition, as I explain in the subsections below, Professor Marx's and Dr. Prowse's specific applications of the *Phonorecords II* benchmark are internally inconsistent and methodologically flawed.

a. **Professor Marx**

165. Professor Marx argues on behalf of Amazon that the all-in per-subscriber rates that operated as *caps* in the *Phonorecords II* rate structure are appropriate as per-subscriber rate *backstops* to the headline percent-of-revenue rate.[273] Her justification for adopting the *Phonorecords II* [redacted]"[274] [redacted]. [redacted].

166. I also note that Professor Marx's embrace of the *Phonorecords II* per-subscriber rates is inconsistent with her approach to assessing other proposed rate levels. [redacted]

[273] See Marx WDT at ¶180.
[274] See Marx WDT at ¶¶254-255, n. 377; Marx WDT at ¶248.

[redacted].[275] [redacted].[276] [redacted]

b. **Dr. Prowse**

167. [redacted], [redacted].[277] [redacted]

[275] Marx WDT at ¶¶234, 256-257, 258.

[276] Marx WDT at ¶258.

[277] In his WDT, Dr. Prowse argues for either an "All-In" per-subscriber minimum, a mechanical floor, "or both," to protect against revenue deferral, displacement and mismeasurement. (See, e.g., Prowse WDT at ¶32.)

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5. Blanket Licenses for Audio-Visual Streaming

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[278] See COEX-7.111 ( ) at -74; COEX-7.112 ( ) at -106; COEX-7.113 ( ) at -55 (extended by COEX-7.114 ( )); COEX-7.115 ( ) at -59 (extended by COEX-7.116 (COEX-7.117 ( ) at -43, -47 (extended by COEX-7.118 ( ); COEX-7.119 ( )); COEX-7.120 ( ) at -83 (extended by COEX-7.121 ( )); COEX-7.122 ( ) at -50 (extended by COEX-7.123 ( ); COEX-7.124 ( )).

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[279] As noted above,

. See Gayadien WDT at ¶¶11, 13.

. See *supra*, ¶40.

[redacted][280]

169. Professor Marx's argument is misplaced, [redacted][281] [redacted].[282]

170. [redacted]

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[280] Marx WDT at ¶¶219-220.

[281] Eisenach WDT at ¶108. ([redacted]").

[282] See e.g., Google Ex. 6.

[redacted].[283]

[redacted].

171. Moreover, evidence submitted or relied upon by the Services and their experts highlights the growing economic significance of such services. For example, Dr. Prowse acknowledges that "The music industry has also started recognizing revenue from social media platforms like Facebook, Instagram, and TikTok. The growth in the at-home fitness market has also led to a new source of income for copyright holders, as fitness services, [redacted]."[284] Dr. Prowse also cites data from the Recording Industry Association of America (RIAA), which is now categorizing revenues from TikTok and other social media licensees as "advertising supported on-demand streaming" (the same category as Spotify and other ad-supported services) and revenues from fitness apps as "limited-tier subscriptions" (the same category as Amazon Prime and Pandora Plus), while maintaining a separate category for "Synchronization Royalties."[285] This recognition by the RIAA that these audio-visual platforms are part of the same product segment as interactive streaming is more evidence that they are important benchmarks to consider. Finally, it is increasingly recognized, [redacted]

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[283] Eisenach WDT at ¶¶109-110.

[284] Prowse WDT at ¶¶112-113 (citing Tim Ingham, "Social Media, Not Streaming, Is the Music Industry's Future," *Rolling Stone* (December 2, 2020) (available at https://www.rollingstone.com/pro/features/social-media-tiktokinstagram-video-games-music-money-1097428/)).

[285] See COEX-7.144 (Joshua P. Friedlander and Matthew Bass, *Year-End 2021 RIAA Revenue Statistics*, RIAA (March 2022) at 1-3 (available at https://www riaa.com/wp-content/uploads/2022/03/2021-Year-End-Music-Industry-Revenue-Report.pdf)).

[redacted].[286] [redacted]

[redacted].

B. Professor Farrell's Corrected Nash Bargaining Model Supports Copyright Owners' Proposed Rate Level

172. Professor Farrell employs a Nash-in-Nash bargaining model which, he claims, provides results that are "supportive and confirmatory of the reasonableness of the benchmarks [he] considered."[287] However, Professor Farrell's model employs unreasonable and contradictory assumptions that bias the model in favor of lower royalty rates. When the central parameter in Professor Farrell's model – the so-called "power ratio" – is correctly specified, the model produces results that are fully consistent with Copyright Owners' proposed rate levels.

1. Professor Farrell's "Power Ratio" Assigns Disproportionate Bargaining Power to the Services

173. Professor Farrell puts forward a bargaining model designed to simulate the outcome in a market with a single Service (Spotify) and many small publishers. He begins with a standard Nash-in-

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[286] See COEX-7.125 (AMZN_Phono IV_00015882) at 891 ("[redacted]"). See also COEX-7.160 (Dan Whateley, "How TikTok Is Changing the Music Industry," *Business Insider* (January 3, 2022) (available at https://www.businessinsider.com/how-tiktok-is-changing-the-music-industry-marketing-discovery-2021-7)); Murray Stassen, "75% of TikTok's Users Say They Discover New Artists on the Platform," *Music Business Worldwide* (July 21, 2021) (available at https://www.musicbusinessworldwide.com/tiktok-has-over-800m-active-users-worldwide-75-of-them-say-they-discover-new-artists-on-the-platform/); Kalhan Rosenblatt, "How TikTok Became the Music Discovery Platform for the Smartphone Generation," *NBC News* (July 28, 2019) (available at https://www.nbcnews.com/tech/tech-news/how-tiktok-became-music-discovery-platform-smartphone-generation-n1035246).

[287] See generally Farrell WDT at ¶¶144-177 and Appendix G, ¶149.

Nash framework, mathematically identifying gains from trade for each side and proposing a decision rule for allocating the joint gains from trade among the two parties based on assumptions about relative bargaining power. Specifically, as is standard in Nash models, Professor Farrell *claims* to adopt the rule that "gains from trade are split equally between the negotiating parties."[288] In the usual implementation of such a model, the equal split assumption causes the bargaining power parameter to "cancel out" of the mathematical derivation of the model – thus, under the assumption of equal bargaining power, no such parameter is explicitly seen in the model.

174. The central problem with Professor Farrell's methodology is his decision to introduce a "power ratio" (which he labels "Z") into the model. He defines the power ratio as "the percentage of the service's subscribers who would cancel the service if that rights-holder's tracks were unavailable ('churn'), divided by the percentage of streams on the service that correspond to the rights-holder's ownership of those tracks ('streamshare')."[289] Thus, for example, if a Service lost the catalogue of a publisher which accounted for 25 percent of its streams, a power ratio of 100 percent would imply that the Service would also lose 25 percent of its subscribers. A power ratio of less than 100 percent, on the other hand, implies that it would lose fewer than 25 percent of its subscribers. Professor Farrell models outcomes with assumed power ratios of 20 percent and 40 percent.

175. Professor Farrell's introduction of the power ratio parameter is fundamentally flawed methodologically and his assumed values are empirically biased and unsupportable. His

[288] Farrell WDT ¶¶170, 247.
[289] Farrell WDT at ¶154.

approach is methodologically flawed because, in the context of Professor Farrell's model, the power ratio is actually functioning as a bargaining power parameter in disguise. Indeed, as Professor Watt demonstrates in his Written Rebuttal Testimony, it is straightforward to show that the power ratio plays the same role in Professor Farrell's model as a bargaining power parameter in a typical Nash model, effectively determining the distribution of the value of the bargain.[290] As Professor Watt further demonstrates, the power ratio that corresponds to Professor Farrell's stated assumption of equally-divided gains from trade (equal bargaining power) is 100 percent, not 20 percent or 40 percent.[291]

176. Professor Farrell's approach is empirically flawed because his assumed values for "Z" of 20 percent and 40 percent are both unsupported and economically implausible. They are unsupported because the evidence Professor Farrell cites does not actually support the range of values he chooses and implausible because they imply economically illogical results.

177. First, Professor Farrell bases his power ratio assumptions on just three pieces of supposed support, none of which supports his assumed values: (1) Professor Willig's [redacted][292] (2) Professor Shapiro's *Web V* testimony in which, [redacted]

[290] Written Rebuttal Testimony of Richard Watt ("Watt WRT") at ¶¶17-26.

[291] Watt WRT at ¶¶21-23 and Appendix A at 3.

[292] Farrell WDT at ¶159. I note that Professor Willig does not make reference to a power ratio, but merely assumes in a model that the loss of a non-major would reduce services market shares proportionally to the non-majors' share.

[redacted]"[293] and (3) [redacted], [redacted]"[294] Based solely on these three data points, Professor Farrell decides to it is appropriate to "consider Nash bargaining with values of Z ranging from [redacted]."[295]

178. The evidence Professor Farrell cites does not support his assumed range.[296] To begin, as Professor Farrell states, Professor Willig's model indicated "power ratios" of 100 percent even for small labels, yet Professor Farrell provides no basis for his decision to ignore this data point. Second, Professor Farrell fails to acknowledge that the Judges in *Web V* determined to give "no weight on the results of the LSEs" and that "Professor Shapiro's calculation of [the percentage of those performances that would be lost to other forms of listening in the absence of a license from the record company] is flawed because it is based on unreliable evidence from the LSEs."[297] Thus, if the *Web V* evidence supports anything, it supports a power ratio of 100 percent or more, not [redacted].

179. [redacted][298] [redacted]

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[293] Farrell WDT at ¶159.
[294] Farrell WDT at ¶159.
[295] Farrell WDT at para 159-161
[296] Professor Farrell acknowledges the weakness of this evidence both directly, when he concedes that his power ratio assumptions are "strong" (meaning they are not well-grounded in reality). (See Farrell WDT at ¶144 ("I correct for horizontal market power of the publishers, assuming that bargaining occurs between a relatively small publisher and a streaming service, neither of which is 'must-have' for the other, and making a stronger related assumption about the magnitude of subscriber loss that would result if the service lost access to the publisher's catalog, as measured by the power ratio.") (emphasis added)) and tacitly, when he states that he "anticipate[s] that further evidence on power ratios … can be developed" (Farrell WDT at ¶160).
[297] *Web V* Final Determination, at 217.
[298] See Kaefer WDT at ¶51; Bonavia WDT at ¶29.

[redacted]. [redacted][299] In my opinion, Professor Farrell's power ratio assumptions are utterly unjustified and speculative; like [redacted], they should be accorded no weight.

180. In addition to being unsupported, Professor Farrell's power ratio assumptions are inconsistent with basic economic logic. His bargaining model assumes there are 100 small publishers with equal (one percent) market shares, totalling 100 percent of the market. Thus, a power ratio of [redacted] implies that losing the catalogue of any one publisher would result in the loss of just [redacted] of all subscribers. But a central assumption underlying such a model is that equally situated participants should have equal outcomes. Thus, a loss of one publisher would cause a loss of [redacted] of subscribers, a second publisher an additional [redacted], and so forth – such that Professor Farrell's assumptions of [redacted] power ratios translate directly in the assumption that Spotify could lose *all 100 publishers and 100 percent of all content* and still keep [redacted] of its subscribers. Such an outcome is wholly unreasonable as a representation of reality. A power ratio of 100 percent (which as I explained above is equivalent to Professor Farrell's *stated* assumption of equal bargaining power), on the other hand, corresponds to a one-to-one ratio between catalogue size and subscriber loss, such that if the service lost 100 percent of its catalogue it would also lose 100 percent of its subscribers.

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[299] Farrell WDT at ¶159, n. 228.

2. Correcting Professor Farrell's Faulty Power Ratio Assumption Yields Results that Support Copyright Owners' Proposed Rate Levels

181. When Professor Farrell's assumptions of [redacted] power ratios are replaced by the more realistic assumption of 100 percent, his model (without further modifications) results in an all-in musical works rate of 22.3 percent, which is slightly above Copyright Owners' proposal of 20 percent.[300] Thus, Professor Farrell's model, properly corrected, actually demonstrates the unreasonableness of the Services' rate level proposals and supports the proposal put forward by Copyright Owners.

182. To summarize, Professor Farrell is only able to opine that his model supports Spotify's rate proposal by utilizing unsupported and unreasonable modelling choices and assumptions. Making even modest corrections to his extreme and unrealistic assumptions results in rates that are consistent with the *Final Determination* in *Phonorecords III* and the Copyright Owners' proposal in this proceeding.

VI. THE SERVICE EXPERTS PROVIDE NO BASIS FOR DOWNWARD ADJUSTMENTS TO ACHIEVE EFFECTIVELY COMPETITIVE RATES

183. The Service Experts repeatedly argue that the Judges should reduce the compulsory royalty rate by adjusting marketplace benchmarks downwards. Their arguments take many forms, but all revolve around one theme: the argument that music catalogues are a "must have" for interactive streaming services and that, as a result, record companies charge prices above "effectively

[300] It is also straightforward to calculate the "power ratios" associated with other all-in rates. For example, Copyright Owners' proposed all-in musical works percentage of revenue rate of 20 percent corresponds to a power ratio of 81 percent, which still implies an unrealistic bargaining power advantage for the Services. As Dr. Watt explains in his WRT, it is more realistic to assume a power ratio is in excess of 100 percent – i.e., that a Service would lose all of its subscribers *before* it lost all of its music. See Watt WRT at ¶¶9, 13, 16, 24 and Appendix A at 3, n. 2.

competitive" rates. As I explain below, the evidence in this proceeding contradicts both arguments. To the contrary, the evidence shows:

- The Services – which include Amazon, Apple and Google, three of the largest and most economically powerful companies in the world – have substantial negotiating leverage as a result of asymmetric information, the ability to use market power in adjacent markets and other factors which allows them to obtain favorable outcomes in bilateral negotiations with record labels and other copyright owners; as the Judges explained in *Web V*, licensors and licensees bargain and "each counterparty has bargaining leverage."[301]

- There is no evidence record labels are restricting output, and no evidence that output is constrained or prices are above competitive levels in the downstream market; to the contrary, output in both the market for musical works and the market for interactive streaming services is growing rapidly, and royalty rates charged by record labels to interactive streaming services have recently declined.

- There are no barriers to entry into the sound recording business, and interactive streaming services are already competing with licensors as part of a conscious strategy to further improve their bargaining positions.

- Licensees are prospering and earning positive economic profits, as demonstrated by their continuing willingness to invest in growing their businesses; conversely, there is no evidence licensors are earning supracompetitive profits.

- Major licensors get the same, or only slightly higher, rates as smaller licensors.

184. These and multiple other indicators of strong performance and robust competition, which I describe in this section, create a strong presumption that the market is meeting – indeed, exceeding – the relatively low bar of the "effective competition" standard. To overturn such a presumption would demand substantial empirical evidence and analysis. Yet the Service Experts do not offer any such analysis or evidence.

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[301] *Web V* Final Determination, at 64-65.

185. Rather, the Service Experts repeatedly invoke the spectre of "complementary oligopoly power." While this phrase has appeared in prior CRB decisions, its mere invocation does not end – or even meaningfully inform – the substance of the relevant question, which is whether and to what extent rates negotiated in the marketplace and voluntarily agreed to by buyers and sellers satisfy the "effective competition" standard and, accordingly, can be appropriately used as benchmarks in setting rates for Section 115 Services without "market power" adjustments.

186. The answer to that question lies in two specific and distinct issues, which are – unhelpfully from an analytical perspective – conflated in the phrase "complementary oligopoly power." The first question is whether record labels (some or all) have "must have" catalogues that give them the the ability to impose, and whether they in fact charge, royalty rates above effectively competitive rates.[302] As I explain in the first section below, the evidence demonstrates the answer to this question is no.

187. The second question is whether the complementary nature of their catalogues and their inability to coordinate their negotiating positions would result in rates "even higher" than the profit

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[302] The "must have" nature of music catalogues has been a subject of debate for many years. For example, in its authoritative 2015 treatise on the music marketplace, the U.S. Copyright Office commented that:

> [I]t is interesting to compare music to other types of copyrighted works, for example, television shows and movies. Like music, a particular television show or movie may not be a fully satisfying substitute for another—or a substitute at all. But consumers do not expect to be able to access every television show through Hulu, or every movie through Netflix. It is understood that different services can and will offer different content. Even within the music universe, the law treats sound recordings and musical works differently with respect to the right to say no. We seem to accept the fact that a licensee offering downloads or interactive streaming will need to negotiate deals with major and independent record labels, or forgo the content. On the musical work side, however, government policy has subjected these same uses to government-mandated licensing. Even given greater latitude to make licensing decisions, it would seem that musical work owners would be strongly incentivized to license services that they believed would pay a reasonable return. This seems to be true of the record labels, which have authorized a wide range of download and interactive music services outside of a mandatory licensing regime. See CMM at 149.

maximizing "monopoly" rates each of them would otherwise offer in the marketplace, i.e., whether there is a "Cournot Complements" problem. As I explain in the second subsection below the question of complementary oligopoly is a red herring. First, in order for there to be a Cournot Complements problem, it would need to be the case that labels were charging monopoly prices in the first place – which, as I demonstrate in the first section is not the case. Moreover, the Service Experts present no evidence or analysis demonstrating the Cournot Complements phenomenon plays *any* role in this market, and the proposition cannot survive the fact that the predicates for the theory do not exist and the predictions of the theory have not materialized. Indeed, Professor Farrell now acknowledges doubting that the conditions necessary for the Cournot Complements issue to arise are present.

188. In the third subsection, I explain why the specific market power "adjustments" proposed by Service Experts are are both arbitrary and unfounded.

A. The Service Experts Fail to Demonstrate that Privately Negotiated Royalty Agreements Between Services and Record Labels Result in Rates Above Effectively Competitive Levels

189. The Service Experts fail to provide any meaningful evidence that sound recording royalties are above competitive levels or that the market is failing to perform in a way that satisfies the effective competition standard. In the subsections below I show that: (1) The record in this proceeding does not support Service Experts' contentions regarding "must have" catalogues and disproportionate bargaining leverage; (2) Service Experts' contentions that royalty rates are in fact above effectively competitive levels is inconsistent with actual market performance; (3) Service Experts present no credible evidence that streaming services are incurring economic losses; (4) Service Experts' references to "most favored nation" clauses also do not demonstrate that copyright owners possess or exercise market power. In sum, the evidence and analysis

presented below demonstrates that the Service Experts' contentions regarding market power and effective competition are wholly unsupported and erroneous.

1. The Services Can and Do Leverage Their Market Power In Other Markets to Influence Negotiations Over Interactive Streaming

190. Contrary to Service Experts' claims,[303] the record in this proceeding does not support the proposition that the so-called "must have" nature of some or all of the record labels' (or publishers') catalogues demonstrates that they possess or exercise undue market power. In fact, the evidence shows that the Services have and exercise substantial bargaining leverage in their dealings with record labels and that they are consciously working to increase that leverage.

191. To begin, Amazon's documents demonstrate conclusively that [redacted]

192. As shown in Figure 7, [redacted]

[303] See e.g., Farrell WDT at ¶76; Marx WDT at ¶133-134; Prowse WDT at ¶¶198, 202. On occasion the Service Experts do acknowledge, correctly, that the bargaining power of the parties is more evenly matched than their "must have" arguments imply. See e.g., Prowse WDT at ¶222 (citing *Web V* Final Determination at n. 52) ("More importantly, each party's bargaining power in a given Major-Service pair is shaped by various factors, such as 'market power, better information (e.g., knowledge of the true value of what is being negotiated), and credible threats to retaliate or steer business away from the other player.'") and Farrell Amended WDT at ¶189 (The majors' interests involve balancing royalties today against the continued survival and growth of interactive streaming services.").

[redacted]."

FIGURE 7:

[redacted]

Source: COEX-7.126)AMZN00075576) at -580-581.

193. As illustrated in Figure 8, [redacted]

[304] See e.g., COEX-7.149 (Yahoo! News, "Amazon Not Stocking New Beyonce CD Following iTunes Exclusive" (December 20, 2013) (available at https://news.yahoo.com/amazon-not-stocking-beyonce-cd-following-itunes-exclusive-020000649.html?guccounter=1) (last accessed April 15, 2022)).

[redacted]. [305]

FIGURE 8:

[redacted]

Source: COEX-7.127 (AMZN_Remand_00001625) at -1625-1626.

194. [redacted].

[redacted]. [306]

195. These documents demonstrate how [redacted] and illustrate an important aspect of the negotiations between Services and record labels, namely that their business relationships are multi-dimensional and the competitive dynamics between them reflect

[305] COEX-7.127 (AMZN_Remand_00001625) at -1625-1626.
[306] COEX-7.127 (AMZN_Remand_00001625) at -1627.

the leverage that the Services, and particularly the large technology platforms that are now the majority of the market, bring to bear in order to achieve their objectives.[307]

196. I also note that the testimony of Amazon's Mr. Duffett-Smith supports my finding in WDT that the compulsory license establishes a ceiling on rates, as [redacted].[308]

197. Evidence provided by Apple also refutes the "must have" thesis. Ms. Segal's testimony explains that when the Services say they "cannot compete" they mean only "cannot compete at the same price," stating that while Apple's ability to retain and attract subscribers to its premium service

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[307] [redacted]. See COEX-7.128 (AMZN_Remand_00000398) at -403 ("[redacted]."). See also COEX-8.206 (AMZN_Remand_00006426 at 6341 ("[redacted].")

[308] See e.g., Duffett-Smith WDT at ¶115 "[redacted]."; id. WDT at ¶116 "[redacted]."; id. at ¶116-117 "[redacted]."; id. at ¶118 "[redacted]." id. at ¶119 "[redacted]."; id. at ¶133 "[redacted]…" ; id. at ¶135 "[redacted]…" ; id. at ¶141 "[redacted]…."

would be harmed by the loss of a Major catalogue, one of its alternatives would be to "lower its consumer price."[309] This is not a description of a "must have" input.

198. Ms. Segal's testimony is also consistent with evidence submitted by Apple [redacted].[310] [redacted].[312]

199. Evidence submitted by Google provides further support for the proposition that while the loss of a Major label would result in downstream revenue losses for a Service, the consequences would

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[309] See eCRB Docket No. 26291, Amended Testimony of Elena Segal (October 13, 2021) ("Segal Amended WDT") at ¶70 ("[A] premium service – which is the most profitable service for rights holders – cannot reasonably compete in the interactive streaming market without the full catalog from each of the Majors. Consumers would simply unsubscribe and switch to a different service if they routinely searched for popular songs on Apple Music and could not find them. Alternatively, Apple would have to lower its consumer price relative to services with music from all the Majors.")

[310] COEX-7.129 (APL-PHONO4_00001401) at -1401, -1406, -1409, -1420.

[311] *Id.* at APL-PHONO4_00001401 at -1409, -1421-1424.

[312] I also note that, like Amazon, Apple has upstream market power in adjacent markets, including iTunes, which gives it negotiating leverage similar to [redacted]. In re Digital Music Antitrust Litig., 321 F.R.D. 64, 80 (S.D.N.Y. 2017) ("Professor Ordover has introduced admissible evidence demonstrating that Apple did set the terms for wholesale pricing, including public reporting of the negotiations between the Defendants and Apple, testimony of Defendants' corporate representatives, and documents produced by Defendants. (See Ordover Decl. ¶¶ 107–15 (citing deposition testimony of Universal's 30(b)(6) witness, Jason Gallien at 55:4–14, 66:10–23; Joshua Chaffin & Kevin Allison, Apple sets tune for pricing of song downloads, Financial Times, May 1, 2006; Apple wins iTunes pricing battle, CNN Money, May 2, 2006 ('Four largest record companies defeated in behind-the-scenes battle to charge different prices for songs; downloads still 99 cents, paper says.')). Considering this evidence in addition to the documents cited by Plaintiffs, Professor Ordover concludes that 'these negotiations were very intense,' that Apple was in a 'very strong position' to set 'rates and prices and terms' and that '[t]he question becomes who has the strength and the power to drive the negotiations to the levels that the parties ultimately agreed upon.' (Pl. Mem. Exclude Ordover Ex. 1 (Ordover Dep. Tr.) 300:3–20).").

be far from fatal. [redacted].[313] [redacted].[314] [redacted]. This evidence provides further support that the streaming services are not victims of "must have" market power by the Major labels.

2. Market Performance Demonstrates Rates Are Effectively Competitive

200. Service Experts base their claims that the market is not "effectively competitive" primarily on vague assertions about the extent of market power or references to particular types of conduct. For example, Professor Farrell speaks vaguely of sellers vying for business, and Professor Marx acknowledges that "there is no single definition" of workable competition, but argues that "it generally refers to a market in which no firm has substantial market power and in which firms directly compete for customers by improving their offerings, for example by offering a better price."[315]

201. These interpretations of the effective (or "workable") competition standard are misleading and incomplete: Effective competition cannot properly be assessed on the basis of market structure

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[313] COEX-7.130 (GOOG-PHONOIV-00001460) at -1472; COEX-7.131 (GOOG-PHONOIV-00001637) at -1637.

[314] COEX-7.130 (GOOG-PHONOIV-00001460) at -1472.

[315] Marx WDT at ¶125. See also Farrell WDT at ¶56 and n. 97 citing Written Direct Testimony of Carl Shapiro, *Web IV* (Oct. 6, 2014) at 10.

or even conduct alone (although even on these points, the evidence points to effective competition here), but rather must include an analysis of the issue that matters in the end: market performance. That is, rather than focusing on market structure or on narrowly defined aspects of conduct (e.g., price competition), the concept of effective competition is primarily focused on the extent to which a market produces *results* that show effective competition. Thus, it is not adequate, as Service Experts attempt, to jump directly from abstract descriptions of market structure and conduct to a conclusion that the market is not effectively competitive or not performing at competitive levels.

202. While there are numerous ways to assess market performance, the most common are output and price. A market that is not "effectively competitive" will result in output well below the competitive level and prices well above. Service Experts produce no evidence of either phenomenon, nor could they. As I noted in my *Phonorecords III* RWRT, the output of music streaming services has increased substantially over time, driven in part by the growth of music catalogues.[316] Indeed, as shown in Figure 9 below, music catalogues have continued to expand rapidly, reaching 90 million songs as of 2022. These data directly conflict with any suggestion that the musical rights marketplace is not "effectively competitive" – a "monopolized" market would not likely display such rapid growth in supply.[317]

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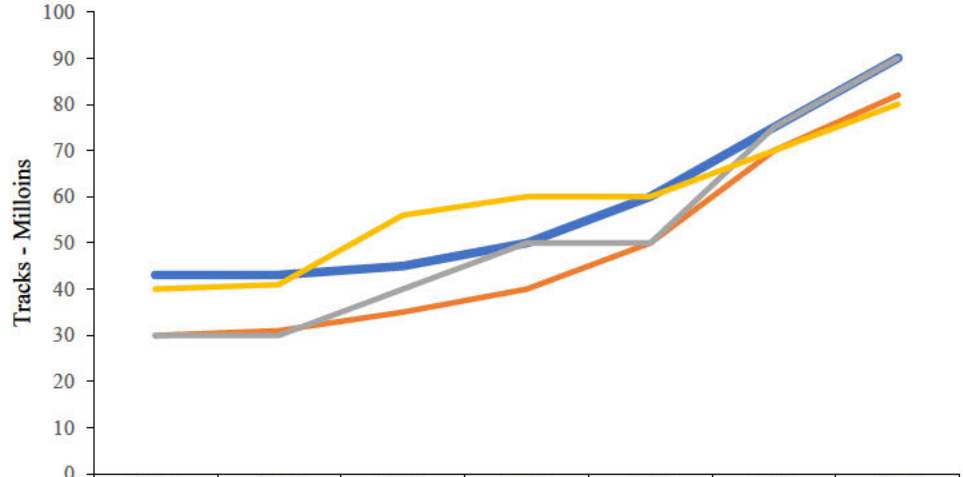
[316] Eisenach *Phonorecords III* RWRT at ¶57 ("the music streaming marketplace … has seen significant growth as measured, for example, by the number of [redacted] and the number of tracks offered."). *See also* Eisenach *Phonorecords III* AWDT at ¶37 ("All of the evidence in this proceeding points to the fact that the market for music streaming is growing rapidly") and Eisenach WDT at Figure 3.

[317] [redacted]

FIGURE 9:
TRACKS AVAILABLE ON MAJOR STREAMING SERVICES, BY SERVICE
(MILLIONS, 2017-2022)



	2016	2017	2018	2019	2020	2021	2022
Apple Music	43	43	45	50	60	75	90
Spotify	30	31	35	40	50	70	82
Amazon Music Unlimited	30	30	40	50	50	75	90
Tidal	40	41	56	60	60	70	80

Sources: COEX-7.147 (S&P Global, "The Economics of Mobile Music, 2020" (July 2, 2020) (available at https://www.capitaliq.spglobal.com/apisv3/docviewer/documents?mid=139929093)); Marx WDT at Figure 7; Amazon, "Amazon Music Unlimited" (available at https://www.amazon.com/music/unlimited) (accessed on March 7, 2022); COEX-7.155 (Apple, "Apple Music" (available at https://www.apple.com/apple-music/) (accessed on March 7, 2022)); COEX-1.48 (Ty Pendlebury, "Best Music Streaming Service for 2022," CNET (March 3, 2022) (available at https://www.cnet.com/tech/services-and-software/best-music-streaming-service/)). Note: Tidal catalog size of 70 million in 2021 is estimated as the midpoint between the 2020 size of 60 million and 2022 size of 80 million.

203. Service Experts also fail to provide any empirical evidence of supracompetitive pricing at any level of the value chain.[318] On the contrary retail prices for interactive streaming services have

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[redacted]. Source: COEX-7.138 (AMZN_Phono IV_00015464). [redacted]. "[redacted]," COEX-1.32 (SPOT_P4_000004572) at 4578.

[318] Farrell WDT at ¶91 ("All this indicates that, overall, listeners (through the services) are paying too much in royalties.") "All this" consists of a broad discussion of the structure of the musical rights marketplace unaccompanied by any empirical evidence of supracompetitive pricing at any level in the value chain. See Farrell WDT at ¶¶80-90. Moreover, "too much" is not a particularly useful term for an economic analysis. Without evidence that prices are higher than those in an effectively competitive market, Prof. Farrell should provide a definition and a basis thereunder for concluding that the services are paying "too much" in royalties .

been declining in real terms since the Spotify entered the market (at $9.99/month) in 2011, and the growth in the size of music catalogues means that the value they provide in terms of the amount of available music has increased dramatically. For example, when Apple Music launched in 2015 it had a catalog of 30 million songs,[319] and charged $9.99 per month.[320] The prices have not changed, but the catalogue has more than tripled in size.[321] Thus, even before adjusting for inflation, the per-song price access price of music has decreased from $0.00000033 (33 millionths of a cent) in 2015 to $0.00000011 (11 millionths of a cent) today.[322]

204. In my opinion, the performance of the interactive streaming market in terms of increasing output and falling real prices directly contradicts Service Experts' unsupported claims that royalty rates are above effectively competitive levels.

3. There is No Credible Evidence that the Services are Incurring Economic Losses

205. It would not be sufficient to conclude that royalty rates are above effectively competitive levels even if the Services were incurring short-run economic losses as a result of streaming.[323] For example, even with *below*-market royalty rates, the Services could make poor business decisions,

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[319] COEX-1.156 (Apple, "Introducing Apple Music — All The Ways You Love Music. All in One Place." (June 8, 2015) (available at https://www.apple.com/newsroom/2015/06/08Introducing-Apple-Music-All-The-Ways-You-Love-Music-All-in-One-Place-/)).

[320] Id.

[321] COEX-7.155 (Apple, "Apple Music" (available at https://www.apple.com/apple-music/) (accessed March 20, 2022)).

[322] $9.99 / 30 million = $0.0000003; $9.99 / 90 million = $0.0000001.

[323] As the Judges have correctly recognized, the interactive streaming business is a dynamic market characterized by Schumpeterian competition, and short run accounting profits are not a valid measure of the health of economic success. See e.g. *Phonorecords III Final Determination* at 57, n. 107. ("That is, the interactive streaming services seemed to be in a Schumpeterian competition *for the market*, not merely in competition *in the market*. Given this finding, the Judges do not find that the year-over-year losses suffered by the Services constitute a serious competitive detriment. Accordingly, in setting effectively competitive rates, the Judges are more concerned with providing the Copyright Owners with a rate that appropriately compensates them in a manner consistent with the relevant and persuasive benchmarks, even if the Services may incur a somewhat higher level of accounting losses. Alternately stated, the Judges find that it would be highly coincidental (and is unsupported by any evidence) that the present rate levels establish in essence a maximum level of losses the Services collectively can sustain, such that a reduction in losses is unnecessary but an increase in losses will lead to their demise.")

or engage in risky, "for the market" competition that results in some or even most services incurring losses. However, even though the Services are engaging in "for the market" competition, they are so far experiencing broad success and growth.

206. In fact, none of the Service Experts opines explicitly that the Services are incurring economic losses,[324] and only Professor Marx devotes any attention to the issue, offering the opinion that the industry has "struggled with profitability," and supports this conclusion with references to Spotify's public accounting data[325] and to worldwide profit and revenue data for AMU.[326]

207. With respect to Spotify, as I explained in my WDT, its profits are a "managed outcome," reflecting management's decision to prioritize growth and expansion into new markets over near-term profitability.[327] Spotify's statement that its profits are a "managed outcome," first stated by its then-CFO Barry McCarthy, was repeated in an earnings call last month by its current CFO Paul Vogel, who further stated that Spotify's gross margins are "heading to where we want" and that Spotify was not focused on present profitability:

> Are we seeing a model that has gross margins heading to where we want? Yes. We're seeing all of that. If we weren't investing as aggressive as we are behind is

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[324] Apple's Elena Segal claims that [redacted]. See Segal Amended WDT at ¶59, APL-058. In any case, as noted above, [redacted] sheds no light on the relevant question whether the firm expects to earn profits in the future. On that count, Ms. Segal explains that Apple is making "substantial" investments in music streaming which, as I note below, indicates that it expects to earn returns in excess of its cost of capital. Segal Amended WDT at ¶55.

[325] Marx Amended WDT at ¶56.

[326] Marx Amended WDT at ¶57.

[327] See Eisenach WDT at ¶144. It is worth noting that the article cited by Professor Marx as the source for Spotify's profitability data is titled "Loss-making Spotify will continue to put growth ahead of profit for 'next few years,'" and that it contains a quote from Spotify CEO Daniel Ek stating: "We're in the growth stage, trying to capture that growth. Eventually we will get to more of a point of maturity where we'll focus more on profit over growth, but for the next few years it's going to be predominantly growth for us." See Tim Ingham, "Loss-Making Spotify Will Continue to Put Growth Ahead of Profit for 'Next Few Years," *Music Business Worldwide* (May 6, 2020) (available at https://www musicbusinessworldwide.com/loss-making-spotify-will-continue-to-focus-on-growth-over-profit-for-next-few-years/), cited in Marx WDT at ¶56, n. 107.

> good stuff. Would we have higher gross margins? Yes, we would. And so it's a combination of, we're trying to be thoughtful about how much to invest, but we think there's a huge opportunity in front of us. And while we could clearly show even more gross margin expansion in the near term if we wanted to, I'll quote my predecessor, that profitability as a managed outcome often. We're not managing necessarily to optimize gross margin right now. We're optimizing to build a business that's going to optimize gross margin three to five years from now.[328]

208. One meaningful picture of the firm's success is given by its continued ability to accumulate cash. As I noted in my WDT, Spotify had more than $3.62 billion in cash on hand as of the end of Q2 2021;[329] in the second half of the year, it accumulated an additional $345 million, bringing total cash on hand to $3.96 billion.[330] It is also worth noting that Spotify's cash on hand almost doubled during calendar 2021, rising by $1.82 billion from $2.14 billion as of December 31, 2020 to $3.96 billion as of December 31, 2021.[331] While "struggle" is not a very useful economic term, the above statements by Spotify's former and current CFOs and Spotify's demonstrated

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[328] COEX-7.150 (Seeking Alpha, *Spotify Technology SA's (SPOT) Management on 2022 Morgan Stanley Technology, Media and Telecom Conference – Transcript* (March 9, 2022) (available at https://seekingalpha.com/article/4494290-spotify-technology-sas-spot-management-on-2022-morgan-stanley-technology-media-and-telecom)). Mr. Vogel has made similar remarks in the past. *See* COEX-7.133 (Transcript of Spotify: For the Record, Aug. 11, 2020, SPOT_P4_000007346) at SPOT_P4_000007350 (stating that Spotify is "in a market share game" and explained that "If we wanted to, we could manage the business to show an income statement of profitability, but we wouldn't be investing as aggressively in marketing, research and development, AI, or machine learning."). While Mr. Vogel was a witness for Spotify in *Phonorecords III* (as was Mr. McCarthy), he has not put in any testimony in this proceeding. Nor has anyone else of similar seniority within the Spotify organization.

[329] Eisenach WDT at ¶146. Includes cash, cash on hand and short term investments.

[330] See COEX-14.3 (Spotify Technology S.A., *Form 20-F for the Fiscal Year Ended December 31, 2021* (February 3, 2022) at 51 (showing 3,500 million Euros in cash, cash equivalents and short term investments)); FRED Economic Data, U.S. Dollars to Euro Spot Exchange Rate (data series DEXUSEU), St. Louis Federal Reserve (available at https://fred.stlouisfed.org/series/DEXUSEU).

[331] See COEX-14.3 (Spotify Technology S.A., *Form 20-F for the Fiscal Year Ended December 31, 2021* (February 3, 2022) at 51 ("Cash and cash equivalents and short term investments increased by €1,753 million from €1,747 million as of December 31, 2020 to €3,500 million as of December 31, 2021.")); FRED Economic Data, U.S. Dollars to Euro Spot Exchange Rate (data series DEXUSEU), St. Louis Federal Reserve (available at https://fred.stlouisfed.org/series/DEXUSEU).

financial performance conflict with a suggestion that interactive streaming services are "struggling."[332]

209. The Amazon data presented by Professor Marx also fail to support her case. As an initial matter, the data is global in nature, refers only to AMU ([redacted]), and ends in 2020 (despite the fact that Professor Marx's amended report was filed on March 8, 2022, more than a month after Amazon publicly reported its full-year financial results for 2021).[333] Thus, the data relied upon by Professor Marx is at once incomplete, unspecific (by geography), and outdated.

210. At a more fundamental level, Professor Marx's views regarding Amazon's purported economic "struggles" are contradicted by [redacted],"[334] [redacted],"[335] [redacted]:

[redacted]

[332] Again, Mr. Vogel's statements are revealing: "[E]ven though [Spotify's] income statement may not show net income profit, we are free cash flow positive, which we think is a great place to be in terms of continue to run and grow the business." COEX-7.133 (Transcript of Spotify: For the Record, Aug. 11, 2020 (SPOT_P4_000007346) at SPOT_P4_000007350).

[333] Amazon, "Amazon.com Announces Fourth Quarter Results," (February 3, 2022) (available at https://ir.aboutamazon.com/news-release/news-release-details/2022/Amazon.com-Announces-Fourth-Quarter-Results/default.aspx).

[334] Amazon Ex. 53 at 3.

[335] Amazon Ex. 53 at 7.

[redacted].[336]

211. Lastly, I note that Professor Marx's comments about the interactive streaming industry's "struggle" with profitability are preceded immediately in her testimony by a section on extensive investments made by interactive streaming services in recent years, including more than [redacted] spent by Amazon between [redacted] and hundreds of millions of dollars spent by Spotify and Pandora.[337] Professor Marx presents these data without comment; she does not, as far as I can tell, explain how or why they are relevant to her opinion. From an economic perspective, however, the relevance is this: Firms invest money because they expect it to earn a return in excess of the cost of capital. Thus, these data not only fail to support Professor Marx's "struggling with profitability" suggestion, they contradict it.[338]

4. Professor Farrell's Discussion of MFNs Does Not Demonstrate Label Market Power

212. Professor Farrell argues that [redacted]

[336] COEX-7.125 (AMZN_Phono IV _00015882) at 5883.

[337] Marx Amended WDT at ¶¶54-55.

[338] I note as an aside that while certain of the Service Experts reference recent transactions involving musical works rights, none of them introduces evidence that any musical rights holders are earning supracompetitive profits. Indeed, a Goldman Sachs report cited by Dr. Prowse (see Prowse WDT at ¶62) indicates that both copyright owners *and* streaming services are prospering – another indication that the market is meeting or exceeding the "effective competition" standard. See COEX-7.162 (APL-PHONO4_00005017) at 4. The report indicates "buy" ratings on four companies, three of which (Alphabet, Spotify and Tencent Music) are streaming services. The other is UMG. See *id.* at 5.

[redacted]

[redacted],[339] and are a "reflection" of the labels' market power.[340]

213. As an initial matter, it is important to note that prices are only one dimension of the complex, long-term, multi-dimensional business relationships between licensors and licensees. As I have explained above, the evidence in this proceeding demonstrates conclusively that Services have and exercise countervailing power that prevents labels from extracting supracompetitive prices, and that the vigorous give-and-take in their negotiations covers the full gamut of their business relationships. The Services plainly are able to achieve their negotiating objectives despite the various agreements that concern Professor Farrell.

214. In fact, Professor Farrell provides no evidence or independent analysis that the agreements that concern him are either the cause or the effect of market power. Nor does he address the fact that MFNs are commonplace in contracts in a variety of industries and are generally acknowledged to be economically efficient because they provide a mechanism for addressing hold-up problems and transactions costs issues.[341] For example, "hold-up" refers to the potential for one party to a contract to engage in opportunistic behavior by appropriating quasi-rents generated by the contractual relationship, while transaction costs refer to high costs, for example, of discovering the prices and terms offered to other parties in the marketplace. Professor Farrell provides no evidence that these commonplace efficiency rationales for MFNs do not apply in the music rights

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[339] Farrell WDT at ¶70.

[340] Farrell WDT at ¶71. The contractual provisions at issue limit the ability of a Service to accept lower royalties or (in the case of anti-steering agreements) to favor content from one label over another.

[341] See Jonathan Baker & Judith A. Chevalier, "The Competitive Consequences of Most-Favored-Nation Provisions," 27 *Antitrust* (2013) at 20-22 ("The efficiency rationales [for MFNs] fall into three major categories: MFNs that mitigate "hold up" problems, MFNs that counteract incentives to delay in contracting, and MFNs that reduce transaction costs.")

marketplace. Indeed, it is noteworthy that, while the Services have complained about the presence of MFNs in their agreements with record labels, they have also negotiated MFNs in their favor. For example, Pandora's "opt-out" contract with EMI included an MFN which provided for EMI to lower its royalty rate to match any lower rates Pandora might negotiate with other labels;[342] [redacted];[343] [redacted];[344] [redacted].[345] The widespread use of MFNs by all parties is this market suggests they are driven by efficiency concerns.

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[342] In re Pandora Media, Inc., 6 F. Supp. 3d 317, 340 (S.D.N.Y. 2014), aff'd sub nom. Pandora Media, Inc. v. Am. Soc. of Composers, Authors & Publishers, 785 F.3d 73 (2d Cir. 2015). "Finally, the agreement included a most-favored-nation clause, or 'MFN, for the benefit of Pandora. The agreement contemplated a prospective decrease in the headline rate from 1.85 percent to as low as 1.70 percent if Pandora succeeded in obtaining a lower rate for licensing a repertoire as large or larger than EMI's catalog. It similarly allowed for an increase in the advertising expense adjustment up to [REDACTED]."

[343] See e.g., COEX-7.134 (GOOG-PHONOIII-00005484) at -5550-5551 ("[redacted]").

[344] COEX-7.136 (GOOG-PHONOIV-00002401) at -2415-2417, 2421-2422, 2435.

[345] Amazon Ex. 165 at 3.

B. Service Experts Fail to Demonstrate the Music Copyright Market is Susceptible to the Cournot Complements Problem

215. As I noted above, the fact that the Service Experts have made no credible showing that copyright owners have the power to charge monopoly prices in excess of effectively competitive levels in the first instance makes the Cournot Complements problem moot. Nevertheless, given the intensive emphasis Service Experts put on the issue, it is worth examining the evidence – or lack thereof – they offer in support of their arguments. Essentially that "evidence" takes two forms: quotations from a decade-old statement from the FTC and to prior court and Board decisions; and, citations to academic articles which assume market conditions not present in the market for music copyrights.

1. Citations to Past Findings Do Not Constitute Economic Analysis

216. The Service Experts' "case in chief" appears to be that previous findings by the Board, the courts and other regulatory bodies support their argument that record labels possess "complementary oligopoly power." As an initial matter, it seems necessary to point out that citations to prior jurisprudence do not constitute and cannot substitute for economic analysis. Indeed, the fact that the Service Experts rely so heavily on past decisions can reasonably be interepreted as a tacit acknowledgement that their economic analysis is so weak.

217. "Exhibit A" for the Service Experts is a two-page Statement by the Director of the Bureau of Competition of the U.S. Federal Trade Commission (FTC or Commission) explaining the Commission's decision to approve a merger between UMG and EMI Recorded Music (FTC

Statement).[346] Far from finding an uncompetitive market, the letter noted that, "[i]n the recorded music business, the products are highly differentiated, and companies compete for distribution in multiple ways." The portion of the statement relied upon by Service Experts consists of a single paragraph, which summarizes the basis for the staff's determination that the merger should be allowed to proceed. The full text of that paragraph is here:

> Commission staff also assessed the impact of the acquisition on the development of interactive music streaming services. Staff focused on whether Universal would have enhanced bargaining leverage after the acquisition, allowing it to extract from streaming services superior financial terms, or advantaged positioning for its content. Commission staff sought to determine whether the transaction would lead to higher costs to interactive streaming consumers or a more limited selection of recorded music. Commission staff found considerable evidence that each leading interactive streaming service must carry the music of each Major to be competitive. Because each Major currently controls recorded music necessary for these streaming services, the music is more complementary than substitutable in this context, leading to limited direct competition between Universal and EMI. In the end, insufficient evidence existed showing that Universal and EMI offer products that could be viewed by streaming services as direct substitutes.[347]

218. From an economic perspective, the FTC Statement has virtually no probative value in this proceeding, for three primary reasons. First, the statement was issued in 2012, when the interactive streaming business was in its infancy. (Indeed, the FTC Statement recognized the nascent state of the market by noting that its concern was with the "impact of the acquisition on

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[346] COEX-7.145 (Federal Trade Commission, *Statement of Bureau of Competition Director Richard A. Feinstein In the Matter of Vivendi, S.A. and EMI Recorded Music* (September 21, 2012) (available at https://www.ftc.gov/sites/default/files/documents/closing_letters/proposed-acquisition-vivendi-s.a.emi-recorded-music/120921emifeinsteinstatement.pdf). The FTC Statement is prominently cited by three of the four Service Experts. See e.g., Farrell WDT at ¶66; Marx WDT at ¶133 and Prowse WDT at n 209.

[347] COEX-7.145 (Federal Trade Commission, *Statement of Bureau of Competition Director Richard A. Feinstein In the Matter of Vivendi, S.A. and EMI Recorded Music* (September 21, 2012) (available at https://www.ftc.gov/sites/default/files/documents/closing_letters/proposed-acquisition-vivendi-s.a.emi-recorded-music/120921emifeinsteinstatement.pdf)).

the *development* of interactive streaming services.") As I have explained previously the music streaming marketplace in 2022 is dramatically different from the nascent market of 2012.

219. Second, the purpose of the Commission's investigation of the UMG/EMI Records transaction (like its investigations of all such transactions) was not to conduct a detailed analysis of whether either UMG or EMI possessed market power (complementary or otherwise), but rather to determine whether a preponderance of the evidence demonstrated that *this particular transaction* would substantially lessen competition.[348] As the FTC Statement makes clear:

> We emphasize, however, that the decision to close is fact-driven and based largely on the different product portfolios of Universal and EMI. It is entirely possible that a transaction between other market participants or on different terms may yield a different conclusion.[349]

220. Third, the FTC itself has now concluded that the economic model upon which the Cournot Complements thesis is founded is "limited to very specific factual scenarios that involve one single-product monopoly buying another single-product monopoly in the same supply chain [and involving] a fixed-proportion production process."[350] None of these conditions apply in the markets for musical copyrights.

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[348] In order to successfully challenge a merger in court, the agency must demonstrate that the preponderance of the evidence indicates that it would substantially lessen competition. See e.g, Jeffrey A. Eisenach, "US Merger Enforcement in the Information Technology Sector," in Roger D. Blair and D. Daniel Sokol, eds., *The Cambridge Handbook of Antitrust, Intellectual Property and High Tech* (Cambridge: Cambridge University Press, 2017) 445-466 at 446.

[349] COEX-7.145 (Federal Trade Commission, *Statement of Bureau of Competition Director Richard A. Feinstein In the Matter of Vivendi, S.A. and EMI Recorded Music* (September 21, 2012) (available at https://www.ftc.gov/sites/default/files/documents/closing_letters/proposed-acquisition-vivendi-s.a.emi-recorded-music/120921emifeinsteinstatement.pdf)) (emphasis added).

[350] COEX-7.146 (Federal Trade Commission, *Statement of Chair Lina M. Khan, Commissioner Rohit Chopra, and Commissioner Rebecca Kelly Slaughter on the Withdrawal of the Vertical Merger Guidelines Commission* (September 15, 2021) (available at https://www.ftc.gov/system/files/documents/public_statements/1596396/statement_of_chair_lina_m_khan_commissioner_rohit_chopra_and_commissioner_rebecca_kelly_slaughter_on.pdf)).

221. To summarize: (a) the FTC's finding was made in the context of its assessment of a particular issue in the context of a particular transaction; (b) whatever probative value it may have had has been overtaken by the dramatic changes in the music streaming marketplace; and (c) the FTC has now made clear that the underlying thesis (of double marginalization resulting from complementary monopolies) applies only in very specific circumstances which do not apply here.

222. The next set of authorities relied upon by the Service Experts are quotations from past decisions of the Judges themselves. For example, both Professor Farrell and Dr. Prowse cite the statement in the *Phonorecords III Final Determination* that the major labels are "must have" for the interactive services,[351] and Professor Farrell includes a lengthy excerpt from the *Web V* decision which recounts a portion of the Judges' discussion of their findings regarding complementary oligopoly power in *Web IV*.[352] Professor Marx includes citations from *SDARS III*, *Web IV*, and *Phonorecords III* – and also quotes the same passage from the *Web V* decision as Professor Farrell.[353]

223. Apart from the fact that quoting prior decisions is not economic analysis, it is also noteworthy that none of the Service Experts chooses to address portions of the *Web V* decision in which the Judges acknowledge that the market for music copyrights is changing, and that the negotiations between Services and record labels are not one-sided affairs in which the labels "dictate terms" and win a "clean sweep" of their demands, but rather "give-and-take" parleys resulting in a

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[351] See Farrell WDT at ¶86 and Prowse WDT at ¶214 n. 206.

[352] See Farrell WDT at ¶68.

[353] See e.g., Marx WDT at ¶124 n. 221, at ¶130 n. 235, at ¶149 n. 258, at ¶199 n. 306 and at ¶223 n. 337. Professor Farrell also quotes the same passage from *Web V,* quoting *Web IV,* as Professor Marx. See Farrell WDT at ¶68.

"mixed bag of negotiation successes and failures," which is "not consistent with the one-sided negotiations between complementary oligopolists and their relatively powerless counterparties."[354] At a minimum, this holding by the Judges places a burden on Service Experts to provide empirical evidence and analysis to support their concention that the Services, including Apple, Google and Amazon, are victims of the record labels' "complementary oligopoly power." As I next explain, they fail to do so.

2. Service Experts Present No Economic Evidence That the Cournot Complements Problem Is Present in the Market for Sound Recording Rights

224. When it comes to presenting *economic* evidence that the Cournot Complements problem is *present in the sound recording rights market*, the Service Experts have nothing to offer. Professor Farrell, for example, cites several academic articles which provide broad descriptions of the Cournot Complements problem as a theoretical matter,[355] and presents what he calls a "simple mathematical illustration" of the phenomenon in his Appendix H, but he provides no academic support for its existence in bargaining markets like the ones at issue here. Indeed, in response to Professor Watt's criticisms, he acknowledges that "firms such as major labels may implement facilitating practices" that "internalize the externality," and concedes that this "might indeed cast some doubt on whether the outcome will be *supra*-monopoly."[356]

225. For her part, Professor Marx supports her Cournot Complements discussion with only two academic citations – the obligatory one, to Cournot, plus a paper by Dari-Mattiacci and Parisi, which she cites for the definition of the term "complementary oligopoly." ("[The presence of

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[354] *Web V* Final Determination at 64-65.
[355] Farrell WDT at ¶¶84-85.
[356] Farrell WDT at ¶¶209-210.

multiple sellers in the provision of nonsubstitutable complementary goods").[357] However, Professor Marx neglects to address the fact that the article she cites specifically models the effect of complementary market power in markets where sellers are either price setters (engaged in "Cournot competition") or quantity setters (engaged in "Bertrand competition").[358] But record labels and publishers are neither price setters nor quantity setters. Rather, prices and terms are set through bi-lateral negotiations between licensors and licensees. The Service Experts do not, because they cannot, cite a single academic authority that applies the complementary oligopoly theory to a bargaining market like the one at issue here.

C. The Specific Market Power Adjustments Proposed by Professors Marx and Farrell are Arbitrary and Unfounded

226. As I have explained above, the Service Experts have failed to demonstrate that freely negotiated royalty rates for sound recordings are above effectively competitive levels and, indeed, a substantial body of evidence shows they are not. Accordingly, it is economically incorrect to apply "market power adjustments" to reduce royalty rates arrived at through valid benchmarking (or other) methods. As a result, it may not be surprising that the specific market power adjustments discussed by Professors Marx and Farrell are both arbitrary and unfounded. Moreover, their proposed adjustments reveal how ungrounded their market power analysis is.

227. Specifically, both Professor Marx and Professor Farrell refer to the market power adjustment for label rates adopted by the Board in the *Web V* proceeding and both also propose adjustments

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[357] Marx WDT at ¶130.

[358] Giuseppe Dari-Mattiacci and Francesco Parisi, "Substituting Complements," *Journal of Competition Law and Economics*, 2;3, 333–347 at 334 (" Highlighting the asymmetries between Cournot (quantity) and Bertrand (price) competition and their dual models, we show that the outcome crucially depends on whether parties compete by choosing price or quantities.").

based on differences between rates paid by Amazon and Spotify (respectively) to Major labels versus indies.[359] Professor Marx also proposes an adjustment for her proposed Prime-SMP benchmark based on the 2014 ASCAP-Pandora rate court decision. In the subsections below, I explain how each of these methodologies is fundamentally flawed.[360]

1. Service Experts Fail to Justify Using the Web V Adjustment

228. First, Professor Farrell and Professor Marx reference the market power adjustment applied in initally in the *Web IV Final Determination* in 2015 and carried over to the *Web V Final Determination*. Professor Marx proposes to use the 12 percent adjustment to label rates applied by the Judges in that proceeding to adjust label rates downward here, arguing that it represents "one possible market power adjustment."[361] However, Professor Marx performs no independent economic analysis to confirm these adjustment levels are appropriate given changes in market conditions or to verify they are consistent with the record in this proceeding. For his part, Professor Farrell speculates that the steering adjustments in the 2014 Pandora-Merlin agreement upon which the *Web IV* adjustments were based understate the appropriate market power adjustment,[362] but like Professor Marx he performs no independent analysis and fails to explain why an eight-year old contract in a different market provides a meaningful benchmark for interactive streaming rates in 2023-2027.

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[359] As I discuss further below, Professor Farrell discusses various potential adjustments but declines to embrace or apply any particular adjustment.

[360] Dr. Leonard's testimony bases his benchmarking exercise on the Google PLA agreements, to which he does not propose any market power adjustments.

[361] Marx WDT at ¶224. In *Web V*, the Judges lowered the adjustment applied to Spotify from 12 percent to seven percent based on their recognition that Spotify had countervailing marketing power which had allowed it to successfully negotiated lower percentage of revenue rates than the other Services.

[362] Farrell WDT at ¶¶127-129.

229. In my opinion, application of the *Web IV* findings to adjust Section 115 rates for the 2023-2027 rate period is economically unjustifiable due to differences between the markets involved and the dramatic changes that have taken place throughout the music streaming marketplace, especially when, as here, the conclusions are presented without rigorously reviewing and reexamining the underlying evidence and analysis. Both the *Web IV* and *Web V* determinations reflect significant records in those proceedings, much of which is intertwined with the specific findings in those proceedings, but which has not been presented in this proceeding to be subject to review and analysis in the light of the passage of time and the differences between the markets and rights at issue. In this regard, I agree with the Judges findings in the *Phonorecords III Final Determination* and the *SDARS III Final Determination.*[363]

2. Professors Marx's and Farrell's Proposed "Indie vs Major" Adjustments to Label Rates are Unfounded and Erroneous

230. Both Professor Marx and Professor Farrell calculate label market power adjustments based on their estimates of differences between what their respective Services pay major record labels and what they pay independent labels.

231. Professor Marx proposes a label market power adjustment based on her estimates of differences between the royalties Amazon pays to the Majors and the royalties it pays to indie labels for

[363] See *Phonorecords III Final Determination* at 54 ("The Judges are reluctant to simply import the 12% rate reduction from Web IV into other determinations, even though that figure was used to adjust from interactive streaming rates to noninteractive streaming rates. The specific 12% figure was based on record evidence derived from steering experiments and agreements analyzed in Web IV."); Copyright Royalty Board, *Determination of Royalty Rates and Terms for Transmission of Sound Recording by Satellite Radio and "Preexisting" Subscription Services (SDARS III)*, *Final Determination*, Docket No. 16–CRB–0001 SR/PSSR (2018–2022), 83 FR 65210, 65237 (December 19, 2018) ("The Judges cannot simply import the 12% steering adjustment from Web IV into the satellite market; that 12% figure was derived from highly specific evidence presented in Web IV. There is not an adequate basis in the present record to support a finding that the noninteractive market from which that steering adjustment arose is sufficiently similar to the satellite radio market to render reasonable an importation of the 12% steering adjustment here.")

Prime and Free. Her rationale for focusing on Prime and Free (and ignoring AMU) is that a comparison of royalties paid to Major labels versus indies for premium services would not be a valid measure of the Majors' market power "because [redacted]."'[364] Thus, she concludes, "prices charged by independent labels to full-catalog interactive streaming services are not competitive prices, and the difference between those prices and the major label prices does not fully correct for the market power of major labels."[365] For the reasons I have explained above, I disagree that Majors or independent labels charge prices above an effectively competitive level.

232. Professor Marx proposes to "solve" this problem by relying instead on differences between Major and indie label prices for selected services. Specifically, she asserts:

> [redacted].[366]

233. Therefore, she argues:

> A better estimate of major label market power can be found by comparing the prices major labels are able to charge a limited catalog streaming service relative to what an independent label is able to charge the same service. In the case of a limited catalog service, a major label still has substantial market power by virtue of its control of many "hit" songs. In contrast, an independent label, in particular a smaller one, can more easily be excluded entirely from a limited catalog service than from a full-catalog service.[367]

234. In addition to the other issues I identify below, one fundamental problem with Professor Marx's analysis is that it does not comport with [redacted]

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[364] Marx WDT at ¶¶226.
[365] Marx WDT at ¶¶227.
[366] Marx WDT at ¶¶228, citing Gayadien WDT at ¶¶18-19, 25.
[367] Marx WDT at ¶¶227.

[redacted]. Indeed, [redacted]."[368] Thus, contrary to Professor Marx's assumption, [redacted].

235. Unlike Professor Marx, Professor Farrell [redacted]."[369]

236. As with Professor Marx's analysis, the first and most fundamental problem with Professor Farrell's methodology is one of consistency – though in this case [redacted].[370] The fact that [redacted] demonstrates

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[368] See COEX-7.128 (AMZN_Remand_00000398) at -403.
[369] Farrell WDT at ¶¶130-133.
[370] See Bonavia WDT at ¶29 ("[redacted]").

both how elastic the term is when used by the Services and their experts to claim economic disadvantage and how arbitrary are their methodologies and results.

237. A second foundational flaw in Professors Marx's and Farrell's [redacted] is that the evidence in this proceeding demonstrates that [redacted].[371] Neither Professor Marx nor Professor Farrell proffers an explanation for why [redacted]. Indeed, [redacted]

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[371] [redacted]). See Amazon Ex. 169, AMZN_Phono IV_00000585, [redacted], at -655; Amazon Ex. 170, AMZN_Phono IV_00000678 (from -730), [redacted], at -732 – 733; Amazon Ex. 205, AMZN_Phono IV_00015532.001, [redacted] (Sept. 1, 2021); Amazon Ex. 163, AMZN_Phono IV_00003132, [redacted]; Amazon Ex. 206, AMZN_Phono IV_00015566, [redacted]. (As of the submission of Gayadien amended WDT on March 8, 2022, [redacted]." See Gayadien WDT at ¶6, n. 2.) [redacted]. See COEX-7.135 (APL-PHONO4_00000234) at -274, -276, -282-283; COEX-7.53-7.54. [redacted]. See COEX-7.136 (GOOG-PHONOIV-00002401) at -2429, -2431; COEX-7.25-7.26. I also understand that in the *Phonorecords III* proceeding, [redacted]. (Copyright Owners, *Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), Initial Remand Submission of Copyright Owners*, Docket No. 16–CRB–0003–PR (2018–2022) (Remand) (April 1, 2021) at 60-63; "Joint Reply," Response to COF-418; COEX-7.137 (Levine *Phonorecords III* Hearing Testimony (Excerpt)) at 207:16-208:12.).

[redacted] is inconsistent with the Services' must-have argument regarding Major label market power.

238. Beyond these foundational flaws, Professors Marx's and Farrell's [redacted] are invalid for at least two other significant reasons. First, neither Professor Marx nor Professor Farrell makes any effort to correct for a variety of factors, other than market power, that could result in [redacted], including the fact that [redacted] may be more valuable as a result of efficiencies, economies of scale, or simply because their catalogues include more popular artists. For example, as the Judges recognized in the *Web IV Final Determination*:

> There is absolutely no record evidence to suggest that the market power that a Major enjoys individually by ownership of its collective repertoire is in any sense the consequence of improper activity or that it is being used individually by a Major to diminish competition. That is, the Judges have no evidence before them to demonstrate that the Majors' size and individual market power is not the result of the efficiencies and economies of scale and/ or their superior operations.[372]

239. Similarly, Professor Marx herself declined to impose an adjustment to reflect the difference in royalties paid to [redacted] because she determined [redacted]."[373]

240. Second, and relatedly, neither Professor Marx nor Professor Farrell presents evidence that any difference between [redacted] royalty rates is due to royalty rates being *too high*. Even if it was found that there was a disparity between [redacted] that was larger than

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[372] Final Determination, *In re Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings ("Web IV")*, 81 FR 26136, 26368.

[373] See Marx WDT at ¶231.

what would be expected given the market power that arises because of qualitative differences in their catalogues (and the Service Experts certainly do not demonstrate this), there is no evidence that the disparity would be due to [redacted] getting royalty rates that are too high, versus [redacted] getting royalty rates that are too *low*. As I have discussed, the Services have a substantial asymmetric information advantage, and it is easy to see how [redacted] – which would be expected to have fewer strategic and financial analysis resources – could be at an even greater disadvantage, and be even less able to identify the surplus at issue. This could easily lead to [redacted] getting rates that are *below* effectively competitive rates.[374]

3. Professor Marx's Proposed Pandora-ASCAP Adjustment for Publisher Market Power is Without Foundation

241. As discusssed in Section V, Professor Marx relies [redacted].[375] However, [redacted] and consequently that an adjustment for SMP's "market power" is "appropriate."[376] She applies both a lower adjustment, which assumes publisher market power is the same as label market power based on the *Web V* adjustment, and a higher adjustment, which relies on the 2014 ASCAP-Pandora decision. For the reasons I explained above, there is no economic basis for applying the *Web V* adjustment in this proceeding. Professor Marx's attempt to utilize the ASCAP-Pandora decision is also fundamentally flawed.

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[374] *Web V* Final Determination at 207, n.287 ("One of the necessary conditions for a market to be effective is the absence of asymmetric information.")

[375] See *supra*, ¶¶102-121.

[376] Marx WDT at ¶243.

242. First, [redacted] that Professor Marx utilizes as a benchmark was negotiated in the shadow of the Section 115 compulsory license, which sets an effective ceiling on what a copyright owner can seek.[377] Thus, [redacted].[378]

243. [redacted].[380]

244. Third, notwithstanding the fact that Professor Marx was an expert witness in the 2014 Pandora-ASCAP case, her decision to base her proposed correction on the decision in that case is unjustified and incorrect. That decision set the royalty rate that Pandora paid to use ASCAP's repertoire for its non-interactive service; Professor Marx's proposed market power adjustment is

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[377] See *supra*, ¶¶108, citing CMM at 29, 31. See also Farrell WDT at ¶264 ("I assume that regulation determines the maximum price that firm 2 may charge (nothing prohibits it from charging less).").

[378] See *supra*, ¶196, n. 308.

[379] COEX-7.83 (AMZN_Phono IV_00004040); Amazon Ex. 49; Amazon Ex. 50; COEX-7.101 (AMZN_Phono IV_00009287); Amazon Ex. 52; COEX-7.102 (AMZN_Phono IV_00009369); Duffett-Smith WDT at ¶¶109, 113-115, 117.

[380] See *supra* ¶109, n. 171.

based on her argument that the decision's imposition of a 1.85 percent royalty rate in place of the voluntarily negotiated 2.28 percent rate which prevailed prior to the decision indicates a market power adjustment of 18.9 percent (= 1 – 1.85/2.28).[381]

245. Professor Marx fails to report that the BMI rate court, considering essentially the same issue, arrived at a very different conclusion. Writing a year later, in 2015, and with access to information not available to the ASCAP rate court judge, the BMI court judge (Judge Louis Stanton) found that the 2014 ASCAP-Pandora decision on which Professor Marx relies "did not reflect the significant free-market Sony or UMPG direct licenses entered into" subsequent to Judge Cote's decision.[382] Based on the more complete record, Judge Stanton set a rate of 2.5 percent of revenue rate,[383] which he concluded was "at the low end of the range of fees of recent licenses."[384] Thus, while no market power royalty rate reduction is appropriate, and using the PRO marketplace to derive a reduction is specifically inappropriate, even within the PRO context Judge Stanton's more recent determination on a more complete record is a more reliable indicator, which reinforces that there should be no market power rate reduction.

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[381] Marx WDT at ¶232.
[382] Stanton Opinion at 292.
[383] Stanton Opinion at 294.
[384] Stanton Opinion at 284. It is noteworthy that, while acknowledging that the ASCAP Court "believed itself to be carrying out the purpose of the ASCAP decree," the Copyright Office concluded that "the opinion is notable for its focus on the behavior of a handful of actors instead of an empirically based economic analysis of the proper rate for Pandora. For example, rejecting ASCAP's arguments that the court should consider Pandora's commercial success as part of its inquiry, the court opined that 'market share or revenue metrics are poor foundations on which to construct a reasonable fee.' Yet it seems that these factors might well be considered by parties in an actual market negotiation." See CMM at 154.

VII. CONCLUSION

246. For all of the reasons I have explained above, it is my opinion that the Services' Proposals fail to satisify the WBWS standard that governs this proceeding and that the efforts of the Service Experts to demonstrate otherwise are fundamentally flawed and ultimately unsuccessful.

I, Jeffrey A. Eisenach, declare under penalty of perjury that the statements contained herein are true and correct to the best of my knowledge, information and belief.

Executed on April 22, 2022 in Oakton, Virginia.

Jeffrey A. Eisenach

APPENDIX A
Curriculum Vitae of Jeffrey A. Eisenach

NERA
ECONOMIC CONSULTING

March 2022

JEFFREY A. EISENACH, PH.D.
Managing Director
Co-Chair Communications, Media and Internet Practice

Dr. Eisenach is a Managing Director and Co-Chair of NERA's Communications, Media, and Internet Practice, and serves on the firm's Board of Directors. He is also an Adjunct Professor at George Mason University Law School, where he teaches Regulated Industries, and a Visiting Scholar at the American Enterprise Institute. Previously, Dr. Eisenach has served in senior policy positions at the US Federal Trade Commission and the White House Office of Management and Budget, and taught at Harvard University's Kennedy School of Government and Virginia Polytechnic Institute and State University.

Dr. Eisenach's consulting practice focuses on economic analysis of competition, regulatory, intellectual property and consumer protection issues. He has submitted expert reports and testified in US federal court as well before the Antitrust Division of the U.S. Department of Justice, the Federal Trade Commission, the Copyright Royalty Board, the Federal Communications Commission, the International Trade Commission, US Tax Court, several state public utility commissions, and courts and regulatory bodies in Australia, Canada, the United Kingdom, India, the Caribbean, and South America. He has also advised clients in some of the world's largest information technology sector mergers.

He has written or edited 19 books and monographs, including *Broadband Competition in the Internet Ecosystem* and *Competition, Innovation and the Microsoft Monopoly: Antitrust in the Digital Marketplace*. His writings have also appeared in scholarly journals such as *The Review of Network Economics*, as well as in popular outlets like *Forbes*, *The New York Times*, and *The Wall Street Journal*.

Prior to joining NERA, Dr. Eisenach was a managing director and principal at Navigant Economics, and before that he served as Chairman of Empiris LLC, Criterion Economics, and CapAnalysis, LLC. Among his other previous affiliations, Dr. Eisenach has served as President and Senior Fellow at The Progress & Freedom Foundation; as a scholar at the Heritage Foundation and the Hudson Institute; as a member of the 1980-81 Reagan-Bush Transition Team on the Federal Trade Commission, the 2000-2001 Bush-Cheney Transition Team on the Federal Communications Commission, the Virginia Governor's Commission on E-Communities, and the Virginia Attorney General's Task Force on Identity Theft. In 2016-2017 he led the presidential transition team for the Federal Communications Commission.

Dr. Eisenach received his PhD in economics from the University of Virginia and his BA in economics from Claremont McKenna College.

Education

1985	Ph.D. in Economics, University of Virginia
1979	B.A. in Economics, Claremont McKenna College

Professional Experience

Jan 2014-present	Managing Director/Senior Vice President NERA Economic Consulting
Jan 2010-Jan 2014	Managing Director and Principal, Navigant Economics
Sept 2008-Jan 2010	Chairman and Managing Partner, Empiris LLC
June 2006-Sept 2008	Chairman, Criterion Economics, LLC
July 2005-May 2006	Chairman, The CapAnalysis Group, LLC
Feb 2003-July 2005	Executive Vice Chairman, The CapAnalysis Group, LLC
June 1993-Jan 2003	President, The Progress & Freedom Foundation
July 1991-May 1993	Executive Director, GOPAC
Mar 1988-June 1991	President, Washington Policy Group, Inc.
Sept 1986-Feb 1988	Director of Research, Pete du Pont for President, Inc.
1985-1986	Executive Assistant to the Director, Office of Management and Budget
1984-1985	Special Advisor for Economic Policy and Operations, Office of the Chairman, Federal Trade Commission
1983-1984	Economist, Bureau of Economics, Federal Trade Commission
1981	Special Assistant to James C. Miller III, Office of Management and Budget/Presidential Task Force on Regulatory Relief
1979-1981	Research Associate, American Enterprise Institute
1980	Consultant, Economic Impact Analysts, Inc.
1978	Research Assistant, Potomac International Corporation

Teaching Experience

2000-present	Adjunct Professor, George Mason University School of Law, (Courses Taught: Regulated Industries; Perspectives on Government Regulation; The Law and Economics of the Digital Revolution)
1995-1999	Adjunct Lecturer, Harvard University, John F. Kennedy School of Government, (Course Taught: The Role of Government in the 21st Century)
1989	Adjunct Professor, George Mason University, (Course Taught: Principles of Economics)

1985, 1988	Adjunct Professor, Virginia Polytechnic Institute and State University, (Courses Taught: Graduate Industrial Organization, Principles of Economics)
1983-1984	Instructor, University of Virginia, (Courses Taught: Value Theory, Antitrust Policy)
1982-1983	Teaching Assistant, University of Virginia, (Courses Taught: Graduate Microeconomics, Undergraduate Macroeconomics)

Honors & Professional Activities

2018-present	Member, Board of Directors, NERA Economic Consulting
2016-2017	Leader, Presidential Transition Team on the Federal Communications Commission
2012-present	Visiting Scholar, American Enterprise Institute
2011-present	Member, Board of Directors, Information Technology & Innovation Foundation
2011-2018	Member of the Board of Directors, Economic Club of Washington (Vice President for Education, 2012-2017)
2010-2011	Member, World Bank ICT Broadband Strategies Toolkit Advisory Group
2009-present	Member, Economic Club of Washington
2008-2009	Member, Board of Directors, PowerGrid Communications
2008-2012	Member, Board of Advisors, Washington Mutual Investors Fund
2002-2014	Member, Board of Advisors, Pew Project on the Internet and American Life
1993-2009	Member, Board of Directors, The Progress & Freedom Foundation
2002	Member, Attorney General's Identity Theft Task Force, Virginia
2002-2003	Member of the Board of Directors, Privacilla.com
2001-2004	Member, Executive Board of Advisors, George Mason University Tech Center
2001-2002	Contributing Editor, *American Spectator*
2001	Member, Transition Advisory Committee on the FCC
2000-2001	Member, Governor's Task Force on E-Communities, State of Virginia
1999-2001	Member, 2000-2001 Networked Economy Summit Advisory Committee
1998-2003	Member, Board of Directors, Internet Education Foundation
1998-2003	Member, Internet Caucus Advisory Committee
1996-2002	Member, American Assembly Leadership Advisory Committee
1995-2000	Member, Commission on America's National Interests

1988-1991	Adjunct Scholar, Hudson Institute
1988-1991	Visiting Fellow, Heritage Foundation
1981-1984	President's Fellowship, University of Virginia
1981-1983	Earhart Foundation Fellowship, University of Virginia
1981	Member, Presidential Transition Team on the Federal Trade Commission
1979	Henry Salvatori Award, Claremont Men's College
1978	Frank W. Taussig Award, Omicron Delta Epsilon

Testimony, Declarations and Expert Reports

In Re: Determination of Royalty Rates and Terms of Making and Distributing Phonorecords (Phonorecords III), United States Copyright Royalty Board Library of Congress, Remand Additional Written Direct Testimony of Jeffrey A. Eisenach on behalf of Copyright Owners (February 24, 2022)

In Re: Determination of Royalty Rates and Terms of Making and Distributing Phonorecords (Phonorecords III), United States Copyright Royalty Board Library of Congress, Remand Additional Written Direct Testimony of Jeffrey A. Eisenach on behalf of Copyright Owners (January 24, 2022)

In the Matter of an Arbitration Pursuant to the Domestic Roaming Agreement between Bell Mobility Inc. and Rogers Communications Canada Inc., Further Affidavit of Jeffrey Eisenach (November 30, 2021)

In Re: Determination of Royalty Rates and Terms of Making and Distributing Phonorecords (Phonorecords IV), United States Copyright Royalty Judges, Written Direct Testimony of Jeffrey A. Eisenach on behalf of National Music Publishers Association and National Songwriters Association International (October 13, 2021)

In the Matter of an Arbitration Pursuant to the Domestic Roaming Agreement between Bell Mobility Inc. and Rogers Communications Canada Inc., Affidavit of Jeffrey Eisenach (October 1, 2021)

In Re: Determination of Royalty Rates and Terms of Making and Distributing Phonorecords (Phonorecords III), United States Copyright Royalty Judges, Remand Written Rebuttal Testimony of Jeffrey A. Eisenach on behalf of National Music Publishers Association and National Songwriters Association International (July 2, 2021)

In re: INTELSAT S.A., et al., United States Bankruptcy Court Eastern District of Virginia No. 20-32299 (KLP), Rebuttal Expert Report on behalf of Intelsat, *et al* (April 23, 2021)

American Broadcasting Companies, Inc., et al. v. Goodfriend et al., United States District Court Southern District of New York No. 19-cv-7136, Reply Report on behalf of American Broadcasting Companies, *et al* (March 18, 2021)

In the Matter of Certain Electronic Devices, Including Computers, Tablet Computers, and Components and Modules Thereof, United States International Trade Commission Inv. No. 337-TA-1208, Rebuttal Report on behalf of Lenovo Inc. (February 22, 2021)

American Broadcasting Companies, Inc., et al v. Goodfriend et al., United States District Court Southern District of New York No. 19-cv-7136, Expert Report on behalf of American Broadcasting Companies, *et al* (February18, 2021)

In the Matter of Certain Electronic Devices, Including Computers, Tablet Computers, and Components and Modules Thereof, United States International Trade Commission Inv. No. 337-TA-1208, Expert Report on behalf of Lenovo Inc. (February 4, 2021)

Analysis of Licensing Copyrighted Content to Media Monitoring Organisations, Copyright Tribunal of Australia Application under s.157(3) of the Copyright Act 1968, No 2 of 2017. Copyright Tribunal CT 2 of 2017 (Meltwater Australia Pty Ltd v Copyright Agency Limited & Anor) and CT 1 of 2018 (Streem Pty Limited v Copyright Agency Limited), Second Expert Report on behalf of Copyright Agency, Ltd. (January 27, 2021)

Analysis of Licensing Copyrighted Content to Media Monitoring Organisations, Copyright Tribunal of Australia Application under s.157(3) of the Copyright Act 1968, No 2 of 2017. Copyright Tribunal CT 2 of 2017 (Meltwater Australia Pty Ltd v Copyright Agency Limited & Anor) and CT 1 of 2018 (Streem Pty Limited v Copyright Agency Limited), Expert Report on behalf of Copyright Agency, Ltd. (September 29, 2020)

In the Matter of Conditions Imposed in the Charter Communications-Time Warner Cable-Bright House Networks Order, Federal Communications Commission WC Docket No. 16-107, Expert Declaration on Behalf of Charter Communications, Inc. (August 6, 2020)

In the Matter of Certain Integrated Circuits and Products Containing the Same, International Trade Commission Inv. No. 337-TA-1148, Rebuttal Report on Behalf of Intel Corporation (September 18, 2019)

In the Matter of Certain Integrated Circuits and Products Containing the Same, International Trade Commission Inv. No. 337-TA-1148, Expert Report on Behalf of Intel Corporation (August 30, 2019)

In the Matter of Tribune Media Company and Nexstar Media Group, Inc., Consolidated Applications for Consent to Transfer Control, Federal Communications Commission MB Docket No. 19-30, Expert Declaration on Behalf of Nexstar Media Group, Inc. (May 28, 2019)

Market Review of the Electronic Communications Sector, Bermuda Regulatory Authority, Matter 2019021501, Expert Declaration of Jeffrey Eisenach on Behalf of OneComm (April 29, 2019)

In the Matter of Certain LTE and 3G Compliant Cellular Communication Devices, International Trade Commission Inv. No. 337-TA-1138, Rebuttal Report on Behalf of Apple Inc. (February 20, 2019)

In the Matter of Certain LTE and 3G Compliant Cellular Communication Devices, International Trade Commission Inv. No. 337-TA-1138, Expert Report on Behalf of Apple Inc. (January 25, 2019)

In the Matter of Expanding Flexible Use of the 3.7-4.2 GHz Band et al, *Federal Communications Commission GN Docket No. 18-122 et al*, Reply Declaration on Behalf of C-Band Alliance (December 7, 2018)

San Mateo County Community College District v. LocusPoint Networks, LLC, et al., Nos. 17CIV01550 & 17CIV01534, Expert Report on behalf of LocusPoint (September 24, 2018)

In the Matter of Certain Mobile Electronic Devices and Radio Frequency and Processing Components Thereof, International Trade Commission Inv. No. 337-TA-1093, Supplemental Report on Behalf of Apple Inc. (August 8, 2018)

In the Matter of Certain Mobile Electronic Devices and Radio Frequency and Processing Components Thereof, International Trade Commission Inv. No. 337-TA-1093, Rebuttal Report on Behalf of Apple Inc. (June 29, 2018)

In the Matter of Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, Description of Transaction, Public Interest Statement, and Related Demonstrations, Appendix I: Declaration of Jeffrey A. Eisenach, Ph.D., WT Docket No. 18-197 (June 18, 2018) (Supplemental Declaration filed September 17, 2018)

In the Matter of Certain Mobile Electronic Devices and Radio Frequency and Processing Components Thereof, International Trade Commission Inv. No. 337-TA-1093, Expert Report on Behalf of Apple Inc. (June 15, 2018)

In the Matter of Certain Mobile Electronic Devices and Radio Frequency and Processing Components Thereof, International Trade Commission Inv. No. 337-TA-1065, Written Rebuttal Testimony on Behalf of Apple Inc. (May 11, 2018)

In the Matter of Certain Mobile Electronic Devices and Radio Frequency and Processing Components Thereof, International Trade Commission Inv. No. 337-TA-1065, Written Direct Testimony on Behalf of Apple Inc. (May 1, 2018)

U.S. Department of Justice, Antitrust Division Roundtable Series on Competition and Deregulation, Roundtable on Consent Decrees, Prepared Statement of Jeffrey A. Eisenach (April 26, 2018)

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Testimony on Addressing the Risk of Waste, Fraud, and Abuse in the Federal Communications Commission's Lifeline Program, Before the Committee on Commerce, Science and Transportation, United States Senate (September 6, 2017)

Effects of the AT&T-Time Warner Transaction on Competition in the Premium Channels Industry, Expert Report (with T. Watts) on behalf of Starz, Inc. (July 2017)

In Re: Determination of Royalty Rates and Terms of Making and Distributing Phonorecords (Phonorecords III), United States Copyright Royalty Judges, Written Supplemental Report of Jeffrey A. Eisenach on behalf of National Music Publishers Association and National Songwriters Association International (March 1, 2017)

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SESAC Inc., SESAC LLC, and SESAC Holdings, Inc. Claimants vs. Radio Music Licensing Committee, Arbitration Before the Hon. Vaughn R. Walker, Kenneth R. Feinberg, Esq. and Lee A. Freeman, Esq., Expert Report of Jeffrey A. Eisenach on Behalf of SESAC (December 23, 2016)

In Re: Determination of Royalty Rates and Terms of Making and Distributing Phonorecords (Phonorecords III), United States Copyright Royalty Judges, Written Direct Report of Jeffrey A. Eisenach on behalf of National Music Publishers Association and National Songwriters Association International (October 31, 2016)

Examination of Differential Pricing Practices Related to Internet Data Plans, Canadian Radio-Television and Telecommunications Commission, CRTC 2016-192, Supplemental Expert Report on Behalf of TELUS Communications Company (September 21, 2016)

Balancing Efficient Pricing and Investment Incentives in the Migration from Copper to Fibre Networks: Assessing the Feasibility of a Temporary Copper Wedge, Expert Report on Behalf of Vodaphone (July 13, 2016)

Examination of Differential Pricing Practices Related to Internet Data Plans, Canadian Radio-Television and Telecommunications Commission, CRTC 2016-192, Expert Report on Behalf of TELUS Communications Company (June 28, 2016)

The Canadian Market for Wireless: Understanding the Bell-MTS Transaction, Expert Report on Behalf of Bell Canada (June 2, 2016)

Analysis of Online Music Copyright Issues; Copyright Tribunal of Australia CT 3 of 2013 – Reference by Phonographic Performance Company of Australia Limited (ACN 000 680 704) Under section 154 (1) of the Copyright Act of 1968, Fifth Expert Report on Behalf of Phonographic Performance Company of Australia Ltd. (March 9, 2016)

Analysis of Online Music Copyright Issues; Copyright Tribunal of Australia CT 3 of 2013 – Reference by Phonographic Performance Company of Australia Limited (ACN 000 680 704) Under section 154 (1) of the Copyright Act of 1968, Fourth Expert Report on Behalf of Phonographic Performance Company of Australia Ltd. (February 8, 2016)

Review of the Consultation Paper on Differential Pricing for Data Services (Consultation Paper No. 8/2015), Telecom Regulatory Authority of India, Expert Declaration on Behalf of Facebook, Inc. (December 30, 2015)

In the Matter of the Joint Application of Frontier Communications Corporation, Verizon California Inc. (U 1002 C), Verizon Long Distance, LLC (U 5732 C), and Newco West Holdings LLC for Approval of Transfer of Control Over Verizon California Inc. and Related Approval of Transfer of Assets and Certifications, *California Public Service Commission*, Expert Declaration on Behalf of Verizon Communications (August 24, 2015)

Broadband Market Performance in Canada: Implications for Policy, Canadian Radio-Television and Telecommunications Commission Notice of Consultation 15-134, Expert Report on Behalf of Bell Canada (July 2015)

Analysis of Online Music Copyright Issues; Copyright Tribunal Proceeding CT 3 of 2013 – Reference by Phonographic Performance Company of Australia Ltd. Under s 154 of the Copyright Act of 1968, Third Expert Report on Behalf of Phonographic Performance Company of Australia Ltd. (February 26, 2015)

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Testimony on Open Internet Rules, Before the Committee on the Judiciary, United States Senate (September 17, 2014)

Review of Wholesale Mobile Wireless Services, Canadian Radio-Television and Telecommunications Commission Notice of Consultation CRTC 2014-76, Supplemental Expert Report on Behalf of TELUS Communications Company (August 20, 2014)

Analysis of Online Music Copyright Issues; Copyright Tribunal Proceeding CT 3 of 2013 – Reference by Phonographic Performance Company of Australia Ltd. Under s 154 of the Copyright Act of 1968, Expert Report on Behalf of Phonographic Performance Company of Australia Ltd. (August 5, 2014)

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Review of Wholesale Mobile Wireless Services, Canadian Radio-Television and Telecommunications Commission Notice of Consultation CRTC 2014-76, Expert Report on Behalf of TELUS Communications Company (May 15, 2014)

In the Matter of Special Access for Price Cap Local Exchange Carriers, AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, Federal Communications Commission, WC Docket No. 05-25, RM-10593 Expert Declaration (with Kevin W. Caves) on Behalf of Verizon Communications and Verizon Wireless (March 12, 2013)

In the Matter of Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, Federal Communications Commission, Docket No. 12-268, Expert Reply Declaration on Behalf of the Expanding Opportunities for Broadcasters Coalition (March 10, 2013)

In the Matter of Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, Federal Communications Commission, Docket No. 12-268, Expert Declaration on Behalf of the Expanding Opportunities for Broadcasters Coalition (January 24, 2013)

Testimony on the Digital Sound Performance Right, Before the Subcommittee on Intellectual Property, Competition and the Internet, Committee on the Judiciary, United States House of Representatives (November 28, 2012)

Response to Pre-Consultation Document PC12/03: Comments on Market Review Process (Part B), Before the Bermuda Telecommunications Regulatory Authority, Expert Report of Jeffrey A. Eisenach on Behalf of Bermuda Digital Communications Ltd. (November 21, 2012)

Order Instituting Rulemaking to Evaluate Telecommunications Corporations Service Quality Performance and Consider Modification to Service Quality Rules, Before the California Public Service Commission, Rulemaking 11-12-001, Reply Declaration of Jeffrey A. Eisenach on Behalf of Verizon Communications (March 1, 2012)

Order Instituting Rulemaking to Evaluate Telecommunications Corporations Service Quality Performance and Consider Modification to Service Quality Rules, Before the California Public Service Commission, Rulemaking 11-12-001, Expert Declaration of Jeffrey A. Eisenach on Behalf of Verizon Communications (January 31, 2012)

In the Matter of Howard Ferrer et al vs. Puerto Rico Telephone Company, Before the Telecommunications Regulatory Board of Puerto Rico, Case No. JRT: 2009-Q-0014, Expert Declaration of Jeffrey A. Eisenach on Behalf of the Puerto Rico Telephone Company (December 1, 2011)

Joint Declaration of Jeffrey A. Eisenach and Wayne A. Leighton before the Tribunal de Defensa de la Libre Competencia, Santiago, Chile, on behalf of Telefónica Chile S.A. (July 22, 2011)

In the Matter of Amendment of the Commission's Rules Related to Retransmission Consent, Federal Communications Commission, MB Docket No. 10-71, Expert Reply Declaration (with Kevin W. Caves) on Behalf of the National Association of Broadcasters (June 27, 2011)

In the Matter of an Application by Way of a Reference to the Federal Court of Appeal Pursuant to Sections 18.3(1) and 28(2) of the Federal Courts Act, R.S.C. 1985, C.F-7, Between: Cogeco Cable Inc. et al Applicants and Bell Canada et al Respondents, In the Supreme Court of Canada (on appeal from the Federal Court of Appeal), Affidavit and Expert Report on Behalf of Bell Media Inc. and V Interactions Inc. (May 27, 2011)

In the Matter of Amendment of the Commission's Rules Related to Retransmission Consent, Federal Communications Commission, MB Docket No. 10-71, Expert Declaration (with Kevin W. Caves) on Behalf of the National Association of Broadcasters (May 27, 2011)

In the Matter of Section 36 of the Public Utilities Commission Act, Proposal to Establish a New Interconnection Agreement Between Digicel and GT&T, Expert Oral Testimony on Behalf of Guyana Telephone and Telegraph Company, Guyana Public Utilities Commission (July 13, 2010)

In the Matter of International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act, Federal Communications Commission GN Docket No. 09-47, Supplemental Declaration Regarding the Berkman Center Study (NBP Public Notice 13) (with R. Crandall, E. Ehrlich and A. Ingraham), on Behalf of Verizon Communications (May 10, 2010)

Testimony on Deployment of Broadband Communications Networks, Before the Subcommittee on Communications, Technology and the Internet, Committee on Energy and Commerce, United States House of Representatives (April 21, 2010)

Net Neutrality: The Economic Evidence, Expert Declaration in the Matters of Preserving the Open Internet and Broadband Industry Practices, GN Docket No. 09-191 and WC Docket No. 07-52 (with Brito et al) (April 12, 2010)

In the Matter of the Constitution of the Co-Operative Republic of Guyana and In the Matter of the Application for Redress Under Article 153 for the Contravention of the Applicant's Fundamental Rights Guaranteed by Articles 20, 146, and 149D of the Constitution of the Republic of Guyana and In the Matter of the Telecommunications Act No. 27 of 1990, *U-Mobile (Cellular) Inc., v. The Attorney General of Guyana,* "International Exclusivity and the Guyanese Telecommunications Market: A Further Response to DotEcon," Expert Report on Behalf of Guyana Telephone and Telegraph Company (March 9, 2010)

Universal Service Subsidies to Areas Served by Cable Telephony: Supplemental Report, Expert Report Submitted to the Federal Communications Commission, on Behalf of the National Cable and Telecommunications Association (January 2010)

Policy Proceeding on a Group-Based Approach to the Licensing of Television Services and on Certain Issues Relating to Conventional Television, Canadian Radio-Television and Telecommunications Commission, Broadcasting Notice of Consultation CRTC 2009-411, Oral Testimony on Behalf of CTVgm (November 16, 2009)

In the Matter of International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act, Federal Communications Commission GN Docket No. 09-47, Declaration Regarding the Berkman Center Study (NBP Public Notice 13) (with R. Crandall and E. Ehrlich) on behalf of the National Cable and Telecommunications Association and the United States Telecom Association (November 16, 2009)

Universal Service Subsidies to Areas Served by Cable Telephony, Expert Report Submitted to the Federal Communications Commission, on behalf of the National Cable and Telecommunications Association (November 2009)

Policy Proceeding on a Group-based Approach to the Licensing of Television Services and on Certain Issues relating to Conventional Television, Canadian Radio-Television and Telecommunications Commission Broadcasting Notice of Consultation CRTC 2009-411, Expert Report on the Economics of Retransmission Consent Negotiations in the U.S. and Canada, (with S. Armstrong) on Behalf of CTVgm (September 19, 2009)

Virginia State Corporation Commission, Second Order for Notice and Hearing In Re: Revisions of Rules for Local Exchange Telecommunications Company Service Quality Standards, Comments on Behalf of Verizon Virginia (March 13, 2009)

In the Matter of Review of the Commission's Program Access Rules and Examination of Programming Tying Arrangements, Federal Communications Commission Docket MB 07-198, Supplemental Report on Behalf of the Walt Disney Company (December 11, 2008)

In re: Investigation of Rates of Virgin Islands Telephone Corporation d/b/a Innovative Communications, PSC Docket 578, Rebuttal Testimony on Behalf of Virgin Islands Telephone Corporation (October 31, 2008)

Evidence Relating to the ACCC's Draft Decision Denying Telstra's Exemption Application for the Optus HFC Footprint, Australian Consumer and Competition Commission, Expert Report on Behalf of Telstra Corporation Ltd. (October 13, 2008)

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In the Matter of the Appropriate Forms of Regulating Telephone Companies, Maryland Public Service Commission, Case No. 9133, Rebuttal Testimony on Behalf of Verizon Maryland (September 24, 2008)

Virginia State Corporation Commission, Proposed Service Quality Rules for Traditional Landline Telecommunications, Comments on Behalf of Verizon Virginia (August 21, 2008)

In re: Complaint and Request for Emergency Relief against Verizon Florida, LLC for Anticompetitive Behavior in Violation of Sections 364.01(4), 364.3381, and 364.10, F.S., and for Failure to Facilitate Transfer of Customers' Numbers to Bright House Networks Information Services (Florida), LLC, and its Affiliate, Bright House Networks, LLC, Florida Public Service Commission, Docket No. 070691-TP, Rebuttal Testimony on Behalf of Verizon Florida LLC (July 25, 2008)

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In the Matter of the Constitution of the Co-Operative Republic of Guyana and In the Matter of the application for redress under Article 153 for the contravention of the Applicant's fundamental rights guaranteed by Articles 20, 146, and 149D of the Constitution of the Republic of Guyana and In the Matter of the Telecommunications Act No. 27 of 1990, U-Mobile (Cellular) Inc., v. The Attorney General of Guyana, Expert Report on Behalf of Guyana Telephone and Telegraph Company (June 19, 2008)

In the Matter of Bright House Networks LLC et al v. Verizon California et al, Federal Communications Commission File No. EB-08-MD-002, Expert Declaration on Behalf of Verizon Communications (February 29, 2008)

In the Matter of Review of the Commission's Program Access Rules and Examination of Programming Tying Arrangements, Federal Communications Commission Docket MB 07-198, Reply Report on Behalf of the Walt Disney Company (February 12, 2008)

In the Matter of Verizon's 2007 Price Cap Plan for the Provision of Local Telecommunications Services in the District of Columbia, District of Columbia Public Service Commission, Formal Case No. 1057, Rebuttal Testimony on Behalf of Verizon (January 31, 2008)

In the Matter of Review of the Commission's Program Access Rules and Examination of Programming Tying Arrangements, Federal Communications Commission Docket MB 07-198, Expert Report on Behalf of the Walt Disney Company (January 4, 2008)

In the Matter of Verizon's 2007 Price Cap Plan for the Provision of Local Telecommunications Services in the District of Columbia, District of Columbia Public Service Commission, Formal Case No. 1057, Direct Testimony on Behalf of Verizon (December 7, 2007)

In the Matter of the Commission's Investigation into Verizon Maryland, Inc.'s Affiliate Relationships, Maryland Public Service Commission, Case No. 9120, Rebuttal Testimony on Behalf of Verizon (November 19, 2007)

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Testimony on Communications, Broadband and U.S. Competitiveness, Before the Committee on Commerce, Science and Transportation, United State Senate (April 24, 2007)

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In the Matter of Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers, WC Docket No. 03-173, Declaration of Jeffrey A. Eisenach and Janusz R. Mrozek, Federal Communications Commission (December 2003)

In the Matter of Disposition of Down Payments and Pending Applications Won During Auction No. 35 for Spectrum Formerly Licensed to NextWave Personal Communications, Inc., NextWave Power Partners, Inc. and Urban Comm – North Carolina, Inc., Federal Communications Commission, (October 11, 2002)

In the Matter of Echostar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation, Federal Communications Commission (February 4, 2002)

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APPENDIX B
Materials Considered

APPENDIX B

Materials Considered by Jeffrey A. Eisenach, Ph.D.

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Google Ex. 06.

Google Ex. 16.

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Google Ex. 19.

Google Ex. 20.

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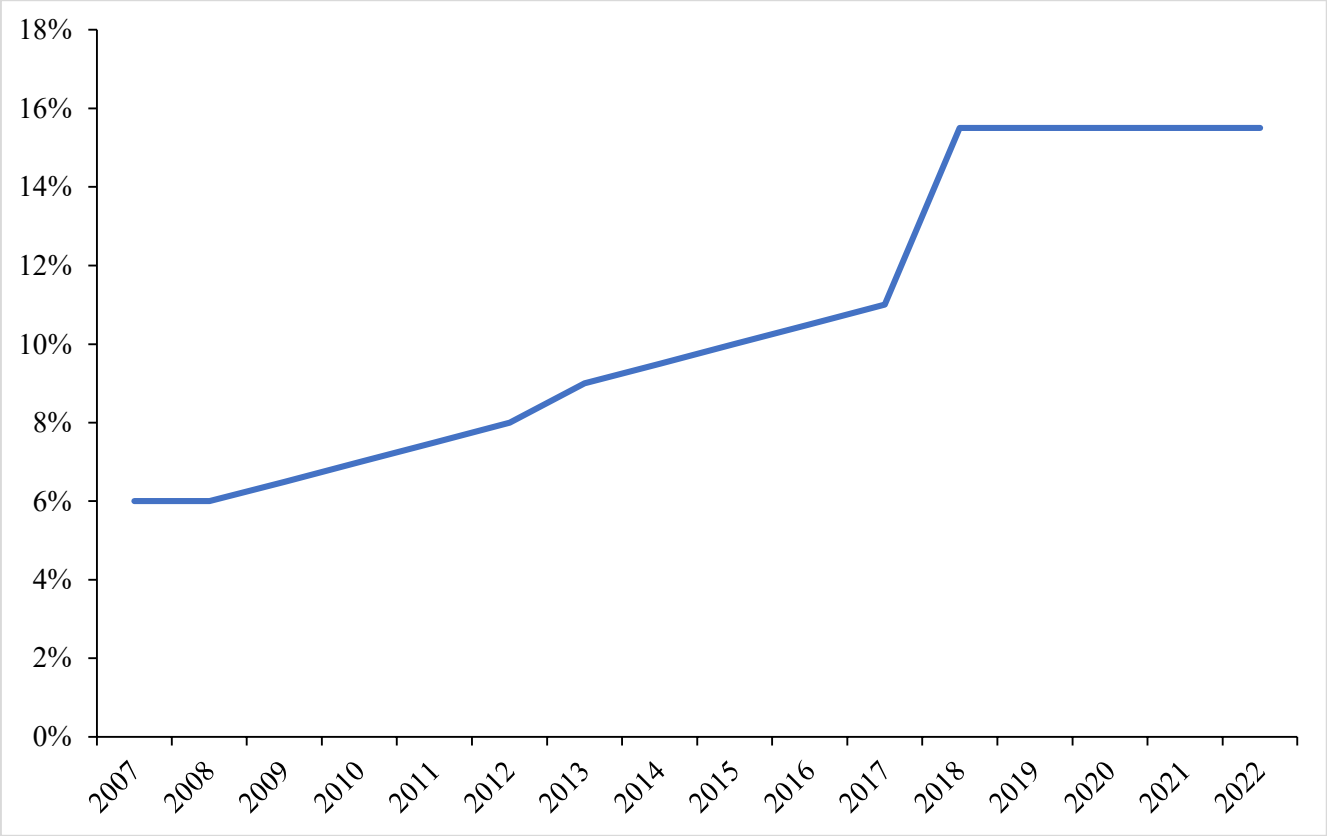
APPENDIX C
Satellite Radio (*SDARS*), Commercial Webcasting (*Web*), and Interactive Streaming (*Phonorecords*) Rate Histories

1. This appendix documents the history of *SDARS*, *Web*, and *Phonorecords* royalty rates over time and calculates the percentage increase in each rate from 2008 to 2022. It illustrates graphically the extent to which Board-determined royalty rates for satellite radio and commercial webcasting have increased during that period while the primary rates for interactive streaming have not.

2. Figure C-1 illustrates the steady rise in the percentage of revenue sound recording rate applied to satellite radio services. That rate was 6.0 percent in 2007 and, as determined by the *SDARS I*, *II*, and *III* proceedings, has increased regularly since then, reaching a level of 15.5 percent for 2018, continuing to 2022; the rate increased 158 percent over that time.[385]

[385] (15.5 percent - 6.0 percent) / 6.0 percent = 158 percent.

FIGURE C-1
SATELLITE RADIO (*SDARS*) PERCENT-OF-REVENUE RATE HISTORY (2007-2022)



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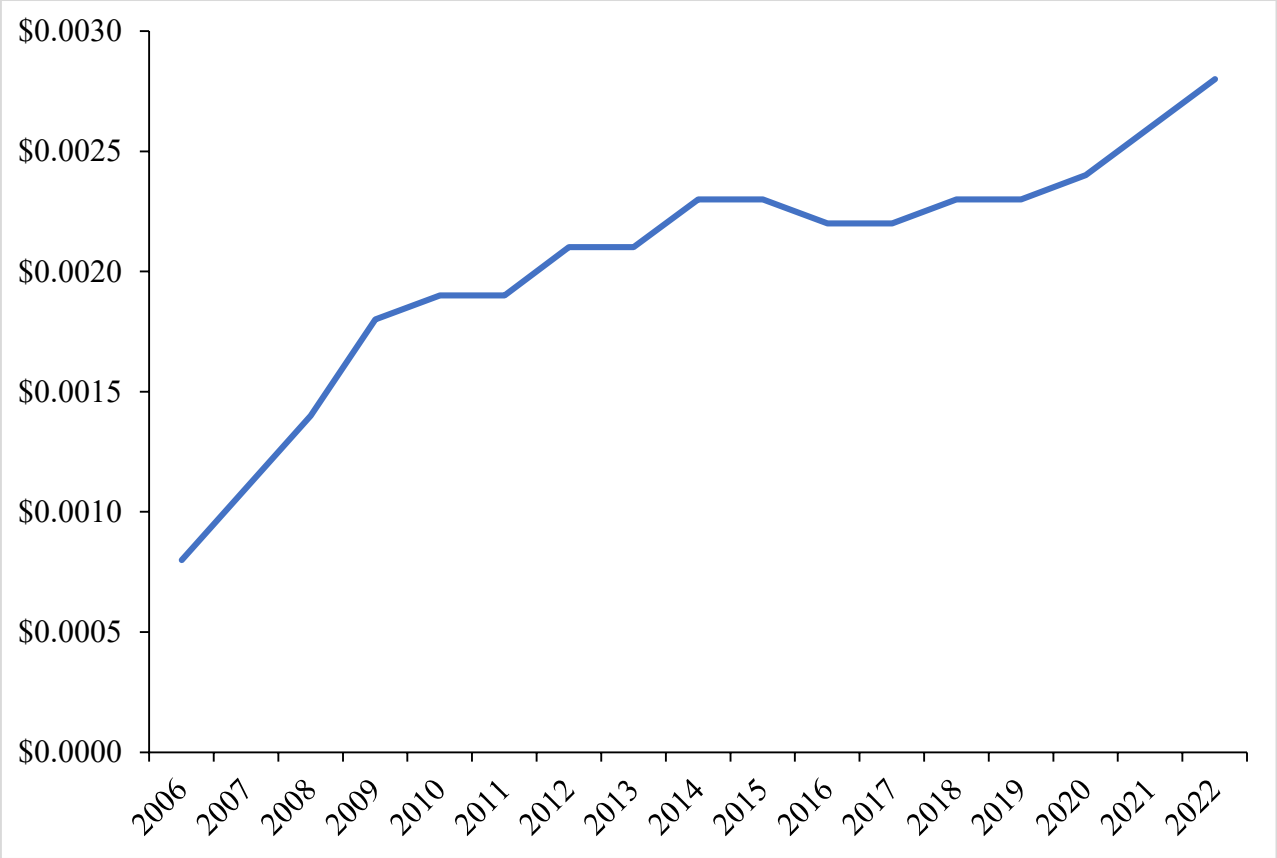
3. Similarly, Figure C-2 illustrates the steady rise in the per play sound recording rate applied to commercial webcasting services. That rate was $0.0014 in 2008 and, as determined by the *Web II*, *III*, *IV* and *V* proceedings, has also increased regularly, reaching a level of $0.0028 for 2022;

that rate increased 100 percent over that time.[386] As the rate was $0.0008 in 2006, the increase since then has been 250 percent.

FIGURE C-2
COMMERICIAL WEBCASTING (*WEB*) PER-PLAY RATE HISTORY (2006-2022)



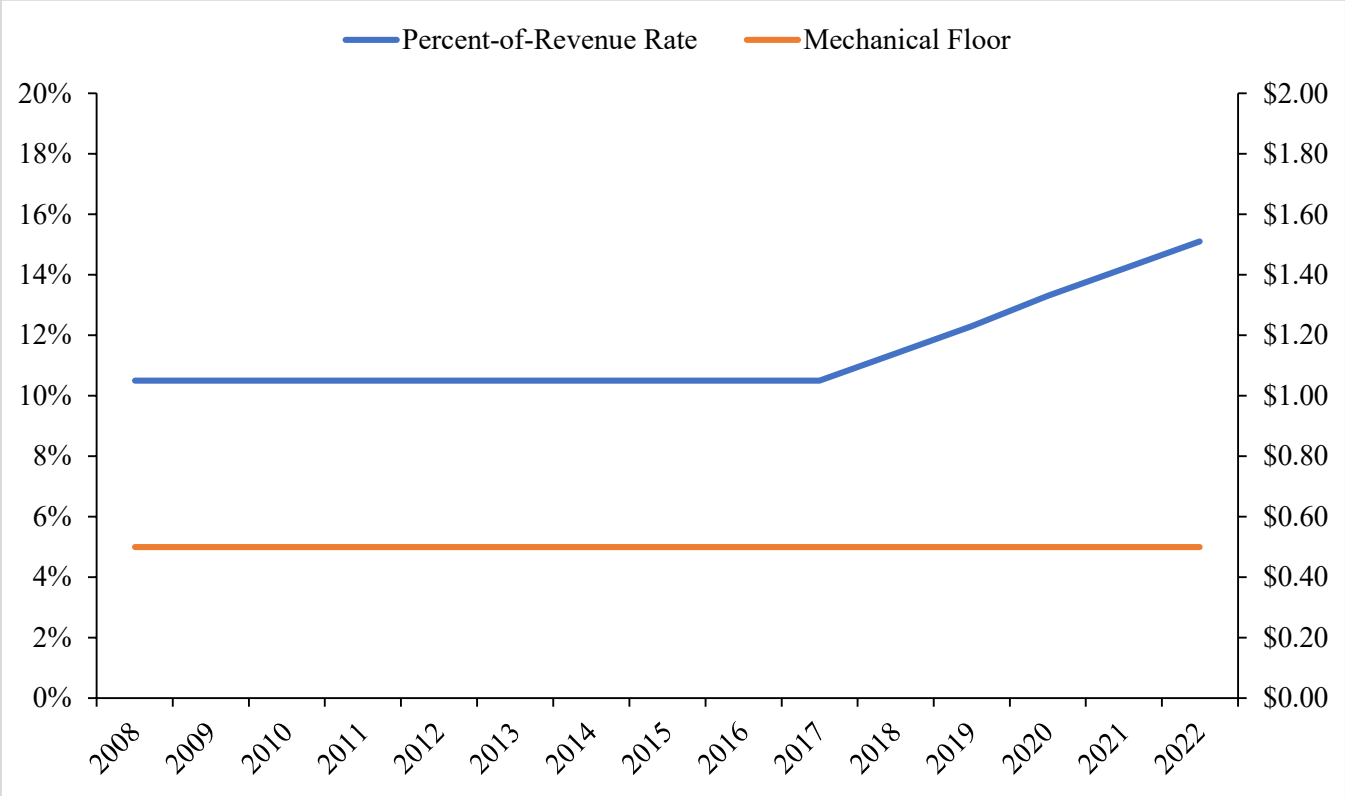
[386] ($0.0028 - $0.0014) / $0.0014 = 100 percent.

Sources: Copyright Royalty Board, Digital Performance Right in Sound Recordings and Ephemeral Recordings, Docket No. 2005–1 CRB DTRA ("Web II"), 72 Fed. Reg. 24084, 24096 (May 1, 2007); Copyright Royalty Board, Determination of Royalty Rates for Digital Performance Right in Sound Recordings and Ephemeral Recordings, Docket No. 2009–1 CRB Webcasting III ("Web III"), 79 Fed. Reg. 23102, 23102 (April 25, 2014); Copyright Royalty Board, Determination of Royalty Rates and Terms for Ephermeral Recording and Webcasting Digital Performance of Sound Recordings (Web IV), Docket No. 14–CRB–0001–WR (2016–2020) ("Web IV"), 81 Fed. Reg. 26316, 26382 (May 2, 2016); Copyright Royalty Board, Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (Web V), Docket No. 19-CRB-0005-WR (2021-2025) ("Web V"), 86 Fed. Reg 59452, 59593 (October 27, 2021); Copyright Royalty Board, Cost of Living Adjustment to Royalty Rates for Webcaster Statutory License, Docket No. 14–CRB–0001–WR (2016–2020) (COLA 2017), 81 Fed. Reg. 87455, 87456 (December 5, 2016); Copyright Royalty Board, Cost of Living Adjustment to Royalty Rates for Webcaster Statutory License, Docket No. 14–CRB–0001–WR (2016–2020) (COLA 2018), 82 Fed. Reg. 55946, 55946 (November 27, 2017); Copyright Royalty Board, Cost of Living Adjustment to Royalty Rates for Webcaster Statutory License, Docket No. 14–CRB–0001–WR (2016–2020) COLA 2019, 83 Fed. Reg. 61125, 61125 (November 28, 2018); Copyright Royalty Board, Cost of Living Adjustment to Royalty Rates for Webcaster Statutory License, Docket No. 14–CRB–0001–WR (2016–2020) COLA 2020, 84 Fed. Reg. 64204, 64205 (November 21, 2019); Copyright Royalty Board, Cost of Living Adjustment to Royalty Rates for Webcaster Statutory License, Docket No. 19–CRB–0005–WR (2021–2025) COLA (2022), 86 Fed. Reg 68150, 68150 (December 1, 2021).

4. The pattern is quite different for mechanical royalty rates for interactive streaming under the *Phonorecords* proceedings. Figure C-3 presents the royalty rate history for the percent of revenue "headline" rate as well as the per subscriber mechanical floor. The percentage of revenue rate was set at 10.5 percent in 2008 and then did not increase for many years; the *Phonorecords III Final Determination* increased the headline rate to 15.1 percent but did so on an incremental basis, reaching that rate only in 2022. Thus, the rate increased only by 44 percent over a period of 14 years.[387] The per subscriber mechanical floor has not increased at all since having been set at $0.50 in 2008.

[387] (15.1 percent - 10.5 percent) / 10.5 percent = 44 percent.

FIGURE C-3
INTERACTIVE STREAMING (*PHONORECORDS*)
PERCENT-OF-REVENUE RATE AND
STANDALONE PORTABLE SUBSCRIPTION MECHANICAL FLOOR RATE HISTORY (2008-2022)



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APPENDIX D
Jeffrey A. Eisenach, Additional Written Direct Testimony, *Phonorecords III*

PUBLIC VERSION

Before the
COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.

In re	)	
DETERMINATION OF ROYALTY RATES AND TERMS OF MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords III)	)	**Docket No. 16-CRB-0003-PR (2018-2022) (Remand)**

ADDITIONAL WRITTEN DIRECT TESTIMONY OF
JEFFREY A. EISENACH, PH.D.

Expert Witness for Copyright Owners

January 24, 2022

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Appendix A: Materials Relied Upon

I. INTRODUCTION AND SUMMARY OF FINDINGS

1. My name is Jeffrey A. Eisenach. I am a Managing Director and Co-Chair of the Communications, Media and Internet Practice at NERA Economic Consulting ("NERA"). On behalf of the National Music Publishers' Association ("NMPA") and Nashville Songwriters Association International ("NSAI") (together referred to as "Copyright Owners"), I submitted Written Direct Testimony in the *Phonorecords III* proceeding ("Eisenach WDT") on October 31, 2016, Written Rebuttal Testimony ("Eisenach WRT") on February 13, 2017, Supplemental Written Rebuttal Testimony ("Eisenach SWRT") on March 1, 2017, and Written Rebuttal Testimony in this Remand proceeding ("Eisenach RWRT") on July 2, 2021. I also presented oral testimony at the Hearing and was qualified by the Judges as an expert witness in microeconomics, the economics of industrial organizations, and regulatory economics. My qualifications are detailed in Eisenach RWRT, which also includes a copy of my curriculum vitae.

A. Assignment

2. I have been asked by counsel for Copyright Owners to assess and offer my expert economic opinion on certain issues raised by the Board's December 9, 2021 *Notice and Sua Sponte Order Directing the Parties to Provide Additional Materials* (*Additional Materials Order*)[1] and its January 6, 2022 *Order Granting in Part and Denying in Part Copyright Owners' Motion for Reconsideration or, in the Alternative, Clarification* (*Clarification Order*).[2] Specifically, the

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[1] U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Notice and Sua Sponte Order Directing the Parties to Provide Additional Materials*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (December 9, 2021) (hereafter "*Additional Materials Order*").

[2] U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Order Granting in Part and Denying in Part Copyright Owners' Motion for Reconsideration or, in the Alternative, Clarification*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (January 6, 2022) (hereafter "*Clarification Order*").

Additional Materials Order explains that the Judges "are considering the possibility of setting rates and a rate structure for the Phonorecords III period that no participant has specifically proposed, but that would incorporate only record evidence"[3] and describes some aspects of the rate structure the Judges are considering. The *Clarification Order* provides further explanation of the approach under consideration, which it refers to as "the Working Proposal."[4] Both orders ask the parties for input relating to the operation of the Working Proposal and to the specific inputs that might be utilized to calculate rates if it were adopted.

3. In this context, this report focuses on three issues. First, to what extent is the methodology for determining mechanical royalties embodied in the Working Proposal consistent with the analytical framework and findings of the *Final Determination*?[5] Second, what does the record evidence indicate is the appropriate Combined Royalty Rate (defined in n. 6 below) to be used as an input in calculating mechanical royalties,[6] and (relatedly) how do the relative bargaining power of the parties and the "complementary oligopoly" theory affect the proper economic analysis of this question? Third, what would be the impact if the Judges were to adopt the rate structure arrived at in the *Final Determination* but without a True Total Content Cost (TCC) prong?[7]

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[3] *Additional Materials Order* at 2. The *Additional Materials Order* also asks the parties to provide further input on the definition of "Service Revenue" as it relates to bundled offerings. *Id.* My assignment is limited to input on the rates and rate structures.

[4] *Clarification Order* at 9.

[5] U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Final Determination*, Docket No. 16-CRB-0003-PR (2018-2022) (November 5, 2018) (hereafter "*Final Determination*"); *see also* U.S. Copyright Royalty Judges, *In the Matter of Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), Order Regarding Proceedings on Remand,* Docket No. 16-CRB-0003-PR (2018 – 2022) (Remand) (December 15, 2020) (hereafter "*Remand Order*").

[6] The Combined Royalty Rate is the "combined sound recording and musical work royalties as percentage of revenues." *See* Eisenach RWRT at ¶6. *See also Final Determination* at 65. This is equivalent to "1.00… - the record companies' assumed concession of royalty revenue required for the Services' survival," as described in the *Additional Materials Order*. See *Additional Materials Order* at 3, Point 7.

[7] As in my remand rebuttal testimony, I refer to the "greater of" TCC prong adopted in the Final Determination as a "True TCC prong," reflecting that its operation is not "capped" by a lower all-in per-subscriber rate.

4. While I am aware that there are legal and procedural objections to the Working Proposal and related issues, my opinions address the substantive economic topics described herein without regard to legal context and procedure.

5. In forming my views, I have relied upon the materials cited in this testimony and set forth at Appendix A to this report.

B. Summary of Findings and Opinions

6. My primary findings and opinions include the following:[8]

- The methodology for determining mechanical royalties embodied in the Working Proposal requires adjustment in order to be consistent with the analytical framework and findings of the *Final Determination*. As explained in the *Additional Materials Order* and clarified in the *Clarification Order*, the Working Proposal would establish a percentage of revenue rate based on the *Final Determination's* TCC rate of 26.2 percent. However, as I explain, the *Final Determination's* 26.2 percent TCC rate was itself derived based on the Board's determination – grounded in the Shapley analyses of Professor Gans and Professor Marx – of a 15.1 percent of revenue rate. Absent that determination there is no basis in the *Final Determination* for a TCC rate of 26.2 percent. Thus, the 26.2 percent TCC rate cannot properly serve as the starting point for a *de novo* calculation of a percentage of revenue rate.

- The Working Proposal should be adjusted to utilize the 2.5:1 ratio of sound recording to musical work royalties that was adopted in the *Final Determination* based upon Shapley analysis. This would produce a common formula equivalent to, and consistent with, the *Final Determination* formula.

- The evidence supports the Judges' determination in the *Additional Materials Order* that the Combined Royalty Rate utilized in the *Final Determination* to establish the mechanical royalty rate (▇ percent) is unreasonably low. Specifically, the record provides reasonable benchmarks for the Combined Royalty Rate of between ▇ and ▇ percent. Applying these percentages to the formula in the *Final Determination* (which is equivalent to the Working Proposal once it is corrected to apply a 2.5:1 sound recording to musical work ratio), implies a percentage of revenue rate of between ▇ and ▇ percent, which would be a reasonable rate that is consistent with the 801(b) factors.

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[8] The summary below is not intended to be comprehensive; the full range of my findings is as expressed in the body of this testimony.

- This range is also consistent with an economically proper understanding of the role of complementary oligopoly power and the relative bargaining power of the Services and the record labels.

- Removing the TCC prong from the rate structure would significantly reduce protection against revenue deferral, displacement and mismeasurement. The precise impact on royalties over the five-year rate period would depend on the specific final rates and terms, but the effect would likely [redacted]. Removing just the TCC prong from the Final Determination rates and terms would cause the loss of approximately [redacted] from just the four Services.

7. These findings and opinions are based on information available to me at the time this Testimony was submitted; I reserve the right to modify or expand upon my analysis and opinions if additional evidence becomes available.

C. Structure of this Report

8. The remainder of this report is organized as follows. In Section II, I explain why the methodology for determining mechanical royalties embodied in the Working Proposal requires adjustment in order to be consistent with the analytical framework and findings of the *Final Determination*. Section III presents my analysis and opinions relating to the correct Combined Royalty Rate percentage that should be used to calculate the mechanical royalty percentage of revenue rate. Section IV addresses the impact of removing the True TCC prong. Section V presents a brief conclusion.

II. THE WORKING PROPOSAL'S METHODOLOGY FOR DETERMINING MECHANICAL ROYALTIES REQUIRES ADJUSTMENT IN ORDER TO BE CONSISTENT WITH THE EVIDENCE AND WITH THE FINAL DETERMINATION

9. In this section, I explain why the methodology for determining mechanical royalties embodied in the Working Proposal requires adjustment in order to be consistent with the evidence compiled in both the original hearing and these remand proceedings, and with the reasoning in the *Final Determination*. In the first subsection, I explain how the Board arrived at its determination of a 15.1 percent percentage of revenue rate based on the Shapley analyses of Professor Gans and

Professor Marx, and how the 26.2 percent adjusted TCC rate was then derived using the 15.1 percent percentage of revenue rate as an essential input. In the second subsection, I explain specifically why the approach embodied in the Working Proposal is inconsistent with the findings of the *Final Determination* and the statutory criteria.

A. The 26.2 Percent Adjusted TCC Rate in the Final Determination Is Derived Using the 15.1 Percent of Revenue Rate as an Input

10. In this subsection, I explain that the analytical framework used by the Board to arrive at the percent-of-revenue and TCC royalty rates in the *Final Determination* can be properly understood as consisting of the following process:

- Determine an appropriate ratio of sound recording royalties to musical works royalties (2.5:1).
- Determine an appropriate Combined Royalty Rate (▇ percent).
- Apply the sound recording to musical works royalty ratio to the Combined Royalty Rate to arrive at a percent of revenue rate for musical works royalties (*i.e.*, ▇▇▇▇▇ ▇▇▇▇▇ = 15.1 percent).
- Adjust the TCC rate to correspond to the 15.1 percent of revenue rate in the marketplace, such that musical works royalties paid under the TCC prong would be equal to the royalties paid under the percentage of revenue prong, given then-current combined royalties in the marketplace (*i.e.*, ▇▇▇ percent / (▇▇▇ percent – ▇▇▇ percent) = 26.2 percent).

11. In the four subsections below, I briefly describe the evidence and analysis utilized by the Judges in each step.

1. Determine an Appropriate Ratio of Sound Recording Royalties to Musical Works Royalties

12. The Judges considered estimates of the appropriate ratio of sound recording to musical works rates from Professor Watt (▇▇▇), Professor Gans (2.5:1) and Professor Marx (▇▇▇).[9] The

[9] *Final Determination* at 62-71.

Final Determination found Professor Gans' estimates to be "reasonable" and "informative,"[10] and ultimately relied upon Professor Gans' 2.5:1 ratio to calculate the percentage of revenue rate.[11]

2. Determine the Appropriate Combined Royalty Rate

13. To determine the appropriate Combined Royalty Rate, the Judges considered evidence from the Shapley models of Professors Marx and Watt.[12] Professor Marx's model showed Combined Royalty Rates of between [redacted] percent and [redacted] percent of service revenue, while Professor Watt's model showed combined royalties of between [redacted] percent and [redacted] percent. The Judges found that "the total royalty values produced by Professor Marx's models understate what would be a fair allocation of surplus to the upstream content providers. Consequently, the Judges view Professor Marx's top value for total royalties ([redacted]%) to constitute a lower bound for total royalties in computing a royalty rate," but ultimately relied on Professor Marx's [redacted] percent value for their calculation.[13]

3. Calculate the Percent of Revenue Rate by Applying the Ratio to the Combined Royalty Rate

14. The third step in the process was to determine the all-in musical works percent of revenue rate prong of 15.1 percent. The *Final Determination* includes a table which presents the full range of implied rates based on sound recording to musical work ratios and combined royalty rates and

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[10] *Final Determination* at 70; see also *Johnson v. Copyright Royalty Bd.*, 969 F.3d 363 (D.C. Cir. 2020) at 43 ("When it came to the expert evidence on which the Board chose to rely – the 'ratio of sound recording to musical work royalties that * * * Gans derived from his analysis' – the Board specifically found that aspect of Gans' analysis to be reasonable and 'informative.'… That type of line-drawing and reasoned weighting of the evidence falls squarely within the Board's wheelhouse as an expert administrative agency.").

[11] *Final Determination* at 87 ("The Judges have determined a rate that is computed based on the highest value of overall royalties predicted by Professor Marx's model and the ratio of sound recording to musical work royalties determined by Professor Gans's analysis.").

[12] The judges distinguished the Shapley-based Combined Royalty Rate evidence from the actual combined royalties paid by the services, which they determined "is inflated both by the existence of complementary oligopoly conditions in the market for sound recordings and what Professor Watt describes as the record companies' ability to obtain most of the available surplus due to the music publishers' absence from the bargaining table." *Final Determination* at 73.

[13] *Final Determination* at 75. *See also Final Determination* at 87.

a second table which presents a narrower range based on "reference to the strength of evidence supporting the numbers underlying those rates."[14] Both tables are reproduced below.

FIGURE 1:

[redacted]

15. As indicated by the yellow highlights and the red circles, the percentage of revenue rate chosen by the majority of 15.1 percent corresponded to Professor Gans' 2.5:1 sound recording to musical works ratio (which is equivalent to a TCC rate of 40 percent) and Professor Marx' [redacted] percent Combined Royalty Rate.[15]

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[14] *Final Determination* at 75.

[15] *Final Determination* at 75; see also *Johnson v. Copyright Royalty Bd.*, 969 F.3d 363 (D.C. Cir. 2020) at 42 ("The Board ultimately settled on the revenue rate of 15.1% 'based on the highest value of overall royalties predicted by Professor Marx's model and the ratio of sound recording to musical work royalties determined by * * * Gans's analysis.'"). The *Final Determination* used the formula $R_{mw} = R_t \div (1 + r)$ "where R_{mw} is the musical work royalty rate, R_t is the combined royalty rate for musical works and sound recordings, and r is the ratio of sound recording to musical work royalties." See *Final Determination* at 72, n. 130. Applying the figures above to this formula results in $R_{mw} = 0.1514$:

$$R_{mw} = \text{[redacted]} \approx 0.151$$

4. Adjust the TCC Rate to Correspond to the 15.1 Percent Percentage of Revenue Rate Under Then-Current Market Conditions

16. In its discussion of deriving rates, the Board noted a concern with "importing complementary oligopoly profits into the musical works rate through a TCC percentage."[16] The concern was that if the sound recording rate was improperly inflated by complementary oligopoly conditions, then the TCC rate could pass through that improper inflation to the musical work rate. The Board concluded that this problem "can be avoided by reducing the TCC percentage"[17] from the 40 percent implied by Professor Gans' 2.5:1 ratio. Specifically, the Judges concluded that "the TCC percentage should be reduced to a level that produces the same (non-complementary-oligopoly) percentage revenue rate when applied to the existing [redacted]% combined royalty as the Shapley-produced TCC percentage yields when applied to the theoretical combined royalties in the model."[18]

17. To make this correction, the *Final Determination* uses the following formula:

$$TCC = 1 \div ((R_t/R_{mw}) - 1)$$

"where R_t is the combined royalty rate in the marketplace ([redacted]%), and R_{mw} is the musical work royalty rate yielded by the Shapley value analysis."[19] The formula states that the adjusted TCC rate should be the inverse of the ratio of actual royalty rates in the market to the musical works rate calculated based on the Shapley analyses (15.14 percent), minus one. As it turns out, [redacted]

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[16] *Final Determination* at 73.

[17] *Final Determination* at 73.

[18] *Final Determination* at 73. The "existing" combined royalty rate of [redacted] percent [redacted] "actual combined royalties for musical works and sound recordings" as a percentage of revenue.

[19] *Final Determination* at 73, n. 135.

percent divided by 15.14 percent equals [redacted] equals 26.2 percent.[20]

18. As I explain in the following section, the important point for the present purpose is that the 26.2 percent TCC rate is derived from the 15.1 percent percentage of revenue rate, not the other way around.

B. Substituting the Adjusted TCC Rate Ratio Would Make the Working Proposal's Methodology for Determining a Percentage of Revenue Rate Inconsistent with the Final Determination

19. In the *Additional Materials Order* the Judges put forward a potential approach to calculating a percentage of revenue rate that they are considering adopting in place of the method used to calculate the percentage of revenue rate in the *Final Determination*. The *Additional Materials Order* explains that the Working Proposal would begin by adopting "the Shapley Value allocations the Majority determined previously," and states that "the [sound recording to musical works royalty] ratio adopted by the Majority in the determination under review was 3.82:1, reflecting a TCC rate of 26.2%."[21]

20. As shown above, no Shapley analysis generated a 3.82:1 ratio of sound recording to musical work royalties. To the contrary, as shown in the figure from page 75 of the *Final Determination* which I reproduced above, the Shapley analysis ratios the Board identified ranged from [redacted], and the Board selected 2.5:1. Figure 2 juxtaposes this Working Proposal assumption with the analysis in the *Final Determination*, showing that the Working Proposal

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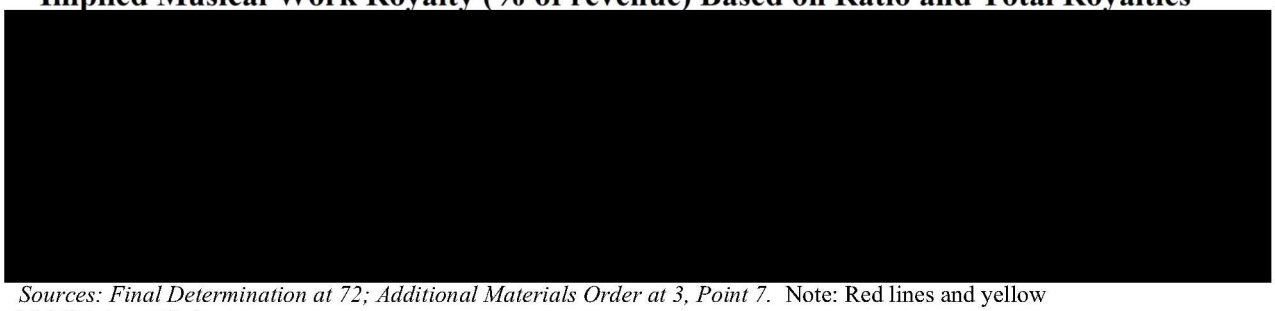
[20] One way of comprehending the intuition here is to note that 26.2 percent times the sound recording royalty percentage implied by a [redacted] percent actual combined royalty rate and a 15.1 musical works rate (that is, [redacted]) also equals 15.1 percent of revenues. Thus, the effect of the 26.2 percent TCC rate is to equate the royalties musical works holders would get from the TCC prong to the royalties they would get from the percentage of revenue prong, assuming that actual combined royalties are [redacted] percent. Thus, if percentage of revenue royalties were to fall below 26.2 percent of sound recording royalties, the True TCC prong would kick in and serve, as intended, as a floor on musical works royalties.

[21] *Additional Materials Order* at 2.

would effectively add a new row to the Board's table, showing a 3.82:1 ratio which is not within the range of Shapley analysis-based ratios considered by the Judges in the *Final Determination*.[22]

FIGURE 2:
COMPARISON OF WORKING PROPOSAL RATIO
WITH SHAPLEY RATIO TABLE FROM *FINAL DETERMINATION*
Implied Musical Work Royalty (% of revenue) Based on Ratio and Total Royalties[130]



Sources: Final Determination at 72; Additional Materials Order at 3, Point 7. Note: Red lines and yellow highlighting added.

21. Given that the 3.82:1 ratio comes from the 26.2 percent TCC rate, which is generated by the 15.1 percent percentage of revenue rate, as an economic matter, there is no basis for using it in place of the 2.5:1 ratio established by the Judges in the *Final Determination* to generate a new percent of revenue rate.

22. when used with the 2.5:1 Shapley ratio, the Working Proposal is consistent with the *Final Determination*. The Working Proposal's formula is arithmetically identical to the formula used to calculate the 15.1 percent percentage of revenue rate in the *Final Determination*, except that it uses a 3.82:1 ratio instead of 2.5:1 and a not-yet-determined Combined Royalty Rate instead of Professor Marx's [redacted] percent.[23]

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[22] For these reasons, a Working Proposal that utilizes a 3.82:1 ratio would also likely be inconsistent with the 801(b) Factors B and C. *See* 17 U.S.C. § 801(b)(1)(A)-(D) (2017). As the Judges indicated, the parties' economic experts agreed on the propriety of evaluating Factors B and C through Shapley analysis. *See Final Determination* at 86. While a proposal cannot be fully evaluated under the 801(b) factors without knowing the details of the rate structure, rates and terms, the use of a share ratio that was not consistent with the Shapley analyses would not support the *Final Determination's* findings with respect to Factors B and C.

[23] The Working Proposal uses the formula $x + 0.262x = 0.68$, where x is the sound recording rate, $0.262x$ is the musical work rate, and 0.68 is a hypothetical Combined Royalty Rate ("calculated as 1.00 [all the royalty revenue] - .32 [the record companies' assumed concession of royalty revenue required for the Services' survival]"). This formula simplifies and generalizes to a sound recording rate x = Combined Royalty Rate / 1.262, and a musical work

III. THE RECORD SUPPORTS THE USE OF A COMBINED ROYALTY RATE HIGHER THAN [redacted] PERCENT

23. In the *Additional Materials Order*, the Judges explain that they have determined not to rely on the [redacted] percent Combined Royalty Rate from Dr. Marx's Shapley analysis and seek input from the parties on the appropriate rates to use instead.[24] They note that "the extant record contains evidence and testimony that may support a range of various potential findings as to the percent of royalties the Majors allow the interactive service sector to retain," which they conclude "is a market-derived data point."[25] They also "invite[] the parties…to reference particular percentages in the record and explain, through witnesses and/or argument, as appropriate, why they believe those particular percentages are appropriate or inappropriate for use in this regard."[26] Further, they ask parties to address specifically "how the record companies' complementary oligopoly power should or should not affect the Judges' consideration of the rates and rate structure."[27]

24. The first subsection below presents my assessment of record benchmark evidence relating to the Combined Royalty Rate. The second subsection explains why in my opinion it is not appropriate to reduce royalty rates to correct for "complementary oligopoly power" (or any other form of record company market power), and why it would therefore be economically appropriate

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rate = 0.262x = 0.262 × (Combined Royalty Rate / 1.262). *See Additional Materials Order* at 3, Point 7. The *Final Determination* used the formula $R_{mw} = R_t \div (1 + r)$ "where R_{mw} is the musical work royalty rate, R_t is the combined royalty rate for musical works and sound recordings, and r is the ratio of sound recording to musical work royalties." *See Final Determination* at 72, n. 130. Because 0.262 is simply the inverse of the 3.82:1 ratio, it can be represented as 1 / 3.82, which is 1 / r in the notation of the *Final Determination*. Using this notation and representing the musical works rate as R_{mw} and the Combined Royalty Rate as R_t, as in the *Final Determination*, the Working Proposal formula is $R_{mw} = \frac{1}{r} \times \frac{R_t}{1+\frac{1}{r}} = \frac{R_t}{r+\frac{r}{r}} = \frac{R_t}{1+r} = R_t \div (1 + r)$. Therefore, the formulas for the musical work rate in the Working Proposal and *Final Determination* are equivalent with the exception of the inputs for the sound recording to musical work ratio and Combined Royalty Rate.

[24] *Additional Materials Order* at 2, Point 2, n. 2 and 3, n. 5.

[25] *Additional Materials Order* at 2, Point 3.

[26] *Additional Materials Order* at 2, n. 2.

[27] *Additional Materials Order* at 2, Point 2.

for the Judges to adjust both the percentage of revenue rate and the TCC rate upwards based on a Combined Royalty Rate reflective of the actual marketplace.

A. Record Evidence Reflects Combined Royalty Rates of More Than 70 Percent

25. The Additional Materials Order states that:

> [T]he Judges do not find it appropriate to include in their analysis Professor Marx's assumption that the Services should retain 47% of the revenue generated by streaming, and the mechanical works royalty rate in the Judges' contemplated approach accordingly is higher than under Professor Marx's approach.)[28]

26. The Services retaining 47 percent of revenue corresponds to Professor Marx's theoretical [redacted] percent Combined Royalty Rate, which, as described above, was an input into the formula that calculated the 15.1 percent of revenue rate. Therefore, as noted in the *Additional Materials Order*, any decrease in the percentage of revenue retained by the Services below 47 percent, and hence any increase in the Combined Royalty Rate above [redacted] percent, will result in a higher musical works royalty rate. Further, for the reasons I explained above, the impact of a higher Combined Royalty Rate should be calculated by applying the formula used in both *Final Determination* and the *Additional Materials Order*[29] based on the *Final Determination's* finding of a 2.5:1 sound recording to musical works ratio.

27. In my direct and rebuttal testimony, I observed that the industry standard split of revenues between rightsholders and Services is approximately 70/30, with 70 percent going to rightsholders

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[28] *Additional Materials Order* at 3, n. 5.

[29] As I explained above, the two formulas are mathematically identical.

and 30 percent being retained by Services.[30] For example, as noted in my rebuttal testimony,[31] Spotify's general counsel Horacio Gutierrez has confirmed publicly that Spotify pays a Combined Royalty Rate of over 70 percent, and stated explicitly that this is "as it should be":

> Most people do not realize that over 70% of all the revenue Spotify generates goes back to the creative community that owns the right to the music content that we distribute through our service; artists, songwriters, record labels, publishers. That's as it should be.[32]

28. The record evidence supports Mr. Gutierrez's statement, showing that Spotify's historical Combined Royalty Rate is [redacted] percent; indeed, as explained above, [redacted].

29. Similarly, when Apple Music launched, Apple announced that it would pay 71.5 percent of revenue to rightsholders, implying that Apple would retain 28.5 percent.[33]

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[30] Eisenach WDT at ¶¶168, 171 ("I note that it is accepted, and indeed publicly proclaimed by some services, that services pay approximately 70 percent of revenue to rightsholders – which in the case of interactive streaming means simply two groups: publishers/songwriters and labels.... [T]he industry standard [is] that approximately 70 percent of service revenue is allocated to rightsholders."); Eisenach WRT at ¶79 ("Further evidence that the rates found in the interactive streaming agreements for sound recordings are not artificially high due to the lack of effective competition among the record companies comes from the fact that interactive streaming services, such as Spotify, enjoy a standard split of revenues – roughly 70/30 in favor of copyright owners."). *See also Clarification Order* at 9 ("Copyright Owners seek information regarding the evidentiary source of any such actual percentage divisions of revenue between interactive services, on the one hand, and both classes of copyright holders, on the other. In response, the Judges first note that one of Copyright Owners' expert economic witnesses, Dr. Jeffrey Eisenach, testified that '[t]he industry standard [is] that approximately 70% of service revenue is allocated to rightsholders ....' Trial Ex. 3027 ¶ 171 (Eisenach WDT). Again, arithmetically, that would mean the 'industry standard' per Dr. Eisenach is that 30% of the revenue generated by interactive streaming would be retained by the interactive services (rather than the 32% hypothetical figure in the Working Proposal). *See also* Trial Ex. 3033 ¶ 79 (Eisenach WRT) ('interactive streaming services, such as Spotify, enjoy a standard split of revenues — roughly 70/30 in favor of copyright owners').").

[31] Eisenach WRT at ¶79.

[32] Hearing Exhibit 2745, Loren Shokes, *Interview with Spotify General Counsel Horatio Gutierrez*, Harvard Journal on Sports & Entertainment Law (Dec. 19, 2016), http://harvardjsel.com/2016/12/interview-with-spotify-general-counsel-horacio-gutierrez/.

[33] Eisenach WDT at ¶168 ("At the time of the launch of Apple Music, Apple stated that it will pay 71.5 percent of its streaming revenues to rightsholders in the United States.") (citing Hearing Exhibit 2835, Paul Resnikoff, "Apple Responds: 'We Pay 71.5 Percent of Streaming Revenue Back to Artists...'," *Digital Music News* (June 15, 2015) (*available at* http://www.digitalmusicnews.com/2015/06/15/apple-responds-we-pay-71-5-percent-of-streaming-revenue-back-to-artists/) (last accessed Oct. 12, 2016); Hearing Exhibit 2839, Sai Saichin R, "Apple to Pay 70 Percent of Music Subscription Revenue to Labels, Publishers," *Reuters* (June 15, 2015) (*available at* http://www.reuters.com/article/us-apple-music-idUSKBN0OV1VX20150615) (last accessed Oct. 12, 2016).).

30. Moreover, since the time of these statements, the streaming market has grown substantially, meaning that these Services have increased economies of scale, which is associated with lower service costs as a percentage of revenue.[34]

31. In addition to the evidence presented above, my written rebuttal testimony in this Remand proceeding contains an analysis of Combined Royalty Rates paid by the four Services (Amazon, Google, Pandora and Spotify) prior to and during the P3 Rate Activity Period (January 2018 through September 2020). That analysis showed that in 2017, prior to the *Phonorecord III* rates taking effect, these services paid a Combined Royalty Rate of [redacted] percent of revenue and that from 2018 through the end of the P3 Rate Activity Period the Combined Royalty Rate [redacted] percent.[35] This range of a [redacted] percent Combined Royalty Rate corresponds to percentage of revenue rates between [redacted] percent. In my opinion, [redacted] Combined Royalty Rate during the P3 Rate Activity Period should be given less weight or adjusted upwards, for at least two reasons. First, much of [redacted] is endogenous to this rate setting process. In particular, (i) the *Phonorecords III* rates were phased in over five years and so these first years [redacted], and (ii) the student and family plan discount terms [redacted]. Second, as I demonstrated in detail in my RWRT,[36] the extent

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[34] *See, e.g.*, *Final Determination* at 88, n.161

[35] Eisenach RWRT at ¶13.

[36] Eisenach RWRT at ¶¶15-16 ("I do not believe that measuring royalties as a percentage of Service Provider Revenue is a reliable yardstick for fairness or reasonableness from the perspective of copyright owners…. The royalty data I examined contain multiple examples of instances in which changes in royalties measured as a percentage of Service Provider Revenue do not in any meaningful economic sense relate to the level of royalties being paid, but rather to the volitional business practices of the Services regarding discounting and other factors unrelated to the value of the licenses."); Eisenach RWRT at ¶6 ("The evidence also shows that the Services' incentives and ability to engage in revenue deferral, displacement and bundling are increasing, such that the revenues attributable to interactive streaming services continue to understate the contribution of copyrighted material to their profits and enterprise values."); Eisenach RWRT at ¶99 ("The reality and risk of revenue displacement in now omnipresent in an industry where it once was not a primary concern.").

of revenue deferral and displacement engaged in by the Services has increased as the Services have increasingly utilized their music streaming services as a means of acquiring and retaining customers for their growing platform businesses.[37]

32. My rebuttal testimony also provides a robustness check on the appropriateness of using these actual splits between content creators and interactive streaming distributors in the range of "70/30," as shown in the record. I explain that this same general ratio "is found in many other markets in which digital content is distributed to users."[38] For example, I showed that Apple iTunes and Netflix paid 70 percent of revenue to rightsholders, retaining 30 percent, and Hulu paid more than 71.4 percent, retaining less than 28.6 percent.[39] Taken together, this benchmark record

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[37] *See also Final Determination* at 21 ("The Judges find that the record in this proceeding indicates that the Services do seek to engage to some extent in revenue deferral to promote a long-term growth strategy. A long-term strategy that emphasizes scale over current revenue can be rational, especially when a critical input is a quasi-public good. Growth in market share and revenues is not matched by a commensurate increase in the cost of inputs, whose marginal cost of production (reproduction in this context) is zero. It appears to the Judges that the nature of the downstream interactive streaming market and its reliance on scaling for success, results necessarily in a competition for the market rather than simply competition in the market. This competition emphasizes the importance of the dynamic creation of new markets and 'new demand curves,' recognizing that short-term profit or revenue maximization might be inconsistent competing for the market long-term. When the Services pay royalties as a percent of their current revenue, the input suppliers, i.e., Copyright Owners, are likewise deferring some revenue to a later time period and assuming some risk as to the ultimate existence of that future revenue. One way the Copyright Owners could avoid this impact would be to refuse to accept a percent-of-revenue form of payment and move to a fixed per-unit price. Another way would be to establish a pricing structure that provides minima and floors, below which the revenue could not fall."); *Final Determination* at 36 ("Revenue deferral argues against adopting a pure percent-of-revenue rate structure."); U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Dissenting Opinion of Judge David R. Strickler*, Docket No. 16-CRB-0003-PR (2018-2022) (November 5, 2018) (hereafter "*Dissenting Opinion*") at 59-60.

[38] Eisenach WRT at ¶79.

[39] Eisenach WRT at ¶79 ("[I]n its 2016 10-K, Netflix reported total streaming revenues in 2015 of about $6.1 billion (domestic and international) with associated content costs (costs of revenues) of about $4.3 billion, and revenues in 2016 of about $8.3 billion with associated content costs of about $5.8 billion, reflecting a rate, in both years, of approximately 70 percent for content costs. This same split is found in other services, such as Hulu, another popular video streaming service, and it is well known that Apple's agreements with record labels (and app developers) typically give 70 percent of every digital track sale to the rights holders, with 30 percent going to Apple."); Hearing Exhibit 855, Steve Knopper, *The New Economics of the Music Industry*, Rolling Stone (Oct. 25, 2011), http://www.rollingstone.com/music/news/the-new-economics-of-the-music-industry-20111025 ("Apple, as the retailer, keeps 30 percent."); Hearing Exhibit 2820, Jennifer Van Grove, *Embrace the Mushy Mush! Hulu's 2012 Numbers Are a Mixed Bag*, Venture Beat (Dec. 17, 2012), http://venturebeat.com/2012/12/17/hulu-2012/ (showing that Hulu had estimated revenue of just below $700 million in 2012 and "spent more than $500 million on content deals"; $500 million / $700 million = 71.4 percent).

evidence reflects Combined Royalty Rates between 70 percent and [redacted] percent, implying that the Services would retain between [redacted] percent and 30 percent.

33. Table 1 shows the musical work royalty rate as a percent of revenue implied by Combined Royalty Rates found in benchmark record evidence and the 2.5:1 ratio adopted by the Board in the *Final Determination*. The implied musical works rate ranges from [redacted] percent to [redacted] percent.

TABLE 1:

[redacted]

34. Equally important, the existence of revenue deferral and displacement suggest that the Combined Royalty Rate chosen should be at the higher end of the reasonable range of rates.[40] As shown in my remand rebuttal testimony, cases of extreme revenue diminution are not uncommon, including where services have negotiated licenses in the free market that produce royalty rates equivalent to more than [redacted] percent of Service Provider Revenue as defined in 37 CFR Part 385.[41] The reasoned economic conclusion from such service agreements is that Service Provider Revenue does not capture the true economic value of musical rights to the services, as no market actor would agree to pay costs that were in fact [redacted] the economic benefits they receive.

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[40] As discussed further below, the reality of revenue diminution also indicates the importance of having strong alternative rate prongs to ensure delivery of proper royalties, including a True TCC rate prong and usage-based metrics such as per-subscriber and per-play rate prongs.

[41] Eisenach RWRT at Figure 3, ¶¶ 85-89, Figure 19.

B. The Complementary Oligopoly Theory Does Not Support a Lower Rate

35. As noted above, the *Additional Materials Order* specifically seeks input from the parties on "how the record companies' complementary oligopoly power should or should not affect the Judges' consideration of the rates and rate structure."[42] In my opinion, the complementary oligopoly power theory does not provide a useful framework for assessing whether rates paid by the Services are effectively competitive, and should not affect the Judges' consideration of the rates and rate structure.

36. First, as I have noted previously, the market for musical works rights is a bargaining market in which prices and terms are negotiated.[43] The complementary oligopoly theory, on the other hand, is grounded in the assumption of an arms-length market in which sellers are "price setters" and buyers are "price takers." Simply put, the analytical framework that underlies the complementary oligopoly theory does not apply to bargaining markets and is not informative of how to set rates in the market for musical works rights.[44]

37. Second, a careful examination of the metrics that affect the economic reasonableness of negotiated rates in the bargaining market between record labels and services demonstrates that record labels do not currently possess the bargaining power necessary to impose rates that are higher than those that would prevail under effective competition. While it is certainly true that the

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[42] *Additional Materials Order* at 2, Point 2.

[43] Eisenach WRT at ¶76 ("While the workable competition framework can provide useful insights in markets where sellers have market power and buyers are price takers, the more appropriate framework for assessing outcomes in markets – like the markets for many of the potential benchmarks put forward in this proceeding – in which both buyers and sellers have a degree of market power, and where prices are determined through negotiations, is a game-theoretic 'bargaining power' model.").

[44] These issues were also addressed in detail in the Remand Written Rebuttal Testimony of Daniel Spulber. *See* Daniel Spulber, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Remand Written Rebuttal Testimony of Daniel F. Spulber, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (July 2, 2021).

concept of "workable" or "effective" competition is inherently ambiguous, the central concept of "effective competition" is that prices and quantities are sufficiently close to the prices and quantities that would prevail in a competitive market that economic efficiency is not substantially impaired. All of the evidence in this proceeding points to the fact that the market for music streaming is growing rapidly, and, further, demonstrates that the economic returns to music streaming are sufficiently high to generate continuing investment and new entry.[45] Such rates are *prima facie* "effectively competitive."[46]

IV. THE EVIDENCE DOES NOT SUPPORT REMOVING OR "CAPPING" THE TRUE TCC PRONG, WHICH PLAYS AN IMPORTANT ROLE IN DELIVERING FAIR ROYALTIES

38. The *Additional Materials Order* raises the possibility of eliminating the True TCC prong, stating that "the Judges are considering…the elimination of the separate 'greater of' TCC rate prong included in the Final Determination."[47] The True TCC prong plays an important role in

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[45] *See* Eisenach WDT at ¶53 ("The continued entry of new services into the interactive streaming business demonstrates that investors and entrepreneurs expect to earn economic profits – i.e., returns in excess of the risk-adjusted return on capital – from their investments. To be clear, this does not necessarily mean that: (a) these firms are earning accounting profits, which are different from economic profits; (b) these firms are currently earning economic profits or expect to do so in the immediate future; or, (c) all of these firms will earn profits (of any kind). What it does mean is that many investors believe the risk-adjusted expected rate of return exceeds the cost of capital or, in economic terms, that at current and anticipated prices and market conditions – including the rates and terms for acquiring copyright licenses – the digital music streaming business is profitable."); Eisenach WRT at ¶¶83-102.

[46] Recent findings by the Judges in another proceeding supports evolution on this question away from reducing royalties based on theories of complementary oligopoly. In the Web V determination, the Judges found that Spotify had "countervailing power" which "could and did blunt some of the Majors' complementary oligopoly power, [redacted] toward an effectively competitive rate." U.S. Copyright Royalty Judges, *In re Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (Web V)*, *Initial Determination*, Docket No. 19-CRB-0005-WR (2021-2025) (June 11, 2021) at 66 (hereafter, "*Web V*").. Among the Judges' findings was that, "the point of complementary oligopoly power is that a 'Must Have' supplier/licensor [redacted] to its buyers/licensees. And yet, here the Services acknowledge that the Spotify-Major negotiations were marked by a [redacted], as happens in *any* negotiation." *Id.* at 65. *See also id.* at 63 ("Spotify's subscription royalty rate is [redacted] set through the exercise of complementary oligopoly power alone."). While the Judges nevertheless determined to impose a 12 percent "effective competition" adjustment in that proceeding (*Web V* at 67), [redacted] through a "countervailing power offset" (*Web V* at 72), and in either event is far smaller than the [redacted] percent reduction to the percent of revenue rate or the [redacted] percent reduction to the TCC rate implemented by the use of Prof. Marx's [redacted] percent Combined Royalty Rate instead of the [redacted]% actual combined royalty rate in the marketplace.

[47] *Additional Materials Order* at 4, Point 10.

protecting against revenue deferral, displacement and anomalous reporting practices, and thus delivering royalty payments that reasonably reflect the economic contributions of musical works rights to the services. The economic significance of the True TCC prong is highlighted by the amount of royalties that would be lost without its operation, as discussed below.

39. Further, record company contracts [redacted] by comparison to the five-year term of the rates set by the Judges, reflecting the fact that market-based music licensors [redacted] in order to react to the highly dynamic nature of the music marketplace – a reaction that cannot be replicated by the Judges due to statutory limitations. Regulatory lag can have dramatic consequences in a proceeding, such as this, that begins seven years before the end of its rate period. The TCC rate is essential to protecting against that regulatory lag because it adjusts to market changes throughout the term.

40. The record evidence in this proceeding demonstrates that the True TCC prong has performed its function of limiting the unintended consequences of regulatory lag. That is, over the past four years, the TCC rate has *in fact* protected against changes in the marketing and accounting practices of the Services that would have significantly reduced the royalty pool.

41. Specifically, in my remand rebuttal testimony I demonstrated in detail that during the P3 Rate Activity Period the True TCC rate prong "served its intended purpose by protecting Copyright Owners against the Services' revenue diminution strategies as well as from apparently anomalous reporting practices."[48] There, I reviewed monthly royalty statement information from Amazon, Google, Pandora, and Spotify, covering their various offerings and dating from the launch of Section 115 activities by each of them, and assessed the impact of the True TCC prong on the

[48] Eisenach RWRT at ¶68.

royalties paid.[49] For example, as I explained in detail, I found that the True TCC prong was essential in [redacted].[50] My analysis also showed that the True TCC prong played an important role in protecting against anomalous reporting practices, such as [redacted].[51]

42. Importantly, my analysis of the impact of the True TCC prong was not prospective, but rather relied on actual royalty data for the relevant period. Thus, it does not represent conjecture or even an economic forecast, but rather a straightforward comparison of royalties that will actually be paid by the Services if the True TCC prong remains in place versus royalties that will be paid if it does not. By removing the True TCC prong, in other words, the Judges would be directly imposing reductions in royalties caused by revenue deferral, displacement and anomalous reporting, such as and including the specific instances identified in my report.

43. While the royalty protection provided by the True TCC prong is proven in these examples, assessing the overall impact of removing the True TCC prong depends upon the terms around it. In the absence of knowing the final percent of revenue rate, per-subscriber rates, discount plan terms, revenue definitions and more, one cannot calculate with precision what the full impact is of

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[49] *See* Eisenach RWRT at Section III.
[50] Eisenach RWRT at ¶¶69-72.
[51] Eisenach RWRT at ¶¶73-77.

eliminating the TCC prong. However, to provide a baseline for assessment, I examined the scenario of removing only the TCC prong from the *Final Determination* rates and terms, while leaving all other rates and terms in place. I analyze what the impact would be on mechanical royalties across the five-year *Phonorecords III* period. To do this, I rely upon the same dataset used in my remand rebuttal testimony in this matter,[52] which includes the historical royalty data for all four of the Services (and not Apple). I use that historical data to calculate royalty payments for the entire *Phonorecords III* rate period, January 2018 - December 2022 (using historical data to create estimates for the remaining portion of the rate period).[53] Finally, I do the same while dropping the True TCC rate prong from the calculations. The impact is substantial. Removing only the TCC prong while leaving the rest of the *Phonorecords III* rates and terms intact is estimated to reduce musical work royalties by approximately [redacted] from just the four Services.[54] I emphasize that this estimate understates the overall impact, since it applies only to the four Services for which data are available, and omits reductions in royalties due from Apple (and every other service). Again, estimating with precision the overall impact requires knowledge of the full rate structure, rates and terms, but this analysis indicates that the impact of eliminating the TCC prong could be very substantial.

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[52] *See* Copyright Owners' Remand Exhibits A-D; Eisenach RWRT at Appendix C.

[53] I do so by calculating the compounded monthly growth rates for the period September 2019 – September 2020 separately for each market activity measure. I then apply those rates to the most recent month of data available for each offering to calculate monthly activity measures through December 2022. As a robustness check, I performed the same calculation using a more disaggregated forecast methodology which, instead of forecasting market activity growth separately by market activity measure, does so by both market activity measure and by offering type: full, limited, or free/ad-supported. (Full offerings include Amazon Music Unlimited Individual, Family, and Student; Amazon Music Unlimited Bundle; Amazon Music Unlimited Home; Google YouTube SVOD; Pandora Premium; Spotify Premium; Spotify Bundled; and Spotify Non-Portable. Limited offerings include Amazon Cloud Player, Amazon Prime Music, and Pandora Plus. Free/ad-supported offerings include Amazon Ad-Supported Stations Tier, Google YouTube AVOD, Pandora Premium Access, and Spotify Free.) This alternative calculation indicated removal of the TCC prong would reduce royalties over the five-year period by [redacted].

[54] This model includes the mechanical-only per-subscriber rate prongs (the "mechanical floors"), which did not protect against the identified reduction in royalties.

44. Importantly, a multi-prong structure is also economically reasonable. The economic purpose of any negotiated pricing structure is to ensure that the fees actually paid reflect as closely as possible the intention of the parties in agreeing to the bargain. Thus, for example, revenue-based pricing structures are appropriate if the value of the bargain to each party is reasonably reflected in the revenues earned through the use of the input, and if that relationship can be expected to remain steady over time. On the other hand, if the relationship between revenues and value is unstable – for example, if the potential for the buyer to realize complementary benefits is increasing, such that the value of the bargain (to the buyer) could increase without a commensurate growth in cognizable revenues – then the utility of revenues as a proxy for value is diminished. The same logic applies to other potential measures of value, such as the number of customers (or, in this case, subscribers) associated with the downstream product or the amount of the input used (in this case, the number of plays). In such circumstances, the parties may logically agree to structures that incorporate multiple proxies for value in order to reduce the risk that any single proxy will prove unstable – and thus fail to reflect the intended value of the bargain.

V. CONCLUSION

45. For all of the reasons I have explained above, any implementation of the Working Proposal should utilize the 2.5:1 ratio and Combined Royalty Rates in the range of 70 percent or higher, royalty rates should not be reduced on theories about record company market power, and the TCC prong should not be capped or eliminated.

I, Jeffrey A. Eisenach, declare under penalty of perjury that the statements contained herein are true and correct to the best of my knowledge, information and belief. Executed on January 24, 2022 in OAKTON, VIRGINIA.

Jeffrey A. Eisenach

APPENDIX A

Materials Relied Upon

Legal Documents

17 U.S.C. § 801(b)(1)(A)-(D) (2017).

Jeffrey Eisenach, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Written Direct Testimony of Jeffrey Eisenach, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (October 31, 2016).

Jeffrey Eisenach, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Written Rebuttal Testimony of Jeffrey Eisenach, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (February 13, 2017).

Jeffrey Eisenach, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Supplemental Written Rebuttal Testimony of Jeffrey Eisenach, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (March 1, 2017).

Jeffrey Eisenach, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Remand Written Rebuttal Testimony of Jeffrey Eisenach, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (July 2, 2021).

Johnson v. Copyright Royalty Bd., 969 F.3d 363 (D.C. Cir. 2020).

Daniel Spulber, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Remand Written Rebuttal Testimony of Daniel F. Spulber, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (July 2, 2021).

U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Final Determination*, Docket No. 16-CRB-0003-PR (2018-2022) (November 5, 2018).

U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Dissenting Opinion of Judge David R. Strickler*, Docket No. 16-CRB-0003-PR (2018-2022) (November 5, 2018).

U.S. Copyright Royalty Judges, *In the Matter of Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Order Regarding Proceedings on Remand*, Docket No. 16-CRB-0003-PR (2018 – 2022) (Remand) (December 15, 2020).

U.S. Copyright Royalty Judges, *In re Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (Web V)*, *Initial Determination*, Docket No. 19-CRB-0005-WR (2021-2025) (June 11, 2021).

U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Notice and Sua Sponte Order Directing the Parties to Provide Additional Materials*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (December 9, 2021).

U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Order Granting in Part and Denying in Part Copyright Owners' Motion for Reconsideration or, in the Alternative, Clarification*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (January 6, 2022).

News Articles Cited

Paul Resnikoff, "Apple Responds: 'We Pay 71.5 Percent of Streaming Revenue Back to Artists…'," *Digital Music News* (June 15, 2015) (available at http://www.digitalmusicnews.com/2015/06/15/apple-responds-we-pay-71-5-percent-of-streaming-revenue-back-to-artists/).

Sai Saichin, "Apple to Pay 70 Percent of Music Subscription Revenue to Labels, Publishers," *Reuters* (June 15, 2015) (available at http://www.reuters.com/article/us-apple-music-idUSKBN0OV1VX20150615).

APPENDIX E
Jeffrey A. Eisenach, Additional Written Rebuttal Testimony, *Phonorecords III*

PUBLIC VERSION

Before the
COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.

In re	)	
DETERMINATION OF RATES AND TERMS OF MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords III)	)	**Docket No. 16-CRB-0003-PR (2018-2022) (Remand)**

ADDITIONAL WRITTEN REBUTTAL TESTIMONY OF JEFFREY A. EISENACH, PH.D.

Expert Witness for Copyright Owners

February 24, 2022

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COPYRIGHT OWNERS' REMAND EXHIBITS

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Exhibit Z: Amendments to Spot. Rem. Ex. 2 (Agreement between [redacted])
Exhibit AA: Amendments to Spot. Rem. Ex. 3 (Agreement between [redacted])

I. INTRODUCTION AND SUMMARY OF FINDINGS

1. My name is Jeffrey A. Eisenach. I submit this testimony on behalf of the National Music Publishers' Association ("NMPA") and Nashville Songwriters Association International ("NSAI") (together referred to as "Copyright Owners").[1]

A. Assignment

2. I have been asked by counsel for Copyright Owners to review the Written Supplemental Remand Testimony of Dr. Michael L. Katz (Katz WSRT),[2] the Second Supplemental Written Remand Testimony of Dr. Gregory K. Leonard (Leonard SSWRT),[3] and the Written Second Supplemental Remand Testimony of Dr. Leslie M. Marx (Marx WSSRT)[4] (together the Service Experts) and to assess the economic arguments and opinions put forth therein. As with my AWDT, these testimonies from the Service Experts were written in response to the Board's December 9, 2021 order[5] and its January 6, 2022 order,[6] and relate to Board's "Working Proposal" discussed therein.

3. In forming my views, I have relied upon the materials set forth at Appendix A to this report.

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[1] I submitted Written Direct Testimony in the *Phonorecords III* proceeding ("Eisenach WDT") on October 31, 2016, Written Rebuttal Testimony ("Eisenach WRT") on February 13, 2017, Supplemental Written Rebuttal Testimony ("Eisenach SWRT") on March 1, 2017, Written Rebuttal Testimony in this Remand proceeding ("Eisenach RWRT") on July 2, 2021, and Additional Written Direct Testimony ("Eisenach AWDT") on January 24, 2022. My qualifications were detailed in Eisenach RWRT, which also included a copy of my curriculum vitae.

[2] Michael L. Katz, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) ("*Phonorecords III Remand*"), *Written Supplemental Remand Testimony of Michael L. Katz (on Behalf of Pandora Media, LLC)* (January 24, 2022) ("Katz WSRT").

[3] Gregory K. Leonard, *Phonorecords III Remand*, *Second Supplemental Written Remand Testimony of Dr. Gregory K. Leonard* (January 24, 2022) ("Leonard SSWRT").

[4] Leslie M. Marx, *Phonorecords III Remand*, *Written Second Supplemental Remand Testimony of Leslie M. Marx, Ph.D.* (January 24, 2022) ("Marx WSSRT").

[5] U.S. Copyright Royalty Judges, *Phonorecords III Remand*, *Notice and Sua Sponte Order Directing the Parties to Provide Additional Materials* (December 9, 2021) (hereafter "*Additional Materials Order*").

[6] U.S. Copyright Royalty Judges, *Phonorecords III Remand*, *Order Granting in Part and Denying in Part Copyright Owners' Motion for Reconsideration or, in the Alternative, Clarification* (January 6, 2022) (hereafter "*Clarification Order*").

B. Summary of Findings and Structure of This Testimony

4. My primary findings and opinions include the following:[7]

- The Service Experts continue to claim that that the major labels have "complementary oligopoly power" and that rates are above effectively competitive rates, but present no evidence or even argument in support of this position. Their claims are incorrect and are inconsistent with the Judges' finding that sound recording rates are determined by "give and take negotiations" between labels and Services.

- The Service Experts' contentions that the Services are at or near "survival rates" are both incorrect and inconsistent with their argument that sound recording rates will not react to changes in musical work rates (i.e., that there is no "see saw" effect). The Services are not at or near their survival rates, but sound recording rates will nevertheless react to changes in musical works rates.

- The Service Experts present no support for their proposed "market power adjustments," nor do they propose (let alone support) any specific magnitude for such an adjustment.

- The Service Experts present no support for the 3.82:1 sound recording to musical works ratio put forward in the Working Proposal; and, their efforts to justify a still higher ratio are not supported by either economic analysis or the record in this proceeding.

- Professors Marx and Dr. Leonard's proposed combined royalty rate inputs are both unfounded and biased downwards. As I explain in detail, the record supports a combined royalty rate of 70 percent or higher.

- There is no "imbalance problem" and no need for an "imbalance correction." Even if one accepted that an imbalance problem could exist in theory (which I do not), the empirical evidence demonstrates that it does not exist in fact.

- The Service Experts' proposal to return to the *Phonorecords II* rate structure makes no economic sense particularly given the fundamental changes in the music streaming marketplace over the past decade.

- Professor Katz's contention that a rate structure with minimums and floors will result in excessive royalties is exactly wrong; to the contrary, minimums and floors are required to prevent effective rates from falling below appropriate levels given the growing problem of revenue displacement and deferral.

5. The remainder of this testimony is organized as follows. In Section II, I explain why the Service Experts' discussions of market power and survival rates are both erroneous and internally

[7] The summary below is not intended to be comprehensive; the full range of my findings is as expressed in the body of this testimony.

inconsistent. Section III shows that Professor Marx and Dr. Leonard's proposals to use higher sound recording to musical works rates are erroneous. In Section IV, I present my analysis of the combined royalty rate inputs put forward by Professor Marx and Dr. Leonard and show that they are significantly biased downward. Section V addresses the "imbalance problem" and explains why no "correction" is warranted. Section VI addresses the Service Experts' contentions regarding a return to the *Phonorecords II* rates and Dr. Katz's argument regarding the impact of minimums and floors. Section VII presents a brief conclusion.

II. THE SERVICE EXPERTS' DISCUSSIONS OF MARKET POWER AND "SURVIVAL RATES" ARE BOTH ERRONEOUS AND INTERNALLY INCONSISTENT

6. The Service Experts all assert two arguments. First, they reference the theory that Major record labels have "complementary oligopoly power," which would allow them to extract virtually all of the value of the bargain from the Services. Second, they assert that the rates set by the labels are not "survival rates," such that increases in musical works rates must necessarily be reflected in lower sound recording rates (i.e., there is no significant "see saw" effect). Thus, they argue that a "complementary oligopoly correction" should be applied to market-based benchmarks, and also that it should be assumed that any increase in musical works rates will be fully borne by the Services. These two economic arguments are directly in conflict with each other. As I explain in this section, the evidence indicates that the rates negotiated between the labels and the Services reflect a give and take between parties with reasonably balanced bargaining power, and (as the Service Experts sometimes acknowledge) are not "survival rates." Further, because the labels bargain with the Services over the value of the surplus created by their collaboration, and because that value is directly affected by the musical works rate, increases in the musical works rate will be taken into account by the labels and the Services in their negotiations.

A. The Service Experts' Attacks on the Working Proposal Are Inconsistent with the Assumption of Strong Complementary Oligopoly Power

7. The Service Experts present virtually no evidence or even argument to support a contention that sound recording royalties are above effectively competitive rates, preferring instead to invoke

the mantra of "complementary oligopoly power" without any attempt at proof. As I have explained previously, the evidence demonstrates that the Services are not "price takers" but rather engage in negotiations with the record labels.[8] Moreover, as the Judges recognized in *Web V* (based in part on the Services' own admissions), the negotiations are not one-sided affairs in which the labels "dictate terms" and [redacted] which is "not consistent with the one-sided negotiations between complementary oligopolists and their relatively powerless counterparties."[9]

8. Given their heavy reliance on the existence of "complementary oligopoly power" (Professor Katz invokes the term nine times, Dr. Leonard six and Professor Marx eight), the extent to which it has been challenged by both the Judges and by other economic experts, and the Judges' specific request for analysis on whether any such alleged power should affect their analysis,[10] I would have expected the Service Experts to dedicate at least some portion of their testimonies to defending this central assumption. Instead, in the course of their attempts to deny the existence of a strong see saw effect, each of them now downplays its significance. Professor Katz, for example, reiterates his admission that the bargaining power of the labels is attenuated by asymmetric information, which prevents them from even *knowing* how much surplus the Services have to be appropriated, let alone capturing all of it.[11] Dr. Leonard, in the course of criticizing the Working

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[8] See Eisenach AWDT at ¶¶ 35-36; see also Daniel Spulber, *Phonorecords III Remand, Additional Written Direct Testimony of Daniel F. Spulber, Ph.D.* (January 24, 2022); Richard Watt, *Phonorecords III Remand, Additional Written Direct Testimony of Richard Watt (PHD)* (January 24, 2022) at ¶¶ 50-57 (hereafter "Watt AWDT").

[9] U.S. Copyright Royalty Judges, *In re Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (Web V)*, *Initial Determination*, Docket No. 19-CRB-0005-WR (2021-2025) (June 11, 2021) at 64-65.

[10] See *Clarification Order* at 12.

[11] Katz WSRT at ¶19. See also *Phonorecords III Remand*, *Transcript of Videotape Deposition Via Zoom of Michael L. Katz Before the United States Copyright Royalty Judges* (June 8, 2021) at 90 [redacted] Professor Katz also notes that if the labels had sufficient market power to dictate royalty rates, the Services would have no incentive to participate in this proceeding. See Katz WSRT at ¶6.

Proposal's assumption of a strong see-saw effect, explains that the "underpinning" of this assumption is that "the labels have such strong complementary oligopoly power that they can extract from the services all surplus that remains after the services have covered their costs and paid the statutory musical works royalties."[12] Professor Marx also criticizes the rate-setting algorithm in the Working Proposal for assuming that the major labels will "dictate the amount that the services will retain and leave them just enough to survive."[13]

B. The Service Experts' Concerns About Maintaining "Survival Profits" Are Inconsistent with Their Opinions About Weak or Non-Existent "Complementary Oligopoly Power," and with the Economic Evidence

9. In my RWRT, I presented extensive evidence demonstrating that the Services were not only *not* disrupted by the implementation of the *Phonorecords III* rates during rate activity period; to the contrary, rather they prospered.[14] That is, I demonstrated that to the extent the term "survival rate" (introduced by the Services) suggests a condition in which the Services are failing to earn

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[12] Leonard SSWRT at ¶5.

[13] Marx WSSRT at ¶30. In a footnote, Professor Marx asserts that "unregulated negotiations" will not produce rates consistent with the 801(b) factors because of "the consolidation of rights to a large number of individual musical works by a small number of publishers, the must-have nature of their catalogs, their resulting complementary oligopoly power, their connections with major record labels who themselves have must-have catalogs and complementary oligopoly power, and the extensive split-ownership of musical works copyrights, which increases the number of rights holders that have veto power over an individual musical work." Marx WSSRT at ¶21, n. 26. However, she offers no analysis or explanation of how these characteristics translate into bargaining power that would allow the Copyright Owners to demand royalties above effectively competitive rates.

Furthermore, at the hearing, Professor Marx testified that she had not formed an opinion on effective competition in the sound recording market. See *Phonorecords III*, Hearing Transcript (April 7, 2017) at 5646:5-12 ("[redacted]")

As the Judges have also explained, the compilation of repertoires, which substantially reduce transaction costs for the Services, is not a sound basis for reducing royalties. See e.g., Copyright Royalty Board, *Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings (Web IV)*, *Final Determination*, Docket No. 14–CRB–0001–WR (2016–2020), 81 FR 26316, 26368 (May 2, 2016) ("There is absolutely no record evidence to suggest that the market power that a Major enjoys individually by ownership of its collective repertoire is in any sense the consequence of improper activity or that it is being used individually by a Major to diminish competition.")

[14] Eisenach RWRT at Section II.B.

economic returns on their investments, the evidence demonstrates that the royalties they are paying are well below that rate.[15]

10. Despite denying the labels have sufficient "complementary oligopoly power" to extract all of the surplus in negotiations, the Service Experts are not thereby deterred from speculating that royalties may be sufficiently close to survival rates that even a modest increase could cause the Services dire harm, resulting in "less than survival revenue," "industry disruption" and even "exit."[16]

11. These speculations are unpersuasive for a number of reasons, including that they directly conflict with the empirical evidence that the Services are earning healthy returns. Moreover, the Service Experts themselves opine that the labels do not actually have sufficient market power to impose "survival" rates on the Services. Thus, rather than offering an expert economic opinion that the Services are in any way endangered, the Service Experts appear to be engaged in a "what if" exercise based on a predicate they do not actually believe to be correct.[17]

C. The Service Experts' Proposed Market Power "Adjustments" Are Unnecessary and Without Support

12. While providing no economic predicate for making a "market power adjustment" of any magnitude, and despite offering opinions that the labels' bargaining power is so small as to imply a trivial or non-existent see-saw effect, the Service Experts do not hesitate to propose unspecified adjustments designed to "fix" the assumed problem. Their arguments are without merit and their failure even to specify the magnitude of such an adjustment is a tacit admission that there is no economic support for a correction of any size.

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[15] Dr. Leonard asserts that, "the 'survival' level of total royalty rate should be the rate that would allow the services to cover their long-run economic costs, including an appropriate risk-adjusted return on capital employed." Leonard SSWRT at ¶17. This interpretation effectively defines "survival" to be success, and a "survival rate" as something any company should be happy to obtain. The evidence I offered in my RWRT also shows that the Services earn profits at or above this level, including throughout the P3 Rate Activity Period. See Eisenach RWRT at Section II.B.

[16] *See, e.g.*, Katz WSRT at ¶22-23; Leonard SSWRT at ¶6; Marx WSSRT at ¶21.

[17] I also note, as I have previously, that the Services themselves have expressly refused to invoke the "disruption" criterion in these remand proceedings. See Eisenach RWRT at ¶9, n. 16.

13. As a preliminary matter, it is important to recall that the *Final Determination* utilized Shapley-based values to set the percentage of revenue rate, and Shapley methodology abstracts from "must-have" market power.[18] Further, the Judges discounted the TCC rate by [redacted] percent – approximately triple the "adjustment" used in *Web IV* – to address alleged complementary oligopoly power, although no service expert offered any economic proof of a lack of effective competition.[19] Thus, the rates in the *Final Determination* were explicitly designed by the Judges to surpass any "effective competition" standard. The further corrections now proposed by the Service Experts have no economic basis, but appear designed simply to get to lower rates.

14. The lack of economic support for a "market power adjustment" is further demonstrated by the fact that that neither Dr. Leonard nor Professor Marx puts forward a specific proposal for how large such an adjustment ought to be. Rather, each of them merely refers to the [redacted] percent adjustment in the *Web IV* determination and the [redacted] percent (for Spotify) and [redacted] percent (for the other Services) adjustments in *Web V*.[20] Their failure to embrace these (or any other) specific adjustments may be a result of the fact that the Judges have already explained that those cannot be assumed here because they were based on evidence specific to a different market,[21] but it is also

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[18] U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, Docket No. 16-CRB-0003-PR (2018-2022) ("*Phonorecords III*"), *Final Determination* (November 5, 2018) (hereafter "*Final Determination*") at 62-63, 86.

[19] *Final Determination* at 73-75. The *Final Determination* relied upon a 2.5:1 ratio of sound recording to musical works to compute the 15.1 percent percentage of revenue rate. This ratio implies a percentage of TCC rate of [redacted] percent. The *Final Determination* discounted this [redacted] percent percentage of TCC rate by [redacted] percent to 26.2 percent [redacted]. See also Eisenach AWDT at ¶37, n. 46.

[20] See Leonard SSWRT at ¶24 and Marx WSSRT at ¶32.

[21] See *Final Determination* at 54 ("The Judges are reluctant to simply import the 12% rate reduction from *Web IV* into other determinations, even though that figure was used to adjust from interactive streaming rates to noninteractive streaming rates. The specific 12% figure was based on record evidence derived from steering experiments and agreements analyzed in Web IV.") The Judges reached a similar conclusion in their *SDARS III* determination. See Copyright Royalty Board, *Determination of Royalty Rates and Terms for Transmission of Sound Recording by Satellite Radio and "Preexisting" Subscription Services (SDARS III)*, *Final Determination*, Docket No. 16–CRB–0001 SR/PSSR (2018–2022), 83 FR 65210, 65237 (December 19, 2018) ("The Judges cannot simply import the 12% steering adjustment from Web IV into the satellite market; that 12% figure was derived from highly specific evidence presented in Web IV. There is not an adequate basis in the present record to support a finding that the noninteractive market from which that steering adjustment arose is sufficiently similar to the satellite radio market to render reasonable an importation of the 12% steering adjustment here.")

consistent with their ambivalence about the extent of label and service market power revealed in their current testimonies.

III. PROFESSOR MARX AND DR. LEONARD'S EFFORTS TO PROMOTE A HIGHER SOUND RECORDING TO MUSICAL WORKS RATIO IN THE WORKING PROPOSAL ARE BIASED AND UNFOUNDED

15. In my AWDT I explained why the Working Proposal's use of a 3.82:1 sound recording to musical works ratio is contrary to the record evidence and the reasoning of the *Final Determination*, and why the economically appropriate approach is to apply the 2.5:1 ratio established in the *Final Determination*.[22] While the Service Experts sometimes rely upon the 3.82:1 ratio, they offer no economic analysis or support for its adoption.[23] Their failure to do so suggests they share my conclusion that it is not economically supportable based on the record evidence.

16. The arguments of Dr. Leonard and Professor Marx on behalf of an even higher ratio – specifically either the [redacted] ratio based on the "opt-out" rates for Pandora's non-interactive service, or the ratio implied by the Subpart A settlement in both *Phonorecords III* and *Phonorecords IV* – are equally unsupported.[24] Both of these ratios lie [redacted] discussed in the *Final Determination* based upon the evidence at the hearing, yet neither Dr. Leonard nor Professor Marx offers new evidence or provides any economic basis for their opinions: Dr. Leonard simply labels his approach "a superior alternative,"[25] while Professor Marx declares without explanation that the "3.82:1 ratio … should be replaced with a real-world

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[22] Eisenach AWDT at Section II.

[23] Professor Marx refers to the 3.82:1 ratio as having been "identified" in the *Final Determination* but provides no economic support for why it should replace the 2.5:1 ratio the Majority actually applied. See Marx WSSRT at ¶4, n. 6. Furthermore, Professor Marx explains, as I do in my AWDT, that it was Professor Gans' 2.5:1 ratio formed the basis for the 15.1 percent percentage of revenue rate, which, in turn, was used to derive the 26.2 percent percentage of TCC rate – i.e., it was not the 26.2 percent percentage of TCC rate that derived the 15.1 percent percentage of revenue rate. See Marx WSSRT at ¶4, n. 6 ("The 3.82-to-1 ratio is derived by starting with the [redacted] ratio taken from Professor Gans' Shapley-inspired model and then adjusting it so that when the ratio is applied to the assumed all-in royalty rate of [redacted], the resulting musical works rate equals the musical works royalty rate from the Majority's model: 15.1%. The 15.1% was derived by the Majority by multiplying the all-in royalty rate of [redacted]% derived from one Marx Shapley model by the [redacted] ratio used in the Gans Shapley-inspired model."); Eisenach AWDT at Section II.A.

[24] See Leonard SSWRT at ¶¶23-25; Marx WSSRT at ¶¶31-36.

[25] Leonard SSWRT at ¶23.

ratio in which both the numerator and denominator are intended to approximate those that would emerge in an effectively competitive market."[26] Furthermore, neither Dr. Leonard nor Professor Marx explain why, when picking among market-based sound recording to musical works ratios that were considered but ultimately not relied upon by the Board in the *Final Determination*, they choose to consider only the higher ratios while ignoring the lower ones. The only apparent reason is that doing so supports they result they seek to justify.

17. In my opinion, the 2.5:1 ratio established in the *Final Determination* – which is derived from Professor Gans's Shapley analysis – is consistent with both the record evidence and with relevant economic principles. The Service Experts present no sound economic basis for departing from this rationale or from the *Final Determination's* finding that the correct sound recording to musical works ratio is 2.5:1.

IV. PROFESSOR MARX AND DR. LEONARD'S PROPOSED COMBINED ROYALTY RATE INPUTS ARE BIASED AND UNFOUNDED

18. In this section I present my assessment of Professor Marx and Dr. Leonard's arguments relating to the appropriate combined royalty rate to be used in calculating a percentage of revenue rate. As I explain, the rates they propose are biased downwards, which has the effect of unreasonably reducing the implied percentage of revenue rate that emerges from the Working Proposal's rate algorithm.

A. Professor Marx' Recommended Royalty Rate Inputs Are Biased Downwards

19. Professor Marx presents her analysis of the correct royalty rate inputs (i.e., combined royalty rates) in Section III of her report. For the reasons I explain below, her analysis is fundamentally flawed.

1. Professor Marx' Estimate Using Non-Content Costs Is Incorrect

20. One of the pillars of Professor Marx' effort to justify a low Combined Royalty Rate for use in the Working Proposal's algorithm is her assumption that an appropriate measure of Spotify's

[26] Marx WSSRT at ¶31.

non-content costs is [redacted] of revenue, which she bases on a single Spotify spreadsheet of global financial data from Q4 2017, which the Services did not include as an exhibit to any report. Professor Marx proposes using this [redacted] as an estimate of Spotify's "survival rate,"[27] from which she calculates a Combined Royalty Rate of [redacted] (the remainder after subtracting [redacted] from 100 percent).[28] As I explain below, [redacted] is neither an accurate measure of Spotify's non-content costs nor a sound basis for estimating a reasonable Combined Royalty Rate.

21. First, Professor Marx conspicuously ignores available data on Spotify's actual U.S. costs in favor of inferring [redacted] U.S. costs from global data.[29] For Q4 2017, Spotify's actual U.S. non-content costs were [redacted].[30] Based on Professor Marx' analysis, this would imply a Combined Royalty Rate of [redacted], in line with my own estimates.

22. The [redacted] content cost figure implied by the U.S. data for Q4 2017 is also consistent with Spotify's overall global cost data and with Spotify's public statements across the *Phonorecords III* rate period – which, as I explain in the next section, is the appropriate time period for consideration. As I show in Appendix B, publicly available data on Spotify's global costs support my conclusion that Spotify's actual global non-content costs during the *Phonorecords III* rate

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[27] Marx WSSRT at ¶13.

[28] Marx WSSRT at Figure 2.

[29] Professor Marx' decision to rely on global data is notably inconsistent with her contention that Professor Watt's reliance on global data was a "source of unreliability" in his Shapley analysis. See Leslie M. Marx, *Phonorecords III Remand*, *Written Direct Remand Testimony of Leslie M. Marx, PhD* (April 1, 2021) at ¶43 (hereafter "Marx WDRT"). [redacted]. See Watt WRT at ¶33, n. 21 ("[redacted]…."); *Clarification Order* at 10 ("Professor Watt also cites Spotify financial data that he understood to indicate that music services' non-content costs would fall to [redacted]% of 'Service Revenue' during the Phonorecords III rate period.") (cited in Marx WSSRT at ¶10, n. 10).

[30] See SPOTRMND0006752 ([redacted]); CO Rem. Ex. D. [redacted], conversion to USD through X-Rates, *US Dollar per 1 Euro Monthly Average* (available at https://www.x-rates.com/average/?from=EUR&to=USD&amount=1&year=2017).

period are [redacted], which is consistent with my estimates and with the cross-industry standard of 70 percent combined royalties.[31]

23. Further, Spotify openly admits that "profit margin is a managed outcome," meaning that it chooses consciously to defer profitability in order to achieve growth; put differently, Spotify could choose to earn a profit at any time simply by reducing non-content costs (such as marketing, geographic expansion, and investment in features and functionality) or by collecting rather than deferring certain revenues.[32]

24. The upshot of Spotify's "managed outcome/profit deferral" strategy is [redacted]. Indeed, the data on which Professor Marx relies demonstrates precisely this phenomenon, as they show [redacted],[33] implying content and non-content costs together of [redacted]. Yet, just a few months later, in April 2018, Spotify had a successful initial public offering (IPO) which valued the

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[31] Eisenach WDT at ¶¶168, 171; Eisenach WRT at ¶79; *Clarification Order* at 9. While I understand that Spotify did not produce U.S. cost data for the *Phonorecords III* rate period, Spotify's global costs are available through its public filings.

[32] See Eisenach RWRT at ¶50 (citing CO Rem. Ex. I Spotify Q3 2018 Earnings Call (Transcript) (November 1, 2018) at 6 ("If you think back to our commentary during Investor Day, I made two important points. One is **profit margin is a managed outcome**. It's a by-product of the pace we choose to invest in new features and functionality to drive growth. Second point is the three ways to invest in growth, one is marketing, two is geographic expansion, which we're pursuing aggressively, and three is investment in features and functionality….") (emphasis added)). Moreover, as I have previously explained, Spotify has accumulated cash balances [redacted] aggregate U.S. mechanical royalty pools since its inception. *See* Eisenach RWRT at ¶ 46-51; CO Rem Ex. K. Indeed, its most recent reports indicate that cash and cash equivalents increased by $1.812 billion during calendar 2021 (see Spotify Technology S.A., *Shareholder Letter Q4 2021* (February 2, 2022) at 10 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q4/Shareholder-Letter-Q4-2021_FINAL.pdf); X-Rates, *Euro Historical Rates Table: 2021-12-31* (available at https://www.x-rates.com/historical/?from=EUR&amount=1&date=2021-12-31)), which reflects the unreliability of using accounting profits as a measure of economic success Spotify has also incurred significant costs to build its podcasting business. See e.g., Anne Steele, "Spotify Strikes Podcast Deal With Joe Rogan Worth More Than $100 Million," *The Wall Street Journal* (May 19, 2020) (available at https://www.wsj.com/articles/spotify-strikes-exclusive-podcast-deal-with-joe-rogan-11589913814) ("Spotify has spent hundreds of millions of dollars acquiring entire companies, including Gimlet Media and Bill Simmons's the Ringer. The deal with Mr. Rogan is a multiyear licensing agreement for an amount of time that couldn't be learned. It will likely be worth more than $100 million based on milestones and performance metrics, according to the person familiar.").

[33] In Q4 2017, Spotify's global content costs were [redacted] and its global revenue was approximately €1,149,000,000. See SPOTRMND0006751 (cell M13); CO Rem. Ex. J at 8. [redacted] / €1,149,000,000 = [redacted].

company at $26.5 billion, far higher than earlier valuations – indicating investors did not view its short-run accounting profits as a sound economic measure of its value.[34] Therefore, if anything, the accounting data relied upon by Professor Marx points to a Combined Royalty Rate of [redacted], not an inferred rate of [redacted] that ignores Spotify's business model and actual gains.

25. Lastly, the evidence shows that Spotify's non-content costs overstate industry costs, since larger Services like Amazon and Google almost certainly have lower costs than Spotify.[35] For example, in his February 2017 WRT, [redacted].[36] Under Professor Marx' (still flawed) methodology, these suggest Combined Royalty Rates of [redacted],[37] and, using the 2.5:1 ratio, musical works revenue rates of [redacted].[38] Neither Professor Marx nor any other witness disputes the accuracy of these internal Amazon cost estimates.

2. Professor Marx' Results Are Incorrectly Biased Downward by the Use of 2017 Contracts and the Limitation to Headline Rates

26. A central premise of Professor Marx' approach to assessing combined royalty rates is that it is appropriate to rely solely on 2017 data. As she explains:

> Because contracts are long-term and not renegotiated continuously, and because market parameters are constantly moving, even if one thought that a "survival rate" for a service could be derived from observed market rates, one could only rely on observed market rates being close to that service's survival rate at the time that the service's sound recording contract is being negotiated.[39]

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[34] See CO Rem. Ex. J at 2; Chuck Mikolajczak and Stephen Nellis, "Spotify Shares Jump in Record-Setting Direct Listing," *Reuters* (April 3, 2018) (available at https://www.reuters.com/article/us-spotify-ipo/spotify-shares-jump-in-record-setting-direct-listing-idUSKCN1HA12B); Hal R. Varian, *Intermediate Microeconomics with Calculus*, 1st ed. (New York and London: W. W. Norton & Company, 2020) at 370 ("The total stock market value of a firm represents the present value of the stream of profits that the firm is expected to generate.").

[35] See also Watt WRT at ¶33, n. 21.

[36] Watt WRT at ¶33, n. 21 (citing CO Ex. R-24 (AMZN00053095-53106)).

[37] [redacted].

[38] [redacted].

[39] Marx WSSRT at ¶15. Note that Dr. Leonard makes a similar argument. See Leonard SSWRT at ¶¶19-20.

27. Based on this argument, Professor Marx calculates a range of Combined Royalty Rates by adding together all pairwise combinations of the headline and effective "musical works rates at the time of the renegotiations" [redacted], based on *Phonorecords II* rates, and "the sound recording rates that immediately followed" those renegotiations.[40] Doing so, she arrives at a lower bound of [redacted] percent ([redacted]) and an upper of bound [redacted] percent ([redacted]).[41]

28. The first and most obvious problem with this approach is that [redacted] *after* the *Phonorecords III* rates were announced in January 2018 and before the appeal decision was announced in August 2020.[42] That is, the market rates observed during this period are the rates that were in place "at the time the service's sound recording contract [was] being negotiated."

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[40] Marx WSSRT at Figure 2 and ¶¶14-19.

[41] Marx WSSRT at Figure 2.

[42] *Johnson v. Copyright Royalty Bd.*, 969 F.3d 363 (D.C. Cir. 2020). Specifically, [redacted] percent percentage of revenue royalty rate, has been [redacted]. See Spot. Rem. Ex. 1; Exhibit Y. [redacted]. See Spot. Rem. Ex. 3; Exhibit AA. [redacted] See Spot. Rem. Ex. 2; Exhibit Z. Spotify's Global Head of Label and Rights & Clearances Business Affairs Christopher Bonavia confirmed that [redacted]. See Christopher Bonavia, *Phonorecords III Remand*, *Written Direct Remand Testimony of Christopher Bonavia (on Behalf of Spotify USA, Inc.)* (March 31, 2021) at ¶¶17-19 (hereafter "Bonavia WDRT"). [redacted] Horacio Gutierrez, Spotify's general counsel, who as I noted in my written rebuttal testimony and additional written direct testimony, has stated publicly that a Combined Royalty Rate "over 70%" is "as it should be." See Exhibits Y, Z, AA; Eisenach WRT at ¶79; Eisenach AWDT at ¶27 (citing Hearing Exhibit 2745, Loren Shokes, *Interview with Spotify General Counsel Horatio Gutierrez*, Harvard Journal on Sports & Entertainment Law (Dec. 19, 2016), http://harvardjsel.com/2016/12/interview-with-spotifygeneral-counsel-horacio-gutierrez/).

29. A second problem with Professor Marx' approach is that it "focuses primarily" on headline rates, [redacted] and thus further bias her results downward. Her explanation for this approach is that headline rates "capture in a straightforward way what a label was asking for at the time the contract was negotiated."[43]

30. Professor Marx' focus on headline rates is inconsistent with economic theory, [redacted], and inconsistent with her own prior testimony. From an economic perspective, it is reasonable to expect that negotiators will focus on the price actually paid, taking into consideration all of the terms of the contract – that is, the effective rate. From [redacted][44] And, from Professor Marx' (previous) perspective, her argument in her WDRT that [redacted].[45]

31. A more reasonable approach to calculating the Combined Royalty Rates Professor Marx is seeking to estimate would be to add effective label rates to the fully implemented *Phonorecords III* 15.1 percent of revenue musical work rate.[46] Spotify's Benjamin Kung, a Director in Financial Planning & Analysis, testified that Spotify [redacted]

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[43] Marx WSSRT at ¶16.

[44] Bonavia WDRT at ¶12. See also id. at ¶20 ("[redacted]"). See also Kung WDRT at ¶4.

[45] Marx WDRT at ¶¶49-50; Bonavia WDRT at ¶¶17-19. Note that Professor Marx clarified in her deposition testimony that this opinion was [redacted]. See Eisenach RWRT at ¶32, n. 54. In my RWRT, I showed that Professor Marx' claims [redacted] are incorrect. See Eisenach RWRT at ¶¶31-43.

[46] See n. 42, *supra*, explaining that [redacted]. Here I rely on the fully implemented (i.e., 2022) *Phonorecords III* headline rate for musical works royalties because the fully implemented *Phonorecords III* rates have not yet been applied to the Services' royalty pool calculation inputs, so there is no historical data on which to rely for an effective musical works rate under the fully implemented *Phonorecords III* rates.

percent of revenue in 2020.[47] Thus, under Professor Marx' own approach, a more appropriate measure would be to add the [redacted] percent [redacted] to the [redacted] percent musical work rate, which results in a Combined Royalty Rate of [redacted] percent.[48] Applying this rate to the Working Proposal (with the correct 2.5:1 SR/MW ratio) implies a musical works rate of [redacted] percent.[49] Moreover, these [redacted], each of whose witnesses testified to agreeing to sound recording rates of [redacted] percent of revenues after the *Final Determination* issued, implying combined royalty rates of at least [redacted] percent under Professor Marx' approach.[50]

32. Lastly, I note in her discussion of observed combined royalty rates, Professor Marx cites but fails to discuss the 70 percent industry standard benchmark that I discussed in my Written Direct Testimony, which was noted by the Judges in the *Clarification Order*.[51] Her testimony offers no explanation for this omission, but does assert that my finding was "without citation."[52] To the contrary, I provided a factual foundation for this conclusion in both my Direct Report and

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[47] Benjamin Kung, *Phonorecords III Remand*, *Written Direct Remand Testimony of Benjamin Kung (on Behalf of Spotify USA, Inc.)* (March 31, 2021) at ¶8 (hereafter "Kung WDRT"). Prof. Marx' suggestion that [redacted] would not know the effective revenue rate of these deals is unreasonable. See Marx WSSRT at ¶16. [redacted], and the royalty statements under those rates and terms of course reveal the effective royalty rate.

[48] As discussed in my RWRT, the combined royalty rate during the P3 Rate Activity Period was also *lower* than the combined rate during the *Phonorecords II* period, disproving the Services' arguments in their initial remand submission. See Eisenach RWRT at Section II.A.

[49] [redacted].

[50] *See, e.g.,* Rishi Mirchandani, *Phonorecords III Remand*, *Supplemental Testimony of Rishi Mirchandani (on Behalf of Amazon.com Services LLC)* (March 31, 2021) at ¶20; Waleed Diab, *Phonorecords III Remand*, *Written Direct Remand Testimony of Waleed Diab (on Behalf of Google LLC)* (April 1, 2021) at ¶8; George White, *Phonorecords III Remand*, *Written Direct Remand Testimony of George White* (April 1, 2021) at ¶¶18, 21, 24-27.

[51] *Clarification Order* at 9. While Dr. Marx includes the 70 percent benchmark in her summary of rates discussed by in the Board's Orders in Figure 1 of her testimony, she omits it from the "potential alternative inputs" listed in Figure 2. 2

[52] Marx WSSRT at Figure 1.

my Written Rebuttal Testimony.[53] And as I have shown above, Professor Marx' own analysis when appropriately corrected, is consistent with this benchmark.[54]

B. Dr. Leonard's Proposed Combined Royalty Rates Are Unreasonably Biased Downward

33. Dr. Leonard proposes three Combined Royalty Rates as inputs for computing a musical works rate: [redacted] percent, [redacted] percent, and [redacted] percent.[55]

34. The [redacted] percent and [redacted] percent rates are the lower and upper bounds of a range Spotify's former Chief Financial Officer (CFO) Barry McCarthy testified in 2016 would [redacted] assuming Spotify [redacted][56] Mr. McCarthy stated that his assessment was [redacted] and said that it related to [redacted].[57] Thus, the only basis for Dr. Leonard's [redacted] percent and [redacted] percent inputs is five-year-old testimony offered in the context of a rate-setting proceeding [redacted]. Further, Dr. Leonard ignores the fact that this testimony conflicts directly with the public statements of Spotify's former general counsel, Horacio Gutierrez ([redacted]

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[53] Eisenach WDT at ¶168 ("I note that it is accepted, and indeed publicly proclaimed by some services, that services pay approximately 70 percent of revenue to rightsholders – which in the case of interactive streaming means simply two groups: publishers/songwriters and labels. At the time of the launch of Apple Music, Apple stated that it will pay 71.5 percent of its streaming revenues to rightsholders in the United States. Spotify has repeatedly stated that it pays 70 percent of revenues to rightsholders."); see also Eisenach WRT at ¶79 and Eisenach AWDT at ¶33, Table 1 ([redacted]).

[54] Dr. Leonard critiques my observation that 70 percent of revenue is the "industry standard" by arguing that [redacted] Leonard SSWRT at ¶22. As explained above, [redacted] are consistent with the 70 percent benchmark.

[55] Leonard SSWRT at ¶¶17, 20, 26.

[56] Barry McCarthy, *Phonorecords III*, *Written Direct Testimony of Barry McCarthy (on Behalf of Spotify USA Inc.)* (October 31, 2016) at ¶¶28-29 (hereafter "McCarthy WDT"). [redacted], as Mr. McCarthy testified, Spotify's content costs would need to be no more than [redacted].

[57] McCarthy WDT at ¶¶28-29.

[redacted]),[58] who has stated publicly outside the context of litigation that a Combined Royalty Rate "over 70%" is "as it should be."[59]

35. In Appendix B, I present further evidence on Spotify's costs-of-goods sold (COGS) from Spotify's shareholder letters, which shows that Spotify's other COGS as a percentage of revenue has been declining in recent years, providing more room for Spotify to meet its long-term gross margin goals. This evidence is also consistent with the evidence presented in my RWRT, that "Spotify's gross margins were higher during the P3 Rate Activity Period" than in 2016 or 2017, during the *Phonorecords II* rate period.[60] Spotify has also acknowledged that its U.S. margins are even higher.[61]

36. Furthermore, the current CFO of Spotify is Paul Vogel. His prepared remarks for Spotify's Q4 2021 earnings call indicate no concerns about Spotify's long-term gross margins or ability to achieve long-term viability and sustainability due to royalties:

> Looking at our full year 2021 margin of 26.8%, we made meaningful progress relative to the 25.6% we reported in 2020. Full year 2021 did benefit from close to 50 bps of favorable royalty adjustments. However, even excluding this item, GM was still an improvement year on year…. Looking into 2022, we expect a continuation of the favorable Gross Margin trend you saw in 2021 for our underlying business…. as we grow advertising and drive further growth in marketplace contribution…. [I]t is exactly this progress that has given us the conviction to increase our investments in certain areas and gives us confidence that we're on the right path over the long-term.[62]

37. Dr. Leonard's proposed [redacted] percent Combined Royalty Rate has the same basis as Professor Marx' proposed [redacted] percent rate (Spotify's [redacted] plus the 10.5 percent headline *Phonorecords II*

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[58] See Exhibits Y, Z, AA.

[59] See Eisenach WRT at ¶79; Eisenach AWDT at ¶27 (citing Hearing Exhibit 2745, Loren Shokes, *Interview with Spotify General Counsel Horatio Gutierrez*, Harvard Journal on Sports & Entertainment Law (Dec. 19, 2016), http://harvardjsel.com/2016/12/interview-with-spotifygeneral-counsel-horacio-gutierrez/).

[60] Eisenach RWRT at Figure 12 and ¶48.

[61] Eisenach RWRT at ¶48 (citing CO Rem. Ex. I Spotify 2018 Q2 Earnings Call (Transcript) (July 26, 2018).

[62] Spotify, *Q4 2021 Earnings Call Prepared Remarks* (February 2, 2022) at 3 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q4/Q421-Earnings-Remarks.pdf). Professor Marx did not consider Mr. McCarthy's [redacted] as a potential Combined Royalty Rate input (perhaps because it is not consistent with the reality of Spotify's financial situation, as described by its current CFO, Mr. Vogel).

rate). For the reasons discussed above with respect to Professor Marx' testimony, a Combined Royalty Rate of at least [redacted] and the 15.1 percent *Phonorecords III* rate for 2022, [redacted] would be more correct, though this figure still [redacted].[63]

V. PROFESSOR MARX' PROPOSED IMBALANCE CORRECTION LACKS EITHER THEORETICAL OR EMPIRICAL SUPPORT

38. Professor Marx also asserts that there is an "imbalance problem" with how revenue is allocated to the Services and Copyright Owners under both the *Final Determination* and the Working Proposal.[64] The supposed "problem" is that the musical works rate set by the *Final Determination* and Working Proposal provides for the Copyright Owners to receive a certain allocation of revenue, but the Services are not guaranteed a certain allocation of revenue because the Services' final allocation also depends on the royalty rate paid to the labels (as well as all of the other decisions that the Services make regarding their costs, pricing and business models).[65] As I explain below, there are at least two problems with Professor Marx' proposed correction. First, the asserted problem is founded on the premise that the labels extract "unfair" rates based on their complementary oligopoly power. Second, Professor Marx' assertion that the Judges determined that the Services "deserve" [redacted] percent of revenues is incorrect.

A. There Is No Imbalance Problem to Correct

39. The underlying premise behind Professor Marx alleged imbalance problem is that the labels are able to extract royalties in excess of the effectively competitive rate, leaving the Services and Copyright Owners to divide up an "unfairly" reduced pie.[66] For the reasons I have explained

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[63] [redacted].

[64] Marx WSSRT at ¶¶25-29; Marx WDRT at ¶¶57-63; Professors Katz and Leonard make similar assertions. See e.g., Katz WSRT at ¶8, Leonard SSWRT at ¶¶10-12.

[65] Marx WSSRT at ¶¶25-29.

[66] Marx WSSRT at ¶26 ("Given that the supracompetitive rates charged by sound recording rights holders exceed [redacted]% (the residual available after [redacted]% is allocated to interactive streaming services and [redacted]% to musical works rights holders), a problem with simply allocating [redacted]% to the interactive streaming services is that musical works rights holders would receive less than their 'fair' return; analogously, simply allocating [redacted]% to the musical works rights holders would leave the Services with less than their 'fair' return").

above, the Service Experts have failed to produce any economic support for this premise, even after the Judges specifically asked for such evidence in the *Additional Materials Order*. Furthermore, as I noted, Professor Marx explicitly disclaimed having reached any conclusions about whether label rates are effectively competitive in her trial testimony.

40. To the extent Service Experts claim that rates need to be adjusted downwards to reflect the "retroactive" nature of this proceeding, they are also incorrect.[67] As I explained above, the sound recording royalties currently being paid [redacted] to the issuance of the *Final Determination* and [redacted] based on that finding.

B. Professor Marx Errs by Relying on a [redacted] Percent Combined Royalty Rate

41. Professor Marx' proposed methodology for "correcting" the non-existent imbalance problem is premised on the assumption that the Judges determined that the Services should retain [redacted] percent of revenues.[68] This assumption is incorrect for at least three reasons.

42. First, as the *Additional Materials Order* explicitly states, "the Judges do not find it appropriate to include in their analysis Professor Marx' assumption that the Services should retain [redacted]% of the revenue generated by streaming."[69] As I explained in my AWDT, I agree with this conclusion, as Professor Marx' analysis leading to [redacted] percent combined royalties fundamentally conflicts with the market evidence as well as proper Shapley analysis.[70]

43. Furthermore, contrary to Professor Marx' claims, the Board's finding in the *Final Determination* does not "include[] a 'fair' return to the Services of [redacted]%."[71] The portion of the *Final Determination* cited by Professor Marx to support this claim only refers to the rates derived from the [redacted] percent Combined Royalty Rate and Professor Gans's 2.5:1 ratio of sound recording

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[67] Katz WSRT ¶¶3, 6; Leonard SSWRT at ¶¶13-14; Marx WSSRT at ¶9.

[68] Marx WSSRT at ¶¶25-29, Figure 3.

[69] *Additional Materials Order* at 3, n. 5.

[70] Eisenach AWDT at Section III; see also Joshua Gans, *Phonorecords III*, *Written Rebuttal Testimony of Joshua Gans on Behalf of Copyright Owners* (February 13, 2017); Richard Watt, *Phonorecords III*, *Written Rebuttal Testimony of Richard Watt (Ph.D.) on Behalf of the National Music Publishers' Association and the Nashville Songwriters Association International)* (February 13, 2017) (hereafter "Watt WRT").

[71] Marx WSSRT at ¶25.

to musical work royalties (i.e., 15.1 percent of revenue and 26.2 percent of TCC) as "fair."[72] In fact, the reason why the Board considered the "top value" of Professor Marx' range of Combined Royalty Rates of [redacted] percent to be "a lower bound for total royalties in computing a royalty rate," is because they found that "the total royalty values produced by Professor Marx' models understate what would be a fair allocation of surplus to upstream content providers."[73] As is evident in the calculation of the 26.2 percent of TCC rate, the Board was well aware that the actual Combined Royalty Rate in their analysis was far higher than [redacted] percent, and they relied on [redacted] percent actual Combined Royalty Rate in their adjusted TCC rate derivation,[74] which implies an allocation to the Services of [redacted] percent ([redacted]).

44. Third, in the *Final Determination*, the Judges also considered the lowest Combined Royalty Rate from Professor Watt's Shapley model, which was [redacted] percent.[75] If the [redacted] percent Combined Royalty Rate is used in place of [redacted] percent in Professor Marx' formulas, leaving her other assumptions in place, the resulting musical works rate ("corrected for the imbalance problem") is between [redacted] 15.1 percent set established in the *Final Determination*.[76] Indeed, in order for Professor Marx' flawed "imbalance correction" to yield a rate below 15.1 percent, one would need to assume a Combined Royalty

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[72] *Final Determination* at 87.

[73] *Final Determination* at 75; Eisenach AWDT at ¶13.

[74] *Final Determination* at 71-73; Eisenach AWDT at ¶¶16-17.

[75] *Final Determination* at 75; Eisenach AWDT at ¶13.

[76] Applying this flawed approach to a Combined Royalty Rate of [redacted] percent and a ratio of 2.5:1 imply an allocation to the Services of [redacted] and a musical work rate of [redacted]. Using the same formula as in Marx WSSRT Figure 3, the Copyright Owners would retain [redacted] of what remains for the Services and Copyright Owners to split after sound recording royalties are paid. When using a sound recording rate of [redacted] percent of revenue, there would be [redacted] percent of revenue remaining for Copyright Owners and Services to split, meaning that the Copyright Owners would retain [redacted]. When using a sound recording rate of [redacted] percent of revenue, there would be [redacted] percent of revenue remaining for Copyright Owners and Services to split, meaning that the Copyright Owners would retain [redacted].

Rate of 61.6 percent or less, [redacted][77]

VI. OTHER ISSUES

45. In this section, I address the Service Experts' unfounded proposals to revert to the *Phonorecords II* rates and Dr. Katz' erroneous contention that the presence of floors and minimums in the rate structure would lead to excessive royalties.

A. There Is No Economic Support for Reverting to the *Phonorecords II* Rates

46. All three of the Service Experts urge the Judges to jettison the *Phonorecords III* rate structure entirely in favor of the *Phonorecords II* structure.[78] In my WDT and WRT, I explained in detail why the *Phonorecords II* structure is not a comparable bargain and does not satisfy the 801(b)(1) criteria, including because it was negotiated in 2012 and the musical works marketplace had changed dramatically in the interim. That rationale is even stronger today, when the interactive streaming market is dominated by platform companies like Amazon, Apple and Google – none of which was engaged at all in interactive streaming at the time of the *Phonorecords II* agreement.[79]

B. Dr. Katz's Contention that Alternative Prongs Result in Excessive Royalties Is Precisely Backwards

47. Professor Katz argues that the use of alternative prongs should be avoided because it could lead to effective total royalties in excess of the Services' "survival rates."[80] Specifically, he states that "if the Working Proposal is correct that the effective rate pushes the Services to earning their

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[77] Marx WSSRT at Figure 2. Applying this flawed approach to a Combined Royalty Rate of [redacted] percent and a ratio of 2.5:1 imply an allocation to the Services of [redacted] and a musical work rate of [redacted]. Using the same formula as in Marx WSSRT Figure 3, the Copyright Owners would retain [redacted] of what remains for the Services and Copyright Owners to split after sound recording royalties are paid. When using a sound recording rate of [redacted] percent of revenue, there would be [redacted] percent of revenue remaining for Copyright Owners and Services to split, meaning that the Copyright Owners would retain [redacted].

[78] See Katz WSRT at ¶25; Leonard SSWRT at ¶28; Marx WSSRT at ¶24.

[79] See *In the Matter of Adjustment or Determination of Compulsory License Rates for Making and Distributing Phonorecords*, *Motion to Adopt Settlement*, Docket No. 2011-3 CRB Phonorecords II (April 12, 2012); Eisenach RWRT at ¶13, n. 19; CO. Rem. Ex. A-B; Hearing Exhibit 2839, Sai Saichin R, "Apple to Pay 70 Percent of Music Subscription Revenue to Labels, Publishers," *Reuters* (June 15, 2015) (available at http://www.reuters.com/article/us-apple-music-idUSKBN0OV1VX20150615) (last accessed Oct. 12, 2016).

[80] Katz WSRT at ¶¶14-16.

survival revenue level, then using that effective rate as the headline statutory rate and failing to account for the presence of binding floors and minimums would push Services' revenues below their survival levels."[81] The obvious problem with this assertion is that, as I have explained above (and as Professor Katz at least sometimes appears to agree), there is no evidence that the Services are paying or (regardless of the outcome of this proceeding) royalty rates that approach "survival rates." But there is also a second problem: As I have shown in detail with substantial empirical evidence, multiple rate prongs are necessary to deliver fair royalties because Service revenues are an unreliable and manipulable proxy for value, including because revenue deferral and displacement can cause declared revenues to significantly understate the actual value of the use of musical works rights to the Services.[82] Moreover, as Professor Katz acknowledges, neither the labels *nor the Judges* are well positioned to assess the relevant financial parameters and adjust headline revenue rates to address the problem.[83] In this context, the fact that alternative rate prongs exist and may push effective rates above headline revenue rates is not a bug, it is a feature that it critical to delivering reasonable royalties.

VII. CONCLUSION

48. For the reasons I have explained above, the arguments and opinions put forward by the Service Experts in response to the Board's December 9 and January 6 requests are unfounded and erroneous.

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[81] Katz WSRT at ¶16.
[82] See e.g., Eisenach WDT at ¶53; Eisenach WRT at ¶¶83-102; Eisenach RWRT at ¶15-16 and Section III.B.
[83] Katz WSRT at ¶19.

I, Jeffrey A. Eisenach, declare under penalty of perjury that the statements contained herein are true and correct to the best of my knowledge, information and belief. Executed on January February 24, 2022 in OAKTON, VIRGINIA.

Jeffrey A. Eisenach

APPENDIX A

Materials Relied Upon

Academic Books and Journal Articles

Hal R. Varian, *Intermediate Microeconomics with Calculus*, 1st ed. (New York and London: W. W. Norton & Company, 2020).

Legal Documents

Barry McCarthy, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Written Direct Testimony of Barry McCarthy (on Behalf of Spotify USA Inc.)*, Docket No. 16-CRB-0003-PR (2018-2022) (October 31, 2016).

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In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), *Transcript of Videotape Deposition Via Zoom of Michael L. Katz Before the United States Copyright Royalty Judges*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (June 8, 2021).

Jeffrey Eisenach, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Written Direct Testimony of Jeffrey Eisenach, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (October 31, 2016).

Jeffrey Eisenach, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Written Rebuttal Testimony of Jeffrey Eisenach, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (February 13, 2017).

Jeffrey Eisenach, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Supplemental Written Rebuttal Testimony of Jeffrey Eisenach, Ph.D.*, Docket No. 16-CRB-0003-PR (2018-2022) (March 1, 2017).

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Rishi Mirchandani, *In the Matter of Determination Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Supplemental Testimony of Rishi Mirchandani (on Behalf of Amazon.com Services LLC)*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (March 31, 2021).

U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Final Determination*, Docket No. 16-CRB-0003-PR (2018-2022) (November 5, 2018).

U.S. Copyright Royalty Judges, *In re Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (Web V)*, *Initial Determination*, Docket No. 19-CRB-0005-WR (2021-2025) (June 11, 2021).

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U.S. Copyright Royalty Judges, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, *Order Granting in Part and Denying in Part Copyright Owners' Motion for Reconsideration or, in the Alternative, Clarification*, Docket No. 16-CRB-0003-PR (2018-2022) (Remand) (January 6, 2022).

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<u>Restricted Data</u>

SPOTRMND0006751

SPOTRMND0006752

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APPENDIX B

Spotify's non-content costs as a percentage of revenue since Q4 2017 are not provided directly by Spotify. However, they can be estimated with confidence, and [redacted].

The non-content costs included in Professor Marx' calculation consist of two main components: [redacted][84] [redacted][85] Spotify's global total operating expenses as a percentage of revenue for Q1 2017 through Q3 2020 can be calculated using the exhibit Professor Marx cites for Q4 2017 revenue.[86] Total global operating expense as a percentage of global revenue was at a high point in Q4 2017 at 32.1 percent.[87] This is an outlier data point, and the annual average was never that high over the period.[88] Rather, in the only other quarters through Q3 2020 ([redacted]) when it has been higher than 32.1 percent, Q2 2018 and Q2 2020,[89] there were

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[84] See Marx WSSRT at ¶13, n. 18 ("[redacted]").

[85] SPOTRMND006751 (see lines 29, 44, 63).

[86] CO Rem. Ex. J at 8, 20, 32, 45, 57, 69, 83, 97, 112, 128, 142.

[87] CO Rem. Ex. J at 45. Note that the total operating expenses relied upon by Professor Marx are [redacted]. See SPOTRMND006751 ([redacted]); CO Rem. Ex. J. at 8 ([redacted]). [redacted].

[88] CO Rem. Ex. J at 45, 97, 142. This is also true when including more recent data for full-year 2020 and 2021. Average annual operating expenses were 29.3 percent in 2020 and 25.8 percent in 2021. See Spotify Technology S.A., *Shareholder Letter Q4 2021* (February 2, 2022) at 9 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q4/Shareholder-Letter-Q4-2021_FINAL.pdf).

[89] CO Rem. Ex. J at 69, 142. Operating expense as a percentage of revenue was also never higher than 32.1 percent in the more recent period from Q4 2020 through Q4 2021. Over that period, it ranged from 23.7 percent in Q3 2021 to 29.7 percent in Q4 2020. See Spotify Technology S.A., *Shareholder Letter Q2 2021* (July 28, 2021) at 9 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q2/Shareholder-Letter-Q2-2021_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q3 2021* (October 27, 2021) at 9 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q3/Shareholder-Letter-Q3-2021_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q4 2021* (February 2, 2022) at 9 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q4/Shareholder-Letter-Q4-2021_FINAL.pdf).

"higher than expected social charges" (in other words, high payouts to employees who had stock options and the like) due to "strong stock performance" that significantly increased operating expenses.[90] This was also the case in the next three highest quarters of operating expense as a percentage of revenue after Spotify's IPO in Q2 2018: Q1, Q2, and Q4 2019.[91] Excluding these five quarters where Spotify's strong stock performance led employees to cash out stock options and inflate operating expenses, operating expenses as a percentage of revenue averaged 26.5 percent over the period – [redacted] the Q4 2017 data point relied upon by Professor Marx.[92]

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[90] CO Rem. Ex. J at 12 ("Our Operating Loss was €90 million or approximately 7% of Total Revenue. This includes a €30 million cash expense related to our direct listing on the NYSE in April...and €32 million of accrued social costs for options and RSUs [restricted stock units] (€24 million more than anticipated in our Q2 guidance as a result of the strong stock performance in the quarter). Excluding increased accrued social costs for options and RSUs, Operating Loss would have been at the low end of our guidance."); CO Rem. Ex. J at 121-122 ("Reported operating expense was significantly higher than forecast as a result of the accrual of higher than expected social charges related to the strong gains in our stock price during the quarter."). According to Spotify, "[S]ocial costs are payroll taxes associated with employee salaries and benefits, including share-based compensation that we are subject to in various countries in which we operate. When the fair market value of our ordinary shares increases on a quarter-to-quarter basis, the accrued expense for social costs will increase, and when the fair market value of ordinary shares falls, the accrued expense will become a reduction in social costs expense, all other things being equal, including the number of vested stock options and exercise price remaining constant. Additionally, approximately 31% of our employees are in Sweden. With respect to our employees in Sweden, we are required to pay a 31.42% tax to the Swedish government on the profit an employee realizes on the exercise of our stock options or the vesting of our restricted stock units."). CO Rem. Ex. J at 122.

[91] CO Rem. Ex. J at 112, 128; CO Rem. Ex. J at 53 ("The growth in our share price in Q1 significantly increased our operating expenses for the quarter."); CO Rem. Ex. J at 64 ("The growth in our share price in Q2 increased operating expenses more than plan because of higher social charges."); CO Rem. Ex. J at 92 ("Operating expenses of €551 million in Q4 increased 80% Y/Y, largely driven by higher than expected social charges resulting from an increase in our share price.").

[92] When including the more recent data through Q4 2021 but excluding the additional quarters where Spotify noted that strong stock performance inflated operating expenses (Q4 2020, Q2 2021, and Q4 2021), the average is lower, at 25.9 percent. See Spotify Technology S.A., *Shareholder Letter Q4 2020* (February 3, 2021) at 5, 9 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2020/q4/Shareholder-Letter-Q4-2020_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q2 2021* (July 28, 2021) at 5, 9 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q2/Shareholder-Letter-Q2-2021_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q3 2021* (October 27, 2021) at 5, 9 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q3/Shareholder-Letter-Q3-2021_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q4 2021* (February 2, 2022) at 4, 9 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q4/Shareholder-Letter-Q4-2021_FINAL.pdf).

[redacted]

[redacted][93] [redacted]; however, as shown in Table B-1, Spotify stated in letters to shareholders (also included in the exhibit cited by Professor Marx) that it has been dropping.[94]

TABLE B-1:
SPOTIFY COMMENTS ON OTHER COST OF REVENUE IN LETTERS TO SHAREHOLDERS

Period	Spotify Comments in Letters to Shareholders
Q2 2019	"Gross Margin was 26.0% in Q2, 50 bps above the high end of our guidance range of 23.5-25.5%. T**he performance was largely driven by better than expected streaming delivery costs as a result of efficiencies driven by usage optimization work**, slower than anticipated release of original podcast content, and better than expected royalty margin resulting from slight differences in product and geographic mix."
Q3 2019	"Gross Margin was 25.5% in Q3, 30 bps above the high end of our guidance of 23.2-25.2%.... Similar to the trends we saw develop in Q2, Q3 saw **continued efficiencies in streaming delivery and payment expense**."
Q4 2019	"Gross Margin was 25.6% in Q4, toward the high end of our guidance range. **The largest driver of outperformance stemmed from slight improvement in the non-royalty component of Gross Margin, including payment fees, streaming delivery costs, and other miscellaneous variances**."
Q1 2020	"Gross Margin finished as 25.5% in Q1 which both exceeded our expectations and finished at the high end of our guidance range," citing "**a benefit from non-royalty cost of revenue, most notably streaming delivery costs**" as one of the "driver[s] of outperformance."
Q2 2020	"Gross Margin finished at 25.4% in Q2 which both exceeded our expectations and finished above the high end of our guidance range…. **We recognized efficiencies in Other CoR [cost of revenue] as streaming delivery costs were slightly more favorable relative to forecast**."
Q3 2020	"Gross Margin finished at 24.8% in Q3, toward the top end of our guidance range. A number of factors drove the positive Gross Margin variance, **led by better than forecast non-music content costs and Other Cost of Revenues (e.g. payment fees, streaming delivery costs)**."

Source: CO Rem. Ex. J at 64, 77, 92, 107, 121, 137. Note: Spotify's gross margin = (revenue – cost of revenue) / revenue.

[93] SPOTRMND006751 (see lines 17-20).

[94] Spotify also made similar statements in the more recent Q4 2020 through Q4 2021 letters to shareholders. See Spotify Technology S.A., *Shareholder Letter Q4 2020* (February 3, 2021) at 4 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2020/q4/Shareholder-Letter-Q4-2020_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q1 2021* (April 28, 2021) at 4 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q1/Shareholder-Letter-Q1-2021_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q2 2021* (July 28, 2021) at 4 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q2/Shareholder-Letter-Q2-2021_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q3 2021* (October 27, 2021) at 4 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q3/Shareholder-Letter-Q3-2021_FINAL.pdf); Spotify Technology S.A., *Shareholder Letter Q4 2021* (February 2, 2022) at 4 (available at https://s22.q4cdn.com/540910603/files/doc_financials/2021/q4/Shareholder-Letter-Q4-2021_FINAL.pdf).

In Q4 2017 [redacted] of revenue.[95] Even adding this number to [redacted] (the average of Q1 2017 through Q3 2020 excluding quarters where it was inflated by strong stock market gains), the resulting non-content cost as a percentage of revenue is [redacted] percent. Therefore, even under Professor Marx' incorrect methodology of using non-content costs to calculate a Combined Royalty Rate, more recent data (included in the exhibit Professor Marx cites for Q4 2017 revenue) suggest a rate of at least [redacted]. Using the 2.5:1 ratio established in the *Final Determination*, this implies a musical works rate of [redacted] percent.[96] However, as Table B-1 indicates, Spotify has consistently stated on earnings calls that its other costs of revenues have been dropping as a percentage of revenue. Under these corporate disclosures, [redacted] percent would be too high, and this analysis again appears to point closer to 30 percent, and thus support the industry standard 70 percent combined royalties rate that I have discussed.

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[95] SPOTRMND006751 ([redacted]); CO Rem. Ex. J. at 8 (reporting revenue of approximately €1,149,000,000). [redacted] €1,149,000,000 = [redacted] percent.

[96] [redacted].

CO Rem. Ex. Y
FILED UNDER SEAL

CO Rem. Ex. Z
FILED UNDER SEAL

CO Rem. Ex. AA
FILED UNDER SEAL

PUBLIC VERSION

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
Library of Congress
Washington, D.C.

In re	)	
DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords IV)	)	Docket No. 21-CRB-0001-PR (2023-2027)

WRITTEN REBUTTAL TESTIMONY OF ROBIN FLYNN

Expert Witness for Copyright Owners

April 22, 2022

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Appendix A (Materials Relied Upon)

I. Background and qualifications

1. I am an independent consultant with over 33 years of experience in analyzing the media industry and publishing research, including the streaming media, broadcast and multichannel industries. I have been retained and testified as an expert in matters concerning the streaming music, broadcast, cable television and DBS industries. My testimony has focused on industry trends and valuation matters.

2. A more detailed description of my qualifications and a copy of my CV, along with a list of my published works from the past ten years, can be found in my written direct testimony in this proceeding, filed October 13, 2021.

II. Assignment and summary of conclusions

3. My report is submitted in response to the written direct testimony of Amazon's witnesses Leslie M. Marx, PhD, James Duffett-Smith, and Tami Hurwitz, and in response to Amazon's Rate Proposal. My conclusions are summarized as follows.

4. Amazon's witness testimony repeatedly positions Amazon Music Prime ("Prime Music") and Amazon Music Free ("Free") as services that have little value for Amazon outside their ability to "funnel" customers from Prime Music users to Amazon Music Unlimited ("AMU") subscribers. [redacted].

5. However, in contrast to the contentions of Amazon's witnesses, Amazon's documents show that [redacted]

[redacted].

6. Amazon's witnesses also assert that the best rate structure is one in which Amazon's and its licensors' interests are aligned. Amazon's documents, however, show that the rate proposals advanced by Amazon do not align the interests of licensors with Amazon. [redacted].

7. Amazon's proposed revenue-based royalty prongs for paid subscription services (such as AMU) and free, ad-supported services (such as Free) are not structured or calibrated to protect copyright owners' interests, as [redacted]. Amazon's witnesses assert that its various services, offerings, plans, and discounts are designed to attract low willingness to pay ("WTP") customers. However, [redacted]

[redacted].

8. Amazon's proposed "TCC" (Total Content Costs)-based royalty prong, which it asserts is sufficiently protective to act as the sole backstop for free, ad-supported services, [redacted].

9. [redacted].

10. Throughout its written direct statement, Amazon's witnesses describe the features that currently make up Amazon's music streaming services but [redacted]

III. Amazon's internal documents reveal [redacted] for Amazon Music than it describes in its direct submission [redacted]

11. Amazon's witnesses [redacted].[1] According to Amazon's witnesses in this proceeding, Amazon's conversion of Prime Music users into AMU subscribers [redacted].[2]

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[1] *See, e.g.*, eCRB Docket No. 25779, Written Direct Testimony of James Duffett-Smith (Oct. 13, 2021) ("Duffett-Smith WDT") ¶ 16 ("Amazon operates Prime Music as a 'funnel' to Amazon Music Unlimited"), ¶ 46 ("[redacted]"), ¶ 136 ("[redacted].'"), ¶ 194 ("Amazon Music uses Prime Music to 'funnel' customers to Unlimited") ("[redacted]"), ¶ 199 ([redacted]."); eCRB Docket No. 25779, Written Direct Testimony of Tami Hurwitz (Oct. 13, 2021) ("Hurwitz WDT") ¶ 3 ("both the Free and Prime Music tiers have provided an effective funnel into Unlimited"), ¶ 28 ("[redacted]."), ¶ 37 ("Amazon has made a variety of improvements to Prime Music's functionality, [redacted]."), ¶ 46 ("[redacted]"), ¶ 47 ("[redacted]."), ¶ 78 ("[redacted]"), ¶ 79 ("[redacted]."), ¶ 83 ("[redacted]."), ¶ 86 ("[redacted]")

[2] *See, e.g.*, Duffett-Smith WDT ¶ 107 ("[redacted]") (emphases added).

12. [redacted].

A. Amazon [redacted]

13. As noted, Amazon's witnesses describe Prime Music as a "funnel" for AMU. For example, Tami Hurwitz states in her written direct testimony that "[redacted]."[3] However, based on my review of Amazon's internal documents, [redacted].

[3] Hurwitz WDT ¶ 28.

14. [redacted][4] [redacted][5] [redacted][6] [redacted][7] [redacted].[8]

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[4] **COEX-8.189** – [redacted] (AMZN_Phono IV_00016118) at AMZN_Phono IV_00016119. [redacted], **COEX-8.190** – [redacted] (AMZN_Phono IV_00016136) at AMZN_Phono IV_00016149. *See also* **COEX-8.234** – Amazon.com Services LLC's Second Amended Responses Copyright Owners' Second set of Interrogatories, Amended Response to Interrogatory No. 9, describing [redacted].

[5] **COEX-8.190 –** [redacted], at AMZN_Phono IV_00016149.

[6] **COEX-8.197** – [redacted] (AMZN_Phono IV_000158888 n.2), at AMZN_Phono IV_00015888 n.2) (emphases added). "[redacted]." **COEX-8.198** – [redacted] (AMZN_Phono IV_00015981), at AMZN_Phono IV_00015992.

[7] **COEX-8.201** – [redacted] (AMZN_Phono IV_00020295), at AMZN_Phono IV_00020303 (emphasis added).

[8] **COEX-8.202** – [redacted] (AMZN_Phono IV_00020209), at AMZN_Phono IV_00020211 ("[redacted] . . . ."). Amazon forecasts that [redacted]. **COEX-8.203**, [redacted] (AMZN_Phono IV_00020870), at AMZN_Phono IV_00020882. [redacted].

15. Amazon's witness, Professor Leslie Marx, claims the interactive streaming industry "has struggled with profitability."[9] While she [redacted],[10] [redacted].[11] Amazon's internal documents show that [redacted]:

[redacted]

COEX-8.202 – [redacted], at AMZN_Phono IV_00020211.[12]
** Unless otherwise noted, all yellow highlighting herein has been added to the source document for emphasis.*

[redacted] Amazon's witnesses offer [redacted]

[9] eCRB Docket No. 26305, Amended Written Direct Testimony of Leslie M. Marx, PhD (Apr. 8, 2022) ("Marx AWDT"), ¶ 56 ("While interactive streaming revenues have increased dramatically in recent years, the industry has struggled with profitability.")

[10] Marx AWDT ¶ 11 ("[redacted].") (emphases added), ¶ 57 ("[redacted].") (emphases added).

[11] Not only is [redacted]. *See* **COEX-8.201** – [redacted], at AMZN_Phono IV_00020295 ("[redacted]. . . . .")

[12] *See also* **COEX-8.201** – [redacted], at AMZN_Phono IV_00020297 (projecting that [redacted])).

[redacted].

B. Amazon uses AMU [redacted]

16. [redacted]

17. [redacted].[13] [redacted].[14]

18. [redacted]

[13] Marx AWDT ¶ 11 ("[redacted], is better suited to the characteristics of Amazon Music Prime."). *See also* Duffett-Smith WDT ¶ 69 ("[redacted].")

[14] Marx AWDT ¶ 166 n.268 quoting the Amended Written Direct Testimony of Kajal Gayadien ¶ 11 ("Amazon's deals with record labels for Unlimited [redacted].").

[redacted]

COEX-8.206 – [redacted] (AMZN_Remand_00006426), at AMZN_Remand_00006429.[15]

19. The statements by Amazon's witnesses in this proceeding ([redacted]), that the conversion of listeners from Prime Music to AMU benefits both Amazon and licensors,[16] [redacted].[17]

20. Amazon [redacted]:

[redacted]

COEX-8.191 – [redacted] (AMZN_Phono IV_00017167), at AMZN_Phono IV_00017176.

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[15] *See also* **COEX-8.189** – [redacted], at AMZN_Phono IV_00016127 ("[redacted]")

[16] *See, e.g.*, Duffett-Smith WDT ¶ 107; Marx AWDT, ¶ 248 ("[A] percent-of-revenue rate structure benefits both services and the copyright owners by aligning the services' incentives to maximize revenue with the copyright owners' interest in profiting from their musical works.")

[17] *See, e.g.*, **COEX-8.238** – [redacted] (AMZN_Phono IV_00020900), at AMZN_Phono IV_00020902 ("[redacted]"); **COEX-8.200** – [redacted] (AMZN_Phono IV_00020180), at AMZN_Phono IV_00020203) ([redacted]).

21. [redacted].[18] For example, [redacted][19] [redacted][20] [redacted].[21]

22. Amazon also has [redacted].[22]

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[18] *See* **COEX-8.207** – [redacted] (AMZN_Phono IV_00047374), at AMZN_Phono IV_00047374 ([redacted].") (emphases added).

[19] **COEX-8.208** – [redacted] (AMZN_Phono IV_00047964), at AMZN_Phono IV_00047967; **COEX-8.194** – [redacted] (AMZN_Phono IV_00015835), at AMZN_Phono IV_ 00015848 ("[redacted]."). **COEX-8.197** – [redacted], at AMZN_Phono IV_00015898–00015899 ("[redacted].")

[20] **COEX-8.191** – [redacted], at AMZN_Phono IV_00017176.

[21] Amazon's [redacted]." **COEX-8.205** – [redacted] (AMZN_Phono IV_00020804), at AMZN_Phono IV_00020809) (emphases added).

[22] **COEX 8.239** – [redacted] (AMZN_Phono IV_00015221), at AMZN_Phono IV_00015221 ("[redacted]."); **COEX-8.195 –** [redacted] (AMZN_Phono IV_00015878), at AMZN_Phono IV_00015881 ("[redacted] . . . .").

23. [redacted].[23] [redacted],[24] [redacted].[25]

24. [redacted][26] [redacted][27]

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[23] **COEX 8.239** – [redacted], at AMZN_Phono IV_00015222 ("[redacted]").)

[24] **COEX 8.239** – [redacted], at AMZN_Phono IV_00015221 ("[redacted].")

[25] *See* **COEX-8.196** – [redacted] (AMZN_Phono IV_00015850), at AMZN_Phono IV_00015854 ([redacted]).

[26] Even internally, Amazon Music has [redacted]. *See* **COEX 8.239** – [redacted], at AMZN_Phono IV_00015222 ("[redacted].").

[27] [redacted] **COEX-8.199** – [redacted] (AMZN_Phono IV_00016031), at AMZN_Phono IV_00016035–00016036 (emphasis added).

C. Amazon omits essential information in its narrative that the [redacted]

25. [redacted][28] [redacted].[29] Amazon's documents indicate that [redacted][30] [redacted].[31] [redacted].[32]

D. Amazon [redacted] based on what will result in lower royalty rates

26. In order to report on the success of its "funnel," Amazon [redacted].[33] [redacted]

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[28] *See, e.g.*, **COEX-8.228** – [redacted] (AMZN_Phono IV_00004636), at AMZN_Phono IV_00004636 ("[redacted].")

[29] Duffett-Smith WDT ¶ 107 ("[redacted].").

[30] **COEX-8.206** – [redacted], at AMZN_Remand_00006429.

[31] *See* Marx AWDT ¶ 70 ("Prime Music serves as a 'funnel' to convert these low WTP into Unlimited subscribers. [redacted].")

[32] *See* Marx AWDT ¶ 216 n. 326 ([redacted]") I note that I do not analyze how the average royalties paid for a Prime Music user compare with those paid for an AMU subscriber. However, what Amazon's cited documents show is that [redacted]

[33] While this report discusses [redacted]. *See* eCRB Docket No. 26305, Amended Written

[redacted].

[redacted].[34]

27. [redacted]

[redacted].[35]

[redacted]

COEX-8.221 – AMZN_Phono IV_00008701.

Direct Testimony of Kajal Gayadien (Apr. 8, 2022) ("Gayadien AWDT") ¶ 24 ("[redacted].")

[34] [redacted] Duffett-Smith WDT ¶ 108.

[35] *See* **COEX-8.222** – [redacted] (AMZN_Phono IV_00008703), at AMZN_Phono IV_00008705 (email from R. Mirchandani to A. Braun, Aug. 20. 2018, 5:22PM) ("[redacted].")

[redacted].

28. [redacted][36] [redacted][37] It appears that Amazon's strategy was successful. [redacted]:

[redacted]

COEX-8.223 – [redacted] (AMZN_Remand_0000159) ("[redacted]"), at AMZN_Remand_0000172.

29. [redacted]

[36] **COEX-8.222** – [redacted], at AMZN_Phono IV_00008705 ([redacted]) ("[redacted] . . . .")

[37] **COEX-8.222** – [redacted], at AMZN_Phono IV_00008705 ([redacted]).

[redacted].[38] [redacted][39]

30. [redacted]. [redacted].[40] [redacted].[41] [redacted].[42] [redacted]

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[38] Gayadien AWDT ¶ 21 ("[redacted] . . . .")

[39] **COEX-8.223** – [redacted], at AMZN_Remand_0000169–0000170.

[40] **COEX-8.222** [redacted], at AMZN_Phono IV_00008707 ([redacted]) ("[redacted]."). Amazon submitted as Exhibit 197 of its WDS [redacted], to support the following statement in Hurwitz WDT ¶ 82: "[redacted]." **COEX-8.231** – Amazon WDS Exhibit 197.

[41] **COEX-8.222** [redacted]. [redacted]. *See, e.g.*, **COEX-8.229** – [redacted] (AMZN_Phono IV_00004022), at AMZN_Phono IV_00004024 ([redacted]) ("[redacted].")

[42] **COEX-8.222** [redacted], at AMZN_Phono IV_00008707 ([redacted]).

[redacted]).[43] Amazon's approach with respect to [redacted]."

IV. Amazon's interests are not aligned with Copyright Owners

A. Amazon is not seeking to maximize Amazon Music streaming revenues

31. Mr. Duffett-Smith states [redacted]

[redacted].[44]

Prof. Marx similarly states in her testimony that a "percent-of-revenue rate structure aligns interactive streaming services' incentives to maximize revenue with copyright owners' interest in profiting from their musical works because, under such a rate structure, both the services and the copyright owners benefit from any increase in revenue."[45] For a company like Amazon in particular, which has a massive, integrated ecosystem, generalized statements like these about

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[43] [redacted]. **COEX-8.222 –** [redacted], at AMZN_Phono IV_00008705 ([redacted]) (in reference to [redacted]")

[44] Duffett-Smith WDT ¶ 184.

[45] Marx AWDT ¶ 155.

[redacted] are questionable, at the very least, and would require significant evidence and analysis to support.

32. Amazon's documents in fact show that [redacted]:

[redacted]

COEX-8.189 – [redacted], at AMZN_Phono IV_00016126.

33. [redacted] (another broad ecosystem like Amazon's):

> [W]hen you have complementary products, if you're going to maximize your profits overall, you wouldn't be maximizing the revenue streams on each individual one. That's the nature of having complementary revenue streams. . . . I presume [Apple is] using iTunes Radio to best maximize the overall profits of the business. So using it to promote hardware sales, its iTunes Match service, music downloads. . . . [T]he rate that you []apply to [the] revenue base would need to take into account whether the music used is generating other revenue streams for Apple.[46]

[46] **COEX-8.236** – Cross-Examination of Dr. Leslie Marx, Trial Tr. (Jan. 29, 2014), *United States v. ASCAP (In re Petition of Pandora Media, Inc.),* No. 12 Civ. 8035(DLC) (submitted in *Phonorecords III* as CO Ex. H-2697).

34. According to Amazon's internal documents, [redacted], discussed below,[47] [redacted]."[48] Amazon Music's strategic decisions when pursuing this goal are made [redacted]."[49]

[redacted]

COEX-8.198 [redacted], at AMZN_Phono IV_00015992.

Even with the redactions to this document (which I understand are the subject of a pending motion), it is apparent that [redacted]." In connection with [redacted], it specifically intends to use music [redacted].

[47] *See* Part IV *infra*.
[48] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015983.
[49] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015993 (emphasis added).

COEX-8.198 – , at AMZN_Phono IV_00015993.

35. Where Amazon Music's success is , Amazon may adopt strategies that ."[50] [51]

1. Amazon is not pricing or discounting in order to target "willingness to pay" or to maximize music streaming revenues

36. Amazon's witnesses frequently insist that its various offerings, discounts and promotions are calibrated to draw in listeners who have "low willingness to pay" for music. For example, Professor Marx quotes Mr. Duffett-Smith regarding Prime Music's "design" as follows:

> Prime Music is designed to appeal to consumers with a low WTP for an interactive streaming service. According to Amazon's Global Head of Music Publishing and Director of Content Acquisition,
>
> > "Amazon has designed Prime Music to introduce streaming music to customers who want access to music but may have a low willingness to pay ("WTP"). Amazon targets Prime Music at users whose listening habits are casual enough that they may not want to spend the money required to access a full catalog. ."[52]

[50] **COEX-8.198** – , at AMZN_Phono IV_00015992.
[51] **COEX-8.237** – *Phonorecords III*, 1964:25-1978:11 (Marx).
[52] Marx AWDT ¶ 69 (quoting Duffett-Smith WDT ¶¶ 1, 12).

37. Elsewhere, Mr. Duffett-Smith states that the "additional pricing tiers for Unlimited" that Amazon offers are intended to "accommodate customers with varying levels of WTP,"[53] and that a revenue-based royalty rate "[redacted]," giving Amazon "[redacted]."[54]

38. I understand, however, that Amazon [redacted].

[redacted]

COEX-8.233 – Amazon.com Services LLC's Objections and Responses to Copyright Owners' First Set of Requests for Production of Documents, at 31 (Nov. 15, 2021).[55]

[53] Duffett-Smith WDT ¶ 19.
[54] Duffett-Smith WDT ¶ 183.
[55] While Amazon's response above states that Amazon has not identified any such "non-privileged" documents, I understand that Amazon has not indicated that any such "privileged" documents exist either.

39. Further, the exhibits included as part of Amazon's WDS do not show [redacted]. Rather, according to its [redacted] (submitted as Amazon Exhibit 200), [redacted]. Amazon states in that document that [redacted]:

[redacted]

COEX-8.232 – Amazon WDS Exhibit 200, [redacted] ("[redacted]"), at AMZN_Phono IV_00009454.[56]

[56] In addition, as further described below, Amazon's pricing decisions and programs are aimed at [redacted]. Amazon defines "[redacted]." **COEX-8.232** – [redacted], at AMZN_Phono IV_00009454.

40. One [redacted] reveals how Amazon Music [redacted]:

[redacted]

COEX-8.232 – [redacted], at AMZN_Phono IV_00009454.

41. [redacted] discontinue its higher pricing for a separate HD tier for AMU (HD is now offered at no additional cost).[57] Contrary to Prof. Marx's claim that a "percent-of-revenue structure . . . encourages a variety of business models geared toward different consumers with different WTP" (which supposedly results in Amazon "transferring to copyright owners a lump sum scaled to the willingness to pay of consumers for the service")[58] here [redacted] dismantle a business model that provided a higher level of service (high definition audio) for a higher price, geared toward customers with a higher WTP.

42. When Amazon [redacted][59] [redacted]

[57] *Cf.* Hurwitz WDT ¶ 50 ("[redacted].")
[58] Marx AWDT ¶ 160.
[59] Hurwitz WDT ¶ 15.

[redacted]

[redacted]

[redacted]

COEX-8.224 – [redacted] (AMZN_Remand_00007338), at AMZN_Remand_00007342.

COEX-8.224 – , at AMZN_Remand_00007351.

43. However, ."[60] [61]

[60] **COEX-8.232** – , at AMZN_Phono IV_00009454. *See also* **COEX-8.225** – (AMZN_Phono IV_00019305), at AMZN_Phono IV_00019316 ( ) (").

[61] **COEX-8.194** – , at AMZN_Phono IV_00015843 ("). *See also* **COEX-8.209** – (AMZN_Phono IV_00015267), at AMZN_Phono IV_00015267 (").

[redacted]

[redacted]

COEX-8.226 – [redacted] (AMZN_Phono IV_00019695) at AMZN_Phono IV_00019695 ([redacted]).

2. Amazon [redacted] to benefit Amazon broadly, and Prime in particular

44. Amazon has made such pricing decisions knowing that, [redacted]. It is telling that Amazon offers several discounts only for Prime members, and I have seen no indication that the Prime member discounts target customers who otherwise would have gone without a paid music streaming subscription. [redacted] See, for example, the following (also redacted by Amazon) analysis:

[redacted]

COEX-8.193 – [redacted] (AMZN_Phono IV_00015832), at AMZN_Phono IV_00015834.[62]

[62] *See also* **COEX-8.204** – [redacted] (AMZN_Phono IV_00046515) at AMZN_Phono IV_00046518.

45. Under the [redacted], the "overall P&L impact" for Amazon Music revenue [redacted]. This was found [redacted]:

[redacted]

COEX-8.210 – [redacted] (AMZN_Phono IV_00020127), at AMZN_Phono IV_00020128.

46. Compounding the impact on payable royalties, [redacted].[63]

47. Amazon's documents show that [redacted]

[63] **COEX-8.193** – [redacted], at AMZN_Phono IV_00015834.

COEX-8.211 – (AMZN_Phono IV_00020164), at AMZN_Phono IV_00020168.

[64]

B. Prime Music and Free provide value to Amazon independent of whether users convert to AMU

48. In her testimony, Tami Hurwitz states that Amazon .[65] She states that "Amazon goes to great lengths to upsell" Prime Music and Free listeners to AMU, but ."[66]

49.

[64] **COEX-8.211** – at AMZN_Phono IV_00020164.

[65] *Cf.* Section III.B-D on Amazon Music's use of the "funnel" . To be clear, .

[66] Hurwitz WDT ¶ 3. *See also* Hurwitz WDT ¶ 82 (" .").

[67]

50. Prime Music "[redacted]."[68] For example,

[69]

COEX-8.191 [redacted], at AMZN_Phono IV_00017168.

51. Until Amazon released Free in 2019, some Echo device owners only had access to music streaming services that were not run by Amazon. Mr. Duffett-Smith states that "Amazon developed Free to address a gap in its streaming services" experienced by those who purchased an Alexa-enabled device but did not have "a Prime membership or an AMU subscription" and who therefore would "not be able to play music immediately upon connecting the device to the Internet."[70] This testimony omits that [redacted]

[67] My Written Direct Testimony analyzed in detail and attempted to quantify the benefits that Amazon realizes from music, including from Amazon Prime. *See* Written Direct Testimony of Robin Flynn ¶¶ 84-101. I note that in that discussion there are two typographical errors in the report itself, neither of which affected other stated numbers or the results of my calculations: at paragraph 93, the figure "[redacted]" should instead have read "[redacted]"; and at paragraph 99, the figure "56%" should instead have read "54%".

[68] **COEX-8.191** – [redacted], at AMZN_Phono IV_00017168.

[69] **COEX-8.191** – [redacted], at AMZN_Phono IV_00017175 ("[redacted]").

[70] Duffett-Smith WDT ¶ 21.

COEX-8.194 – , at AMZN_Phono IV_00015842.

52. ,[71] . [72] , [73] . [74]

[71] Amazon frequently bundles free access to AMU with its devices. *See, e.g.*, Hurwitz WDT ¶ 67 ("Amazon offers a 90-day free trial of the Unlimited Individual Plan to new subscribers who purchase an eligible item . . . or register an eligible device in the Alexa app. In addition, for Prime members, Amazon offers a 6-month free trial to new subscribers to the Unlimited Individual Plan who purchase an eligible Echo device.").

[72] *See* **COEX-8.192** – (AMZN_Phono IV_00015799), at AMZN_Phono IV_00015807 ("."") (emphases added).

[73] **COEX-8.192** – , at AMZN_Phono IV_00015807.

[74] **COEX-8.191** – , at AMZN_Phono IV_00017168. *See also* **COEX-8.235** – Alexa, Echo Devices, and Your Privacy, Amazon.com, https://www.amazon.com/gp/help/customer/display html?ref_=hp_left_v4_sib&nodeId=GVP69FUJ48X9DK8V) ("Alexa is designed to get smarter every day. For example, we use your requests to Alexa to train our speech recognition and natural language understanding systems using machine learning.")

COEX-8.191 – , at AMZN_Phono IV_00017182.

53. In fact, the question of ."

COEX-8.213 – (AMZN_Phono IV_00047483), at AMZN_Phono IV_00047487.

54. Far from the single-minded purpose Hurwitz describes, Amazon Music :

COEX-8.214 – at .[75]

[75] In this document, Amazon states that As a company running a large online advertising business, Amazon's larger strategy surrounding the use and sale of ads is a counterweight to any value it realizes from the conversion of Free users to AMU.

C. Amazon is [redacted]

55. I understand that Amazon proposes a "TCC"-based rate prong for free, ad-supported services as a "backstop" to its proposed revenue-based prong,[76] under which Amazon would pay copyright owners a percentage of the amount it pays to "Sound Recording Companies" for rights to make Eligible Interactive Streams or Eligible Limited Downloads of a musical work embodied in a sound recording.[77] However, [redacted]. In reviewing Amazon's documents, I have found that Amazon Music's business model currently involves [redacted].

56. [redacted], as revealed in Amazon's documents, is relevant to assessing whether Amazon's proposed TCC prong would adequately protect Copyright Owners' interests. As discussed above, Amazon [redacted]. [redacted]

[76] *See* Marx AWDT ¶ 181 ("[I]f the Board views a backstop as necessary for free, ad-supported services, a TCC prong is a reasonable backstop for that service category.").
[77] eCRB Docket No. 26305, Amazon Amended Proposed Rates and Terms ("Amazon Rate Proposal") § 385.2.

57. Amazon Music's "[redacted]."[78] By design, [redacted] an opportunity for [redacted]. Each time [redacted].[79]

58. [redacted].

[78] **COEX-8.216** – [redacted], at AMZN_Phono IV_00015517.
[79] **COEX-8.217** – [redacted] (AMZN_Phono IV_00015538), at AMZN_Phono IV_00015538

COEX-8.216 – (AMZN_Phono IV_00015517), at AMZN_Phono IV_00015523.

59. :

COEX-8.217 – (AMZN_Phono IV_00015538), at AMZN_Phono IV_00015538.

60. As noted above, I understand that Amazon's proposed TCC backstop would apply only to free, ad-supported services. Of Amazon's services, Free offers the least listener control over which songs are played—only offering "stations or playlists for a lean-back listening experience"— .[80]

[80] Gayadien AWDT ¶ 25 (" ."); Duffett-Smith WDT ¶ 22 ("Listeners do not have the ability to play particular songs on demand . . . . Although listeners may skip songs within a playlist to a limited extent, they may use a maximum of six skips over a one-hour listening period.")

61. [redacted].

[redacted]

COEX-8.216 – [redacted], at AMZN_Phono IV_00015520.

[redacted]. [redacted].[81]

62. For example, Amazon has [redacted].

[redacted]

COEX-8.216 – [redacted], at AMZN_Phono IV_00015520.

[81] Although Amazon does not propose a TCC prong for Prime Music, I understand that under other participants' rate proposals, a TCC prong would be applied to Prime Music. Amazon has [redacted] . . . ." **COEX-8.191** – [redacted], at AMZN_Phono IV_00017176 (emphasis added).

63. [redacted].

[redacted]

COEX-8.191 – [redacted], at AMZN_Phono IV_00017178.

V. By Amazon's internal metrics, Amazon's music offerings [redacted]

A. Amazon's measure of Prime Music's profitability [redacted]

64. As discussed above in Section III.A, [redacted].

B. Amazon's comprehensive method of measuring [redacted].

65. Amazon's documents show that under [redacted]. In 2018, [redacted]:

COEX-8.200 – , at AMZN_Phono IV_00020201.

66. . [82] . [83]

67.

[82] *See* **COEX-8.191** – , at AMZN_Phono IV_00017175 ("[.")

[83] *See* **COEX-8.240** – (AMZN_Phono IV_00020204), at AMZN_Phono IV_00020208 (" ."); **COEX-8.193** – , at AMZN_Phono IV_00015833 (" . . . .")

[84]

68. ."[86] .[87] .[88] According to the rebuttal testimony of Christopher C. Barry being submitted with the Copyright Owners' Written Direct Testimony (at paragraph 25), the revenue allocated to Prime Music worldwide

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[84] *See e.g.,* **COEX-8.201** – , at AMZN_Phono IV_00020299) (").

[85] .

[86] **COEX-8.189** – , at AMZN_Phono IV_00016124.

[87] **COEX-8.191** – , at AMZN_Phono IV_00017175–00017176 (" .")

[88] ." **COEX-8.191** – , at AMZN_Phono IV_00017176. However, Amazon Music's . *See* **COEX-8.203** – , at AMZN_Phono IV_00020872 (" .")

C. Amazon Music's [redacted] is not surprising, as Amazon has no need to pursue music products that do not contribute to profitability

69. [redacted] Where a multifaceted company like Amazon not only retains but also expands a particular line of business, it does so because that line of business contributes to the profitability of the company, whether under a GAAP metric or under other metrics used by the business ([redacted]). Amazon, of course, could cease supporting its music business lines (or any others) if it determined that they do not contribute sufficient gains across its enterprise. Yet it has continued to expand its music offerings.

VI. Amazon's music business models [redacted]

70. Amazon Music is a highly dynamic business that has already implemented significant changes [redacted]. Amazon's witnesses omit key information about [redacted] that are important for evaluating Amazon's proposed rates and terms.

A. Amazon has already planned [redacted]

71. Prof. Marx's testimony includes the following Figure to identify the features offered in three of Amazon's music streaming services:

Figure 12: Amazon streaming service features by service

Feature	Free	Prime Music	Unlimited
Available titles	Limited catalog of pre-set playlists	2 million songs	75 million songs
Playlists	Top playlists	Thousands of playlists	Thousands of playlists
Stations	Thousands of stations	Thousands of stations, including personalized streaming stations	Thousands of stations, including personalized streaming stations
Podcasts	Yes	Yes	Yes
HD streaming	No	No	Yes
3D Echo playback	No	No	Yes. 3D audio is available on Amazon Echo Studio device only.
Ad-free unlimited plays	No	Yes	Yes
Streaming limits	One device at a time.	One device at a time.	One device at a time for those on the Individual or Single-device plan. Six devices at a time for those on the Family Plan.
Alexa interaction	Yes	Yes	Yes
Offline playback	No	Yes	Yes, except for Single-Device Plans and 3D audio.

Sources: Amazon, "What Are the Differences Between the Amazon Music Subscriptions?" accessed August 11, 2021, https://www.amazon.com/gp/help/customer/display.html?nodeId=GW3PHAUCZM8L7W9L, unless otherwise footnoted; Amazon, "Amazon Music Launches Podcasts for Customers Across the U.S., U.K., Germany and Japan," news release, September 16, 2020, https://press.aboutamazon.com/news-releases/news-release-details/amazon-music-launches-podcasts-customers-across-us-uk-germany. Amazon, "Amazon Music HD for All, Now at No Extra Cost," May 17, 2021, https://press.aboutamazon.com/news-releases/news-release-details/amazon-music-hd-all-now-no-extra-cost; Duffett-Smith WDT, ¶ 22 ("Free is a limited-catalog, lean-back service that offers a variety of pre-set playlists.").

Marx AWDT Fig. 12.

72. The row indicating "Available titles" omits pertinent information, namely, that [redacted]." The following [redacted]:

[redacted]

COEX-8.230 – [redacted] (AMZN_Phono IV_00015464), Sheet 2.

73. By September 2021, before Amazon submitted its WDS, [redacted].[89] What is further missing from Prof. Marx's description is that [redacted]:

[redacted]

COEX-8.198 – [redacted] (AMZN_Phono IV_00015981), at AMZN_Phono IV_00015987.[90]

74. I understand that Amazon has proposed a per-play rate for "Mixed Service Bundles," which it would define as offering "less functionality relative to [the Service's] separate, standalone

[89] **COEX-8.230** – [redacted], Sheet 1. *See also* **COEX-8.215** – [redacted] (AMZN_Phono IV_00047499), at AMZN_Phono IV_00047499 (discussing in an [redacted]").

[90] *See also* **COEX-8.214** – [redacted], at AMZN_Phono IV_00047467 ("[redacted]")

Subscription Offering," with the non-exclusive examples of "less functionality" being "limitations on the ability of End Users to choose to listen to specific sound recordings on request or a limited catalog of sound recordings."[91]

75. Amazon has stated in its written direct statement that Prime Music falls into the Mixed Service Bundle category. [redacted]. However, according to Amazon's own documents, [redacted], something that Amazon's witnesses do not mention.

76. In September 2020, Amazon had started "[redacted]."[92] By the following year, Amazon had [redacted]"[93]

77. Amazon now plans to [redacted],"[94] while making [redacted]

[91] Amazon Rate Proposal.
[92] **COEX-8.197** – [redacted], at AMZN_Phono IV_00015892.
[93] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015989.
[94] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015986. [redacted]."

[redacted]

[redacted]."[95]

[redacted]

COEX-8.198 – [redacted], at AMZN_Phono IV_00015986.

78. [redacted] Amazon's Mixed Service Bundle definition requires only "less functionality" than the standalone subscription service a company also provides—in Amazon's case, Prime Music must have less functionality than AMU.[96] Without a clear definition of what "less functionality" means and how much "less" the functionality must be to qualify an offering as a Mixed Service Bundle, Amazon could approximate the same functionality for Prime Music as for AMU in most respects and position Prime Music as nonetheless offering "less functionality." For example, [redacted]

[95] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015987.

[96] *"Mixed Service Bundle* means an Offering providing Licensed Activity consisting of Eligible Interactive Streams or Eligible Limited Downloads that meets all of the following criteria: (1) The Offering is made available to End Users only in combination (*i.e.,* the Offering is not available on a standalone basis) with one or more non-audio or non-audiovisual products or services (*e.g.,* two-day shipping) of more than token value as part of one transaction for which End Users make a payment without receiving pricing for the Offering separate from the product(s) or service(s) with which it is made available. (2) The Offering is made available by a Service Provider that also offers End Users a separate, standalone Subscription Offering. (3) **The Offering offers End Users less functionality relative to that separate, standalone Subscription Offering. Such lesser functionality may include, but is not limited to, limitations on the ability of End Users to choose to listen to specific sound recordings on request or a limited catalog of sound recordings.**" (Amazon Rate Proposal) (emphasis added).

[redacted]

[redacted]."

[redacted]

COEX-8.198 – [redacted], at AMZN_Phono IV_00015989.

79. Amazon could impose this type of functional limitation or similar ones that it determines will not result in unacceptable levels of user dissatisfaction or churn and claim that Prime Music remains a Mixed Service Bundle, even though Prime Music will have [redacted]

80. [redacted]:

COEX-8.210 – , at AMZN_Phono IV_00020127.[97]

By (for the majority of users, most of the time), Amazon could .

81. Amazon's documents also show that Prof. Marx's testimony describes Prime Music as for the proposition that "."[98] While this number in itself would be ."[99] And, as mentioned above, Prime Music

[97] As this document shows, .

[98] Marx AWDT ¶ 185 (citing Klein WDT Table 16 and ¶ 87).

[99] **COEX-8.198** – , at AMZN_Phono IV_00015986 (emphasis added).

already provides significant value in Amazon's [redacted]

B. Amazon's future planning for Amazon Music [redacted]

82. Amazon's internal documents refer to [redacted]. While Prof. Marx makes note of certain of these—for example referring to podcasts as a "customer-facing innovation"—such framing [redacted].

83. The [redacted], described in Amazon's documents, provide significant context not only for the simplified descriptions of Amazon's services, offerings and "innovations" in Amazon's witnesses' testimony, but also for Amazon's rate proposal, which such descriptions support. That many new (and unknown) business models are likely to arise between now and 2027, in my view, should be taken into consideration by the Judges in setting the rates in this proceeding. The following are [redacted].

- "[redacted]."[100]
- "[redacted]."[101]

[100] **COEX-8.194 –** [redacted], at AMZN_Phono IV_00015836.
[101] **COEX-8.197** – [redacted], at AMZN_Phono IV_00015883.

- "[redacted]"[102]
- [redacted].[103]
- "[redacted]"[104]
- "[redacted]."[105]
- "[redacted]."[106]
- "[redacted]."[107]
- "[redacted]."[108]
- [redacted].[109]
- [redacted].[110]
- "[redacted]."[111]

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[102] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015983.
[103] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015983.
[104] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015985.
[105] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015984.
[106] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015984.
[107] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015984.
[108] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015994.
[109] **COEX-8.218** – [redacted] (AMZN_Phono IV_00047423), at AMZN_Phono IV_00047423.
[110] **COEX-8.219** – [redacted] (AMZN_Phono IV_00047462), at AMZN_Phono IV_00047462.
[111] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015985.

- [redacted].”[112]
- [redacted].”[113]
- “[redacted].”[114]
- “[redacted].”[115]
- “[redacted].”[116]
- “[redacted].”[117]
- “[redacted]”[118]
- “[redacted].”[119]

VII. Conclusion

84. Amazon’s witnesses have described a business model that is very different from the Amazon Music reflected in its internal documents. [redacted]

[112] **COEX-8.220** – [redacted] (AMZN_Phono IV_00047439) at AMZN_Phono IV_00047439.
[113] **COEX-8.212** – [redacted] (AMZN_Phono IV_00020327), at AMZN_Phono IV_00020334.
[114] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015990.
[115] **COEX-8.197** – [redacted], at AMZN_Phono IV_00015883.
[116] **COEX-8.197** – [redacted], at AMZN_Phono IV_00015887.
[117] **COEX-8.197** – [redacted], at AMZN_Phono IV_00015887.
[118] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015991.
[119] **COEX-8.198** – [redacted], at AMZN_Phono IV_00015989.

[redacted] These documents show, among other things, that Amazon has multiple levers to pull—among its music offerings and between its various business divisions—in connection with all of its proposed rate prongs, and many opportunities to reduce royalties paid to Copyright Owners in the absence of strong protections.

85. I reserve the right to amend or supplement my analysis and conclusions based on additional materials that may be disclosed and upon updated public information that may become available during the course of this proceeding.

I, Robin Flynn, declare under penalty of perjury that the statements contained herein are true and correct to the best of my knowledge, information and belief.

Executed on April 22, 2022 in Pacific Grove, California.

Robin Flynn

Appendix A: Materials Relied Upon

I. PRODUCED DOCUMENTS

- [redacted] (AMZN_Phono IV_00016118)
- [redacted] (AMZN_Phono IV_00017167)
- [redacted] (AMZN_Phono IV_00015799)
- [redacted] (AMZN_Phono IV_00015832)
- [redacted] (AMZN_Phono IV_00015835)
- [redacted] (AMZN_Phono IV_00015878)
- [redacted] (AMZN_Phono IV_00015882)
- [redacted] (AMZN_Phono IV_00015981)
- [redacted] (AMZN_Phono IV_00016136)
- [redacted] (AMZN_Phono IV_00015701)
- [redacted] (AMZN_Phono IV_00015770)
- [redacted] (AMZN_Phono IV_00015736)
- [redacted] (AMZN_Phono IV_00015998)
- [redacted] (AMZN_Phono IV_00015816)
- [redacted] (AMZN_Phono IV_00016012)
- [redacted] (AMZN_Phono IV_00015850)
- [redacted] (AMZN_Phono IV_00015900)
- [redacted] (AMZN_Phono IV_00015930)
- [redacted] (AMZN_Phono IV_00015963)
- [redacted] (AMZN_Phono IV_00016031)
- [redacted] (AMZN_Phono IV_00020295)
- [redacted] (AMZN_Phono IV_00020209)
- [redacted] (AMZN_Phono IV_00020204)
- [redacted] (AMZN_Phono IV_00020358)
- [redacted] (AMZN_Phono IV_00020341)
- [redacted] (AMZN_Phono IV_00020180)
- [redacted] (AMZN_Phono IV_00020214)
- [redacted] (AMZN_Phono IV_00020251)
- [redacted] (AMZN_Phono IV_00020229)

- [redacted] (AMZN_Phono IV_00020305)
- [redacted] (AMZN_Phono IV_00020900)
- [redacted] (AMZN_Phono IV_00020870)
- [redacted] (AMZN_Phono IV_00020976)
- [redacted] (AMZN_Phono IV_00016883)
- [redacted] (AMZN_Phono IV_00020804)
- [redacted] (AMZN_Phono IV_00046515)
- [redacted] (AMZN_Remand_00006426)
- [redacted] (AMZN_Phono IV_00047374)
- [redacted] (AMZN_Phono IV_00047964)
- [redacted] (AMZN_Phono IV_00015221)
- [redacted] (AMZN_Phono IV_00015267)
- [redacted] (AMZN_Phono IV_00020127)
- [redacted] (AMZN_Phono IV_00015424)
- [redacted] (AMZN_Phono IV_00020164)
- [redacted] (AMZN_Phono IV_00020327)
- [redacted] (AMZN_Phono IV_00047483)
- [redacted] (AMZN_Phono IV_00047466)
- [redacted] (AMZN_Phono IV_00047499)
- [redacted] (AMZN_Phono IV_00015517)
- [redacted] (AMZN_Phono IV_00015538)
- [redacted] (AMZN_Phono IV_00047423)
- [redacted] (AMZN_Phono IV_00047462)
- [redacted] (AMZN_Phono IV_00047439)
- [redacted] (AMZN_Phono IV_00003598)
- [redacted] (AMZN_Phono IV_00015186)

- [redacted] (AMZN_Phono IV_00047363)
- [redacted] (AMZN_Phono IV_00048053)
- [redacted] (AMZN_Remand_00005318)
- [redacted] [[redacted]] (AMZN_Phono IV_00008701)
- [redacted] (AMZN_Remand_00007338)
- [redacted] (AMZN_Phono IV_00008703)
- [redacted] (AMZN_Phono IV_00019305)
- [redacted] (AMZN_Phono IV_00019695)
- [redacted] (AMZN_Phono IV_00006816)
- [redacted] (AMZN_Phono IV_00004636)
- [redacted] (AMZN_Phono IV_00004022)
- [redacted] (AMZN_Remand_0000159)
- [redacted] (AMZN_Phono IV_00015464)
- [redacted] (AMZN_Phono IV_00015466)

II. FILINGS/TESTIMONY

- *Phonorecords IV*, Written Direct Testimony of James Duffett-Smith
- *Phonorecords IV*, Written Direct Testimony of Tami Hurwitz
- *Phonorecords IV*, Amended Written Direct Testimony of Leslie M. Marx, PHD
- *Phonorecords IV*, Amended Written Direct Testimony of Kajal Gayadien
- *Phonorecords IV*, Written Direct Testimony of Robin Flynn
- *Phonorecords IV*, Amazon WDS Exhibit 194
- *Phonorecords IV*, Amazon WDS Exhibit 195
- *Phonorecords IV*, Amazon WDS Exhibit 197
- *Phonorecords IV*, Amazon WDS Exhibit 200
- *Phonorecords IV*, Amazon Amended Proposed Rates and Terms
- *Phonorecords IV*, Amazon.com Services LLC's Objections and Responses to Copyright Owners' First Set of Requests for Production of Documents (Nov. 15, 2021)

- *Phonorecords IV*, Amazon.com Services LLC's Second Amended Responses to Copyright Owners' Second Set of Interrogatories (Apr. 20, 2022)

III. HEARING TRANSCRIPTS

- *Phonorecords III*, Hearing Transcript (Marx)
- Cross-Examination of Dr. Leslie Marx, Trial Tr. (Jan. 29, 2014), *United States v. ASCAP (In re Petition of Pandora Media, Inc.),* No. 12 Civ. 8035(DLC) (*Phonorecords III* hearing exhibit H-2697).

PUBLIC VERSION

Before the
COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.

In the Matter of: DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords IV)	Docket No. 21–CRB–0001–PR (2023–2027)

WRITTEN REBUTTAL TESTIMONY OF ADAM HEIMLICH

Expert Witness for Copyright Owners

April 22, 2022

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I. Background and qualifications

1. I am the Chief Executive Offer and a co-founder of Chalice Custom Algorithms, an advertising tech company that uses custom algorithms to assist advertisers, and Resident Adtech Expert for Keystone Strategy, a consulting firm. I have more than 20 years of experience in the advertising tech industry, including, in previous positions, serving as SVP Programmatic at Horizon Media and VP Performance Marketing at Razorfish.

2. Prior to my work in the advertising tech space, I worked in the area of music journalism for approximately ten years, including as a contributing writer for over half a dozen newspapers and magazines and as a consultant to music websites on their monetization strategies.

3. Although testifying as an expert is not a regular aspect of my work, I have previously given testimony regarding the online advertising industry: I testified in 2020 before the US Senate Subcommittee on Antitrust in connection with Subcommittee's investigation of competition in the online advertising market and I gave testimony in connection with the U.S. Department of Justice's 2008 investigation of Google's offer to supply search advertising to its competitor, Yahoo. More information about my professional experience is available on my CV, which is submitted as Appendix A to this statement.

4. I have also authored or co-authored numerous articles on topics such as digital ad algorithms, marketing strategy and data privacy, several of which appeared in the leading industry publication, AdExchanger. I have been quoted as an ad tech expert in the Wall St Journal and New York Times. A list of my published works from the past 10 years is submitted as Appendix B to this statement. I am being compensated in connection with my work and with any testimony that I may give in this proceeding within the range of my ordinary rates. My compensation is not contingent on the substance of my opinions, nor on this proceeding's outcome.

II. Assignment and summary of conclusions

5. I have been retained to provide an opinion in rebuttal to the Written Direct Statements of participants Amazon.com Services LLC ("Amazon"), Apple Inc. ("Apple"), Google LLC ("Google"), Pandora Media, LLC ("Pandora") and Spotify USA Inc. ("Spotify"; I refer to these five companies as the "Services"). In particular, I respond to aspects of the Services' testimony about ad-supported music streaming offerings that is offered by Tami Hurwitz (for Amazon), Professor Leslie M. Marx (also for Amazon), James Duffett-Smith (also for Amazon), Carletta Higginson (for Google), Dr. Gregory K. Leonard (also for Google), George White (for Pandora), and David Kaefer (for Spotify). I also respond to aspects of each of the Services' rate proposals that address the calculation and allocation of ad revenues for the purpose of calculating the royalties to be paid to songwriters and music publishers.

6. The Service witness testimony that I address includes, in particular, Service witnesses' testimony about their companies' alleged business interests and goals for their ad-supported music streaming offerings. The Services have claimed that ad-supported streaming offerings mainly exist to "funnel" users to subscription plans (as though the ad-supported service

were intended merely as a sort of stepping stone). This claim is made by Amazon[1], Spotify,[2] Pandora[3] and Google.[4]

7. Service witnesses have also claimed that a license structure where the Services share their revenues with songwriters and music publishers supposedly aligns the Services' financial incentives in running their ad-supported offerings (and other music offerings) with songwriters' and music publishers' interests.[5]

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[1] Written Direct Testimony of Tami Hurwitz ¶ 3 (Since launching Unlimited in October 2016, Amazon Music's core business objective has been, and remains, to grow Unlimited's subscriber base. Amazon Music's other service tiers targeting customers with a lower willingness to pay—Amazon Music Free ("Free") and Amazon Music Prime ("Prime Music")—provide a means to achieve that core objective. Both are effective at attracting to Amazon's music service customers who otherwise would not be inclined to pay for it. [redacted] Once customers have signed up for either tier, Amazon goes to great lengths to upsell them to Unlimited. Amazon has succeeded in those efforts: across virtually every metric Amazon tracks, both the Free and Prime Music tiers have provided an effective funnel into Unlimited.); *id.* ¶ 64 ("[redacted]"); Written Direct Testimony of James Duffett-Smith ¶¶ 21-23 ("Duffett-Smith WDS") ("Amazon launched Amazon Music Free ('Free') in April 2019. . . . Amazon designed Free as a funnel to upsell customers to Unlimited, in a similar way to the Prime Music funnel."). Amazon's characterization of its ad-free music streaming offering as a "funnel" for subscriptions stands in stark contrast with the reality that it is a company operating an $8 billion advertising business, one that is gaining quickly from third position in the market behind Facebook and Google. *See infra* at Section III.

[2] Written Direct Testimony of David Kaefer ("Kaefer WDT") ¶¶ 10-12 [redacted].").

[3] Corrected Written Direct Testimony of George White ¶ 14 ("Pandora's noninteractive ad-supported internet tier is essentially the same great product it always has been—although Pandora has added certain, limited interactive features to its free tier in order to help introduce and upsell users to its subscription tiers of service.").

[4] Written Direct Testimony of Dr. Gregory K. Leonard ("Leonard WDT") ¶ 74 (asserting that the Services' incentives are to "seek to move AVOD users to SVOD services").

[5] Written Direct Testimony of Carletta Higginson ¶ 57 ("[redacted]

8. Finally, each of the Services has also proposed a revenue-share prong for ad-supported offerings and particular terms for what sorts of ad revenues will count towards songwriters' and music publishers' royalty payments. Amazon, Spotify and Pandora would count only ad revenues that the Services recognize "as a result of the inclusion of third-party 'in-stream' or 'in-download' advertising as part of the Offering, *i.e.*, advertising placed immediately at the start or end of, or during the actual delivery of, a musical work" and would exclude revenue from ads embedded or served within content other than songs such as podcasts.[6] These proposals would include just "50% of revenue" from ads placed between licensed songs and other content.[7] Apple and Google would count only revenues from "third party" ads that are "displayed or streamed on a Relevant Page," meaning the "electronic display (for example, a web page or screen) from which a Service Provider's Offering consisting of Eligible Interactive Streams or Eligible Limited Downloads is directly available to End Users[.]"[8]

[redacted]"). *See also* Duffett-Smith WDS ¶ 184 ("[redacted]"); Written Direct Testimony of Leslie M. Marx, PhD ¶ 10 ("A percent-of-revenue rate aligns the incentives of services and copyright owners with surplus maximization . . . ."); *id*. ¶ 154 ("A percent-of-revenue rate structure aligns interactive streaming services' incentives to maximize revenue with copyright owners' interest in profiting from their musical works because, under such a rate structure, both the services and the copyright owners benefit from any increase in revenue."); *id*. ¶ 247 ("[A] percent-of-revenue rate structure benefits both services and the copyright owners by aligning the services' incentives to maximize revenue with the copyright owners' interest in profiting from their musical works."); Leonard WDT ¶ 74 (claiming "the incentives for a publisher and a service provider are generally closely aligned" in that "both would prefer more advertising revenue, all else equal"); Kaefer WDT ¶ 10 ("[redacted]").

[6] Amazon Amended Proposed Rates and Terms § 385.2; Proposed Rates and Terms of Pandora Media, LLC § 385.2; Spotify Proposed Rates and Terms § 385.2.

[7] *Id.*

[8] Apple's Proposed Regulations (Amended) § 385.2; Proposed Rates and Terms of Google LLC § 385.2.

9. From my review and analysis of the evidence and based on my professional experience and knowledge, I offer the following opinions in rebuttal to the testimony and proposals described above:

- Contrary to the cited Service witness testimony,[9] the Services' ad-supported music streaming offerings are not mere stepping stones or "funnels" toward their subscription offerings. Rather, these ad-supported streaming offerings are tremendous drivers of value for the Services in numerous ways, separate and apart from any impact those offerings may have on subscription growth.[10]
- This story that the Services tell about the supposed alignment of their incentives with songwriters' and music publishers' interests under a revenue-share license model[11] does not reflect the reality of the advertising market and the Services' ad-supported offerings. Ad-supported services present many opportunities for the Services to avoid counting or disclosing revenue for the purpose of calculating royalties. The Services can divert or suppress revenues on their ad-supported music streaming offerings in a number of ways, including by increasing pricing in their roles as intermediaries in the ad industry or by serving house advertisements that increase revenues for aspects of their businesses not subject to revenue-share licenses.

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[9] *See* testimony cited *supra* notes 1-4.

[10] Free, ad-supported offerings are core to the media business. Broadcast television is free and ad-supported. Every major American city has at least one free, ad-supported newspaper. Online, the model is even more prevalent: Google search and YouTube are free and ad-supported. Facebook and Instagram are free and ad-supported. It is abundantly proven that free, ad-supported entertainment can be very profitable. When a service is free to the user, it gets more users. This creates demand for advertisers, who naturally want to buy ads where more people will see them.

[11] *See* testimony cited *supra* at note 5.

- These concerns are very real. As I further explain, one of the Services, Google, has been sued by sixteen state Attorneys General and the Commonwealth of Puerto Rico (and also by private parties) who accuse it of altering advertising payouts through similar practices using its multiple roles as an intermediary between advertisers and the websites and platforms where those ads appear.
- The way that the Services have opted to define what ad revenue counts and what does not count for the purpose of paying songwriter and music publishers[12] will not capture all of the revenue that the Services realize through their ad-supported music streaming offerings. It may not even capture much of the revenue from third-party ads served between songs that are subject to the license. Among other things, the Services can structure the pricing of their advertising in ways that, they may argue, cause the payments they receive to fall outside of those definitions. Those definitions are simplistic and treat advertisements on interactive streaming services as though they were like advertisements in a newspaper that generate a fixed amount of revenue each time they appear. That is often not how advertising on these Services' interactive streaming offerings operates in practice.

10. In formulating these opinions, I have reviewed numerous materials, including the public sales materials of the Services, the audio ad offerings of the major ad tech firms, public reporting and legal documents including the complaints against Google, the Services' relevant terms of service, certain filings in this proceeding including Service witness testimony and the Services' rate proposals, and certain documents produced by the Services in this proceeding. The

[12] *See supra* at 4.

materials I have reviewed and relied upon in formulating my opinions are set forth in the footnotes in this report, with additional such materials also listed in Appendix C to this report.

III. Online advertising is a target market for the Services, and music streaming generates predictive value the services monetize in many other areas of their business

11. The business model of the Services' ad-supported music streaming offerings is not merely to bring in users who convert to paying subscribers, as some Service witnesses have claimed.[13] Increasing subscription revenue alone is not the endgame. Rather, the goal is to achieve a maximally profitable combination of subscription revenue, ad revenue, ad intermediary revenue and revenue from yet other categories where data can power predictions.[14] The Services leverage music listening data and their ad-supported offerings outside of music streaming in at least four ways.

A. Development of the online advertising industry

12. To understand the current online advertising industry in which the Services operate, it is useful to summarize at a high level the relevant history of the industry, starting from when the marketplace was far less complex than it is today.

13. Advertising as we know it was developed in the 19th Century. Intermediary actors, situated between ad publishers[15] and advertisers, have long been a part of the industry. When

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[13] *See* supra at notes 1-4.

[14] Spotify's former CFO, Barry McCarthy, has stated that for Spotify, the goal is largely "engagement": "[H]onestly, we're indifferent between your preference [between premium and free]. I mean, the thing that drives me to premium is the fact that I don't want to hear ads when I'm in middle of the dinner with my wife. But if you could care less and you're indifferent to ads, great. We want you to be a Spotify user, and we think we can very successfully monetize[] our engagement. So engagement, engagement, engagement. It's the biggest single opportunity we have to drive incremental monetization and we [have] this." **COEX-14.1** – Spotify Technology SA at Morgan Stanley Technology, Media & Telecom Conference (Feb. 26, 2019) at SPOT_P4_000007404.

[15] I use the term "publisher" here in its advertising sense, meaning the entity that sells ad "space" or inventory to advertisers. A "publisher" in this sense includes, in more traditional formats, the owner or operator of billboards or

regional newspapers were the only mass medium, advertising agencies bought ad space in them to resell to advertisers at a 15 percent markup. Aggregating ad inventory across ad publishers (the "sell-side" of the market) made it easier for advertisers to launch national campaigns and reach Americans everywhere. This practice allowed early advertisers like Coke to become national brands.

14. At the same time, agencies leveraged their scale with advertisers (the "buy-side" of the market) and their sheer buying power to get lower ad rates from publishers. Other categories of "traditional" advertising, including billboards, radio, and television, followed the same model, with intermediary actors aggregating both supply and demand. Thus, while advertisers in traditional media could theoretically transact with an ad publisher directly and on a one-to-one basis, many in fact transacted with ad publishers through intermediaries, with each intermediary transacting on behalf of many buyers and sellers.

15. Digital advertising, like traditional advertising, is dominated by intermediaries—albeit intermediaries of a different sort. Digital advertising began around the 1990s with rectangular "banner" ads on early websites. Today, digital ads can be banner ads, video clips, or audio ads that play before or after music streams.[16] All these digital ad formats sold by an ad

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newspapers or magazines. In the digital space these formats include websites and, most applicable to my discussion here, apps and other software such as the Services' music streaming offerings. I recognize this terminology may cause some confusion because while the Services, in running ad-supported offerings, are "publishers" in the advertising sense, Copyright Owners also consist of "publishers" in the music industry sense. But it is important to use advertising terms as they actually exist and so, when referring to publishers in the advertising sense I use the phrase "ad publisher" (or just "publisher") while when referring to publishers in the music industry sense I use the more specific phrase "music publisher."

[16] While programmatic advertising began with banner ads on desktop computers, it has expanded to include mobile ads, video ads and audio ads. Audio formats were added to OpenRTB, the standardized, programmatic auction protocol, in 2016. Meaning, ad publishers and advertisers can buy and sell audio ads through the same programmatic protocols developed originally for display ads.

publisher often go through three distinct intermediaries before ultimately making it to an advertiser. First, an ad publisher's ad slot is routed to and handled by the publisher's sell-side intermediary called an ad server. The ad server takes a fee for managing the ad publisher's inventory and routes the ad publisher's ad slots to the second type of intermediary in the chain, the ad "exchanges." While the intermediaries of old negotiated deals in person, today ad exchanges modeled after financial exchanges like the New York Stock Exchange auction ad publishers' ad slots to the highest bidders in real time—just as a user is loading a page, video or stream on a publisher's site or app. The exchange extracts a fee, which can be as high as 20+ percent of the price of the ad slot sold.[17] From there, the ad slot passes to the advertiser's specialized buy-side intermediary called a demand side platform or DSP. DSPs bid in exchanges on behalf of advertisers and charge their own (often double digit) commission on gross spend. The overall idea is that for any given ad slot ("impression"), the advertiser willing to pay most for it wins the right to serve its ad. In essence, the intermediary task of aggregation moved from ad agencies to software, where data from buyers, sellers and/or third parties triggers decisions in an automated fashion, commonly referred to as "programmatic." In the subset of the digital ad marketplace featuring ad exchanges, there are three distinct and sequentially organized programmatic software intermediaries, and advertiser and publisher ad decisions are automated at massive scale.[18]

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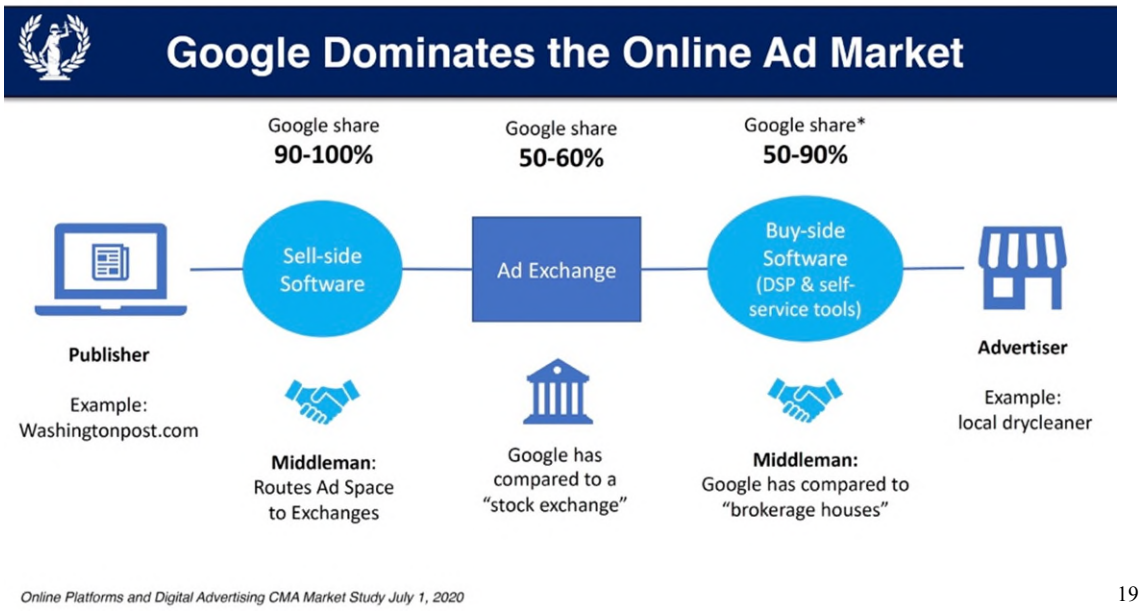
[17] **COEX-14.2** – Third Amended Complaint Filed by the Attorney Generals of Texas, Alaska, Arkansas, Florida, Idaho, Indiana, Kentucky, Louisiana, Mississippi, Missouri, Montana, Nevada, North Dakota, Puerto Rico, South Carolina, South Dakota, and Utah, against Google LLC on Jan. 14, 2022 in connection with *In RE: Google Digital Advertising Antitrust Litigation*, No. 1:21-MD-03010-PKC ("16 State TAC") at ¶ 513 (explaining that ad exchanges have "take rates" between 5 to 22 percent of the price of the ad slot sold).

[18] This is not to suggest that the only way that digital ads are bought and sold is through exchange-driven programmatic advertising. Spotify's public disclosures indicate, for example, that Spotify sells ads through a mix of programmatic advertising methods and direct deals with advertising agencies and large brands. *See* **COEX-14.3** – Spotify 2021 Form 20-F at 55. However, programmatic advertising is, as I discuss below, the dominant paradigm in the online advertising marketplace and one that continues to grow.

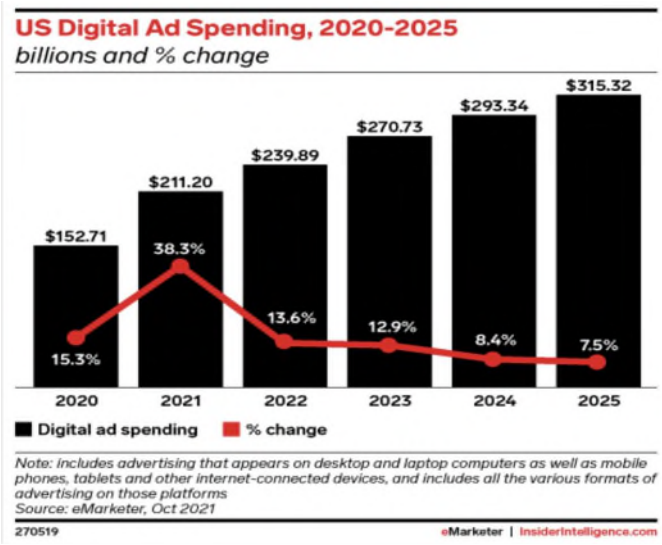
16. The intermediary function of digital advertising extended from aggregation to data-driven delivery of the right ads to the right person. A buyer looking for hockey fans could ask a sports site to put its ads only in front of people who consume hockey content. A seller of flowers could accommodate ad offerings exclusively for fathers on Mother's Day, and especially for singles on Valentine's Day.

17. A diagram of this programmatic marketplace with the sell-side, exchange, and buy-side intermediaries was shared by Rep. Pramila Jayapal during a 2020 congressional hearing on Jul. 29, 2020, "Online Platforms and Market Power, Part 6: Examining the Dominance of Amazon, Apple, Facebook, and Google," before the House Committee on the Judiciary, subcommittee on Antitrust, Commercial, and Administrative Law and is shown below:



[19] **COEX-14.4** – House Judiciary Committee's Subcomm. on Antitrust, Com. & Admin. Law of the Comm., 116th Cong., Investigation of Competition in Digital Markets, Demonstratives Used at Hearing Part 6 at 28 (Jul. 29, 2020).

The automated, data-driven digital advertising market is large and growing, accounting for around 85% of all online display ads in the U.S. today, and this trend is expected to increase year-over-year through 2025; within that market, Google is dominant and Amazon is very active in the triple-intermediated programmatic marketplace.[20] The size of the industry overall is massive: digital ad spending in the U.S. last year measured over $200 billion and that number is expected to grow to over $300 billion by 2025. The graph below from industry research firm eMarketer illustrates this industry growth:



[21]

[20] **COEX-14.5** – "US Programmatic Digital Display Advertising Outlook 2021," eMarketer Insider Intelligence, https://on.emarketer.com/rs/867-SLG-901/images/eMarketer%20US%20Programmatic%20Digital%20Display%20Advertising%20Outlook%202021%20Report.pdf (estimating over 86% of digital display ads were transacted programmatically in 2021, treating "audio" as a "subset" of digital display advertising, estimating just over 21% of all audio ads are transacted programmatically, and noting that the percent of audio ads transacted programmatically increasing at a double-digit year-over-year rate); **COEX-14.6** – The Socialfix Kickass Content Team, "Why You Should Integrate Programmatic Ad Buying Techniques in Your 2022 Marketing Strategy," Socialfix (Jul. 22, 2021) https://www.socialfix.com/why-integrate-programmatic-ad-buying-techniques-in-your-2022-marketing-strategy/; *see also* **COEX-14.7** – "Brand Disruption 2020 Direct Brands Go Mainstream," IAB (Feb. 2020) https://s3.amazonaws.com/media mediapost.com/uploads/IABBrandDisruption2020.pdf.

[21] **COEX-14.14** – "US Digital Ad Spending, 2020-2025," eMarketer (Jan. 20, 2022) https://www.emarketer.com/content/digital-ad-spending-outlook-blows-past-previous-forecasts.

18. One important fact to note about exchange-driven programmatic advertising is that, especially when the ad publisher also provides the intermediary functions, it is impossible to pinpoint how much exactly the ad server, exchange, and DSP actually take as their cut on ad publishers' ad revenue.[22] Whereas agencies in traditional media took a transparent take rate of, *e.g.*, 15 percent of inventory, even when a digital intermediary is a separate company, it can change its take rates dynamically, in real time, and on an impression-to-impression basis.[23] When a Service both acts as a music streaming ad publisher and as an ad intermediary brokering its own advertising, the Service can inflate the intermediary fees it charges on music streaming impressions, shifting revenues from advertising that would be shared with copyright owners to its intermediary, and no one would ever know.[24]

19. With rapid industry growth and the ability to charge non-transparent and high intermediary fees, it is no surprise that some of the largest market cap companies in the U.S. today both sell digital advertising and act as intermediaries. Google is the largest player in the online advertising space, acting simultaneously as an ad publisher, ad server, exchange, and DSP. Most

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[22] **COEX-14.8** – Alex Barker, "Half of online spending goes to industry middlemen," Financial Times (May 5, 2020) https://www.ft.com/content/9ee0ebd3-346f-45b1-8b92-aa5c597d4389 (FT study says publishers receive less than 50 percent of what advertisers pay, with over 30 percent going to identified intermediaries and one third of the fees (~17%) disappearing to unknown parties).

[23] **COEX-14.9** – Neha Shah, "Re-Inventing Adtech: The French Competition Authority's Google Fine," https://adscholars.com/blog/re-inventing-adtech-the-french-competition-authoritys-google-fine/ (discussing the French Competition Authority (ADLC)'s decision to penalize Google for 220 Million Euros for their Dynamic Revenue Share program); **COEX-14.10** – "Configure your Ad Exchange revenue share," Google Ad Manager Help, https://support.google.com/admanager/answer/7031785?hl=en (Google states on their own support page that "Revenue share optimizations have been paused since the transition to a first-price auction in September 2019."); **COEX-14.11** – Vladimir Nepor, "Revenue share," Gamearter (Mar. 19, 2019) https://www.gamearter.com/blog/revenue-share.

[24] *See e.g.*, **COEX-14.12** – Tripp Mickle and Keach Hagey, "Google Misled Publishers and Advertisers, Unredacted Lawsuit Alleges," The Wall Street Journal (Jan. 14, 2022) https://www.wsj.com/articles/google-misled-publishers-and-advertisers-unredacted-lawsuit-alleges-11642176036 (describing how Google as an ad intermediary secretly manipulated ad publishers' auctions and ad revenue).

of Google's $200+ billion in annual revenues come from digital advertising.[25] Facebook is the second largest player in digital advertising with "substantially all" of its 2021 revenue coming from selling digital ads as a publisher and brokering ads as an intermediary DSP.[26] Amazon sells ads on its own properties like Amazon.com and Amazon Music Free, but also operates sell- and buy-side intermediaries[27] and is the third largest player in the market with $31 billion in ad revenue in 2021.[28] Even Apple operates an advertising intermediary, and brought in an estimated $5 billion from advertising in 2021.[29]

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[25] **COEX-14.78** – Alphabet 2020 Form 10-K; **COEX-14.13** – Megan Graham and Jennifer Elias, "How Google's $150 billion advertising business works," CNBC (May 18, 2021) https://www.cnbc.com/2021/05/18/how-does-google-make-money-advertising-business-breakdown- html (Google generated approximately 183 billion in revenue in 2020, over 80% of which came from online advertising, driving a market cap of 1.5+ trillion).

26 Meta 2021 Form 10-K; *See also* Matthew Johnston and Jefreda R. Brown, "How Facebook (Meta) Makes Money," Investopedia (Feb. 4, 2022) https://www.investopedia.com/ask/answers/120114/how-does-facebook-fb-make-money.asp ("As much as 97%, or $32.8 billion, was advertising revenue").

[27] **COEX-14.16** – James Hercher, "Amazon Advertising Revenue Eclipses $7B – And Is Still Picking Up Speed," AdExchanger (Jul. 30, 2021) https://www.adexchanger.com/online-advertising/amazon-advertising-revenue-eclipses-7b-and-is-still-picking-up-speed/ ("The factors driving Amazon's ads business are also still rocketing upward … Amazon's advertising business is both massive and growing fast."); **COEX-14.17** – Ethan Cramer-Flood, "Duopoly still rules the global digital ad market, but Alibaba and Amazon are on the prowl," eMarketer (May 10, 2021) https://www.emarketer.com/content/duopoly-still-rules-global-digital-ad-market-alibaba-amazon-on-prowl.

[28] **COEX-14.15** – Jordan Novet, "Amazon has a $31 billion a year advertising business," CNBC (Feb. 3, 2022) https://www.cnbc.com/2022/02/03/amazon-has-a-31-billion-a-year-advertising-business.html; **COEX-14.18** – "Amazon's advertising revenue is $31 billion and growing. Here's everything we know about its booming ad business," Business Insider (Apr. 4, 2022) https://www.businessinsider.com/inside-amazons-growing-ad-business-everything-we-know-2019-5#:~:text=Amazon%27s%20advertising%20revenue%20is%20%2431%20billion%20and%20growing.,hitting%20%2431%20billion%20in%20ad%20revenue%20in%202021.

[29] Apple, like Amazon, expanded its footprint in lucrative online advertising markets, causing Apple's revenues from online advertising to become the company's fastest-growing revenue stream. One report cited a growth figure of 33% for Apple Search Ads revenue since the company restricted ad rivals' tracking on its iPhone devices. Apple tripled its overall advertising market share in 2021. According to researchers at Evercore ISI, Apple is "likely to earn $5B from its advertising business this fiscal year, and $20B a year within three years." **COEX-14.21** – Joshua Benton, Apple is becoming a bigger player in digital advertising, risking antitrust action and its image, Niemanlab (Oct. 18, 2021) https://www.niemanlab.org/2021/10/apple-is-becoming-a-bigger-player-in-digital-advertising-risking-antitrust-action-and-its-image/ ("A $20 billion ad business could also make Apple a pretty decent 4th place in the (ex-China) digital ad rankings — still way behind Google and Facebook, but perhaps near the ballpark of Amazon, which will make an estimated $25 billion in U.S. ad revenue this year and is growing fast."); s*ee also* **COEX-14.22** – Patrick McGee, "Apple's privacy changes create windfall for its own advertising business," Financial Times (Oct. 17, 2021)

B. Online advertising is a highly lucrative, data-driven market

20. Before explaining how the Services use their role as an ad publisher in the music streaming market to fuel revenues across non-music content and their ad intermediary divisions, I would like to step back and explain the critical role that data plays with digital advertising.

21. A key innovation in digital advertising was the ability to show different ads to different readers of the same publication. Instead of publishing an ad once, as a printing press must, ad servers execute a separate act of publication for each reader. So, ad servers can show one ad to a user while he is listening to, say, electronic dance music and a different ad to a different user as she is listening to, say, classic rock.

22. A second key innovation with digital advertising was the ability to query information about a user in real time. In the few milliseconds that it takes for a user to load a page or a song, a publisher, ad server, exchange, or DSP can look up information it has collected about that user and use that information to determine which ad to sell to whom, which ad to purchase for whom, or which ad creative to target the user with. The idea is that each internet user sees ads designed to speak to him or her.

23. Coupled together, these two novel characteristics with digital advertising cause data, and particularly user data, to be a core asset of any digital advertising business. Advertisers want to target their ads only to users likely to purchase their goods and services. If they cannot, they end up spending exponentially more to acquire each new customer. In other words, their "cost of sale" rises. Conversely, to meet advertiser demand for user targeting, publishers and ad

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https://www.ft.com/content/074b881f-a931-4986-888e-2ac53e286b9d; **s***ee also* **COEX-14.19** – Laurie Sullivan, "Apple Search Ads Network Up 33% Since Introduction Of iOS 14.5, Report Finds," MediaPost (Feb. 8, 2022) https://www.mediapost.com/publications/article/370992/apple-search-ads-network-up-33-since-introduction.html; s*ee also* **COEX-14.20** – Patrick McGee, "Apple takes on the internet: the Big Tech battle over privacy," Financial Times (Apr. 30, 2021) https://www ft.com/content/3cabd134-0271-4783-8f0e-a17bb682afbe.

intermediaries must know audiences on an individual user basis, which is accomplished through the collection and use of user data. In this way, digital technology has reduced the value of ad space on its own, replacing it with prioritization of targeting consumers who will click on an ad and purchase an advertiser's good or service right then and there.

24. Thus, to successfully sell digital advertising, ad publishers like Spotify or The New York Times collect information about their users and use that information to match users with relevant advertisers. To illustrate, suppose a cowboy hat brand approaches Spotify about purchasing advertising. The advertiser wants Spotify to target its ads only to users likely to be interested specifically in its cowboy hats. If Spotify did not collect or use user data, it might not be able to sell the cowboy hat brand ad space on, say, podcasts about the tech industry. People who listen to such podcasts might not index particularly high for western wear. But Spotify can also use data it gathers about users that listen to country music on its music streaming offering to target only country listeners on the podcast about tech, thereby generating ad revenue where it otherwise might not. A core strategy for digital advertising is using data gathered about users in one division to target ads more effectively, and thereby generate more advertising activity, in another division. As the Economist in 2017 declared, "The World's Most Valuable Resource Is No Longer Oil, But Data."[30]

C. The Services sell advertising across non-music content and have entered the highly lucrative ad intermediary and exchange markets

25. In the advertising market, the Services do not act merely as music streaming ad publishers. They also sell digital advertising across non-music content and operate in various

[30] **COEX-14.23** – "The world's most valuable resource is no longer oil, but data," The Economist (May 6, 2017) https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data.

intermediary roles between advertisers and ad publishers. These conflicts of interest can incentivize them to prioritize the gathering of highly valuable listening data to fuel their non-music-streaming endeavors.

26. Google sells advertising across non-music content and operates intermediaries in the programmatic advertising market. Google sells digital advertising across Google Search, all of YouTube, Gmail, and other Google properties.[31] Google also has business operations at nearly every intermediary point in the ad market, including by running sell-side publisher ad servers, an advertising exchange, and multiple buy-side platforms or DSPs.[32] For each type of business, Google has a dominant position in the market.[33]

27. Like Google, Amazon sells advertising across non-music content and operates intermediaries in the programmatic advertising market. Amazon sells ads on Amazon Music Free, but also across other Amazon properties, most notably sponsored product ads on Amazon.com.[34] As Amazon's website explains, "Sponsored Products are ads for individual product listings on Amazon. They appear within shopping results pages and on product detail pages."[35] A significant part of Amazon's $31 billion in advertising revenue in 2021 came from selling sponsored product

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31 **COEX-14.24** – Advertising Policies, Google, https://support.google.com/adspolicy/answer/6242605?hl=en ("Data use in personalized ads on Google Search, Gmail, and YouTube").

32 **COEX-14.13** – Megan Graham and Jennifer Elias, "How Google's $150 billion advertising business works," CNBC (May 18, 2021) https://www.cnbc.com/2021/05/18/how-does-google-make-money-advertising-business-breakdown-.html.

33 **COEX-14.2** – 16 State TAC, ¶¶ 91 – 243 (discussing Google's dominant position in the markets for publisher ad servers, exchanges, and DSPs).

34 **COEX-14.25** – "Increase visibility and sales on Amazon with advertising," Amazon, https://sell.amazon.com/advertising.

35 *Id*.

ads.[36] Amazon is also active in the business for intermediary programmatic advertising technology. Here, the company's products include its sell-side services for ad publishers through a division called Amazon Publisher Services and its buy-side intermediary for advertisers called Amazon Ad Platform.[37] Third-party publishers use Amazon Publisher Services to sell their inventory and audiences programmatically through real-time auctions.[38] And advertisers use Amazon's DSP to purchase advertising and target audiences across Amazon properties such as Amazon Music Free and Amazon.com, as well as on third-party properties such as The White Pages, NewsDay10[39], and The Daily Beast.[40]

28. Spotify sells advertising across non-music content and operates intermediaries in the programmatic advertising market. Spotify sells ads against Spotify's podcast plays, in addition to music streams. In February 2021, Spotify launched the Spotify Audience Network ("SPAN"),

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[36] **COEX-14.26** – Peter Adams, "Amazon reveals ad services revenue as segment hits $9.7B," Marketing Dive (Feb. 4, 2022) https://www marketingdive.com/news/amazon-reveals-ad-services-revenue-as-segment-hits-97b/618319/ ("For the full year, Amazon saw about $31.15 billion in ad revenue. Much of that activity is directed at sponsored ad placements, where brands pay to have their products appear in desirable spots around Amazon's e-commerce platform, including search results.").

[37] **COEX-14.27** – Amazon DSP Your brand in new places, Amazon, https://advertising.amazon.com/solutions/products/amazon-dsp ("Amazon DSP is a demand-side platform that allows you to programmatically buy ads to reach new and existing audiences on and off Amazon."); **COEX-14.30** – "What is an SSP? Here's everything you need to know about a Supply Side Platform," https://advertising.amazon.com/library/guides/supply-side-platform ("Does Amazon have an SSP? Yes, Amazon DSP has access to third-party publishers' inventory via Amazon Publisher Services (APS)").

[38] Amazon also intermediates ad sales on ad publisher sites, including its own sites, via a product called Transparent Ad Marketplace. **COEX-14.28** – "Transparent Ad Marketplace," Amazon Publisher Services, https://aps.amazon.com/aps/transparent-ad-marketplace/.

[39] **COEX-14.29** – Unified Ad Marketplace, Amazon Publisher Services, https://aps.amazon.com/aps/unified-ad-marketplace/.

[40] **COEX-14.28** – "Transparent Ad Marketplace," Amazon Publisher Services, https://aps.amazon.com/aps/transparent-ad-marketplace/.

an advertising intermediary that brokers audio ads on behalf of third-party podcast publishers using Spotify's Megaphone and Anchor podcast publisher products.[41]

29. Pandora has the same conflicts of interest that Google, Amazon, and Spotify do. Pandora sells and targets ads across music and non-music content.[42] In addition, Pandora sells and targets ads outside of Pandora, *i.e.*, across independent publishers like The Washington Post and iHeartRadio that participate in Pandora's audience network, AudioGO.[43] [redacted][44]

[41] **COEX-14.3** – Spotify 2021 Form 20-F at 44-45 ("In February 2021, we announced the Spotify Audience Network ("SPAN"), an audio advertising marketplace which connects advertisers to listeners across our owned and exclusive podcasts, podcasts from enterprise publishers via Megaphone, and podcasts from emerging creators via Anchor. Through SPAN, we provide hosting and ad-insertion capabilities for audio publishers that allow us to sell targeted advertising to brand partners to reach listeners both on and off our platform. Some of these agreements require us to share associated revenues and can include minimum guarantees. Revenue from our Ad-Supported segment will also be impacted by the demographic profile of our Ad-Supported Users and podcast listeners and our ability to enable advertisers to reach their target audience with relevant advertising in the geographic markets in which we operate. A large percentage of our Ad-Supported Users are between 18 and 34 years old. This is a highly sought-after demographic that has traditionally been difficult for advertisers to reach. By offering advertisers increased "self-serve options," we continue to improve the efficiency and scalability of our advertising platform."); s*ee also* **COEX-14.31** – "A New Era for Podcast Advertising," Spotify Newsroom (Feb. 22, 2021) https://newsroom.spotify.com/2021-02-22/a-new-era-for-podcast-advertising/; **COEX-14.45** – https://ads.spotify.com/en-US/news-and-insights/2021-podcast-ads-announcements/.

[42] **COEX-14.32** – "The power of Pandora Ads at your finger tips with AudioGO," https://www.audiogo.com/pandora; **COEX-14.33** – "Audio Advertising Made Simple.," https://www.audiogo.com ("Take your mobile marketing everywhere music, news, and podcasts are played").

[43] AudienceGO charges advertisers a flat $18 CPM (cost per mile) rate, and pockets a non-transparent cut of advertisers' spend, before paying the remainder to the third-party ad publishers. **COEX-14.34** – "Frequently Asked Questions," https://www.audiogo.com/faq.

[44] **COEX-14.35** – MIDiA, "[redacted]" (Sept. 2018) at PAN_PHONO4_00004705, PAN_PHONO4_00004708 ("[redacted]"). [redacted] *See* **COEX-14.36** – "[redacted]" (April 28, 2018) at PAN_PHONO4_00007003.

30. Apple does not operate a free music service, but the company still has a robust advertising business outside of music selling targeted ads across its App Store.[45]

D. The Services leverage music streaming data outside of music in at least four ways

1. Each Service collects users' listening data and obtains permission to use that data to augment revenues elsewhere

31. Whether the Services' consumer-facing music business model is free or paid, consumers exchange their data for at least some share of the value they get in return. It's plainly stated in the terms and conditions consumers must sign to use these products.

32. Spotify users must agree to let Spotify collect their personal data and use that data outside of music streaming. This includes things like users' search histories (*e.g.*, search for "country"), streaming histories (*e.g.*, 90% country listener), the names of playlists (*e.g.*, "Jane Doe's country favorites"), music libraries, and interactions with Spotify users.[46]

33. YouTube Music listeners must agree to let Google collect their personal information and monetize that personal information outside of YouTube Music. Users' personal information includes their music search history, video watch history, geolocation, view data, and content and ads interaction data.[47]

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[45] **COEX-14.37** – https://searchads.apple.com; *see also* **COEX-14.22** – Patrick McGee, "Apple's privacy changes create windfall for its own advertising business," Financial Times (Oct. 17, 2021) https://www.ft.com/content/074b881f-a931-4986-888e-2ac53e286b9d (discussing rapid expansion of Apple's advertising business).

[46] **COEX-14.38** – "Spotify Privacy Policy," Spotify (Sep. 1, 2021) https://www.spotify.com/us/legal/privacy-policy/; **COEX-14.39** – Transcript of "Personal Data at Spotify" (Sep. 20, 2021) (transcript generated from YouTube video *available at* https://www.youtube.com/watch?v=FhnwTljFiaM) (explaining how Spotify uses listeners' data for podcasts).

[47] **COEX-14.40** – Google Privacy Policy, Effective Feb. 10, 2022, https://www.gstatic.com/policies/privacy/pdf/20220210/8e0kln2a/google_privacy_policy_en_us.pdf (stating "The activity information we collect may include . . . Terms you search for [and] Videos you watch" and that "Google processes information to provide advertising . . . .").

34. Amazon Music Free users must similarly consent to Amazon collecting their data and monetizing that data outside of Amazon's music service. Amazon Music Free users agree to let Amazon collect and use their content streaming activity, streams and playback details, content downloads, other audio information, geolocation, biometric information when using Alexa, and more.[48]

35. Pandora users must consent to Pandora collecting their personal data and using that data for a variety of purposes.[49] In terms of user information, Pandora collects users' "listening activity," "titles of songs," the songs, albums, and artists a user likes or dislikes, and more. Externally to users, Pandora's terms of service state that Pandora then uses music listening data to "customize and personalize the advertising and other content we deliver to you both on the Service and on other services offered by our publishing partners. We use this information to provide you with relevant and interesting advertising and other content."[50] [redacted]

[redacted]

[48] **COEX-14.41** – Amazon Music Free Conditions of Use, https://www.amazon.com/gp/help/customer/display html?nodeId=508088 (Amazon Music Free's Conditions of Use guide users to their Amazon's general Privacy Notice); *see* **COEX-14.42** – https://www.amazon.com/gp/help/customer/display html?nodeId=GC5HB5DVMU5Y8CJ2 (detailing the categories of personal information collected).

[49] **COEX-14.43** – Pandora's Terms of Service, https://www.pandora.com/legal ("When you use the Services, we keep track of your listening activity, including the number and titles of songs to which you have listened, the songs, albums, or artists that you like (thumb up) or dislike (thumb down), the stations you create or listen to, the songs you skip, and how frequently and for how long you listen to the stations in your station list. We may also keep track of your interactions with the Services, which may include the features you use, the advertising in which you see or show interest, and the content you view. We do this for a variety of reasons, such as . . . to provide you with relevant and interesting advertising, and to improve the Services generally . . . . As this data is essential to the function of the Services, you may not opt out of our collection and use of such data or information. By accessing or otherwise using any portion of the Services, you hereby consent to the foregoing collection and use of your listening activity and behavior for the purposes set forth above and also as outlined in our privacy policy."); *see also* https://www.pandora.com/privacy ("Listening Activity : When you use the Service, we keep track of your listening activity, which may include the number and title of songs you have listened to, the songs that you like (thumb up) or dislike (thumb down), the stations and playlists you create or listen to, the songs you skip, and how long you listen.").

[50] **COEX-14.44** – Pandora's Privacy Policy, https://www.pandora.com/privacy.

[redacted] explains that listening data can predict, for example, that a user "[i]s a parent and likely votes [redacted] democratic."[51]

36. Even Apple collects Apple Music users' listening data and uses that information to sell targeted ads outside of music. According to Apple's terms of service, when using the Apple iCloud Music library, Apple logs the tracks users play, stop or skip, the devices they use, and the time and durations of playback.[52] Apple then uses information about users (including their "music") to segment them into groups and target them with ads elsewhere.[53]

2. <u>The Services use music streaming data to generate ad revenue across non-music content</u>

37. Spotify uses music streaming data to sell and target ads across its non-music content, *e.g.*, the podcast content available on its offerings.[54] To use the example from above, Spotify might target users that like country across podcasts that have nothing to do with country.

38. According to YouTube Music's terms of service, Google uses music listening data to build "better products and services" across Google subsidiaries.[55] This includes delivering more personalized and targeted ads across Google's non-music content, *e.g.*, across Search, YouTube,

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[51] **COEX-14.36** – "[redacted]" (April 28, 2018), PAN_PHONO4_00006999 at PAN_PHONO4_00007002-7004 ([redacted]).

[52] **COEX-14.46** – Apple Media Services Terms and Conditions, https://www.apple.com/legal/internet-services/itunes/.

[53] **COEX-14.47** – Apple's Advertising & Privacy Policy, https://www.apple.com/legal/privacy/data/en/apple-advertising/.

[54] *See* **COEX-14.45** – https://ads.spotify.com/en-US/ ("[W]e can connect you to the people you care about with . . . podcast ads.").

[55] **COEX-14.40** – Google Privacy Policy, Effective Feb. 10, 2022, https://www.gstatic.com/policies/privacy/pdf/20220210/8e0kln2a/google_privacy_policy_en_us.pdf.

Gmail, and the Google intermediary divisions discussed in this Report.[56] For example, Google lets advertisers target users across all of YouTube with "dynamic music lineups."[57] To advertisers, Google defines these as: "dedicated groups of music-focused channels across popular genres such as Latin music, K-pop, hip-hop and Top 100, as well as moods or interests like fitness, so you can easily reach music fans globally and drive results for your business."[58] This is an example of Google using listening data to sell ads outside of YouTube Music (which generate revenues that are not shared with copyright owners).

39. Google's use of music listening data to augment revenues outside of music has not gone unnoticed by competitors. [redacted][59]

40. Amazon sold $31+ billion worth of advertising in 2021, mostly sponsored product ads on Amazon.com, and the company boasts about the value of its audio data when pitching advertisers: "Amazon audio ads are programmatic, so your brand's clip can be featured in a variety of places. This can help brands share their campaign messaging far and wide to connect with more

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[56] *Id*. (stating that Google does not "show you personalized ads based on your content from Drive, Gmail, or Photos" and not exempting data from YouTube Music).

[57] **COEX-14.49** – Melissa Hsieh Nikolic (Group Product Manager, YouTube Ads), "Audio ads on YouTube expand reach and grow brand awareness," Google Ads (Nov. 17, 2020) https://blog.google/products/ads-commerce/youtube-music-audio-ads/.

[58] *Id*.

[59] **COEX-14.50** – "[redacted]" PAN_CRB115_00070865-944, at 900.

customers."[60] Amazon's terms of service then explicitly state that Amazon uses "information such as your interaction from Amazon sites, content, or services" to "show interest-based ads to display features, products, and services that might be of interest to you . . . ." In other words, Amazon too could use music listening data to sell ads across Amazon.com targeted to country listeners.[61]

41. Like Amazon, Google and Spotify, Apple and Pandora use music listening data to target and sell ads outside of music (*e.g.*, ads across the Apple App Store ads and Pandora podcasts respectively).[62]

3. The Services use music streaming data to generate revenue across their advertising intermediary divisions

42. In addition to using music-generated listening data to generate more revenues across non-music content, the Services use the music listening data to increase advertising revenue across various subsidiaries, including their ad intermediary divisions. Although this is revenue

[60] **COEX-14.51** – "Audio marketing and advertising explained," https://advertising.amazon.com/library/guides/audio-marketing.

[61] **COEX-14.52** – "Amazon's Terms of Service for Interest Based Ads," https://www.amazon.com/gp/help/customer/display html/?nodeId=GLVB9XDF9M8MU7UZ ("We show interest-based ads to display features, products, and services that might be of interest to you. . . . To serve you interest-based ads, we use information such as your interactions with Amazon sites, content, or services.").

[62] **COEX-14.46** – Apple Media Services Terms and Conditions, https://www.apple.com/legal/internet-services/itunes/ ; **COEX-14.47** – Apple's Advertising & Privacy Policy, https://www.apple.com/legal/privacy/data/en/apple-advertising/ ; **COEX-14.44** – Pandora's Privacy Policy, https://www.pandora.com/privacy ; **COEX-14.39** – "Personal Data at Spotify," Spotify (Sep. 20, 2021), https://www.youtube.com/watch?v=FhnwTljFiaM.

that derives from the data obtained from music usage, it does not appear that it would be included as revenue for royalty purposes under the Services' proposals.

43. Google uses music streaming data to increase the revenue it generates in its two DSP divisions called DV360 and Google Ads, the #1 buy-side intermediaries used by large and small advertisers respectively.[63]

44. The three screenshots below show how Google Ads, for example, uses music streaming data to sell targeted advertising on third-party sites and generate additional revenue. The first screenshot shows how Google Ads lets an advertiser select the sites it wishes to run its ads on, *e.g.*, just on cnn.com.[64] The second shows how Google Ads permits an advertiser to target users on cnn.com by their musical "affinity." The third and final screenshot shows how an advertiser can narrow the audience pool to their music affinity, *e.g.*, just "Country Music Fans." Based on the site and audience parameters, Google Ads will target the advertiser's ads only to country music fans on CNN.com.

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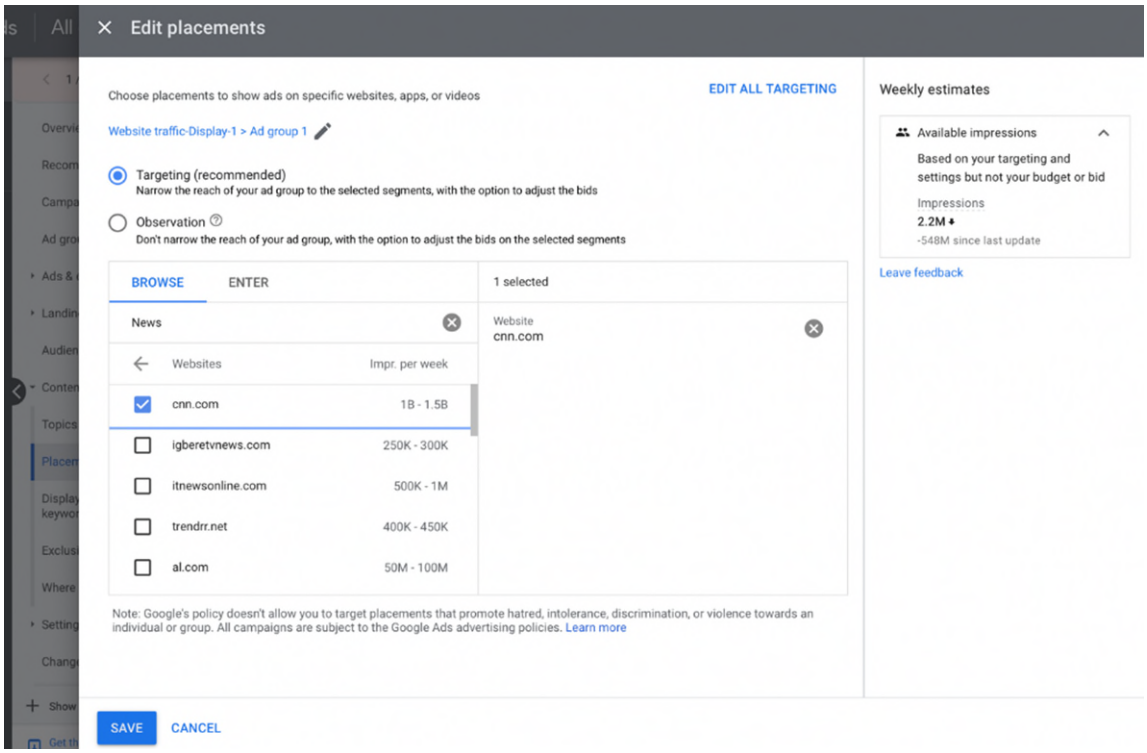
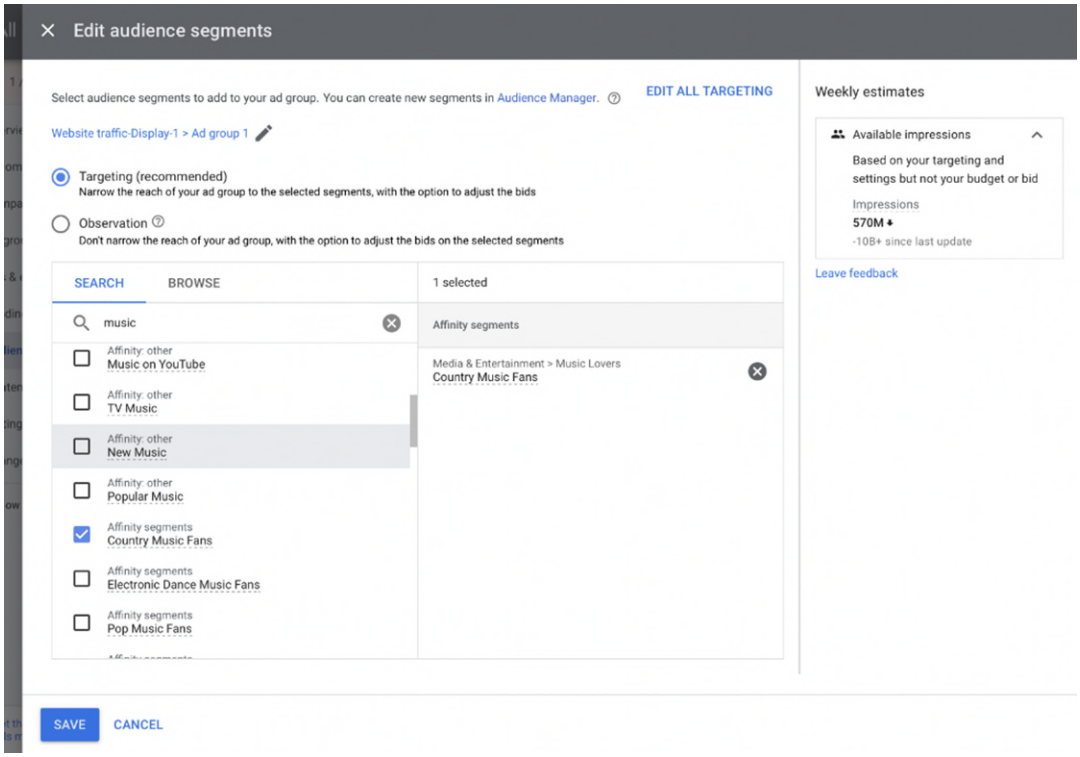
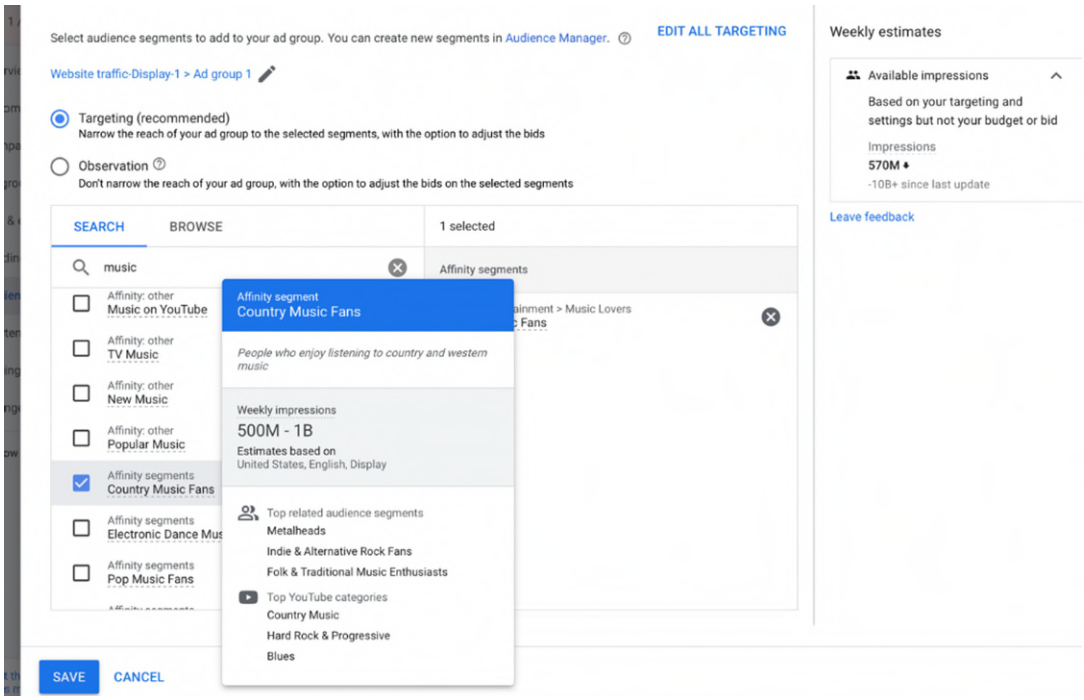
[63] **COEX-14.2** – 16 State TAC, ¶ 76. There is no reason to believe Google does not use the same data as part of DV360's opaque "custom intent" offering for display and video formats ("Audience segments will become 'People who searched for any of these terms on Google properties (such as Google.com and YouTube)'.") or "custom intent" **COEX-14.53** – About Custom Segments, https://support.google.com/google-ads/answer/9805516; **COEX-14.49** – Melissa Hsieh Nikolic (Group Product Manager, YouTube Ads), "Audio ads on YouTube expand reach and grow brand awareness," Google Ads (Nov. 17, 2020) https://blog.google/products/ads-commerce/youtube-music-audio-ads/ ("Audio ads are available in beta via auction on Google Ads and Display & Video 360 on a CPM basis with the same audience targeting options, bidding strategies and Brand Lift measurement capabilities as your YouTube video campaigns.").

[64] **COEX-14.54** – "Grow your business with Google Ads," https://ads.google.com/home/#!/.


Edit placements
Choose placements to show ads on specific websites, apps, or videos
EDIT ALL TARGETING
Website traffic-Display-1 > Ad group 1
Targeting (recommended)
Narrow the reach of your ad group to the selected segments, with the option to adjust the bids
Observation
Don't narrow the reach of your ad group, with the option to adjust the bids on the selected segments
BROWSE
ENTER
1 selected
News
Websites
Impr. per week
cnn.com 1B - 1.5B
igberetvnews.com 250K - 300K
itnewsonline.com 500K - 1M
trendrr.net 400K - 450K
al.com 50M - 100M
Website
cnn.com
Note: Google's policy doesn't allow you to target placements that promote hatred, intolerance, discrimination, or violence towards an individual or group. All campaigns are subject to the Google Ads advertising policies. Learn more
Weekly estimates
Available impressions
Based on your targeting and settings but not your budget or bid
Impressions
2.2M
-548M since last update
Leave feedback
SAVE
CANCEL


Edit audience segments
Select audience segments to add to your ad group. You can create new segments in Audience Manager.
EDIT ALL TARGETING
Website traffic-Display-1 > Ad group 1
Targeting (recommended)
Narrow the reach of your ad group to the selected segments, with the option to adjust the bids
Observation
Don't narrow the reach of your ad group, with the option to adjust the bids on the selected segments
SEARCH
BROWSE
1 selected
music
Affinity: other
Music on YouTube
Affinity: other
TV Music
Affinity: other
New Music
Affinity: other
Popular Music
Affinity segments
Country Music Fans
Affinity segments
Electronic Dance Music Fans
Affinity segments
Pop Music Fans
Affinity segments
Media & Entertainment > Music Lovers
Country Music Fans
Weekly estimates
Available impressions
Based on your targeting and settings but not your budget or bid
Impressions
570M
-10B+ since last update
Leave feedback
SAVE
CANCEL



45. In addition to letting advertisers target users by their music affinity, Google lets advertisers using DV360 or Google Ads target users based on terms they've searched for across Google.[65] Google calls this "Custom Intent" targeting. First, an advertiser builds a custom audience target using keywords (*e.g.*, old school rap). Then, Google targets ads to users that have searched for those terms on Google properties like YouTube Music.[66] The users could see these targeted ads whether they are listening to music or browsing non-music content. Custom Intent audiences are a major driver of value for Google.

46. Because Google's buy-side intermediary DSPs do not break out the cost of using music listening data to target ads, and instead bake that cost into the cost of DV360 and Google Ads, it is impossible to know just how much Google generates in revenues from using listeners'

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[65] **COEX-14.55** – "Custom list targeting," Display & Video 360 Help, https://support.google.com/displayvideo/answer/7583366?hl=en.

[66] *Id*.

data. In the CNN country listeners example, CNN benefits because it sells ads at a higher cost (advertisers pay more for ads that target specific audiences). And for intermediating an entire sale, Google takes around a 31 percent cut on average.[67] On a $100K campaign, Google's cut could be $31,000. We do not how much Google generates in revenues from using music streaming data to target ads, but we do know that Google makes over $200 billion dollars a year selling targeted ads.[68]

47. Like Google's DSPs, Amazon's DSP sells advertising on third-party sites and apps targeted to users. And Amazon's terms of service state that Amazon's DSP Amazon Ad Platform can use listening data to sell and target ads across non-music content and third-party sites.[69] Amazon does not break down the amount of additional advertising revenue it generates by using music listening data. However, for at least certain of its intermediary services, Amazon charges 10% of the ad price.[70] Assuming this 10% charge applies for all its intermediary services, this means, when Amazon helps a third-party publisher sell $100,000 of ads to a third-party advertiser using Amazon's DSP, Amazon's intermediation fee could be $20,000. While I cannot discern the

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[67] **COEX-14.56** – Sissie Hsiao (VP and GM of Apps, Video, and Display Advertising), "How our display buying platforms share revenue with publishers," Google Ad Manager (Jun. 23, 2020) https://blog.google/products/admanager/display-buying-share-revenue-publishers/.

[68] **COEX-14.69** – Alphabet's 2021 Form 10-K at page 33, https://abc.xyz/investor/static/pdf/20220202_alphabet_10K.pdf?cache=fc81690.

[69] **COEX-14.52** – "Amazon's Terms of Service for Interest Based Ads," https://www.amazon.com/gp/help/customer/display html/?nodeId=GLVB9XDF9M8MU7UZ ("We show interest-based ads to display features, products, and services that might be of interest to you. . . . To serve you interest-based ads, we use information such as your interactions with Amazon sites, content, or services.").

[70] **COEX-14.29** – Unified Ad Marketplace, Amazon Publisher Services, https://aps.amazon.com/aps/unified-ad-marketplace/ ("UAM charges a 10% transaction fee from SSP bid prices prior to conducting a first price auction."). UAM is a managed auction service for enterprise digital ad publishers.

precise revenue Amazon earns from using music streaming data, we do know Amazon overall generated $31 billion from online advertising in 2021.[71]

48. Spotify, like Google and Amazon, boasts of leveraging music streaming data when selling ad space through its advertising intermediary, the Spotify Audience Network.[72] Spotify launched the Audience Network on February 21, 2021, and the network allows advertisers to target specific audiences programmatically across Spotify music and podcasts, as well as third-party podcasters.[73] In other words, Spotify can use music listening data to programmatically target country listeners across third-party properties, just like Google does via Google Ads.

49. Pandora also leverages music data to sell targeted advertising across third-party properties like SoundCloud,[74] The Washington Post and iHeartRadio that are part of its audience network, AudioGo.[75] As Pandora's website explains, advertisers can use AudioGo to target

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[71] **COEX-14.15** – Jordan Novet, "Amazon has a $31 billion a year advertising business," CNBC (Feb. 3, 2022) https://www.cnbc.com/2022/02/03/amazon-has-a-31-billion-a-year-advertising-business.html.

[72] **COEX-14.57** – "CAN'T STOP, WON'T STOP
The Latest Spotify Audience Network Innovations for Advertisers and Anchor Creators," Spotify (Oct. 6, 2021) https://newsroom.spotify.com/2021-10-06/the-latest-spotify-audience-network-innovations-for-advertisers-and-anchor-creators/?utm_source=podnews.net&utm_medium=web&utm_campaign=podnews net:2021-10-07.

[73] *Id.* ("These include Spotify's Originals & Exclusives, podcasts via Megaphone and Anchor, and ad-supported music."); *see also* https://newsroom.spotify.com/2021-02-22/a-new-era-for-podcast-advertising/.

[74] In 2018, it and SoundCloud announced a partnership under which advertisers could purchase advertising inventory on the SoundCloud platform through Pandora. **COEX-14.58** – Pandora 2018 Q3 Press Release at 3; *see also* COEX-14.60 – SoundCloud Selects Pandora as Ad Sales Partner in the U.S., SoundCloud (Oct. 3, 2018) https://press.soundcloud.com/168977-soundcloud-selects- pandora-as-ad-sales-partner-in-the-u-s. According to Pandora, under this partnership, SoundCloud would "use Pandora as its exclusive U.S. advertising and sales representation" and would also rely on the programmatic audio platform, AdsWizz, that Pandora acquired earlier the same year. **COEX-14.58** – Pandora 2018 Q3 Press Release at 3; *see also* **COEX-14.60** – SoundCloud Selects Pandora as Ad Sales Partner in the U.S., SoundCloud (Oct. 3, 2018) https://press.soundcloud.com/168977-soundcloud-selects- pandora-as-ad-sales-partner-in-the-u-s. *See also* **COEX-14.59** – Pandora 2018 Q1 Press Release at 2 (describing acquisition of AdsWizz).

[75] AudioGO charges advertisers a flat $18 CPM (cost per mile) rate, and charges a non-transparent cut, before paying out the remainder to the third-party publishers participating in AudioGO. **COEX-14.34** – "Frequently Asked Questions," https://www.audiogo.com/faq.

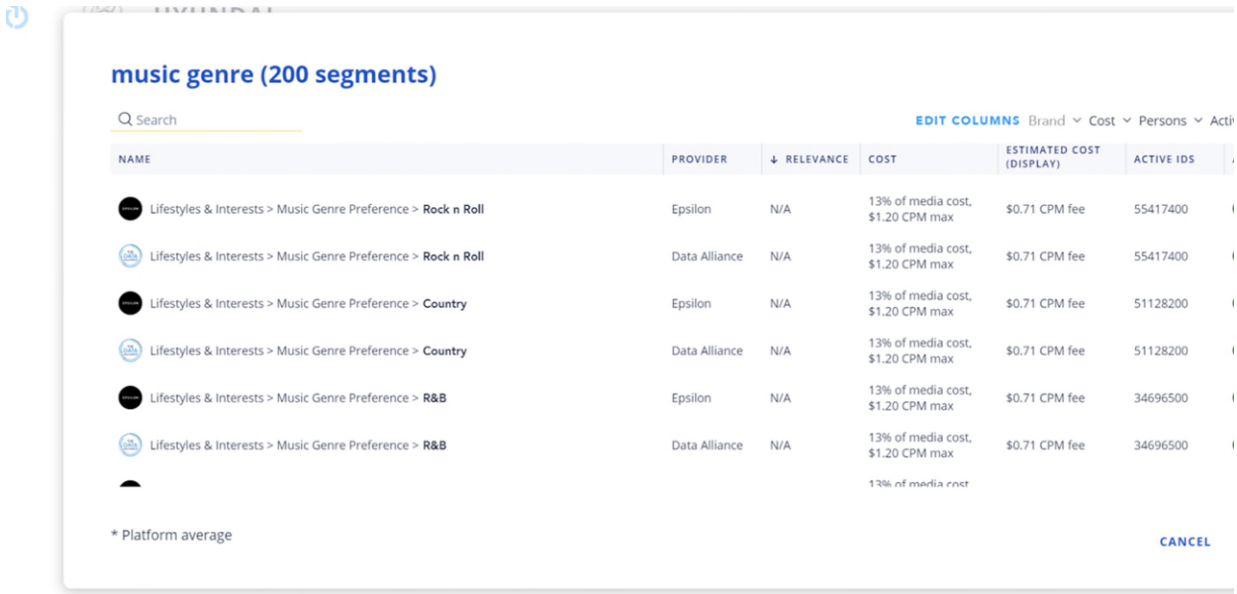
specific types of audiences, including audiences that listen to specific "music" genres.[76] Meaning, like Google, Amazon, and Spotify, Pandora targets users by their music tastes outside of music and outside of Pandora. [redacted].[77]

50. While Google, Amazon, Spotify, and Pandora do not break out the additional revenues that they collect from using music streaming data in advertising campaigns, other advertising intermediaries do break out these costs for advertisers. For instance, the screenshots below are from a competing buy-side ad intermediary called The Trade Desk and they show that data companies charge advertisers an additional 10-20 percent premium to target ads using listening data. (It is possible that at least some of the Services could be selling listener data to such data companies and participating in the revenues earned when such data is sold on marketplaces such as The Trade Desk.) In other words, when an advertiser purchases $100,000 of ads

[76] **COEX-14.33** – "Audio Advertising Made Simple.," https://www.audiogo.com.

[77] [redacted]. **COEX-14.61** – "[redacted]," PAN_PHONO4_00002811 at PAN_PHONO4_00002817. [redacted] **COEX-14.62** – "[redacted]," PAN_PHONO4_00005442 at PAN_PHONO4_00005468-5469; *see also* **COEX-14.63** – "[redacted]" (Oct. 2018), PAN_PHONO4_00005483 at PAN_PHONO4_00005490 ([redacted]). [redacted] **COEX-14.64** – "[redacted]" (July 10, 2019), at PAN_PHONO4_00005638 at PAN_PHONO4_00005664 ([redacted]).

programmatically, they would have to pay $10,000 to $20,000 of that total to target users using musical preference data.[78]



music genre (200 segments)

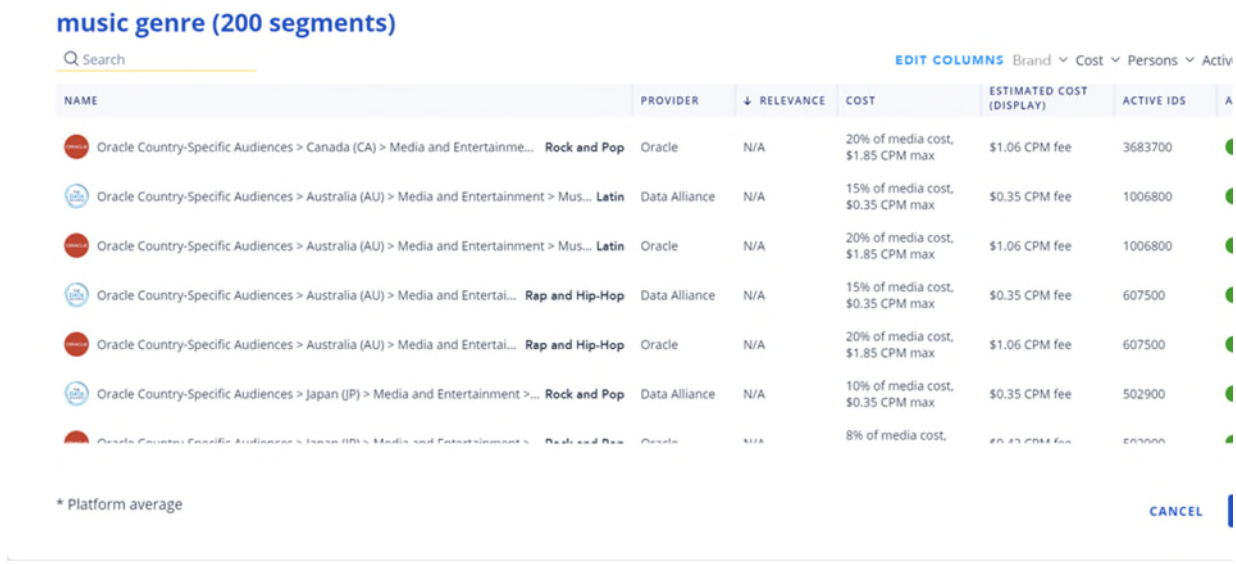
Search

EDIT COLUMNS Brand Cost Persons Acti

NAME	PROVIDER	↓ RELEVANCE	COST	ESTIMATED COST (DISPLAY)	ACTIVE IDS
Lifestyles & Interests > Music Genre Preference > **Rock n Roll**	Epsilon	N/A	13% of media cost, $1.20 CPM max	$0.71 CPM fee	55417400
Lifestyles & Interests > Music Genre Preference > **Rock n Roll**	Data Alliance	N/A	13% of media cost, $1.20 CPM max	$0.71 CPM fee	55417400
Lifestyles & Interests > Music Genre Preference > **Country**	Epsilon	N/A	13% of media cost, $1.20 CPM max	$0.71 CPM fee	51128200
Lifestyles & Interests > Music Genre Preference > **Country**	Data Alliance	N/A	13% of media cost, $1.20 CPM max	$0.71 CPM fee	51128200
Lifestyles & Interests > Music Genre Preference > **R&B**	Epsilon	N/A	13% of media cost, $1.20 CPM max	$0.71 CPM fee	34696500
Lifestyles & Interests > Music Genre Preference > **R&B**	Data Alliance	N/A	13% of media cost, $1.20 CPM max	$0.71 CPM fee	34696500

* Platform average

CANCEL



music genre (200 segments)

Search

EDIT COLUMNS Brand Cost Persons Activ

NAME	PROVIDER	↓ RELEVANCE	COST	ESTIMATED COST (DISPLAY)	ACTIVE IDS
Oracle Country-Specific Audiences > Canada (CA) > Media and Entertainme... **Rock and Pop**	Oracle	N/A	20% of media cost, $1.85 CPM max	$1.06 CPM fee	3683700
Oracle Country-Specific Audiences > Australia (AU) > Media and Entertainment > Mus... **Latin**	Data Alliance	N/A	15% of media cost, $0.35 CPM max	$0.35 CPM fee	1006800
Oracle Country-Specific Audiences > Australia (AU) > Media and Entertainment > Mus... **Latin**	Oracle	N/A	20% of media cost, $1.85 CPM max	$1.06 CPM fee	1006800
Oracle Country-Specific Audiences > Australia (AU) > Media and Entertai... **Rap and Hip-Hop**	Data Alliance	N/A	15% of media cost, $0.35 CPM max	$0.35 CPM fee	607500
Oracle Country-Specific Audiences > Australia (AU) > Media and Entertai... **Rap and Hip-Hop**	Oracle	N/A	20% of media cost, $1.85 CPM max	$1.06 CPM fee	607500
Oracle Country-Specific Audiences > Japan (JP) > Media and Entertainment >... **Rock and Pop**	Data Alliance	N/A	10% of media cost, $0.35 CPM max	$0.35 CPM fee	502900
[illegible]	[illegible]	[illegible]	8% of media cost,	[illegible]	[illegible]

* Platform average

CANCEL

[78] **COEX-14.65** – https://www.thetradedesk.com/us.

4. Monetization of data with third parties

51. According to the Services' terms and conditions, at least some of them can use music listening data to augment revenues via third parties.[79] Amazon's terms of service permit Amazon to share data with third parties to augment revenues in a variety of ways.[80] Here, Amazon's terms provide a hypothetical: it might use listening data to "offer services or sell product lines jointly with third-party businesses, such as co-branded credit cards."[81] It is even possible that at least some of the Services are sharing music listening data with third-party ad intermediaries like the ones depicted in the screenshots above and receiving in return a portion of the data costs charged to advertisers. Songwriters and music publishers cannot know.

5. Driving sales elsewhere in their businesses, especially e-commerce

52. The Services can use their ad-supported music offerings and music listening data to drive sales elsewhere in their business too. Knowing what people listen to informs what products

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[79] **COEX-14.40** – Google Privacy Policy, Effective Feb. 10, 2022, https://www.gstatic.com/policies/privacy/pdf/20220210/8e0kln2a/google_privacy_policy_en_us.pdf ("We may share non-personally identifiable information publicly and with our partners — like publishers, advertisers, developers, or rights holders.").

[80] **COEX-14.66** – Amazon.com Privacy Notice, https://www.amazon.com/gp/help/customer/display html?nodeId=GX7NJQ4ZB8MHFRNJ. ("We provide ad companies with information that allows them to serve you with more useful and relevant Amazon ads and to measure their effectiveness. . . . Some ad companies also use this information to serve you relevant ads from other advertisers."); **COEX-14.67** – "How Amazon Protects Your Personal Information," https://www.amazon.com/gp/help/customer/display html/?nodeId=GX5YKQX9U5LNE63W.

[81] **COEX-14.68** – "Changes to the Privacy Notice," https://www.amazon.com/gp/help/customer/display html?nodeId=202056900 ("Transactions involving Third Parties: We make available to you services, products, applications, or skills provided by third parties for use on or through Amazon Services. For example, you can order products from third parties through our stores, download applications from third-party application providers from our App Store, and enable third-party skills through our Alexa services. We also offer services or sell product lines jointly with third-party businesses, such as co-branded credit cards. You can tell when a third party is involved in your transactions, and we share customers' personal information related to those transactions with that third party.").

and services those people will buy. Thus, citing market research conducted with the survey company Ipsos, Amazon's audio ad page explains:

> Country music is the most-played genre in the US on Amazon Music's ad-supported tier. Those listeners over-index compared to the general US population in purchasing groceries online or on an app, and they have a higher interest in smart home devices. Also, country music is followed by pop music, where listeners are more likely to stream TV and movies online; and rock music, where listeners are more likely to go online or use apps for banking and investment purposes.[82]

53. In other words, country listeners tend to shop online for groceries, pop music listeners tend to stream TV and movies online, and rock listeners tend to use online investment banking. Because Amazon's terms of use permit its subsidiaries to use users' music listening data, Amazon Fresh could target country listeners to sell more groceries and Amazon Prime Video could target pop music listeners to tell them about its Prime Video service. [redacted][83] This way, Amazon can have a "[redacted]"[84] . . . "[redacted]"[85]

[82] **COEX-14.51** – "Audio marketing and advertising explained," https://advertising.amazon.com/library/guides/audio-marketing.

[83] **COEX-14.71** – Amazon Exhibit 185 at AMZN Phono IV_00015178.

[84] **COEX-14.70** – Amazon Exhibit 53 at AMZN_Phono IV_00009319.

[85] *Id*. at AMZN_Phono IV_00009323; *Id*. at AMZN_Phono IV_00009320 ("[redacted]").

54. Amazon can also use music listening data to drive revenue from third-party Amazon sellers. For example, when Amazon uses music listening data to target ads on Amazon.com itself, and a user targeted with an ad converts and purchases a product, Amazon earns sales-related fees ranging from 6% to 45% of the product's selling price, with the average seller paying 15%, and Fulfillment by Amazon fees, which can range $3 per unit to $7.28 per unit.[86] All of these revenue opportunities are linked to information obtained from music users yet it would appear none of these revenues would be counted within the revenue on which Amazon would compute royalties under its proposal.

IV. Online advertising revenues are subject to manipulation

55. Each of the Services has proposed that royalties paid to songwriters and music publishers be calculated, in part, based on *music streaming services'* advertising revenues.[87] As I explain in this Section, even within the purview of the music streaming services' advertising revenues, advertising revenues are particularly opaque and subject to a variety of manipulations that the Services could use to avoid, in their royalty calculations, including the full amount of revenues the Services actually earn from music listening on their streaming services.

A. There are multiple intermediaries in online advertising payment models, which creates lack of transparency, accounting ambiguities, conflicts of interest and opportunities for manipulation

1. The Services can manipulate revenue using intermediary positions

56. As I discuss above in Section III, the Services occupy intermediary positions in the advertising ecosystem, in addition to their roles as ad publishers. What this means is that whenever

[86] *See* **COEX-14.72** – Agatha Aviso, "Amazon Seller Fees: Cost of Selling on Amazon in 2021," Fit Small Business (Nov. 16, 2021) ("Sale-related fees range from 6% to 45% of the product's selling price, with the average seller paying 15%....").

[87] *See supra* at Section II.

an advertiser pays out money and one of these Services is involved as an intermediary, whether for example by running a DSP or an exchange, that Service receives a cut of the advertising spend (*i.e.*, in the form of a commission or fee) that lowers the amount that ends up in the hands of the ad publisher.[88]

57. Where the Service is acting as both intermediary *and* ad publisher, this means that every dollar that the Service chooses to realize in its role as intermediary can reduce by one dollar the revenues that it recognizes as an ad publisher. All else being equal, when the Service only has to share a percentage of its revenues *as ad publisher* with copyright owners, the Service would naturally prefer to move revenue to its role as intermediary and away from its role as ad publisher. It is my understanding that under the Services' proposals in this proceeding, the Services would have discretion to not share any of their revenues earned as intermediaries in this situation where they are also acting as ad publishers, even though all they have done is moved money from one hand to another (*i.e.*, from ad publishing to intermediary ad service).

2. Google is accused of manipulating ad publisher revenue

58. The concern that the Services could abuse their positions as intermediaries in the ad market to depress ad publisher revenues is not theoretical but has real-world precedents.

[88] "According to a 2018 industry study by the research company Warc, ad intermediaries charge roughly a 30 to 50 percent commission of every trade." **COEX-14.8** – Alex Barker, "Half of online spending goes to industry middlemen," Financial Times (May 5, 2020) https://www.ft.com/content/9ee0ebd3-346f-45b1-8b92-aa5c597d4389 (FT study says publishers receive less than 50 percent of what advertisers pay, w/ over 30 percent going to identified intermediaries and one third of the fees (approximately 17%) disappearing to unknown parties); **COEX-14.73** – Ross Benes, "Why Tech Firms Obtain Most of the Money in Programmatic Ad Buys," eMarketer (Apr. 16, 2018) https://perma.cc/96RE-5HMA (industry analysts from Warc estimating intermediaries collectively charge 55% of programmatic spend worldwide, based on data shared by advertising agency Magna Global); **COEX-14.56** – Sissie Hsiao (VP and GM of Apps, Video, and Display Advertising), "How our display buying platforms share revenue with publishers," Google Ad Manager (Jun. 23, 2020) https://blog.google/products/admanager/display-buying-share-revenue-publishers/ (Google stating that it charges around 31 percent for a subset of programmatic intermediation services).

59. Google has been sued by sixteen state attorneys general and the Commonwealth of Puerto Rico on the grounds that it manipulated publishers' ad revenue in its various intermediary roles in the online ad market. Such manipulations would be harmful to songwriters and music publishers under the Services' rate proposals since they could lower royalty payments to copyright owners and would be difficult to detect.

60. The revenue manipulation practices that are described in the lawsuit against Google involve highly complex and algorithm-based programs with codenames like "Dynamic Revenue Share" and "Project Bernanke."[89] According to the complaint, Dynamic Revenue Share was a Google program that increased and decreased Google's exchange fee up and down in real time on an impression-by-impression basis; by doing so, Google allegedly decreased publishers' ad revenue.[90] "Project Bernanke"[91] is stated to have involved what Google told publishers and advertisers was a "second-price auction";[92] however, Bernanke secretly dropped the second-highest bids across billions of auctions, which lowered publishers' ad revenue;[93] Google then re-directed the money gained from surreptitiously dropping bids from publishers' auctions into a Google-controlled pool of funds.[94]

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[89] 16 State TAC at ¶¶ 297-330.

[90] *Id*. at ¶¶ 318-330.

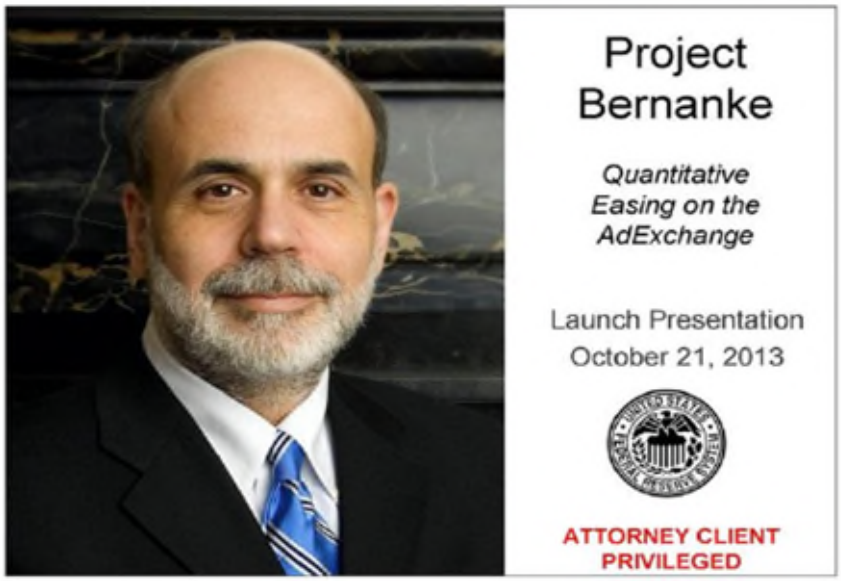
[91] *Id*. at ¶¶ 298-301.

[92] A second-price auction is one in which a publishers' ad is supposed to sell for the value of the second-highest bid plus one penny. *See Id*. at ¶ 299.

[93] *Id*. at ¶¶ 298-317.

[94] *Id*. at ¶¶ 21, 309-311.

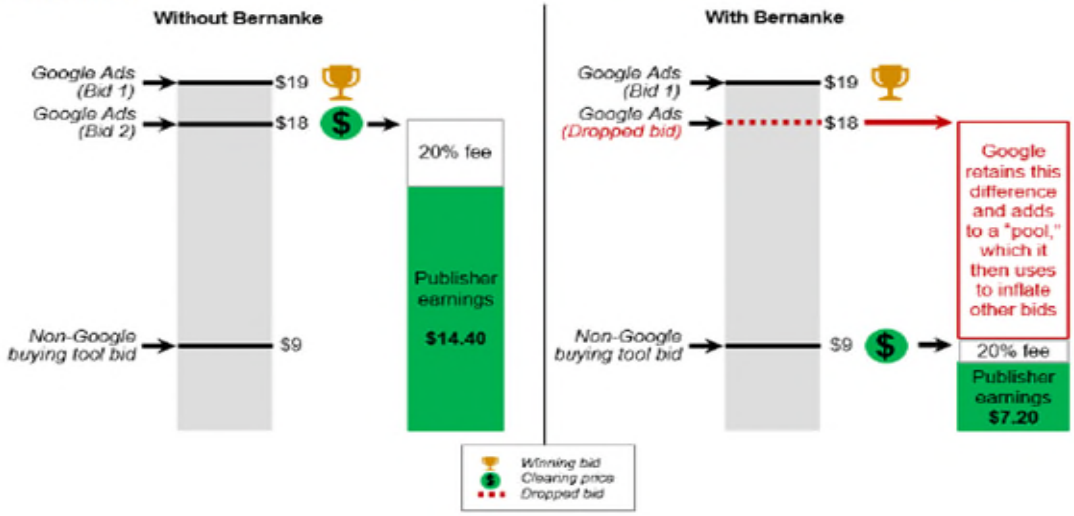
gTrade 2013 strategy document "Project Bernanke: Quantitative Easing on the Exchange," featuring a screenshot of then-Federal Reserve Chair Ben Bernanke



[95]

61. The 16 State TAC published a diagram illustrating the alleged Bernanke conduct to demonstrate how this complex program worked:

Figure 9: The Bernanke program caused AdX to drop the second bid from the auction and lowered publisher earnings. Google retained the difference and adds it to a "pool" to use it to inflate other bids.



[96]

[95] *Id*. at ¶ 317.
[96] *Id*. at ¶ 304.

62. The 16 State TAC describes a third Google program that manipulated ad publishers' revenue called "Enhanced Dynamic Allocation."[97] Misrepresented as a way for publishers to maximize revenue, the program actually limited competition in publishers' ad auctions and decreased their ad revenue.[98] Internal Google communications made public in the complaint indicate Google understood that the Enhanced Dynamic Allocation program resulted in depressed revenues for ad publishers.[99]

63. The 16 State TAC contains other examples of Google ad intermediary programs that, in Google's words, "stack the deck in favor of Google[.]"[100] One was codenamed "Jedi" in reference to Star Wars (coverage of the lawsuit suggests this was in reference to the concept of "Jedi mind tricks," *i.e.*, tricks that would get ad publishers to act against their own revenue interests).[101] One employee wrote internally that Jedi "generates suboptimal yields for publishers and serious risks of negative media coverage if exposed externally."[102]

64. The complexity of these real-time auction markets combined with their opacity allows these types of manipulations to occur without anyone noticing. The 16 State TAC indicates that Google is aware of this. The suit exposes Google employees discussing internally, "[by] charging non-transparently on both sides, we give ourselves some flexibility to react and counteract market changes. If we face tons of pricing pressure on the buy-side, we can fall back

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[97] *Id*. at ¶¶ 282-296.

[98] *Id*. at ¶¶ 282-291.

[99] *Id*. at ¶ 292 (citing internal documents, Google "cherry-pick[ed] [publishers'] higher-revenue impressions" resulting in an additional $150 million per year).

[100] *Id*. at ¶ 77.

[101] *See* 16 State TAC at ¶¶ 26, 366-374.

[102] *Id*. at ¶ 371.

on the sell-side, and vice-versa."[103] As the quoted employee notes, opacity in how the cost for each of these varies means that ad publisher revenues can be altered, according to what's best for Google, in any given transaction. Where Google is *also* the ad publisher in the transaction, for example, where an ad will be shown on YouTube Music, the same opacity could be used to lower revenues that Google recognizes as ad publisher, which could lower revenues attributed to its YouTube Music division, even as Google's revenues as an enterprise remain the same.

65. In all of the above examples, Google was allegedly able (for a time) to lower ad publishers' revenues without those ad publishers even realizing it. Google and other Services, in their roles as ad intermediaries, could engage in similar practices that would reduce the revenues that are declared under the type of revenue-share license that the Services have proposed, even as the Services directly benefit financially from such practices through enhanced revenues. Where the Service is *both* the ad intermediary *and* the ad publisher, the Service could potentially reduce its own revenue as ad publisher deliberately (by increasing its take as an intermediary). Licensors like songwriters and music publishers would likely have trouble discovering such manipulations, and they would suffer as a result (through lower royalties) unless their license has the proper protections.

B. The Services' revenue definitions do not account for many online advertising pricing models

66. The Services' definitions of ad revenue appear to presume that advertisers pay to display ads on pages or within streams; in my view, they do not appropriately account for the different (and common) ways that advertisements are priced, creating a real risk that the Services could take advantage of these definitions (if adopted) to significantly undercount their ad revenues.

[103] *Id*. at ¶ 351.

67. All of the major Services propose to define ad revenue as revenue generated from placing ads adjacent to licensed music content. Apple and Google propose to define ad revenue as revenue "recognized" from ads "displayed or streamed" on a "Relevant Page."[104] Amazon, Spotify and Pandora propose to define ad revenue as revenue "recognize[d]" by the service "as a result of the inclusion of third-party 'in-stream' or 'in-download' advertising," which is stated to be "advertising placed immediately at the start or end of, or during the actual delivery of, a musical work."[105]

68. However, advertisers do not necessarily pay publishers to merely display ads on their pages. Often, when setting up and paying for ad campaigns, advertisers pay for clicks or "conversions." To illustrate, when advertisers use Google's ad-buying platform for small advertisers to purchase ads, instead of paying each time an ad is shown on a page (the "cost-per-impression" or CPM pricing model), advertisers can opt to pay each time a user clicks on their ad (the "cost-per-click" or CPC pricing model), or each time a user converts and makes a purchase (the "cost-per acquisition" or CPA pricing model).[106]

69. What this means is that Google's ad-buying platform for small advertisers might run an advertiser's ads 1000 times, but only charge the advertiser for the couple ads that caused a user to click. If a Service ran 998 of those 1000 impressions between licensed music content streams, and the 2 impressions that immediately generated a "click" occurred between non-licensed content (*e.g.*, podcasts), it remains unclear under the Services' proposal whether *any*

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[104] Apple's Proposed Regulations § 385.2; Proposed Rates and Terms of Google LLC § 385.2.

[105] Amazon Proposed Rates and Terms § 385.2; Spotify Proposed Rates and Terms § 385.2; Proposed Rates and Terms of Pandora Media, LLC § 385.2.

[106] **COEX-14.74** – "Determine a bid strategy based on your goals," Google Ads Help, https://support.google.com/google-ads/answer/2472725.

revenue would be included in what is paid to songwriters and music publishers even though 99.8% of the impressions occurred when users were listening to licensed songs.

70. In the above scenario, I would be concerned that the Services would take that very position, namely, that no revenue should be included for the purpose of the license. Although revenue from CPC and CPA models should also be included in the revenue-share rate structure that the Services propose, their revenue definitions are not, in my view, appropriately drafted for such pricing models. The Services' revenue definitions — "revenue recognized from ads displayed or streamed on a relevant page" or "recognize[d]" as a "result of the inclusion of third-party 'in-stream' or 'in-download' advertising"—seem to describe a CPM pricing model (payments each time an ad is shown).

71. It's user data that drives this revenue under those pricing models—specifically listening-habit data that supports algorithmic prediction of the best ad to place in any given listener's stream. For example, describing its "CPA Bidding for Audio" offering, Google writes: Targeting CPA uses conversion data from your campaign (based on the Floodlight activities you set up) to predict the likelihood that an engaged user will convert. Display & Video 360 uses this prediction to manage your bids to maximize conversions at your target CPA."[107] Apple also offers CPA pricing. Its offering is advertised as the option to "Pay only for downloads at a cost you choose."[108] This indicates Apple is giving ad away ad impressions for free while earning revenue in a separate market for app downloads. The "pay per download" offer has critical implications

[107] **COEX-14.75** – Audio campaigns Purchase audio inventory, https://support.google.com/displayvideo/answer/7669523?hl=en#zippy=%2Cabout-cpa-bidding-for-audio.

[108] **COEX-14.37** – "Search Ads Be discovered," https://searchads.apple.com/.

for the accounting of revenue, and definitions of revenue under the license with publishers and songwriters should clearly include revenues from such payment models.

C. Other revenue generated by music listening data would be excluded from the mechanical license under the Services' proposals

72. The Services' proposals for how to treat advertising revenues would also fail to include, for calculating royalties, much of the value that the Services realize from music listening data.

73. Amazon, Pandora and Spotify propose excluding all revenue from ads that are served within or between non-licensed content such as podcasts; Apple's and Google's proposals would seem to do so as well. However, as noted above in Section III, the Services use music listening data collected from their users to increase the revenues from ads served within or between non-music content. Spotify makes this use of music listening data explicit in its pitches to podcast advertisers. The songs that the Services license are increasing their advertising revenue from content such as podcasts yet none of that increased revenue would be shared with songwriters and music publishers under the Services' proposals.[109]

74. Songwriters and music publishers would also not share in any sales of music listening data to third parties under the Services' proposals, nor would they share in revenues the

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[109] [redacted]. **COEX-14.76** – SPOT_P4_000008800. Songwriters and music publishers presumably would not share in [redacted] under Spotify's proposal, even if the listening to their licensed songs is part of what drives [redacted] *See* **COEX-14.77** – SPOT_P4_000009059.

Services earn by leveraging music listening data for the benefit of other parts of their businesses, even though such revenues flow from the songs under their license with the Services.[110]

V. Conclusion

75. For the reasons I have described above, it is my opinion that the Service witness testimony regarding the Services' reasons for maintaining their ad-supported streaming offerings, namely, that such offerings are primarily a "funnel," is inaccurate and omits, in striking fashion, the value that the Services get from music listeners' data and the benefits to their overall advertising practices and enterprises; that the Services can engage in practices that diminish ad publisher revenue including their own, which would likely lower the revenues shared with songwriters and music publishers under the Services' proposals; and that the Services' proposed definitions for ad revenues are inappropriately drafted in a number of respects.

76. I understand that additional materials may be disclosed in the course of this proceeding. I reserve the right to amend or supplement my analysis and conclusions based on such materials and upon updated public information that may become available over the course of this proceeding.

[110] *See* Section III, *supra*. Under the Services' proposals, songwriters and music publishers also seemingly would not share in any value that the Services may ascribe to house advertisements (*i.e.,* the Services' own advertisements for other parts of their businesses, other content such as podcasts, and so forth), even though these house ads are served in place of third-party ads (whose revenues may be included under the Services' proposals) and may drive revenue to the Services' other advertised products and services.

I, Adam Heimlich, declare under penalty of perjury that the statements contained herein are true and correct to the best of my knowledge, information and belief.

Executed on April 22, 2022 in New York, New York.

Adam Heimlich

APPENDICES
Appendix A: Curriculum Vitae
Adam Heimlich

Chalice Custom Algorithms | New York, NY | March 2020 – Present
Co-Founder and Chief Executive Officer
Chalice is leading a new wave of innovation is digital advertising: custom AI for Brands. Chalice's technology connects into Google, the Trade Desk and other major ad buying platforms for advertisers to easily deploy custom AI into their ad buys. The result is more efficient, effective advertising that is privacy-safe and custom to a Brand's marketing goals. Clients include Peloton, Progressive Insurance, Hyundai and Diageo. Initiated company strategy and product design. Led company's first funding round, earning investments from the Trade Desk's TD7 and AperiamVentures. Oversaw growth from $0 to $1.2M in 2021 revenue.

Authored op-eds and content marketing materials to educate and evangelize the custom algorithm category. Regular contributor to and source for industry publications including *Ad Exchanger* and *Adweek*. *Business Insider* named one of "15 of the most promising digital advertising and media startups of 2021, according to top VCs and insiders."

Keystone Strategy | New York, NY | May 2008 – Present
Resident Adtech Expert
Keystone is a boutique consultancy serving technology businesses. Its litigation practice works with regulators and law firms to illuminate disputed issues in intellectual property, regulation and competition. Delivered presentations on adtech to competition officials in the US, UK, EU, Australia and Japan. Conducted original research into advertising markets, in collaboration with eminent economists.

Essence Global | New York, NY | Sept 2019 – March 2020
Head of Programmatic, T-Mobile
Led agency programmatic team serving T-Mobile. Executed consultations for client's in-house Audience and Platforms team, including supply-side optimization, and 2020 Adtech Strategy. Oversaw operational improvements in programmatic budget management, optimization, reporting and attribution analytics. Managed relationship with The Trade Desk.

Measured, Inc | Boston, NY | June – Sept 2019
Product Lead
Created Experimental Design products to measure incremental ad effects in programmatic display media, including The Trade Desk and Google's DV360. Provided consultation and sales support to national DTC brands. Authored company case studies and marketing materials for industry award entries, including the 2020 AdExchanger Award for "Best Measurement or Analytics Capability."

Adelaide | New York, NY | March – June 2019
President
Led early-stage product development and marketing for programmatic measurement product. Designed go-to-market plan; recruited pilot customers and investors. As Head of Marketing: developed target personas and communications standards; created pitch presentation and company website. Served as company spokesman at industry events and to press.

Gale Partners | New York, NY | March 2018 – March 2019
SVP Media
As a consultant, designed plan for T-Mobile to in-house digital platform contracts and strategy. Advised T-Mobile on adtech selection, software MSA negotiations, and data strategy.

Horizon Media | New York, NY | Sept 2012 – March 2018
SVP Programmatic and Managing Director of HX
Founded agency programmatic practice, HX, the first transparent and optional service within a major agency; named a Top Ten Programmatic Agency (#4) by AdExchanger. Grew revenue 100%+ per year over 5 years, while operating margin improved. Owned product and partner selection for custom in-house technology stack. Engineered processes for account planning, buying and analytics services. Recruited and managed 40 full-time employees; sustained 90% annual retention rate over 4 years. Led agency biz-dev and PR around data-driven marketing and audience targeting.

Razorfish | New York, NY | Feb 2006 – June 2012
Client Partner
Promoted four times, lastly to leadership of the East Region's search and performance marketing practice. Managed a team of 25. Developed the agency's approach search marketing optimization and integration of search and display advertising.

Various newspapers, magazines, and websites | New York, NY | Oct 1994 – March 2002
Journalist / Consultant
Weekly columnist for free, ad-supported weekly newspapers. Provided content and monetization guidance for first-wave internet startups.

EDUCATION:
Vassar College, BA 1992

SELECTED CLIENT LIST
Mr. Heimlich has advised over 100 companies on adtech and digital marketing. A selected list of clients are as follows:

T-Mobile
Capital One
GEICO
Victoria's Secret

Ralph Lauren
Starwood Hotels and Resorts
Carmax
Hyundai Motors USA
Weight Watchers
Sprint
LG Electronics
ABC Television
Turner Broadcasting
Forest Labs
Schering-Plough
Diageo
Progressive Insurance
Peloton

PARTIAL LIST OF SPEAKING ENGAGEMENT AND PRINT MEDIA PUBLICATIONS:

Panelist, 4As Digital Summit, 2018
Featured Guest, AdExchanger Talks podcast, 2017
Panelist, ANA Programmatic Day, 2014
Panelist, Programmatic I/0, 2017
Speaker, Yieldex Executive Summit, 2014
Featured Guest, Programmatic Digest podcast, 2021
Panelist, Advertising Week, 2015
Panelist, VideoNuze SHIFT, 2015
Featured Guest, Retail Record podcast, 2021
Featured contribution, AdExchanger, 2021

Quoted in: *New York Times*, *Wall Street Journal*, *Politico*, *Business Insider*, *AdExchanger*, *AdWeek*, *AdMonsters*, and *Digiday*.

PAST EXPERT TESTIMONY

Written testimony to the US DOJ, 2008 investigation of Google
Panel testimony to the US Senate Subcommittee on Antitrust, "Stacking the Tech," 2021

Appendix B: Publications and Reports for the Past 10 Years

Publication	*Date*	*Author(s)*
Adam Heimlich Explains Custom Bidding: Podcast Programmatic Digest	10/2021	Adam Heimlich
Advice From the Future on Privacy: Get a Good Deal For Your Data Medium	3/2021	Adam Heimlich
A Vital Look Forward: Podcast with Shailin Dhar and Adam Heimlich Direct Marketing Club of New York	3/2021	Adam Heimlich Shailin Dhar
Fireside Chat with Adam Heimlich: Podcast The Retail Record	10/2020	Adam Heimlich
Algorithmically Incorrect: The Lies Big Tech Tells Advertisers AdExchanger	8/2020	Adam Heimlich
Facebook's Entire Approach to AI is Unsafe for Advertisers Medium	7/2020	Adam Heimlich
Why Custom Algorithms Medium	6/2020	Adam Heimlich
Are You Dumb Money? Use this Quick Audit to Find Out Medium	4/2019	Adam Heimlich
The Practice of Awareness: The Process for Buying Digital Brand Media Medium	3/2019	Adam Heimlich
What Would Accountable Digital Marketing Even Look Like AdExchanger	10/2018	Adam Heimlich
Point Counterpoint: Why the Open Markets Will Continue to Grow AdExchanger	1/2018	Adam Heimlich Emily DelGreco

Publication	***Date***	***Author(s)***
Adam Heimlich On the Next Horizon: Podcast AdExchanger	11/2017	Adam Heimlich
How To Avoid Wasting Your Entire Digital Budget AdExchanger	11/2016	Adam Heimlich
In Optimization, Service is King AdExchanger	6/2013	Adam Heimlich
Are You an Exec with 'Digital' In Your Title? Good Luck AdExchanger	5/2013	Adam Heimlich
Digital Marketers Should Aim for Influence, Not Branding AdExchanger	5/2013	Adam Heimlich

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- Amazon Exhibit 185, AMZN Phono IV_00015161
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- [redacted] SPOT_P4_000008800
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II. FILINGS/TESTIMONY

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- *Phonorecords IV*, Kaefer Written Direct Testimony
- *Phonorecords IV*, White Corrected Written Direct Testimony
- *Phonorecords IV*, Leonard Corrected Written Direct Testimony
- *Phonorecords IV*, Higginson Corrected Written Direct Testimony
- *Phonorecords IV*, Marx Amended Written Direct Testimony
- *Phonorecords IV*, Leonard Written Direct Testimony
- Amazon's Amended Proposed Rates and Terms
- Pandora Media, LLC's Proposed Rates and Terms
- Spotify's Proposed Rates and Terms
- Apple's Amended Proposed Regulations
- Proposed Rates and Terms of Google LLC

III. PUBLIC FINANCIAL DOCUMENTS

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- Pandora 2018 Q1 Press Release

- Pandora 2018 Q3 Press Release

PUBLIC VERSION

Before the
COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.

In the matter of DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords IV)	Docket No. 21-CRB-0001-PR (2023-2027)

WRITTEN REBUTTAL TESTIMONY OF VENKATESH SHANKAR, PH.D.

(On behalf of Copyright Owners)

APRIL 22, 2022

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I. INTRODUCTION

A. Qualifications

1. I am the Coleman Chair Professor of Marketing and Director of Research at the Center for Retailing Studies at Mays Business School, Texas A&M University. I received my Ph.D. in marketing from the Kellogg Graduate School of Management, Northwestern University. I have 32 years of experience in marketing academia. I have received multiple awards, including the Mahajan Award for Lifetime Contributions to Marketing Strategy from the American Marketing Association (AMA)'s Marketing Strategy Special Interest Group, the Lifetime Achievement Award for Contributions to Retailing from the AMA's Retailing Special Interest Group, the American Marketing Science (AMS) Cutco-Vector Award for Outstanding Educator, and Outstanding Educator Award from the Direct Marketing Educational Foundation (now called the Marketing EDGE). I have an undergraduate degree in engineering from the Indian Institute of Technology, Kharagpur and an MBA from the Indian Institute of Management, Calcutta, and I have been recognized with Distinguished Alumnus Award from both these institutions.

2. My areas of expertise include digital marketing, pricing, marketing strategy, advertising, branding, and shopper behavior. I have published two books, *The Handbook of Marketing Strategy* and *Shopper Marketing*. I am Editor-Emeritus of the *Journal of Interactive Marketing*, the flagship journal for digital/Internet/direct/interactive marketing, having served as its editor for seven years. I serve on the Policy Board or Board of Advisors for the *Journal of Interactive Marketing* and the *Journal of Retailing*. In addition, I serve/have served as Area/Associate Editor of the *Journal of Marketing Research, Journal of Marketing, International Journal of Research in Marketing*, and *Management Science* and on the editorial review board for

a number of other journals. I have published extensively on my areas of expertise in leading marketing and economics journals. I have done research on and have had consulting/executive education experience with numerous companies in my expertise areas. I have had over 30 years of experience teaching marketing research, in particular, survey research to different audiences, such as undergraduate students, master's students, doctoral students, executives, policy makers, and consultants. I have designed, commissioned, and analyzed hundreds of surveys. Many of my research studies are based on data collected from surveys. I have also conducted and published extensive research on digital marketing and services.

3. A true and correct copy of my curriculum vitae, which includes further discussion of my qualifications, prior testimony, and list of my publications is attached to my testimony as Appendix A. A list of the testimony I have given in the past four years is contained in Appendix B.

4. I am being compensated for my work on this matter at my standard hourly rate. My compensation is not contingent in any way on the content of my opinions, testimony at deposition or the hearing, or the outcome of this proceeding.

5. My opinions are based on the documents and data I have reviewed to date. If additional information becomes available to me, I reserve the right may conduct new analyses or supplement my testimony.

B. Scope of Assignment

6. At the request of counsel for Copyright Owners in this proceeding, the National Music Publishers' Association and the Nashville Songwriters Association International, I have been asked to analyze and respond to the survey conducted by Professor John Hauser (the "Hauser

Survey") and opinions offered in his Written Direct Testimony (the "Hauser WDT"). I was also asked to opine on the extent to which the Hauser Survey informed certain conclusions made by Dr. Joseph Farrell in his Corrected Written Direct Testimony, eCRB Docket No. 25901 (Oct. 29, 2021) ("Farrell CWDT").

7. I have also been asked to analyze and respond to the survey conducted by Mr. Robert L. Klein (the "Klein Survey") and opine on opinions offered by Mr. Klein in his Written Direct Testimony in this proceeding ("Klein WDT").

C. Materials Considered

8. In preparing this report, I relied on my experience and expertise as discussed above and in my *curriculum vitae*, as well as the materials cited and referenced herein. The full list of documents I have relied upon is contained in Appendix C.

II. SUMMARY OF OPINIONS

A. The Hauser Survey

9. The Hauser Survey is flawed with respect to its problem formulation, its stated purpose, and its objectives. Specifically, the marketing research problem identified in the Hauser Survey is vaguely stated, its purpose is not concisely defined, and its objectives are not clearly presented.

10. The Hauser Survey suffers from critical flaws in information needs and survey design that make the results unreliable. The key information needs for the research are not appropriately and adequately defined and the questionnaire is not scientifically designed. The design flaws in the survey include:

- vague and ill-defined hypothetical scenarios;

- insufficient baseline information obtained by the survey (e.g., information concerning respondents' current music listening habits), rendering it impossible to perform meaningful comparative analyses;
- illogical ordering of questions yielding biased responses;
- leading questions yielding biased responses;
- confusing response options yielding unreliable results;
- non-mutually exclusive response options yielding unreliable results; and
- excessive number of response options resulting in cognitive overload for respondents.

11. The sample selection process was flawed and yielded responses that are not generalizable to the population. Specifically, the sample selection filters and quasi-filters create the undesirable effects of demand artifacts (i.e., a situation in which respondents attempt to guess the purpose of the survey and respond accordingly), eliciting responses not reflective of the true responses of the population. The double-blind attempt of hiding the sponsor (i.e., Spotify) from the respondents and staff may be ineffective, leading to biased responses.

12. The analysis and conclusions derived from the Hauser Survey are incorrect and misleading. The Hauser Survey told respondents to "suppose" Spotify were no longer available and asked them to allocate the percentage of time they would spend listening to 18 alternative music listening options. However, the results are not valid and are unreliable because a cognitively demanding and confusing set of options was presented to the respondents. In addition, some of the sample sizes are not large enough to produce valid, reliable and granular conclusions as they suffer from low statistical power.

13. The Hauser Survey does not support and even undermines certain conclusions made by Dr. Farrell. Even if we accept the Hauser Survey and its results at face validity, they show that non-interactive (not-on-demand) music streaming services are not close substitutes or alternatives for interactive (on-demand) music streaming services, contradicting Dr. Farrell's claims. Furthermore, the Hauser Survey shows that only a small fraction of subscribers of on-demand streaming services would choose to pirate music in the hypothetical scenarios in which Spotify is no longer available, weakening Dr. Farrell's arguments. Finally, because the Hauser Survey is limited to only Spotify, the results are weak indicators of the diversion ratios for the broader music streaming industry used by Farrell.

14. In my testimony, consistent with generally accepted survey principles, I assess the Hauser Survey and the Hauser WDT along the following major components or steps of the marketing research process: problem formulation, purpose and objectives, information needs, survey/questionnaire design, sampling design and process, data collection, analysis, and conclusions.

B. The Klein Survey

15. The Klein Survey is flawed with respect to problem formulation, its stated purpose and its objectives. The stated purpose of the Klein Survey, "to understand the music streaming listening habits of Amazon Music customers," is too vague, broad, and nonspecific to be "relied upon by other experts in developing and proposing rates to be paid by digital service providers like Amazon for use of musical works in connection with on-demand music streaming services." (Klein WDT ¶¶ 12, 13).

16. The Klein Survey suffers from critical design flaws that make the results biased and unreliable. For example, the hypothetical scenarios that Mr. Klein poses in his survey either do not follow or violate generally accepted practices, resulting in unreliable responses. In addition, the ordering of questions is illogical, confusing, arbitrary, and were primed to produce pre-determined responses, yielding biased and unreliable results.

17. The sample selection process was flawed and yielded responses that are not generalizable to the population. The demographic mix of the survey sample does not mirror the current population and the sample's responses are not representative of those of the population. In addition, the sample size of Amazon Music Free users is too small to derive any meaningful or reliable results.

18. Mr. Klein's conclusions derived from the Klein Survey are incorrect and misleading:

- Data from the Klein Survey do not support Mr. Klein's conclusions that [redacted];
- Data from the Klein Survey do not support Mr. Klein's conclusion that [redacted];
- Data from the Klein Survey do not support Mr. Klein's conclusion concerning the purportedly [redacted];

- Data from the Klein Survey do not support Mr. Klein's [redacted].
- Mr. Klein's narrative explanations of the results frequently do not follow from the survey questions or their responses, underscoring the biases implicit in the survey and in the analysis and conclusions.

19. In my testimony, consistent with generally accepted survey principles, I assess the Klein survey and Klein WDT along with major components or steps of the marketing research process: problem formulation, purpose and objectives, information needs, survey/questionnaire design, sampling design and process, data collection, analysis and conclusions.

III. THE HAUSER SURVEY

A. The Hauser Survey is Flawed with Respect to Problem Formulation, Purpose, and Objectives

20. According to generally accepted survey principles, marketing research problem formulation (i.e., precisely identifying and defining the research problem) is critical to the validity and reliability of the research.[1] The Hauser Survey suffers from limitations in problem formulation, and issues with the Survey's stated purpose and objectives.

[1] Validity refers to accuracy of measurement. Validity of a measure may be defined as the extent to which differences in the observed measure reflect true differences among objects on the characteristic being measured, rather than systematic or random errors. Reliability of a measure is defined as the extent to which the measure produces consistent results if repeated measurements are made on the characteristic and the extent to which the measure is free from random error. Malhotra, Naresh K. (2019), *Marketing Research: An Applied Orientation*, 7th Edition, Pearson, New York, NY.

21. Marketing research surveys must have a specific purpose and objectives that are clearly identified and presented.[2] Without well-defined survey objectives, a survey becomes a fishing expedition, enables the expert and others to cherry pick findings to their advantage, and renders itself weak in validity and reliability.

22. Spotify retained Prof. Hauser "to conduct a survey of Spotify Premium users to determine what they would do instead of listening to music on Spotify if it was no longer available." (Hauser WDT ¶ 6). Specifically, respondents who subscribe to Spotify's Premium service were first asked which alternatives they would consider replacing music listening on Spotify with if music on Spotify was no longer available.[3] Next, respondents who indicated that they would consider listening to one or more music options to replace music listening on Spotify were asked to allocate 100 points among the music options they said they would consider, to indicate the percentage of time they would actually spend listening to each considered music option instead of listening to music on Spotify if music on Spotify was not available (Hauser ¶¶ 37-38).

23. Prof. Hauser states the purpose of the Survey was "to conduct a survey as part of the Determination of Rates and Terms for Making and Distributing Phonorecords proceedings." The stated purpose is vague and violates generally accepted survey principles. He does not provide

[2] Malhotra (2019). The purpose is an explanation as to why the survey is being conducted. The objective of the survey is what it seeks to accomplish.

[3] Respondents were presented one of two hypotheticals: (1) the "Remove Spotify Premium Hypothetical" in which respondents were asked what they would do instead of listening to music on Spotify Premium if music on Spotify Premium were no longer available; and (2) the "Remove All Spotify Hypothetical" in which respondents were asked what they would do instead of listening to music on Spotify Premium if music on both Spotify Premium and ad-supported Spotify was no longer available.

any objective (i.e., what Prof. Hauser is trying to accomplish with the information he collects, or how the information will be used). Nor does he accurately define the marketing research problem. By failing to precisely define the problem, purpose and objectives of the survey, Prof. Hauser allows Dr. Farrell to selectively use findings from the survey to his advantage. Prof. Hauser's approach violates generally accepted survey principles.

B. The Hauser Survey Suffers From Critical Flaws Related to Survey Design

24. According to Prof. Hauser's WDT, "In designing this survey, I followed standard scientific methods to maximize the reliability of the survey. My survey design adopted the scientific guidelines for surveys conducted for academic, commercial, and litigation purposes." (Hauser WDT ¶ 7). The following survey design flaws call into question whether the survey was conducted scientifically, as the methodology adopted contains multiple errors and omissions for the results to be valid and reliable.

1. <u>The Hypothetical Scenarios are Vague and Elicit Biased Responses</u>

25. The hypotheticals posed in the Hauser Survey do not follow proper design practices. They contain flaws, which make the survey unreliable.

26. As discussed above, the Hauser Survey asked respondents what they would do in the hypothetical scenario in which Spotify is no longer available. The results from such a survey suffer from hypothetical bias.[4] Hypothetical bias is defined as the difference between what a person indicates they would do in the survey and what a person would actually do. While hypothetical

[4] Harrison, Glenn W. and E. Elisabet Rutström (2008), "Experimental Evidence on the Existence of Hypothetical Bias in Value Elicitation Methods," in *Handbook of Experimental Economics Results*, Charles R. Plott and Vernon L. Smith, eds. Amsterdam: North-Holland, 727–67.

questions in stated preference surveys are relatively common, appropriate controls are needed to overcome hypothetical biases. Without appropriate controls, the results may not be a reliable indicator of how much users value music streaming services. Such controls include ex-ante (e.g., honesty priming, inferred valuation, incentive compatibility, pivot designs) and ex-post (e.g., certainty calibration, revealed preference calibration) approaches.[5] Best practices require hypotheticals be presented in a way that ensures respondents are not confused about the scenario

[5] Honesty priming: a technique from psychology in which respondents are required, prior to the experimental task, to make sentences from scrambled words, and the words are those associated with honesty, truthfulness, etc. Respondents are then said to be primed, meaning that they are subliminally encouraged to give truthful responses in the experimental tasks that follow. De Magistris, T., A. Gracia, and R.M. Nayga, Jr. (2013), "On the Use of Honesty Priming Tasks to Mitigate Hypothetical Bias in Choice Experiments," *American Journal of Agricultural Economics*, 95 (5), 1136-1154.

Inferred valuation: asking respondents to estimate others', rather than their own, value of a good or service. This method removes an individual's sense of agency in their valuation. Therefore, it is thought to reduce self-related biases in valuations. Lusk, J. L. and F. B. Norwood (2009), "An Inferred Valuation Method," *Land Economics* 85 (3), 500-514.

Incentive compatibility: conditioning a reward (typically a financial reward), or the chance of a reward, on respondents' choices. In this case, respondents' choices are linked to a payoff, and hypothetical bias is said to be reduced. Smith, Vernon L. (1982), "Microeconomic Systems as an Experimental Science," *The American Economic Review*, 72 (5), 923-955.

Pivot designs: embedding information on respondents' own choices in the design of the experimental tasks to make the tasks more realistic and so to reduce hypothetical bias (see also "SP-off-RP" designs, Train and Wilson 2009, Hensher, Rose, and Greene 2015); Train, K.E. and W.W. Wilson (2009), "Monte Carlo Analysis of SP-off-RP Data," *Journal of Choice Modelling*, 2 (1), 101-117; Hensher, D. A., J.M. Rose, and W. Greene (2015). *Applied Choice Analysis*. Cambridge: Cambridge University Press.

Certainty calibration: asking respondents to indicate how certain they are that they would make their experimental choices in real-world settings. This information is then used to adjust models, termed *calibration*, in analyses so as to reduce hypothetical bias. Beck, M. J., S. Fifer, and J.M. Rose (2016), "Can you Ever be Certain? Reducing Hypothetical Bias in Stated Choice Experiments via Respondent Reported Choice Certainty," *Transportation Research Part B: Methodological*, 89, 149-167.

Revealed preference calibration: obtaining available market (i.e., real-world) data, in which individuals actually made choices, and adjusting – or *calibrating* – models using this data. Since uncalibrated models are based on experimental data, using real-world behavior to make adjustments is thought to reduce hypothetical bias. Buckell, J. and S. Hess (2019), "Stubbing out Hypothetical Bias: Improving Tobacco Market Predictions by Combining Stated and Revealed Preference Data," *Journal of Health Economics* 65, 93-102.

they are asked to consider.[6] The analysis in the Hauser WDT does not control or adjust for this bias.

27. The Hauser Survey is also flawed because it did not provide any context for the hypotheticals posed to respondents. Respondents were merely asked to "suppose" Spotify was no longer available. Respondents were not told why Spotify would not be available, what would replace it, or why respondents need to reconsider their music listening options in the hypothetical scenario. For example, did Spotify go out of business? Did Spotify decide to focus its business on podcasts instead? Are other forms of music listening (e.g., music videos) more prevalent than on-demand music streaming in the hypothetical scenarios? Without sufficient context, respondents provided answers based on their own subjective hypothetical scenarios.

28. The responses therefore may not be valid because they are not representative of what respondents would actually do in a particular, defined context, consistent with hypothetical bias.[7] The responses may not be reliable or valid because each respondent may have envisioned a different hypothetical scenario for why Spotify was no longer available, and what options were available to respondents.

2. <u>The Hauser Survey does not Provide a Baseline for Comparison</u>

29. The Hauser Survey asks respondents in the Remove Spotify Premium and Remove All Spotify hypotheticals: (1) whether they would consider listening to alternative music options if Spotify were not available; and (2) to allocate the percentage of time to those alternative music

[6] See e.g., Fowler, Jr., Floyd Jackson (1992), "How Unclear Terms Affect Survey Data," *Public Opinion Quarterly* 56, 218-231; *see also*, Schwartz, Norbert and Daphna Oyserman (2001), "Asking Questions About Behavior: Cognition, Communication, and Questionnaire Construction," *American Journal of Evaluation*, 22 (2), 127-160.

[7] Hensher, Rose, and Greene (2015).

options, for respondents who considered two or more music options if Spotify were no longer available (Hauser ¶¶ 37, 38, Appendix D, Q2 and Q4). However, these questions concerning music listening alternatives and percentage of time allocated to such alternatives by themselves are not meaningful because respondents were not asked: (1) whether they currently listen to any of the alternative music listening options; or (2) about the time they currently spend listening to Spotify or any of the alternative options.

30. Without this information, there is no baseline for a valid comparison, both in terms of alternative options respondents would choose, or the time spent by respondents listening to such alternatives as posed in the hypothetical.

3. The Hauser Survey's Response Options are Confusing to Respondents

31. The response options in the Hauser Survey are also flawed, as they are designed in a way that would confuse respondents.

32. The Hauser Survey's response options for Q1 and Q3 are confusing. In these questions, Professor Hauser asks "[w]hich of the following music options, if any, would you **consider** using to replace listening to **music** on Spotify Premium?" where music on Spotify Premium was no longer available (Q1) and where music on both ad-supported Spotify and Spotify Premium was no longer available (Q3). The Hauser Survey provides respondents with a list of 18 alternative music listening options (including an open "Other" option) and asks respondents to indicate whether they "would consider," or "would not consider" or "don't know/unsure/not applicable." (Hauser WDT, Appendix D).

33. However, some of the response options provided to respondents do not apply to them, leading to potential confusion for those respondents. In some cases, respondents were asked

whether they would consider music listening services/content they already have, without considering whether a respondent even has those services/content. For example, one of the options provided was "I would listen to satellite radio through the paid subscription I already have (SiriusXM)." (*Id.*) For this response option, respondents were required to answer whether they would consider listening to satellite radio through an existing paid subscription, even if the respondent did not have such a paid subscription to satellite radio. While respondents were given the option to choose "don't know/unsure/not applicable," the order and organization of this response option is confusing, as the "not applicable" option is combined and buried with the "don't know/unsure" option, making it less likely to result in accurate and reliable results.

4. The Hauser Survey's Response Options are Biased and Lead to Cognitive Overload for Respondents

34. In addition to the confusing response options presented in Q1 and Q3, respondents were also presented with too many response options, which can cause cognitive overload and thus unreliable responses.[8] The paradox of choice theory suggests that too many options create anxiety for users, leading to weaker choices.[9]

35. Q2 and Q4 suffer from the same design flaw. Q2 and Q4 are constant sum scale questions that ask respondents to allocate 100 points across a given number of options. Specifically, Q2 and Q4 ask respondents to allocate the percentage of time they would spend listening to considered alternative music options (derived from Q1 and Q3) in the event that music

[8] See, e.g., Iyengar, Sheena S. and Mark R. Lepper (2000), "When Choice is Demotivating: Can One Desire Too Much of a Good Thing?" *Journal of Personality and Social Psychology*, 79 (6), 995-1006; Reutskaja, Elena, Axel Lindner, Rosemarie Nagel, Richard A. Andersen, and Colin F. Camerer (2018), "Choice Overload Reduces Neural Signatures of Choice Set Value in Dorsal Striatum and Anterior Cingulate Cortex," *Nature Human Behavior*, 2, 925-935.

[9] Schwartz, Barry (2004). *The Paradox of Choice*. New York: Harper Perennial.

on Spotify Premium was no available (Q2), and in the event that music on ad-supported Spotify and Spotify Premium was no longer available (Q4). Specifically, respondents were asked to allocate the percentage of time across up to 17 options in Q2, and up to 16 options in Q4, in addition to an option to choose "Other" in both Q2 and Q4. Respondents typically struggle to allocate points across more than five options in a manner that truly reflects their preferences and adds up to 100.[10]

36. In addition, the potentially high number of response options may also lead to biases in the responses obtained. Prof. Hauser even points out that the Judges in the *Web V* proceeding noted that 24 options he presented to respondents in a survey he conducted for that proceeding "can reasonably be expected to produce biased and unreliable results." *See* Final Determination, *Digital Performance Right in Sound Recordings and Ephemeral Recordings ("Web V")*, p. 247. Prof. Hauser then notes that his current survey includes 18 response options as opposed to the 24 response options in *Web V*. However, 18 response options does not solve the problem noted by the Judges with 24 options because it is still too high and can produce biased and unreliable results.

5. <u>Certain Response Options are not Logically Ordered</u>

37. The response options provided for the key questions Q1, Q2, Q3, and Q4 are not logically organized, leading to an order bias in respondents' responses. The response options are presented in seven blocks A, B,…G. These blocks range from "A: Music on on-demand music

[10] When a constant sum scale question has too many options, the generally accepted practice is to reduce the number of options to a manageable number of options to make it easier for the respondent to allocate 100 points in a manner that is cognitively and computationally least demanding. Typically, these types of questions are presented as two sequential questions. In the first question, respondents are asked to identify a few (typically a maximum of five) most important options. In the second stage, respondents are asked to allocate percentage of time across those five options. In the Hauser Survey, however, respondents were asked to select and allocate across all options they considered, which could extend to 18.

streaming services to replace listening to music on Spotify Premium" to "G: Other." (*See* Hauser WDT, Appendix D). The blocks are rotated across respondents, meaning different respondents see different orders of blocks. When these blocks are rotated, the questions are not presented in a logical order from the respondent's perspective. For example, from a respondent's perspective the options in the hypothetical scenario should start with the closest substitute to their current choice (e.g., on-demand streaming on Spotify Premium) to the farthest substitute. Rotating the blocks does not ensure that every respondent sees the blocks in the same logical order. Furthermore, even within a block, the options are not logically organized.

38. For example, within Block A, the four options start with "I would listen to on-demand music streaming services(s) through paid subscriptions(s) that I already have" followed by "I would listen to ad-supported Spotify which I do not need to pay for," "I would purchase new paid subscription(s) to on-demand music streaming services(s) (other than Spotify) that I don't currently subscribe to (e.g., an individual subscription to [PAID OPTIONS DON'T HAVE] at $9.99 per month or $119.88 per year," and "I would listen to on-demand music streaming services(s) (other than Spotify) that have ads and that I do not need to pay for (e.g., ad supported YouTube Music, ad-supported SoundCloud)." The logical order would be to start with all forms of paid on-demand music streaming services that are the closest substitutes of Spotify Premium and move to distant substitutes of Spotify Premium such as free or ad-supported services. By showing a more distant substitute (ad-supported Spotify) as the second option and a close substitute (paid on-demand service) as the third option, the survey suffers from the very "demand-artifact" bias that the Hauser WDT claims to be avoiding (*see* Hauser WDT ¶¶ 51, 61, 70). This

ordering may lead the respondent to allocate more or less time to some alternatives than what they might do in real behavior.

6. Some Response Options are not Mutually Exclusive

39. The Hauser Survey also confuses respondents by providing options in Q1, Q2, Q3 and Q4 that may not be perceived as mutually exclusive by respondents, and which make it difficult for respondents to answer. For example, under Block B, the option involving Pandora is presented as not-on-demand music streaming services. Pandora offers an on-demand streaming service as well. Many respondents may not remember the full names of Pandora's different services (e.g., Pandora Plus, Pandora Premium) and may not know the differences between the services. Some respondents who may currently have or plan to subscribe to Pandora's on-demand streaming service may perceive the options involving Pandora listed in the not-on-demand music streaming Block B as not mutually exclusive from Block A options, leading to inaccurate and unreliable results. The choices need to be mutually exclusive and collectively exhaustive for the responses to avoid bias in capturing responses.[11] Without mutual exclusive and collectively exhaustive response options, a researcher is unable to infer the true intent or preference of the respondent from their allocation numbers.[12]

[11] Malhotra (2019).

[12] The response options fail to provide an exhaustive list of options. For example, one of the response options is "I would consider purchase and listen to digital music on files, CDs, or vinyl records that I don't currently own (e.g., an individual song from iTunes for $.0.99, a CD for $13.99, a vinyl record for $23.99)." This response completely ignores a thriving secondary used items market, where CDs and vinyl records can be purchased at deeply discounted prices.

7. Some Response Options Lead the Respondent to Choose Certain Answers

40. Survey questions should avoid asking questions that prime and lead the respondent to choose certain answers. Such questions should be avoided, as they often align with the goals of the researcher, and thus can prime the respondent to unknowingly support the researcher's views. Also, including such questions in survey design can harm both the results and credibility of the research.[13] The question choices in Q1, Q2, Q3 and Q4 suffer from this leading question bias. For example, in the Hauser Survey, respondents can choose an option to purchase an on-demand paid subscription at a rate of $9.99 per month or $119.88 per year. Another response option is to purchase a not-on-demand streaming service at $4.99 per month or $59.88 a year. The Hauser Survey assumes and provides prices for certain services (e.g., on-demand paid subscriptions, and not-on-demand streaming services) and completely ignores discounted or limited offerings, which offer music streaming at different prices. Moreover, the majority of response options contain no prices. The selective use of specific prices for some options may sensitize respondents toward prices. Some respondents' attention may also focus more on options involving no or low price. As a result, their choices may be biased towards an option that does not include any price; the choices of other respondents may be biased towards an option that has a lower price. These design errors and inconsistencies make respondents' comparison of choices an "apples to oranges" comparison, invalidating the allocation results.

[13] Allen, Mike (2007), *The SAGE Encyclopedia of Communication Research Methods*, Sage Publishers.

8. The Qualitative Interviews and Pretests Cannot be Adequately Evaluated

41. There is no way to confirm whether the Hauser Survey's choice of questions is scientifically derived. Prof. Hauser's report mentions use of qualitative interviews as the basis for the choice of questions. Specifically, he states, "I instructed Cornerstone Research and GBK to conduct in-depth qualitative interviews" (Hauser WDT ¶ 16), and that findings from the interviews "informed the wording of the questions and response options in the survey." (*Id.* ¶17). Qualitative interviews need to be diligently used to develop the survey questions.[14] Where qualitative interviews are conducted, best practices require detailed analysis of the scripts from the qualitative interviews to discern patterns in respondents' understanding of questions and their responses to the questions. Such analysis informs the questions and their wording in the survey.

42. However, Prof. Hauser does not provide any information that was obtained from the qualitative interviews, or how that information was used to inform the questions chosen. With no information regarding the "in-depth interviews," and no explanation for the failure to include such information, there is no way to confirm whether the choice of questions were scientifically derived. Thus, the validity of the questions used in the survey is questionable.

43. The report frequently cites qualitative interviews or first-stage or second-stage pretest to justify the choice of interview questions and their related options. Appendix G (a table Prof. Hauser prepared summarizing the purported solutions he implemented to address issues identified during the first-stage pretest interviews) frequently uses the blanket term "pretests assured" to validate the final questions and their related options. However, no details are provided

[14] Malhotra (2019).

on how many respondents were asked the specific questions, how they responded, and how these responses were interpreted. For example, for QS9, Appendix G states, "Pretest assured that respondents viewed the list of ways of listening to music as reasonably comprehensive." Yet no details are provided on what is "reasonably comprehensive" and how respondents viewed the options, and how it was determined that the options were "reasonably comprehensive." As before, the validity of the questions and the associated options is brought into question.

9. The Double-Blind Methodology is Ineffective

44. A survey should not bias the respondent by revealing or strongly hinting the identity of the sponsor or the organization behind the survey.[15] The purported double-blind design methodology (Hauser WDT ¶ 41) is misplaced because most questions in the survey pertain to Spotify, making it hard for any respondent not to associate the survey with Spotify. Thus, the survey results would likely carry biases toward Spotify.

10. Filters and Quasi-Filters Threaten the Validity and the Reliability of the Hauser Survey

45. The overuse of the filters used in the survey pose threats to the validity and reliability of the survey. Filters are questions and/or response options intended to eliminate respondents who are not in a position to provide accurate and true responses for the survey. Quasi-filters are response options intended for respondents for whom a question does not apply. Hauser claims that he uses numerous filters and quasi-filters such as "don't know/unsure/not applicable" ostensibly to prevent respondents from guessing and not providing their true responses (Hauser WDT ¶¶ 52, 53). Yet, these filters could have had the opposite effect, that is, influence many

[15] Malhotra (2019).

respondents not to provide their true responses and take the easy way out by choosing "don't know and unsure." Indeed, survey satisfying theory[16] suggests that when presented with this option, many respondents forgo the cognitive task of reading and thinking through other options, resulting in inflated survey reliability and validity.[17]

C. The Sample Selection and Process Used for the Survey are Flawed, so the Responses are not Generalizable to the Population

46. The sample selection and process used for the survey are flawed, so the responses are not generalizable to the population. For the survey results to have external validity, that is, being generalizable from the sample to the population, the respondent demographic mix needs to be truly representative of the population.[18] The target population was defined as "United States residents over the age of 18 who listened to Spotify over the last 7 days." (Hauser WDT ¶ 22).

47. However, the survey respondent demographic mix is not representative of the U.S. population. For example, 18-34 year-olds represented 50% of the sample, while they only account for 30% in the U.S. population. (Hauser WDT, Appendix M). Additionally, the survey sample underrepresents senior citizens, posing a threat to external validity. The 65+ demographic was grossly undersampled (5% in the sample v. 25% in the U.S. population). (Hauser WDT, Appendix M). The results are thus not representative of the U.S. population.

48. Furthermore, Prof. Hauser states, "I chose a period of seven days because respondents may have difficulty recalling events that occurred further back in time. Cornerstone

[16] Krosnick, Jon A. (1991), "Response Strategies for Coping with the Cognitive Demands of Attitude Measures in Surveys," *Applied Cognitive Psychology*, 5 (3), 213-236.

[17] Hamby, Tyler and Win Taylor (2016), "Survey Satisficing Inflates Reliability and Validity Measures," *Educational and Psychological Measurement*, 76 (6), 912-932.

[18] Lavrakas, Paul J. (2008), *Encyclopedia of Survey Research Methods*, Sage Publishers.

Research and GBK probed respondents in both the qualitative interviews . . . and the pretests . . ., and determined that respondents could accurately recall which types of media-related activities they engaged in the last seven days. This enabled me to identify respondents who listened to music in the last seven days, and could therefore accurately recall their listening behavior." (*Id* ¶ 24.). However, no evidence is provided on how Cornerstone and GBK determined that respondents could accurately recall which types of media-related activities they engaged in the last seven days (and not other number of days such as three, four, eight, ten and 30). Because the target audience is specified arbitrarily and narrowly as "over the last seven days," the sample is not truly representative of the population.

49. Additionally, for survey results to be generalizable, the sample needs to be chosen in a random manner (that is, each member of the population has an equal chance of being picked in the sample). The process in which the survey sample is obtained does not ensure that a random sample of the population was chosen. An exorbitantly high number of survey attempts were terminated (only 1,205 completes out of 20,772 or 20,0721 attempts) (Hauser WDT, Appendix O), considerably weakening the representativeness of the sample. The completion rate of 0.05 is also extremely low, suggesting that the survey could have been completed mostly by price- or incentive-sensitive respondents, as respondents were given points by the panel firms Dynata and Schlesinger for completing the survey (Hauser WDT, Appendix K-1 and K-2).

50. The manner in which the respondents were chosen for the first-stage is not scientific. The number of respondents chosen for the first-stage pretest was arbitrary. Prof. Hauser states, "[b]ased on my experience, conducting 39 interviews is sufficient for the purpose of ensuring that the questions were understood well by respondents and that the respondents' answers

accurately reflected respondents' beliefs and and/or behavior," (Hauser WDT ¶ 65) reflecting a purely subjective criterion. No explanation is provided for why this number is 39 and not any other number (say 10, 50, or 100). The scientific approach would be to stratify the sample on demographics and choose a proportionate number of representative respondents from each stratum.[19] Therefore, the method used compromises the validity and reliability of the results.

51. The manner in which the respondents were chosen for the second-stage is also not scientific. The number of respondents chosen for the second-stage pretest is also arbitrary. The report states, "[b]etween September 2, 2021 and September 7, 2021, at my direction, experienced interviewers from GBK conducted the second-stage pretest of the survey with 20 adults in the United States who listened to Spotify over the last seven days and had a Spotify Premium account. 10 of these respondents were shown the Remove Spotify Premium Hypothetical, and the other 10 respondents were shown the Remove All Spotify Hypothetical," (Hauser WDT ¶ 75) reflecting a purely subjective criterion. No explanation is provided for why this number is 10 for each survey type and not any other number (say 10, 50, or 100). Again, the scientific approach is to stratify the sample on demographics and choose a proportionate number of representative respondents from each stratum.[20] Therefore, the method used compromises the validity and reliability of the results.

52. The Hauser Survey did not clearly determine whether the respondent was a decision-maker, influencer, or payer for subscription music streaming services. The report states, "I need to do this by maintaining randomization among the hypothetical cells and achieving a

[19] Malhotra (2019).

[20] Malhotra (2019).

representative sample of the target market, in this case, residents of the United States 18 years or older who listen to music, have a Spotify Premium account, and are sufficiently involved in the decision-making process." (Hauser WDT ¶ 80). However, the response options relating respondents' role as decision-maker are too vague. For example, the options include playing a "major" or "minor" role in the decision to purchase a paid subscription to Spotify Premium. Whether a respondent considers their role "major" or "minor" is subjective and is subject to different interpretations. For example, does a student who pays with their parent's credit card for the subscription play a "major" or "minor" role in decision-making? The response options should have been defined more clearly. This determination is key to the validity and reliability of the results from the survey.

D. The Analysis and Conclusions from the Hauser Survey are Incorrect and Misleading

53. Notwithstanding the severe limitations in objectives, survey design, sample selection, and data collection, some of the analyses and the conclusions made by Prof. Hauser are also incorrect or misleading. Some subsample sizes in the tables are too small to reach granular conclusions. For example, the sample size for second-stage pretest is far too small (10 respondents shown the Remove Spotify Premium hypothetical, and 10 respondents shown the Remove All Spotify hypothetical) to validate the survey design. In Appendix J to Prof. Hauser's WDT, he uses percentages to justify certain aspects of the survey design. For example, in Q4 of the second-stage pretest, the results indicate that 90% of respondents shown the Remove Spotify Premium hypothetical thought that the list of music options was sufficiently comprehensive. However, 90% represents only **nine** people in the sample. However, such small numbers suffer from low statistical

power and heightened margin of error, precluding valid conclusions and generalizability to the population.[21]

54. Tables 1 and 2 list the top 10 music options to which more than four percent of time was allocated by respondents in the hypotheticals where music was no longer available on Spotify Premium (Table 1) and ad-supported Spotify and Spotify Premium (Table 2). (Hauser WDT, pp. 58-59). The results in Tables 1 and 2 are unreliable because respondents were forced to choose to allocate a percentage of time across these many options as explained in Section III.B.4., above.

E. The Hauser Survey Undermines Certain Conclusions Made by Dr. Farrell

55. As explained in detail above, the Hauser Survey and Prof. Hauser's related findings in his WDT are flawed in many respects. However, taking the findings at face validity, the results indicate that a significant proportion (21.2% to 22%) of the time spent by consumers would be with other paid on-demand music streaming subscription services in the Remove Spotify Premium and Remove All Spotify hypotheticals, while respondents would only spend 8.7% to 11.4% of the time listening to not-on-demand music streaming options. Such a finding undermines Dr. Farrell's conclusion that non-interactive (not-on-demand) streaming is a close substitute for interactive (on-demand) streaming. (*See e.g.*, Farrell CWDT ¶ 120, n. 175).

56. In addition, even if we take the Hauser Survey's findings at face value, the survey shows that many, if not most people, use more than one music streaming service. (*See* Hauser WDT, Appendix R). Prof. Hauser asks respondents in QS15 "on which on-demand music streaming service(s) other than Spotify do you have your own account with a paid subscription

[21] Blutton, K.S,, Ioannidis, J.P.A., B.A. Nosek, J. Flint, E.S.J. Robinson, and M.R. Manfo (2013), "Power Failure: Why Small Sample Size Undermines the Reliability of Neuroscience?" *Nature Reviews Neuroscience*, 14, 365-376.

(including as part of a group or family plan)." At least 60% of the respondents selected at least one other paid streaming service to which they subscribe. This finding undermines Spotify's claim that $9.99 represents a standard price users are willing to pay for on-demand music streaming. (*See e.g.*, Farrell CWDT ¶ 190, p. F-2).

57. Relying on the Hauser Survey, Dr. Farrell found that 18.7% of respondents would allocate 2.1% of their listening time to pirated options if Spotify Premium or ad-supported Spotify were no longer available. (Farrell CWDT, Figures 11 and 12 at pp. 71, 73). However, the Hauser Survey does not seek information or clarify whether the people who would pirate if Spotify were no longer available are not already pirating, which undermines the reliability and validity of the survey results and the conclusions derived from the survey results. In addition, the small percentage of those who would pirate and the small amount of time allocated to piracy undermine Dr. Farrell's claims.

58. I understand Dr. Farrell also purportedly relies on diversion ratios derived from the Hauser Survey in conducting an opportunity costs analysis. However, the results of the Hauser Survey are poor indicators of diversion ratios. The Remove Spotify Premium and Remove All Spotify hypotheticals posed to respondents are too narrow to capture accurate diversion ratios, as they deal only with a very specific scenario in which Spotify is not available—the context for which was never explained to the respondents. Even so, Dr. Farrell concedes towards the end of his report that his opportunity cost analysis (purportedly derived from the Hauser Survey) does not end up influencing his model. (Farrell CWDT ¶ 195, n. 254).

IV. THE KLEIN SURVEY

A. The Klein Survey is Flawed with Respect to Problem Formulation, Purpose, and Objectives

59. According to generally accepted survey principles, marketing research problem formulation (i.e., precisely identifying and defining the research problem) is critical to the validity and reliability of the research. The Klein Survey suffers from limitations in problem formulation, stated purpose, and objectives.

60. As discussed in Section III.A., marketing research surveys must have specific objectives that are clearly identified and presented.[22] Without a defined survey objective, the survey becomes a fishing expedition and enables the expert and others to cherry pick findings to their advantage, and cannot be adequately evaluated for validity and reliability.

61. Amazon retained Mr. Klein "to design, execute, and analyze a market research survey that seeks to understand the music streaming listening habits of Amazon Music customers." (Klein WDT ¶ 12).

62. Specifically, the Klein Survey was conducted to purportedly: (1) "measure Amazon music streaming customers' current and prior music streaming habits"; and (2) measure Amazon music streaming customers' "anticipated likelihood to move towards the free, ad-supported alternatives and other non-streaming music alternatives if songs/tracks from their favorite artists were no longer available in their Amazon streaming catalogs." (Klein WDT ¶ 22). To supposedly examine the behaviors of the subscribers to Prime Music, AMU and Amazon Music Free,

[22] Malhotra, Naresh K. (2019), *Marketing Research: An Applied Orientation*, 7th Edition, Pearson, New York, NY.

respondents were assigned to separate question tracks depending on the Amazon music streaming services they indicated they currently use. (Klein WDT ¶ 25).

63. The Klein Survey's stated purpose and objective to understand the music streaming listening habits of Amazon Music customers is too vague, broad, and nonspecific to be "relied upon by other experts in developing and proposing rates to be paid by digital service providers like Amazon for use of musical works in connection with on-demand music streaming services." The terms "understand" and "habits" are too ambiguous and raise a number of questions such as: What is the Klein Survey trying to understand? What types or aspects of listening habits is the Survey seeking to understand (e.g., time respondents spent listening to music, genres of music that they listen to, the artists that they listen to, etc.)?

64. By failing to precisely define the problem, purpose and objectives of the survey, Mr. Klein can selectively use findings from the Klein Survey to his advantage, without regard to a properly conducted survey. Mr. Klein's approach violates generally accepted survey principles.

B. The Klein Survey is Critically Flawed in Survey Design

65. According to Mr. Klein's WDT, "This survey was designed in accordance with the relevant factors outlined in the Manual for Complex Litigation (4th edition) published in 2004 by the Federal Judicial Center." (Klein WDT ¶ 16). The following survey design flaws call into question whether the survey was conducted scientifically, as the methodology adopted contains multiple errors and omissions for the results to be valid and reliable.

1. <u>The Klein Survey's Hypothetical Scenarios are Unclear and Elicit Biased and Unreliable Responses</u>

66. The hypotheticals posed in the Klein Survey do not follow proper design practices, and contain flaws which make the survey unreliable.

67. The Klein Survey presents hypothetical scenarios and asks respondents how likely they are to switch to other on-demand streaming services, "not-on-demand streaming services,"[23] and other non-streaming alternatives: (1) if they could no longer stream music via their Amazon music services; or (2) if some or all of the songs/tracks from their favorite artists were no longer available on their Amazon music service. The results from such a survey suffer from hypothetical bias.[24] As discussed in Section III.A.I., while hypothetical questions in stated preference surveys are relatively common, appropriate controls are needed to overcome hypothetical biases. Without appropriate controls, the results may not be a reliable indicator of how much users value music streaming services.[25] Best practices dictate that hypotheticals be presented in a manner that ensure maximum relatability so that respondents are not confused about the scenario they are asked to consider.[26] The analysis in Klein's WDT does not control or adjust for this bias.

68. The Klein Survey is also flawed because it does not provide any context for the hypothetical scenarios presented in the survey. For example, in the Amazon Music Unlimited Track, respondents were asked what they were "likely to do" if 10% of songs/tracks from their

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[23] The use of the term "not-on-demand streaming services" is confusing and potentially misleading. The term is not used in the industry; rather, the terms "non-interactive" and "lean-back" service are frequently used and understood by consumers to describe services such as Pandora's Section 114-compliant service.

[24] Harrison, Glenn W. and E. Elisabet Rutström (2008), "Experimental Evidence on the Existence of Hypothetical Bias in Value Elicitation Methods," in *Handbook of Experimental Economics Results*, Charles R. Plott and Vernon L. Smith, eds. Amsterdam: North-Holland, 727–67.

[25] *See supra,* ¶ 26, n. 5, which lists and explains types of appropriate controls.

[26] *See e.g.*, Fowler, Jr., Floyd Jackson (1992), "How Unclear Terms Affect Survey Data," *Public Opinion Quarterly,* 56, 218-231; *see also*, Schwartz, Norbert and Daphna Oyserman (2001), "Asking Questions About Behavior: Cognition, Communication, and Questionnaire Construction," *American Journal of Evaluation*, 22 (2), 127-160.

favorite artist[27] were "removed from the Amazon Music Unlimited Catalog." (QU8, QU10). Respondents on this same track were also asked what they were "likely to do" if they "could no longer stream music with Amazon Music Unlimited, or any other on-demand streaming service." (QU15).

69. The Klein Survey provides no context for the posed hypotheticals. As with the Hauser Survey, it does not help respondents understand what calamity may hit the industry for the respondent to fully react.[28] The responses therefore may not be valid because they are not representative of what respondents would actually do in a particular, defined context. The responses may not be reliable because each respondent may have envisioned a different hypothetical for why certain tracks were not available, or why on-demand music streaming was no longer available, which affects the reliability and validity of respondents' answers as a whole.

2. <u>The Ordering of Questions is Illogical, Confusing, Arbitrary, and Primed to Produce Pre-determined Responses, Yielding Biased and Unreliable Results</u>

i. The Order of Certain Questions is Illogical

70. The ordering of certain questions in the Klein Survey is illogical and may have led to biased responses. There is a generally accepted practice as to the order in which questions are asked in a survey. Specifically, respondents should first be asked questions about their current

[27] The Klein Survey's use of the phrase "songs/tracks from your favorite artist" is also confusing and potentially misleading. It fails to consider that a song, i.e., a musical composition, could be recorded by multiple artists and could still be available on the service even a particular artist's versions were removed. In fact, Spotify presumably has data about the impact on its subscriptions from the removal of tracks recorded by the artists Neil Young and Joni Mitchell (whose tracks were removed in protest of The Joe Rogan podcast), yet I understand that Spotify has not referenced those data in its WDS.

[28] *See supra*, Section III.B.1 for a further explanation on issues relating the failure to provide a context for hypotheticals scenarios.

situation, followed by questions posing hypothetical scenarios.[29] Accordingly, in the Klein Survey, questions about respondents' current music listening habits should precede the hypothetical questions.

71. The questions in the Klein Survey, however, do not follow this order. For example, QP14 should immediately follow QP1 as both concern respondents' reasons for subscribing to Amazon Prime.[30] However, there are several questions concerning hypothetical scenarios in between these two questions (e.g., QP3, QP5, QP7, QP9, Q11, Q13[31]). These hypothetical scenarios placed between QP1 and QP14 bias the respondents to question their reasons for subscribing to Amazon Prime and potentially reassess the importance of certain benefits/services before ranking their importance in QP14, which may yield unreliable responses.

ii. Certain Questions Are Cognitively Demanding and Confusing

72. Some questions are cognitively demanding and confusing to the respondent. For example, QP16 asks respondents how often they use Prime Music's pre-programmed radio stations. After the question, but prior to the response options, QP16 provides a detailed note as follows: "a radio station is similar to AM/FM or Satellite radio stations. The specific planned selection and order of songs remain unknown to the listener (i.e., no prepublished playlist, but you can skip a song)." An average respondent may have difficulty understanding this description, which includes vague terms (e.g., "planned selection," and "prepublished playlist"), and is

[29] Malhotra (2019).

[30] QP1 asks respondents to choose the reasons for subscribing to Amazon Prime. QP14 ask respondents to rank the benefits/services they selected in QP1 in order of importance.

[31] The hypothetical questions ask about the effect of the respondents' Amazon Prime membership if certain services were no longer offered.

generally confusing to the reader. If a respondent does not fully understand the description, the respondent may not understand the question and therefore cannot provide an accurate and reliable response.[32]

iii. Certain Questions Contain Double-Barreled Options

73. Some questions have selective double-barreled options (two options combined in one option) that yield biased responses. For example, the choices for QP18 "How has using Amazon Music Prime affected the number of artists that you listen to?" has an option "I listen to the same number of artists, but more frequently." This is the only option that contains information about the number of artists *and* the frequency of listening. The remaining options are about only the number of artists to which the respondent listens. The other options do not include anything about the frequency of listening. For example, "I listen to a smaller number of artists, but more frequently" or "I listen to a larger number of artists, but less frequently" are not offered as options. The presence of a double-barreled option makes the question confusing to the respondent, making their response unreliable and their true intentions difficult to ascertain. Furthermore, the option "It has had no effect" is inconsistent with the rest of the options that are presented as changes in the number of artists, which also leads to confusion and unreliable results.

iv. Some Questions are Primed to Elicit a Favorable Response

74. Some questions in the Klein Survey are primed to elicit a pre-determined response. For example, QU2, "Before subscribing to Amazon Music Unlimited, did you take advantage of a free trial period?" contains the language "take advantage of" that biases the respondent to choose

[32] See also ns. 23 and 27, supra re: survey's use of terms "not-on-demand streaming service" and "songs/tracks from your favorite artist."

"yes" before answering "no." Even if the respondent did not start with a free trial, the respondent may answer "yes" because the question was framed as though the respondent *should have* done so. It may even create regret in the respondent for missing out on an "advantage." The proper, neutral way of asking this question could be: "When subscribing to Amazon Music Unlimited, did you start with a free trial period?"

v. Certain Response Options are not Collectively Exhaustive

75. The options for many of the questions (e.g., QP2, QP4, QP6, QP8, QP10, QP12) are not collectively exhaustive. For example, QP2 asks how often a respondent accesses Prime Reading, and provides the following options: "Daily," "Once or twice per week," "Once or twice per month," "A few times a year," "I have never used Prime Reading," and "Don't know/Unsure." This set of options does not include "three times to six times a week," which is between "Daily" and "Once or twice per week." Furthermore, if a respondent accesses Prime Reading 10 times a month, they could not choose an appropriate option from the set of options provided. Thus, the responses obtained to these questions are unreliable.

vi. The Hypotheticals are Arbitrary and Omit Important Alternatives

76. QU8 asks "O[i]f 10% of the songs/tracks from your favorite artists are removed from the Amazon Music Unlimited Catalog, what would you be likely to do?" As noted above, songs/tracks is inherently confusing and misleading as a track and a song are very different things. Further, the use of 10% in some of the hypothetical scenario questions is arbitrary without a sound rationale, making the responses unreliable. A scientific approach would have pretested different percentages (e.g., 5%, 10%, 20%, etc.) or used different percentages through multiple questions. Neither was done.

77. The Klein Survey also omits important alternatives (i.e., purchase of non-digital music) and subsumes them under misleading alternatives "I would listen to digital music files, CDs, or vinyl records I already have" that the report erroneously interprets as non-revenue providing (Klein WDT ¶ 101). It makes similar assumptions for other "free" options, assuming that they are not revenue generating (e.g., YouTube) (Klein WDT ¶ 101). The omission of important alternatives yields unreliable results.

vii. Some Response Options Lead the Respondent to Choose Certain Answers

78. As discussed in my rebuttal testimony to the Hauser Survey, surveys should avoid questions which prime and lead the respondent to choose certain answers.[33] Similar to the Hauser Survey, the question choices in QU1, QU9, QU11, QU13, and QU15 suffer from this leading question bias. For example, in the Klein Survey, respondents can choose an option to purchase an on-demand paid subscription at a rate of $9.99 per month or $119.88 per year. Another response option is to purchase a not-on-demand music streaming service at $4.99 per month or $59.88 a year.[34] The Klein Survey assumes prices for certain services (e.g., on-demand paid subscriptions, and not-on-demand music streaming services) and completely ignores discounted or limited offerings, which offer music streaming at different prices. And, the majority of response options contain no rates. The Klein Survey also ignores the large secondary market for used CDs and vinyl records. The selective use of specific prices for some options may sensitize respondents toward prices. Some respondents' attention may focus more on options involving no or low price. As a

[33] *See supra*, Section III.B.7 for a discussion concerning issues with questions that lead or prime respondents.

[34] Some of the response options in the Klein Survey are identical to the Hauser Survey, suggesting that one expert borrowed the questions from the other.

result, the choices of some respondents may be biased towards an option that does not include any price; the choices of other respondents may be biased towards an option which has a lower price.

3. There is no way to Confirm the Validity of the Questions and Response Options

79. There is no way to determine whether the Klein Survey's choice of questions is scientifically derived, as no information was provided regarding the pretest interviews that were purportedly conducted. Mr. Klein provides no information concerning the number of interviews conducted, the questions asked, and specifics concerning the results of the pretests. Without the information, the pretest cannot be adequately evaluated and the validity of the questions and associated response options is brought into question.

4. The Double-Blind Methodology is Ineffective

80. As with the Hauser Survey, the purported double-blind design methodology (Klein WDT ¶ 17) is misplaced because most questions in the survey pertain to Amazon, making it hard for any respondent not to associate the survey with Amazon. Thus, the survey would likely carry biases towards Amazon.

C. The Sample Selection and Process Used for the Klein Survey are Flawed, so the Responses are not Generalizable to the Population

81. For the survey results to have external validity, that is, being generalizable from the sample to the population, the respondent demographic mix needs to be truly representative of the population. The target population was defined as "Qualified individuals were men and women, age 18 and older, who currently stream (listen to) music over the internet using one of Amazon's music streaming services (Amazon Music Prime, Amazon Music Unlimited, or Amazon Music Free)." (Klein WDT ¶ 29). Because the survey does not report the demographic mix of the respondents, one cannot ascertain if the sample is truly representative of the population.

82. In addition, for the sample to be representative of the population and for the survey results to be generalizable, the sample respondents need to be chosen in a random manner based on the current demographic mix of the population (that is, each member of the current population has a chance of being picked in the sample based on the presence of their demographic mix in the current population). The process by which the survey sample was obtained does not ensure that a random sample of the current population was chosen. The "click balancing" process used the 2010 census (Klein WDT ¶ 20) and not the most recent 2020 census, so the chosen sample is not representative of the current population. That is, the demographic mix of the sample does not mirror the demographic mix of the current population.

83. The Survey sample's responses are also not representative of those of the population. For example, QS10 asks respondents what Amazon music streaming service they have used in the past month.[35] The response options in QS10 group people under Prime Music, AMU, and Amazon Music Free (ad-supported) buckets. These buckets are not mutually exclusive (as respondents could technically have used each of these services), making this question and subsequent questions uninformative and flawed, as they are based on potentially inaccurate information.

84. Among the survey sample, [redacted] respondents subscribe to Prime Music, [redacted] to AMU, and [redacted] to Amazon Music Free (ad-based) service. [redacted]

[35]*QS10 Response Options; *1 = Amazon Music Prime (limited music catalog available to Prime members for no additional charge); 2 = Amazon Music Unlimited (full music catalog with a paid monthly subscription for music streaming); 3 = Amazon Music Free (Amazon's limited music catalog available to anyone, including persons who are not current subscribers to Prime, for no charge, but with ads); 4 = I am currently in a free trial period, prior to a paid subscription, of an Amazon music streaming service (e.g., a free trial of Amazon Music Unlimited); 5 = Don't know/Unsure.

[redacted] For example, Mr. Klein's conclusion that [redacted] (Klein WDT ¶ 108, Table 40). [redacted], representing low statistical power.

85. Prime Music and AMU subscribers among the respondents skewed [redacted]. These numbers may not be truly representative of the demographics as represented (Klein WDT ¶ 16). Additionally, the age distributions for the different Amazon music streaming services differ significantly. [redacted].

86. [redacted]) (Klein WDT, Appendix E), [redacted] (who received 50 "Swagbucks") (Klein WDT, Appendix C).

87. The Klein Survey assumes that all respondents pay $9.99/month for AMU. The Klein Survey does not ascertain how many AMU subscribers actually pay $7.99/month by virtue of their Prime membership, or $4.99/month under a student plan, (or $0.99 for students who have a Prime membership), or $3.99 for owners of Alexa-enabled devices. The assumptions that all

respondents pay $9.99/month for AMU cannot be accurate and weakens, indeed, potentially distorts, the reliability and validity of the survey results.

D. The Klein Survey's Conclusions are Incorrect in Several Respects

1. Mr. Klein's Conclusions Regarding [redacted]

88. Mr. Klein's survey conclusions are incorrect in many respects.

89. First, the Klein Survey does not support [redacted]. (Klein WDT ¶ 96).

90. QU1 asks respondents about their music listening habits before subscribing to AMU. Mr. Klein concludes from the data derived from QU1 that [redacted] (Klein WDT ¶ 96). However, QU1 was not limited to a certain time period, and the choices were not limited to certain music listening options. Over a long period of time, many users would have tried or used multiple music listening options depending on availability, prevalence of listening option, and other factors. Without specifying specific time period or limiting music listening options, the data derived from QU1 regarding AMU's role in creating demand is uninformative. For example, to support his conclusion, [redacted].[36]

[36] For example, if a person who downloaded [redacted].

91. Additionally, the Klein Survey was not properly designed to capture information concerning [redacted] The design flaws include: (1) limiting the question to AMU subscribers (which is non-representative of the population using on-demand music streaming services), (2) offering a catastrophic hypothetical event without context (*see* ¶¶ IV.B.1, *supra*); and (3) presupposing the alternatives in the hypothetical scenario (*see e.g.*, QU15).

2. The Data do not Support the Conclusion that [redacted]

92. There is no support for the assertion [redacted] (Klein WDT ¶ 14). In fact, even Mr. Klein's flawed data show from QU15 that [redacted]. (*See* Klein WDT, p. 52, Table 37).

93. Similarly, even Mr. Klein's flawed data in response to QU11 and QU13 shows that [redacted]

[redacted]. (*See* Klein WDT, pp. 46, 48, Tables 32, 34).

94. Additionally, the Klein Survey is not even designed to capture the type of information required to reach Mr. Klein's conclusion. For example, [redacted].[37] However, the Klein Survey failed to ask respondents whether they currently consume music through YouTube/Vevo (or any of the options listed in QU9, QU11, QU13 and QU15), which would not reflect a change in listening habits. The Klein Survey did not ask respondents using AMU from where they obtained all their music. Mr. Klein infers that respondents listen to 100% of their music on Amazon Music Unlimited, [redacted] Without this information, there is no baseline for a comparison and it cannot be concluded that elimination of Amazon Music Unlimited [redacted].

3. <u>Mr. Klein's Conclusions Concerning</u> [redacted]

95. [redacted]

[37] QU9, QU11 and QU13 ask respondents how they would access music if they cancelled their AMU subscription due to some or all songs from their favorite artists no longer being available on AMU. QU15 asks respondents how they would listen to music if they could no longer stream music on AMU or any other on-demand streaming service.

[redacted]. Mr. Klein's conclusion is erroneous because it is derived from a list of "choose all that apply." As a result, the list adds up to much more than 100%, and the implication that 11.2% of music was consumed through "non-revenue generating" listening options is misleading.

96. Specifically, the bottom row in Table 22 lists a total of [redacted] respondents, or [redacted] However, the [redacted] figure is incorrect. Rather, the total number of responses in that table is [redacted] (provided non-exclusively by [redacted] respondents, which adds up to [redacted], not [redacted] as claimed), of which [redacted] responses belong to the category "I listened to music obtained through peer-to-peer file sharing or free download sites (e.g., The Pirate Bay, Free Music Archive, Musopen)." Using the number of responses to calculate the percentage rather than number of respondents, the percentage of listeners who consumed music through "peer-to-peer file sharing or free download sites" is [redacted]. Thus, again, the data are flawed because the survey question was not time delimited. (See ¶ 90, *supra*).[38]

97. In addition, there is no indication that respondents who indicated they previously consumed music through file sharing or free downloads actually pirated this music, as Mr. Klein seems to suggest (Klein WDT ¶ 96). "Free downloading" sites are not the same as pirated music sites. Like many artists themselves, Radiohead famously and legally made their music freely downloadable.[39] Thus, [redacted].

[38] In fact, data from the Klein Survey shows that [redacted] of respondents identified file sharing and free downloads as their reason for not paying for a music streaming service.

[39] Bourreau, M., P. Doğan, and S. Hong (2015), "Making Money by Giving it for Free: Radiohead's Pre-release Strategy for In Rainbows," *Information Economics and Policy*, 32, 77-93.

98. Relatedly, the implied causality by which the introduction of AMU converted other types of music consumption is incorrect and unsupported by data from the Mr. Klein's WDT. For a causal relationship between two variables or events X and Y, three important conditions have to hold: X should precede Y; X should be related to Y; and alternative explanations or reasons for the change in Y should be ruled out.[40] The relationship between [redacted].

[40] Shadish, William M., Thomas D. Cook, and Donald T. Campbell (2012), *Experimental and Quasi-experimental Designs for Generalized Causal Inference*, Houghton Mifflin Company, Boston.

[41] During the onset of the internet that long predates Amazon Music Unlimited, there was a brief period during which file sharing was experimented by some listeners [redacted].

E. Klein's Inferences Concerning Amazon Prime Subscribers are Incorrect and/or Misleading

1. The Data Supports the Conclusion that [redacted]

99. The Klein WDT [redacted]. (Klein WDT ¶ 88). [redacted].[42]

100. Mr. Klein also improperly concludes [redacted]. (Klein WDT ¶ 90). Mr. Klein's conclusion is incorrect and misleading. QP14 asks respondents to rank Amazon Prime's benefits/service in order of importance to the decision to subscribe to Amazon Prime. [redacted] While it is true [redacted]. [redacted]

[42] This result suggests that providing music to Prime members at no extra charge, regardless of whether they value it or not, [redacted]s.

(Klein WDT ¶ 14, 90) is unsupported and misleading given these findings.

101. In addition, the results of the responses to QP16, QP17 show that Prime members (Tables 18 and 19, Klein WDT ¶ 92).

102. Mr. Klein uses results from QP7[43] to suggest that . Mr. Klein's finding, however, is meaningless as

[43] Based on the answers to QP7, of Amazon Prime respondents indicated that they would not terminate their Amazon Prime membership if they were no longer provided access to Prime Music.

[redacted].[44]

2. The Klein Survey Data Does Not Support the Conclusion that Prime Music and Free Trials Convert Users to AMU Subscribers

103. Mr. Klein's WDT states that [redacted], suggesting that providing [redacted] (Klein WDT ¶ 91, Table 17). However, the data in Table 17 [redacted]. Furthermore, the data show that an [redacted].[45] Thus, Mr. Klein's [redacted].

104. In response to QP15: "How likely are you to upgrade to Amazon Music Unlimited?," [redacted] of the respondents state that they would definitely upgrade to AMU (Klein WDT ¶ 91, Table 17). This number is [redacted].

[44] Failing to obtain additional information regarding respondents' additional music listening is a critical oversight because Amazon Prime offers other services/benefits, in which Prime Music is bundled. In bundling, different users value different components of the bundle differently. But even users who do not value music as a primary benefit of Amazon Prime still receive it for free, which puts downward pricing pressure on competitors and hurts the songwriters.

[45] QU1 asks, "Which of the following best describes your music listening habits before you subscribed to Amazon Music Unlimited?" Almost all of these [redacted].

105. I understand that certain Amazon witnesses argue that [redacted]; the Klein Survey data undermine this view. (Klein WDT, Appendix D (QU1 response data). With regard to QU1, [redacted] of Amazon Music Unlimited subscribers [redacted]. That is, [redacted].[46] This result is particularly notable since Amazon Prime users receive a $2 discount if they subscribe to AMU (and even further discounts if they own Alexa-enabled devices or if they subscribe to student plans).

106. Mr. Klein's conclusion that "[redacted]" (Klein WDT ¶ 14) is likewise not supported by the survey data. Amazon provides a free trial to any prospective customer. [redacted]. Despite the limitations in the survey, the result in Table 23 shows that a [redacted].

[46] *See* Mr. Klein work papers.

V. CONCLUSIONS

A. The Hauser Survey

107. The Hauser Survey suffers from critical flaws across a gamut of components, including the survey's problem formulation, its stated purpose and objectives, information needs determination, survey design, survey sample selection, and analyses and conclusions derived from the survey results.

108. These flaws severely limit the validity and reliability of the findings from the Hauser Survey. The conclusions do not accurately capture or reflect the intended outcomes. Nor do they offer any assurance of the consistency of the findings.

109. The sample selection and process used for the Hauser Survey are flawed, so the responses are not generalizable to the population. The demographic mix of the Hauser Survey sample does not mirror the current population. The Hauser Survey sample's responses are not representative of those of the population.

110. Many of the conclusions from the Hauser Survey are incorrect and misleading. Many of the sample sizes are small, suffering from low statistical power. The main conclusions on the time allocated to different options under the hypothetical scenarios are not valid and unreliable because of numerous flaws with the Hauser Survey, including a cognitively demanding and confusing set of options presented to the respondent.

111. The results of the Hauser Survey do not support and even undermine certain conclusions made by Dr. Farrell. Even if we were to accept the Hauser Survey and its results at face value, those results show that non-interactive (non-on-demand) music streaming services are not close substitutes or alternatives for interactive (on-demand) music streaming services,

contradicting Dr. Farrell's claims; only a few subscribers of on-demand streaming services would end up engaging in piracy in the hypothetical scenarios, weakening Dr. Farrell's arguments; and the results are weak indicators of diversion ratios used by Dr. Farrell.

B. The Klein Survey

112. The Klein Survey suffers from critical flaws across a gamut of components, starting with the survey's problem formulation, its stated purpose and objectives, information needs determination, survey design, survey sample selection, and analyses and conclusions derived from the survey results.

113. The Klein Survey's critically flawed survey design makes the results unreliable. The hypothetical scenarios in the Klein Survey do not follow generally accepted practices and do not control for hypothetical bias, resulting in unreliable responses. The ordering of questions is illogical, confusing, arbitrary, and were primed to produce favorable responses, yielding biased and unreliable results.

114. The sample selection and process used for the Klein Survey are flawed, so the responses are not generalizable to the population. The demographic mix of the Klein Survey sample does not represent the current population. The Klein Survey sample's responses are not representative of those of the population.

115. Mr. Klein's conclusions and analysis derived from the Klein Survey are incorrect and misleading. The data do not support Mr. Klein's conclusions: [redacted]

[redacted]

[redacted].

I, Venkatesh Shankar, declare under penalty of perjury that the statements contained herein are true and correct to the best of my knowledge, information and belief.

Executed on April 22, 2022 in College Station, Texas.

Venkatesh Shankar, Ph.D

APPENDIX A: CURRICULUM VITAE OF VENKATESH SHANKAR

VENKATESH (VENKY) SHANKAR

March 2022

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ACADEMIC EXPERIENCE

Professor of Marketing and *Coleman* Chair in Marketing, *Mays Business School*, Texas A&M University, 2004-present.

Visiting Scholar, Graduate School of Business, Stanford University, 2017.

Director of Research, Center for Retailing Studies, *Mays Business School*, Texas A&M University, 2012-present.

Marketing Ph.D. Program Director, *Mays Business School*, Texas A&M University, 2006-2012.

Ralph J. Tyser Fellow and Associate Professor of Marketing, *Robert H. Smith School of Business*, University of Maryland, 2000-2004.

Visiting Scholar, *Sloan* School of Management, Massachusetts Institute of Technology (M.I.T.), 2001-2002.

Co-Director, *Quality Enhancement Systems and Teams (QUEST) Program* (Joint Business-Engineering Undergraduate Program), *Robert H. Smith School of Business*, University of Maryland, 1998-2000.

Assistant Professor of Marketing, *Robert H. Smith School of Business*, University of Maryland, 1995-2000.

EDUCATION

Ph.D. (Marketing), *J.L. Kellogg Graduate School of Management,* Northwestern University, Evanston, 1995.
P.G.D.M./MBA, Indian Institute of Management, Calcutta, 1986.
B.Tech./B.S. (Engineering), Indian Institute of Technology, Kharagpur, 1984.

HONORS AND AWARDS

Research Impact

Listed among The World's Most Influential Scientific Minds. According to Thomson Reuters, "(Researcher with) the greatest numbers of reports officially designated by Essential Science Indicators as Highly Cited Papers—ranking among the Top 1% most cited for their subject field and year of publication—between 2002 and 2012." Only six researchers in marketing worldwide are in this list.

Among the Top 1% of scientists in the marketing discipline. According to Mendeley Data, the ranking analyzes citation data from 1996 through 2020, covering around 7 million scientists in 22 major fields.

Listed as a Highly Cited Researcher. According to Thomson Reuters, "The listings of Highly Cited Researchers feature authors whose published work in their specialty areas has consistently been judged by peers to be of particular significance and utility."

Total citations of research publications: Over **24,240**. H-index = **59**; i10-index = **110**; G-index = **155**; **5** articles with over 1,000 citations; **45** articles with 100 and over citations (source: *Harzing's Publish or Perish*, Google Scholar). Among the highest for marketing strategy scholars, retailing, services marketing scholars, Ph.D. cohort.

Ranked eighth among the world's leading Innovation Management Scholars in terms of publications in top tier journals (source: *Journal of Product and Innovation Management* article).

Awards for Outstanding Research Contributions, Journal Articles and Research Proposals

<u>Lifetime/Distinguished Achievement Awards</u>

1. AMS/Cutco Vector ***Outstanding Marketing Educator***, Academy of Marketing Science, 2017.

2. ***Distinguished Alumnus Award***, Indian Institute of Technology (IIT), Kharagpur, 2015.

3. ***Retailing Lifetime Achievement Award*** for ***Lifetime Contributions to Retailing Research***, American Marketing Association, 2013.

4. ***Distinguished Alumnus Award***, Indian Institute of Management (IIM), Calcutta, 2013.

5. *Vijay Mahajan* ***Award*** for ***Lifetime Contributions to Marketing Strategy Research***, American Marketing Association, 2012.

<u>Best Paper/Article Awards</u>

1**.** Finalist, ***Best Paper*** Award, *Journal of Advertising*, 2021.

2. Winner, ***Best Services Article***, American Marketing Association's Services Marketing SIG, 2020.

3. Finalist, **Best Paper** Award, *Design Studies*, 2020.

4. Winner, **Best Paper** Award, International Design Engineering Technical Conferences/Design Theory and Methodology Conference (IDETC/DTM), 2017.

5. Finalist, ***Best Services Article***, American Marketing Association's Services Marketing SIG, 2017.

6. Finalist, *Donald Lehmann* Award for the ***Best Paper*** based on Dissertation in an *AMA* Journal, 2015.

7. Finalist, *INFORMS Society for Marketing Science (ISMS)* ***Long-term Impact (10-Year) Best Paper*** *Award,* 2015.

8**.** Winner, *EMAC-IJRM Steenkamp Award for* ***Long-term (15-Year) Impact Article***, *International Journal of Research in Marketing*, 2014.

9. Winner, ***Best Services Article***, American Marketing Association's Services Marketing SIG, 2014

10. Honorable Mention, *Davidson* ***Best Paper*** Award, *Journal of Retailing*, 2012.

11. Winner, *JAMS-Sheth* ***Best Paper*** Award, *Journal of the Academy of Marketing Science*, 2009.

12. Honorable Mention, *Davidson* ***Best Paper*** Award, *Journal of Retailing*, 2009.

13. Finalist, *INFORMS* Society for Marketing Science Practice Prize ***Best Paper*** Award, 2006.

14. Honorable Mention, *Davidson* ***Best Paper*** Award, *Journal of Retailing*, 2004.

15. Finalist, *INFORMS* Society for Marketing Science Practice Prize ***Best Paper*** Award, 2004.

16. Honorable Mention, ***Best Paper*** Award, *International Journal of Research in Marketing*, 2004.

17. Winner, *Donald Lehmann* Award for the ***Best Paper*** Based on Dissertation in an *AMA* Journal, 2000.

18. Winner, *Paul Green* Award for the ***Best Paper*** in the *Journal of Marketing Research*, 1999.

Other Research Awards

1. Outstanding ***Research Award***, *Mays* Business School, Texas A&M University, 2006-2007.
2. Marketing Edge ***Advisor, Best Dissertation in Interactive Marketing Award Winner***, 2019.
3. *American Marketing Association (AMA) DocSIG* ***Advisor, Mathew Joseph Emerging Scholar Award Winner***, 2019.
4. *Product Development Management Association (PDMA)* ***Advisor, Emerging Scholar Award Winner***, 2019.
5. *Institute for Study of Business Markets (ISBM)* ***Advisor, Best Dissertation Award Finalist***, 2018.
6. *Institute for Study of Business Markets (ISBM)* ***Advisor, Best Dissertation Award Winner***, 2014.
7. *Marketing Science Institute* (*MSI*) Alden Clayton ***Advisor, Best Dissertation Award Winner***, 2009.
8. *Institute for Study of Business Markets (ISBM)* ***Advisor, Best Dissertation Award Finalists***, 2009.
9. *Institute for Study of Business Markets (ISBM)* ***Advisor, Best Dissertation Award Finalist***, 2008.
10. *Institute for Study of Business Markets (ISBM)* ***Advisor, Best Dissertation Award Finalist***, 2006.
11. *Product Development Management Association (PDMA)*, ***Advisor, Best Dissertation Award Winner***, 2007-08.
12. ***Advisor, AMS Mary Kay Doctoral Dissertation Award Winner***, 2004.
13. ***IBM*** Faculty ***Research Partnership Award***, 2001.
14. Dean's ***Performance Recognition Grant***, Mays Business School, Texas A&M University, 2016, 2015, 2014, 2013, 2012, 2011, 2010, 2008, 2007.

Awards/Honors for Research Leadership and Contributions to the Profession

1. Winner, Direct Marketing Educational Foundation *Robert B. Clarke* Outstanding Educator Award, 2006.

2. Named award (*Shankar-Spiegel* Award) for the best dissertation in direct/interactive marketing, 2008-present.

3. Recognized by the *Marketing Science Institute* for Outstanding Contributions, 2013.

4. Recognized by the Direct Marketing Association for Outstanding Leadership and Service to Interactive Marketing, 2009.

5. Academic Trustee, *Marketing Science Institute (MSI)*, 2007-2013.

6. Outstanding Mentor Award, Retail & Pricing SIG, American Marketing Association, 2021-2022.

7. Recognized by *Mint Wall Street Journal* as among the Top 2 Indian Origin Alumni of Kellogg School, Northwestern University, 2015.

8. Recognized as a "Guru" by Indian Institute of Management Alumni Association, 2013-2014.

9. Research Fellow and Board Member, Retail Analytics Council, 2016-present.

10. Senior Research Fellow, eBusiness Research Center, Penn State University, 2000-2010.

11. Advisory Board Member, Business-to-Business (B2B) Leadership Board, 2011-present.

12. Advisory Board Member, Academic Liaison Committee, CMO Council, 2010-present.

13. Advisory Board Member, ISBM Ph.D. Seminar Series, 2007-present.

14. Advisory Board Member, *Journal of Interactive Marketing*, 2011-present.

15. Advisory Board Member, *Journal of Retailing*, 2014-present.

16. Advisory Board Member, European e-Business Center, *ESSEC*, France, 1999-2002.

17. Sloan Industry Studies Program Affiliate, 2007-2011.

18. Advisory Board Member, Direct Marketing Educational Foundation, 2006-2009.

19. Research Leader, Marketing Science Institute's Immersion Conference for Fast Track Executives, 2008.

20. Advisory Board Member, Marketing Science Conference, 2007.

21. Advisory Board Member, IBM Academic Advisory Committee for e-Business Conference, 2000-2004.

22. Track Co-Chair, "Best Session" Track in American Marketing Association's Winter Educators' Conference, Austin, 2002.

Journal Editorship/Associate Editorship/Handbook Editorship

1. Co-Editor, *Journal of Interactive Marketing*, 2002-2009.

2. Associate Editor, *Journal of Marketing Research*, 2014-2020.

3. Area Editor, *Journal of Marketing*, 2014-2018.

4. Associate Editor, *International Journal of Research in Marketing*, 2018-present.

5. Associate Editor, *Management Science*, Technological Innovation, Product Development and Entrepreneurship, 2001-2007.

6. Co-editor, *Handbook on Marketing Strategy*, 2012.

7. Volume Editor, *Creating and Managing Product Mix* in *Legendary Marketers: Phil Kotler*, Sage Publications, 2011.

8. Co-Editor, Special Issue of *Journal of Retailing* on Innovations in Retailing, 2011.

9. Editor, Special Issue of *Journal of Interactive Marketing* on Mobile Marketing, 2016.

Invited Faculty Fellowships, Keynote Addresses, and other Research Honors

1. Faculty Fellow, *American Marketing Association (AMA)-Sheth Doctoral Consortium*
University of Leeds, Leeds, 2018.
University of Iowa, Iowa City, 2017.
University of Notre dame, South Bend, 2016.
Northwestern University, Evanston, 2014.
University of Michigan, Ann Arbor, 2013.
University of Washington, Seattle, 2012.
Texas Christian University, Fort Worth, 2010.
Georgia State University, Atlanta, 2009.
University of Missouri, Columbia, 2008.
Arizona State University, Tempe, 2007.
University of Connecticut, Storrs, 2005.
Texas A&M University, College Station, 2004.
University of Minnesota, Minneapolis, 2003.
University of Western Ontario, London, 2000.
University of Southern California, Los Angeles, 1999.

2. Faculty Fellow, *INFORMS Society of Marketing Science Doctoral Consortium*
University of Cologne, Germany, 2010.
Singapore Management University, Singapore, 2007.

3. Faculty Fellow, Marketing Strategy Consortium
University of Texas, Austin, 2021.

4. Faculty Fellow, Frontiers in Service Conference
Temple University, Philadelphia, 2021.

5. Invited Thought Leader, *Computational Advertising*
University of Minnesota, 2019.

6. Invited Thought Leader, *Advances in Retailing*
University of Arkansas, 2019.

7. Invited MSI Webinar Speaker, *Leveraging Omnichannel through Mobile*, Marketing Science Institute (MSI), 2017.

8. Invited Keynote Speaker, *Big Data and Analytics in Omnichannel Marketing*, University of Michigan, Ann Arbor, 2015.

9. Faculty Fellow*, Faculty Consortium on e-Commerce, American Marketing Association,* Texas A&M University*,* College Station*,* 2001.

10. Thought Leader and Featured Speaker, *AMA* Knowledge Coalition's Evidence-Based Marketing Conference of Chief Marketing Officers and Academic Thought Leaders, Atlanta, 2008.

11. Invited Lead Academic Speaker, Internet Retailer Conference and Exhibition, San Jose, 2007.

12. Invited Keynote Speaker, IADIS (International Association for Development of the Information Society) E-Commerce Conference, Portugal, 2007.

13. Invited to be a Fortune Casual Educator's Fellow, Retailing Conference by Center for Retailing Excellence, *Sam M. Walton College of Business* at the *University of Arkansas*, 2003.

14. Finalist, *Journal of Marketing* Editorship, 2007, 2017.

15. Finalist, *Journal of Marketing Research* Editorship, 2019.

Teaching Honors

1. The *Krowe* Award for Outstanding Innovation in Teaching from the University of Maryland, 2002 (the only faculty member to get this award in this year).

2. Named among the Top 2 (Key) Professors at University of Maryland by *Business 2.0*, 2001.

3. The *Krowe* Award for Outstanding Teaching from the University of Maryland, 2001 (one of about four faculty to get this award in this year).

4. The *Krowe* Award for Outstanding Teaching from the University of Maryland, 2007 (one of about four faculty to get this award in this year).

Industry/Other Honors

1. Top Retail Influencer, a Select Group of Retail Thinkers, RETHINK RETAIL, 2022.

2. Member of *Cable News Network's (CNN)* panel of International Business Experts, 1997-present.

3. Member of Board of Trustees, *Hospitality Sales and Marketing Association International* (*HSMAI*) Educational Foundation, 1998-2001.

4. Best Venture Capitalist Faculty Member, MBA Students Association, University of Maryland, 2000.

5. Dean's Fellowship, *Northwestern University*, 1990-1993.

RESEARCH GRANTS

1. $148,215: *National Science Foundation* for A Quantitative Theory for Technology Evolution and Innovation (with Daniel A. McAdams), 2015-2016.

2. $4,000: *Social Sciences and Humanities Development* Committee, McGill University, Canada for New Product Development in Developing Markets (with Thomas Dotzel), 2013.

3. $40,800: *Social Sciences and Humanities Research Council*, Canada for *Services vs. Goods Innovations: Effects on Firm Value and Firm Risk* (with Thomas Dotzel), 2011.

4. $7,000: *Social Sciences and Humanities Development* Committee, McGill University, Canada for *Drivers and Consequences of Innovations: Goods vs. Services* (with Thomas Dotzel), 2011.

5. $10,000: *A Review of MSI-ISMS Practice Prize Finalist Projects and Papers* from *Marketing Science Institute (MSI)* (with Gary Lilien and John Roberts), 2010.

6. $1,000: *MSI* for *Shopper Marketing*, 2009.

7. $12,000: CIBER, Texas A&M University for *Global Market Segmentation: A Cross-National Empirical Analysis*, 2005-06.

8. $20,000: *Duke University* for *Linking Marketing and IT Capabilities and CRM Investments to Firm Performance* (with V. Sambamurthy), 2002.

9. $35,000: *PepsiCo* for *Forecasting Model for Consumer Packaged Goods* (with Brian Ratchford), 2001.

10. $5,000: *The Impact of Extranets on Supply Chain Performance* (with Martin Dresner) from *Institute for Study of Business Markets (ISBM)*, 1999.

11. $17,500: *Advertising, Sales Force, and Marketing Mix Allocation Strategies over the Product Life Cycle: An Empirical Analysis of Dominant and Non-dominant Brands* from *Marketing Science Institute (MSI)*, 1999.

12. $12,000: *Customer Satisfaction and Loyalty in Online Markets* from *University of Maryland,* 1999.

13. $20,000: *The Impact of Timing and Sequence of International Market Entry on Competitive Advantage* from *Marketing Science Institute (MSI*), 1998.

14. $10,000: *The Impact of Internet Marketing on Price Competition* from *Marriott International*, 1998.

15. $16,000: *Determinants of New Entrant Strategies and Incumbent Responses: An Integrated Framework and Empirical Analysis* from *Marketing Science Institute (MSI)*, 1997.

16. $8,000: *Product Line and Competitive Advantage* from University of Maryland**,** 1997.

17. $5,000: *The Impact of Timing and Sequence of International Market Entry in Creating Competitive Advantage* from *Canadian Research Grant Programs***,** 1997.

18. $7,000: *Network Effects and Competition* (with Barry Bayus) from *University of Maryland,* 1997.

19. $10,000: *How do Long-run and Short-run Price Sensitivities Vary across Channels? An Empirical Analysis* (with Jeffrey Inman) from *Marketing Science Institute (MSI*), 1996.

20. $12,000: *Dimensions and Determinants of Retailer Pricing Strategy and Tactics: A Theoretical Framework and Empirical Analysis* (with Ruth Bolton), from *Marketing Science Institute (MSI),* 1996.

21. $6,500: *Competitive Advantage based on Order/Timing of Market Entry: A Cross-national Empirical Analysis*, from *Center for International Business and Economic Research (CIBER)*, 1996.

22. $5,000: *Cross-Channel Differences in Regular Price and Deal Sensitivities* (with Jeffrey Inman), from University of Maryland, 1996.

RESEARCH AND TEACHING INTERESTS

Digital/e-Business/e-Commerce/Interactive/Direct/Internet/Multichannel Marketing
Marketing Strategy
Innovation, New Product and Brand Management
Pricing/Retailing/Channel/Supply Chain Management

International Marketing
Services Marketing
Artificial Intelligence, Data Science/Big Data, Machine Learning

PUBLICATIONS IN REFEREED/LEADING JOURNALS (Including forthcoming, conditionally accepted papers)

1. Shankar, Venkatesh and Sohil Parsana (2022), "An Overview and Empirical Comparison of Natural Language Processing (NLP) Models and an Introduction to and Empirical Application of Autoencoder Models in Marketing," *Journal of Academy of Marketing Science*, forthcoming.

2. Shankar, Venkatesh, Dhruv Grewal, Sarang Sunder, Beth Fossen, Kay Peters, and Amit Agarwal (2021), "Digital Marketing Communication in Global Marketplaces: A Review of Extant Research, Future Directions, and Potential Approaches," *International Journal of Research in Marketing*, forthcoming.

3. Vadakkepatt, Gautham Gopal, Venkatesh Shankar, and Rajan Varadarajan (2021), "Should Firms Invest More in Marketing or R&D to Maintain Sales Leadership? An Empirical Analysis of Sales Leader Firms," *Journal of Academy of Marketing Science*, 49, 1088-1108 .

4. Shankar, Venkatesh, Kirthi Kalyanam, Pankaj Setia, Alireza Gulmohamaddi, Seshadri Tirunillai, Tom Douglass, John Hennessey, JS Bull, and Rand Waddoups (2021), "How Technology is Changing Retail," *Journal of Retailing*, 97 (1), 13-27.
   Among the most downloaded *Journal of Retailing* articles.

5. Shankar, Venkatesh and Tarun Kushwaha (2021), "Omnichannel Marketing: Are Cross-channel Effects Symmetric?" *International Journal of Research in Marketing*, 38 (2), 290-310.

6. Yun, Joseph, Claire Seijin, Stewart Pearson, Edward Malthouse, Joe Konstan, and Venkatesh Shankar (2020), "Challenges and Future Directions of Computational Advertising Measurement Systems," *Journal of Advertising*, 49 (4), 446-458.
   Finalist, ***Best Paper*** Award, *Journal of Advertising*, 2021.
   Among the ***Most Influential Articles*** in *American Academy of Advertising*'s publications, 2020.

7. Hoyer, Wayne, Karsten Kraume, Mirja Kroschke, Bernd Schmitt, and Venkatesh Shankar (2020), "Transforming the Customer Experience through New Technologies," *Journal of Interactive Marketing*, 51 (C), 57-71.

8. Shankar, Venkatesh and Unnati Narang (2020), "Emerging Market Innovations: Propositions, Practitioner Implications, and Research Agenda," *Journal of Academy of Marketing Science,* 48 (5), 1030-1052.

9. Dotzel, Thomas and Venkatesh Shankar (2019), "The Relative Effects of B2B (vs. B2C) Service Innovations on Firm Value and Firm Risk: An Empirical Analysis," *Journal of Marketing*, 83 (5), 133-152.
   Winner of ***Best Service Article*** Award from the American Marketing Association.

10. Narang, Unnati and Venkatesh Shankar (2019), "Mobile App Adoption and Online and Offline Purchases and Product Returns," *Marketing Science*, 38 (5), 756-772.
    Featured by *Strategy + Business* Magazine and the *Conversation*.
    Recognized by SSRN to be among the top ten downloaded papers in several categories.
    472 downloads on SSRN.

11. Narang, Unnati and Venkatesh Shankar (2019), "Mobile Marketing 2.0: State of the Art and Research Agenda," *Review of Marketing Research*, 16, 97-119.

12. Zhang, Guanglu, Douglas Allaire, Venkatesh Shankar, and Daniel McAdams (2019), "A Case against the Trickle-down Effect in Technology Ecosystems," *PLOS ONE*, 14 (6).

13. Zhang, Guanglu, Daniel McAdams, Douglas Allaire, and Venkatesh Shankar (2019), "System Evolution Prediction and Manipulation Using a Lotka-Volterra Ecosystem Model," *Design Studies*, 60, 103-138.
    Finalist, ***Best Paper Award***, *Design Studies*, 2020.

14. Zhang, Guanglu, Daniel McAdams, Douglas Allaire, and Venkatesh Shankar (2019), "Generating Technology Evolution Prediction Intervals Using a Bootstrap Method," *ASME Journal of Mechanical Design,* 141 (6), 061401.

15. Shankar, Venkatesh (2018), "How Artificial Intelligence (AI) is Reshaping Retailing," *Journal of Retailing*, 94 (4), vi-xi (invited commentary).

16. Lee, Leonard, J. Jeffrey Inman, Jennifer J. Argo, Tim Bottger, Utpal Dholakia, Timothy Gilbride, Koert van Ittersum, Barbara Kahn, Ajay Kalra, Donald R. Lehmann, Leigh McAlister, Venkatesh Shankar, and Claire Tsai (2018), "From Browsing to Beyond: The Needs-Adaptive Shopper Journey Model," *Journal of Association of Consumer Research*, 3 (3), 277-293.

17. Zhang, Guanglu, Daniel A. McAdams, Milad Mohammadi Darani, and Venkatesh Shankar (2018), "Shaping the Future: Product Performance Evolution Prediction and Manipulation Using Lotka-Volterra Equations," *ASME Journal of Mechanical Design*, 140 (6), 061101.

18. Meyer, Jeffrey, Venkatesh Shankar, and Leonard Berry (2018), "Pricing Hybrid Bundles by Understanding the Drivers of Willingness to Pay," *Journal of Academy of Marketing Science*, 46 (3), 497-515.

19. Liu, Yan, Venkatesh Shankar, and Wonjoo Yun (2017), "Crisis Management Strategies: The Long-term Effect of Product Recalls on Firm Value," *Journal of Marketing*, 81 (5), 30-48.

20. Zhang, Guanglu, Daniel McAdams, Venkatesh Shankar, and Milad Darani (2017), "Modeling the Evolution of System Technology Performance when Component and System Technology Performances Interact: Commensalism and Amensalism," *Technological Forecasting and Social Change,* 125, 116-24.

21. Meyer, Jeffrey and Venkatesh Shankar (2016), "A Monopolist's Optimal Pricing Strategy for Hybrid Bundles," *Journal of Retailing,* 92 (2), 133-146.
    Finalist, ***Best Services Article***, AMA Services Marketing SIG, 2017.
    Lead Article.

22. Shankar, Venkatesh, Mirella Kleijnen, Suresh Ramanathan, Ross Rizley, Steve Holland, and Shawan Morrissey (2016), "Mobile Shopper Marketing: Key Issues, Current Insights, and Future Research Avenues," *Journal of Interactive Marketing*, 34 (May), 37-48.

23. Liu, Yan and Venkatesh Shankar (2015), "The Dynamic Effects of Product Harm Crises on Brand Preference and Advertising Effectiveness: An Empirical Analysis of the Automobile Industry," *Management Science*, 61 (10), 2514-2535.
    Top 10 downloaded article. SSRN: Econometrics Multiple Equations.

24. Shankar, Venkatesh (2014) "Shopper Marketing 2.0: Opportunities and Challenges," *Review of Marketing Research*, 11, 189-208.

25. Shankar, Venkatesh and P.K. Kannan (2014), "An Across Store Analysis of Intrinsic and Extrinsic Cross-Category Effects," *Customer Needs and Solutions*, 1 (2), 143-164.

26. Lam, Shun Yin and Venkatesh Shankar (2014), "Asymmetries in the Effects of Drivers of Brand Loyalty between Early and Late Adopters and across Technology Generations," *Journal of Interactive Marketing*, 28 (1), 26-42.

27. Kushwaha, Tarun and Venkatesh Shankar (2013), "Are Multichannel Customers Really Valuable? The Moderating Effects of Product Category Characteristics," *Journal of Marketing*, 77 (4), 67-85.
    Finalist, 2015 ***Donald Lehmann Best Paper Award*** for the best dissertation based article in an *AMA* publication.
    Top 10 downloaded article. SSRN: Public Goods.

28. Shankar, Venkatesh and Nicole Hanson (2013), "How Emerging Markets are Reshaping the Innovation Architecture of Global Firms," *Review of Marketing Research*, 10, 191-212.

29. Dotzel, Thomas, Venkatesh Shankar, and Leonard Berry (2013), "Service Innovativeness and Firm Value," *Journal of Marketing Research*, 50 (2), 259-276.
    Winner of ***Best Service Article*** Award from the American Marketing Association.
    Top 10 Downloaded article. SSRN: Service Innovation.

30. Lilien, Gary, John Roberts, and Venkatesh Shankar (2013), "Effective Marketing Science Application: Insights from ISMS-MSI Practice Prize Finalist Papers and Projects," *Marketing Science*, 32 (2), 229-245.

31. Shankar, Venkatesh, J. Jeffrey Inman, Murali Mantrala, Eileen Kelly, and Ross Rizley (2011), "Innovations in Shopper Marketing: Current Insights and Future Issues," *Journal of Retailing*, 87 (July), S29-S42.
    Honorable Mention ***Davidson Best Paper Award***, *Journal of Retailing*, 2012.
    Top 10 downloaded article, SSRN categories: Marketing, Innovation and Organizational Behavior; Other Service Strategies.

32. Shankar, Venkatesh, Alladi Venkatesh, Charles Hofacker, and Prasad Naik (2010), "Mobile Marketing in the Retailing Environment: Current Insights and Future Research Avenues," *Journal of Interactive Marketing*, 24 (2), 111-120.
    Top 10 downloaded article, SSRN: Models of Innovation Development.
    Top 10 most-cited article, *Journal of Interactive Marketing*, last five years.

33. Bezawada, Ram, Subramanian Balachander, P.K. Kannan, and Venkatesh Shankar (2009), "Cross-Category Effects of Aisle and Display Placements: A Spatial Modeling Approach and Insights," *Journal of Marketing*, 73 (3), 99-117.

34. Shankar, Venkatesh, Leonard Berry, and Thomas Dotzel (2009), "A Practical Guide to Combining Products and Services," *Harvard Business Review*, 87 (11), 94-99.
    Translated into Italian, German, Russian, Spanish and Chinese and republished.

35. Neslin, Scott and Venkatesh Shankar (2009), "Key Issues in Multichannel Management: Current Knowledge and Future Directions," Tenth Anniversary Special Issue, *Journal of Interactive Marketing*, 23 (1), 70-81.
    Among the Top 5 most-cited articles in the *Journal of Interactive Marketing* since 2006.
    Among the Top 3 most-cited articles in the *Journal of Interactive Marketing* in the last 5 years.
    Top 10 most-downloaded article, SSRN Management Research Network.

36. Shankar, Venkatesh and Sridhar Balasubramanian (2009), "Mobile Marketing: A

Synthesis and Prognosis," Tenth Anniversary Special Issue, *Journal of Interactive Marketing*, 23 (2), 118-129.
Among the Top 3 most-cited articles in the *Journal of Interactive Marketing* in the last 5 years.

37. Ailawadi, Kusum, J.P. Beauchamp, Naveen Donthu, Dinesh Gauri, and Venkatesh Shankar (2009), "Customer Experience Management in Retailing: Communication and Promotion," *Journal of Retailing*, 85 (1), 42-55.

38. Shankar, Venkatesh, Pablo Azar, and Matthew Fuller (2008), "BRAN*EQT: A Model for Estimating, Tracking, and Managing Brand Equity for Multicategory Brands," *Marketing Science*, 27 (4), 545-566.
Finalist, ***Marketing Science Practice Prize Best Paper Award***, 2006.
Top 5 most downloaded papers, *MSI* Web site (related *MSI* Working Paper).

39. Varadarajan, Rajan, Manjit Yadav, and Venkatesh Shankar (2008), "First-Mover Advantage in the Internet-Enabled Environment: A Conceptual Framework and Propositions," *Journal of Academy of Marketing Science*, 36 (3), 293-308.
Winner, 2009 ***JAMS-Sheth Best Paper Award***.
Lead Article.

40. Kalaignanam, Kartik, Venkatesh Shankar, and Rajan Varadarajan (2007), "Asymmetric New Product Development Alliances: Win-Win or Win-Lose Partnerships?" *Management Science*, 53 (3), 357-74.
Finalist, *INFORMS Society for Marketing Science (ISMS)* ***Long-term Impact (10-Year) Best Paper*** *Award,* 2015.
Lead Article.
Featured by *MSI* in Working Paper Series, 2006.
Reprinted in *New Product and Services Development* (Gatignon, Ed.), SAGE Publications, 2010.

41. Sorescu, Alina, Venkatesh Shankar, and Tarun Kushwaha (2007), "New Product Preannouncements and Shareholder Value: Don't Make Promises You Can't Keep," *Journal of Marketing Research*, 46 (3), 468-489.
Featured by *MSI* in Working Paper Series, 2006.

42. Dong, Yan, Martin Dresner, and Venkatesh Shankar (2007), "Efficient Replenishment in the Distribution Channel," *Journal of Retailing*, 83 (3), 253-278.
Honorable Mention, ***Davidson Best Paper Award***, *Journal of Retailing*, 2008.
Lead Article.

43. Neslin, Scott, Dhruv Grewal, Robert Leghorn, Venkatesh Shankar, Marije Teerling, Jacquelyn Thomas, and Peter C. Verhoef (2006), "Challenges and Opportunities in Multichannel Management," *Journal of Service Research*, 9 (2), 95-113.

Lead Article.

44. Shane, Scott, Venkatesh Shankar, and Ashwin Aravindakshan (2006), "The Effects of New Franchisor Partnering Strategies on Franchise System Size," *Management Science*, 52 (5), 773-787.

45. Berry, Leonard, Venkatesh Shankar, Janet Parish, Susan Cadwallader, and Thomas Dotzel (2006), "Creating New Markets through Service Innovations," *Sloan Management Review*, 47 (2), 56-63.
    Among the Top 10 popular articles as listed at *Sloan Management Review*'s Web site, where the years of publication of the articles range from 1994 to 2006.
    Translated into Spanish and republished in *Harvard Deusto Business Review*, 150, 2006.

46. Shankar, Venkatesh (2006), "Proactive and Reactive Product Line Strategies: Asymmetries between Market Leaders and Followers," *Management Science*, 52 (2), 276-292.
    Reprinted in *New Product and Services Development* (Gatignon, Ed.), SAGE Publications, 2010.

47. Divakar, Suresh, Brian T. Ratchford, and Venkatesh Shankar (2005), "CHAN4CAST: A Multichannel Multiregion Forecasting Model for Consumer Packaged Goods," *Marketing Science*, 24 (3), 333-350.
    Finalist, ***Marketing Science Practice Prize Best Paper Award***, 2004.

48. Bart, Yakov, Venkatesh Shankar, Fareena Sultan, and Glen L. Urban (2005), "Are the Drivers and Role of Online Trust the Same for All Web Sites and Consumers? A Large Scale Exploratory Empirical Study," *Journal of Marketing*, 69 (4), 133-152.
    Listed on SSRN's Top Ten download list for Managerial Marketing All Time Hits, MRN Business School Research Papers Recent Hits, Internet Marketing & E-Commerce All Time Hits.
    Listed on SSRN's Top Ten download list for MIT Sloan School of Management Working Paper Hits.

49. Inman, J. Jeffrey, Venkatesh Shankar, and Rosellina Ferraro (2004), "The Roles of Channel-Category Associations and Geodemographics in Channel Patronage," *Journal of Marketing*, 68 (2), 51-71.

50. Shankar, Venkatesh and Ruth Bolton (2004), "An Empirical Analysis of Determinants of Retailer Pricing Strategy," *Marketing Science*, 23 (1), 28-49.

51. Ancarani, Fabio and Venkatesh Shankar (2004), "Price Levels and Price Dispersion Within and Across Multiple Retailer Types: Further Evidence and Extension," *Journal of the Academy of Marketing Science*, 32 (2), 176-187.

52. Lam, Shun Yin, Venkatesh Shankar, Krishna Erramilli, and Bvsn Murthy (2004), "Customer Value, Satisfaction, Loyalty, and Switching Costs: An Illustration from a Business-to-Business Service Context," *Journal of the Academy of Marketing Science*, 32 (3), 293-311.
    Among the Top 3 most-cited article, 2004 onward.
    Among the Top 4 most frequently-read/downloaded articles at the *Journal of Academy of Marketing Science* Web site.

53. Pan, Xing, Brian T. Ratchford and Venkatesh Shankar (2004), "Price Dispersion on the Internet: A Review and Directions for Future Research," Special Issue of *Journal of Interactive Marketing* on Online Pricing (co-edited by Sandy Jap and Prasad Naik), 18 (4), 116-135.
    Listed on SSRN's Top Ten download lists for Strategy & Economics Hits, eBusiness Abstracts Hits, Managerial Marketing Recent Hits, Quantitative Marketing Recent Hits, Behavioral Marketing Recent Hits, Emerging Markets: Economics Recent Hits, MRN Marketing Network Recent Hits, ISN Subject Matter Journal Recent Hits, MRN Information Systems & eBusiness Network Recent Hits, POL Subject Matter Journal Recent Hits, and MRN Corporate Strategy & Business Policy Network Recent Hits.

54. Shankar, Venkatesh and Barry L. Bayus (2003), "Network Effects and Competition: An Empirical Analysis of the Video Game Industry," *Strategic Management Journal*, 24 (4), 375-394.
    Listed on Social Science Research Network (SSRN)'s Top Ten download list for Economics Recent Hits.

55. Bolton, Ruth and Venkatesh Shankar (2003), "An Empirically Driven Taxonomy of Retailer Pricing and Promotion Strategies," *Journal of Retailing*, 79 (4), 213-224.
    Honorable Mention ***Davidson Best Paper Award***, *Journal of Retailing*, 2004.

56. Shankar, Venkatesh, Amy Smith, and Arvind Rangaswamy (2003), "Customer Satisfaction and Loyalty in Online and Offline Environments," *International Journal of Research in Marketing,* 20 (2), 153-75.
    EMAC-IJRM Steenkamp Award for ***Best Paper*** with Long-term Marketing Impact.
    Most-cited article in *International Journal of Research in Marketing*, last 15 years.
    Fifth most downloaded article from *International Journal of Research in Marketing's* Web site.
    Honorable Mention, ***Best Paper Award***, *International Journal of Research in Marketing*.

57. Ratchford, Brian T., Xing Pan, and Venkatesh Shankar (2003), "On the Efficiency of Electronic Markets for Consumers," *Journal of Public Policy and Marketing*, Special Issue on Marketing's Information Technology Revolution, 22 (1), 4-16.
    Lead article.
    Second-most cited article in JPPM during 2003-2005.

58. Ancarani, Fabio and Venkatesh Shankar (2003), "Symbian: Customer Interactions through Collaboration and Competition in a Convergent Industry," *Journal of Interactive Marketing*, 17 (1), 56-76.

59. Shankar, Venkatesh, Glen L. Urban and Fareena Sultan (2002), "Online Trust: A Stakeholder Perspective, Concepts, Implications, and Future Directions," *Journal of Strategic Information Systems*, Special Issue on Trust on the Internet, 11 (3-4, December), 325-344.
    Among the top 5 downloaded articles in *Journal of Strategic Information Systems*.

60. Elrod, Terry, Gary Russell, Allan Shocker, Rick Andrews, Lynd Bacon, Barry Bayus, Doug Carroll, Richard Johnson, Wagner Kamakura, Peter Lenk, Joseph Mazanec, Vithala Rao, and Venkatesh Shankar (2002), "Inferring Market Structure from Customer Response to Competing and Complementary Products," *Marketing Letters*, 13 (3), 221-232.

61. Pan, Xing, Brian T. Ratchford, and Venkatesh Shankar (2002), "Can Online Price Dispersion in Online Markets be Explained by Differences in e-tailer Service Quality?" Special Issue on Marketing to and Serving Customers through the Internet, *Journal of Academy of Marketing Science*, 30 (4), 433-446.
    Listed on Social Science Research Network (SSRN)'s Top Ten download list for Industrial Organization: Empirical Studies of Firms & Markets Recent Hits, and Market Structure Recent Hits, Quantitative Marketing: Sector-Specific Research All Time Hits.

62. Shankar, Venkatesh (1999), "New Product Introduction and Incumbent Response Strategies: Their Inter-Relationship and the Role of Multimarket Contact," *Journal of Marketing Research*, 36 (3), 327-344.

63. Russell, Gary, S. Ratneshwar, Allan Shocker, David Bell, Anand Bodapati, Alex Degeratu, Lutz Hildebrandt, Namwoon Kim, Seshan Ramaswami, and Venkatesh Shankar (1999), "Multiple Category Decision-Making: Review and Synthesis," *Marketing Letters,* Special Issue on Choice Behavior, 10 (3), 319-32.

64. Shankar, Venkatesh, Gregory Carpenter, and Lakshman Krishnamurthi (1999), "The Advantages of Entering in the Growth Stage of the Product Life Cycle: An Empirical Analysis," *Journal of Marketing Research*, 36 (2), 269-276.

65. Shankar, Venkatesh, Gregory Carpenter, and Lakshman Krishnamurthi (1998), "Late Mover Advantage: How Innovative Late Entrants Outsell Pioneers," *Journal of Marketing Research*, 35 (1), 54-70.
    Winner of the *1999* ***Paul E. Green Best Paper Award*** in *Journal of Marketing Research*.
    Winner of the 2000 ***Donald Lehmann Best Paper Award*** for the best dissertation based article in an *AMA* publication.

66. Shankar, Venkatesh (1997), "Pioneers' Marketing Mix Reactions to Entry in Different Competitive Game Structures: Theoretical Analysis and Empirical Illustration," *Marketing Science*, 16 (3), 271-293.
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1. Grewal, Dhruv, Stephanie Noble, Venkatesh Shankar, Carl-Philippe Ahlbom, Unnati Narang, and Jens Nordfalt, "In-store Kiosks: How Communication Content Increases Sales."

2. Shankar, Venkatesh, "Marketing Expenditures over the Product Life Cycle: Asymmetries between Dominant and Weak Brands."

3. Narang, Unnati, Venkatesh Shankar, and Sridhar Narayanan, "The Effects of Mobile App Service Failure on Shopping Outcomes."

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5. Pedada, Kiran, Venkatesh Shankar, and Mayukh Das "The Effects of International Joint Venture Dissolutions on Shareholder Value of Emerging Market Partner Firms."

6. Shankar, Venkatesh and Gary Frazier, "The Effects of Governance Mechanisms on Franchise System Size."

7. Shankar, Venkatesh "The Effects of New Product Development Shifting to Emerging Markets on Shareholder Value and Firm Risk."

8. Voleti, Sudhir and Venkatesh Shankar, "A Flexible Nonparametric Approach to Measure, Model, and Improve Sales Agency Productivity."

9. Darani, Milad and Venkatesh Shankar, "Dynamic Segmentation by Multiple Item Purchases Using Machine Learning: Leveraging Transactional and Attitudinal Data."

10. Song, Reo and Venkatesh Shankar, "Determinants and Consequences International Launch Time Window: An Analysis of Movies."

11. Cai, Jeff and Venkatesh Shankar, "Delegation and Consignment in Distribution Channels."

12. Li, Kathleen and Venkatesh Shankar, "Estimating the Causal Effect of a Digitally Native Retailer Opening a Showroom: A Two-Step Synthetic Control Approach."

13. Narang, Unnati, Shreya Shankar, and Venkatesh Shankar, "Mobile App Drop: An Empirical Analysis of its Determinants and Consequences."

14. Li, Kathleen and Venkatesh Shankar, "Inference Theory from Synthetic Control Methods for Nonlinear Trending Data of Unknown Form: Does the Lifting of Shelter-in-Place Keep Covid-19 Manageable?"

15. Wang, Xiaoyuan and Venkatesh Shankar, "Identifying and Estimating Brand Satiation Using Purchase Data: A Structural Hidden Markov Modeling Approach."

16. Mirahmad, Hooman and Venkatesh Shankar, "Activist Investor Intervention, the CEO's Marketing Experience, and Firm Value."

17. Ramani, Nandini and Venkatesh Shankar, "Rising above the Glass Ceiling: The Effects of the Female Chief Marketing Officer (CMO) on Marketing Intensity and Firm Performance."

RESEARCH IN PROGRESS

1. Darani, Milad and Venkatesh Shankar, "Topic Hidden Markov Modeling: A New Machine Learning Approach to Make Dynamic Purchase Predictions."

2. Mirahmad, Hooman and Venkatesh Shankar, "The CEO's Marketing Experience and Firm Value."

3. Dotzel, Thomas and Venkatesh Shankar, "The Effects of Goods, Service, Software Innovations on Firm Value and Firm Risk."

4. Shankar, Venkatesh and Lakshman Krishnamurthi, "RETPRICE: A Retailer Pricing and Promotion Decision Support Model."

5. Shankar, Venkatesh, "BRANDEX: A New Approach to Measuring and Managing Brand Extensions."'

6. Ye, Taotao and Venkatesh Shankar, "Relating Mobile App Usage to Customer Lifetime Value (CLV): A New Machine Learning Approach to Predict CLV and Segment Customers."

7. Ye, Taotao and Venkatesh Shankar, "The Causal Effect of Store Closure on Sales, Omnichannel Shopping and Mobile App Usage."

8. Surange, Sanjana and Venkatesh Shankar, "The Effects of Mobile App User Characteristics and Geo-location on Mobile Coupon Redemption."

9. Kushwaha, Tarun, Venkatesh Shankar, and Shibo Li, "Multichannel Marketing: Heterogeneous Customer Behavior and Resource Allocation."

INVITED PRESENTATIONS

1. *Innovation, Intellectual Property, and Marketing*, Texas A&M School of Law (to be presented).

2. *The Causal Effect of Store Closure on Sales, Omnichannel Shopping, and Mobile App Usage*, (with Taotao Ye), Artificial Intelligence in Management Conference, University of Southern California, Los Angeles, 2022 (to be presented).

3. *Toward a More Data Driven Product Design: An Integrated Machine Learning*

Approach (with Zijing Hu), Artificial Intelligence in Management Conference, University of Southern California, Los Angeles, 2022 (to be presented).

4. *The Effects of Underlying Product Features on Sales: A Machine Learning Approach to Analyze Images and Reviews* (with Chi Zhang), Artificial Intelligence in Management Conference, University of Southern California, Los Angeles, 2022 (to be presented).

5. *The Impact of Consumer Mobility and Store Flux on Consumer Response to Geo-fenced Promotional Ads: A Deep Learning Approach* (with Sanjana Surange), Artificial Intelligence in Management Conference, University of Southern California, Los Angeles, 2022 (to be presented).

6. Keynote speaker, *The Transformational Impact of AI on Business*, International Conference on Business Research and Innovation, Management Development Institute, Murshidabad, 2022.

7. *B2B E-Commerce*, ISBM Research Webinar Series, State College, 2021.

8. *B2B Digital Marketing Frameworks*, ISBM Members Conference, State College, 2021.

9. Doctoral Consortium Speaker, Frontiers in Service Conference, Temple University, Philadelphia, 2021.

10. Keynote panelist, *Artificial Intelligence in Marketing*, Frontiers in Service Conference, Temple University, Philadelphia, 2021.

11. Plenary session speaker, AIM Sheth Doctoral Consortium, India, 2021.

12. *Rising above the Glass Ceiling: The Effects of the Female Chief Marketing Officer (CMO) on Marketing Spending and Firm Performance* (presented by Nandini Ramani), Theory and Practice of Marketing Conference, University of Pennsylvania, Philadelphia, 2021.

13. *Estimating the Causal Effect of a Digitally Native Retailer Opening a Showroom: A Two-Step Synthetic Control Approach* (presented by Kathy Li), Theory and Practice of Marketing Conference, University of Pennsylvania, Philadelphia, 2021.

14. *Predicting and Explaining Mobile App Drop and its Consequences: A Scalable Machine Learning Approach* (with Unnati Narang and Shreya Shankar), Artificial Intelligence in Management Conference, University of Southern California, Los Angeles, 2021.

15. *Inference Theory from Synthetic Control Methods for Nonlinear Trending Data of Unknown Form: Does the Lifting of Shelter-in-Place Keep Covid-19 Manageable?* (with Kathleen Li), University of Texas at Dallas, 2021.

16. *The Differential Effects of Goods, Services, and Software Innovations on Firm Value and Firm Risk for Technology Firms* (presented by co-author Thomas Dotzel), Winter AMA Conference, 2021.

17. *Estimating the Causal Effect of a Digitally Native Retailer Opening a Showroom: A Two-Step Synthetic Control Approach* (presented by co-author Kathy Li), Virtual Quantitative Marketing Seminar, 2020.

18. *Useful Marketing Strategy Models*, Plenary Talk, Marketing Strategy Virtual Consortium, 2020.

19. *Confronting and Conquering the Dark Side of AI*, Plenary Talk, Interactive Marketing Research Virtual Conference, 2020.

20. *The Differential Effects of Goods, Services, and Software Innovations on Firm Value and Firm Risk for Technology Firms* (with Thomas Dotzel), New Ideas in Marketing Virtual Seminar Series, 2020.

21. *Digital Marketing Communication in a Global Marketplace* (with Dhruv Grewal, Sarang Sunder, Beth Fossen, Amit Agarwal, and Kay Peters), International Journal of Research in Marketing Special Issue Thought Leadership Conference, 2020.

22. *The Effects of Goods, New Services, and New Software on Firm Value and Firm Risk* (with Thomas Dotzel), Mays Innovation Research Center, 2020.

23. *Business Analytics: Strategic Issues and Solutions*, Texas A&M Institute of Data Sciences (TAMIDS), College Station, 2020.

24. *Business as Unusual: How AI is Changing It*, Emlyon Business School, Lyon, France, 2020.

25. *Estimating the Causal Effect of A Digitally Native Retailer Opening a New Store: A New Two-Step Approach Using Synthetic Control* (with Kathleen Li), University of Texas at Dallas, 2020.

26. Keynote Speech*, Managing Businesses in an AI-led Environment*, Faculty of Management Studies, Delhi University, New Delhi, 2020.

27. Workshop, *Conducting and Publishing High-quality Research in Empirical Modeling for Marketing Strategy*, IIM Lucknow, New Delhi, 2020.

28. *A Tech-driven Future of Marketing*, Madras Management Association and IIMC Alumni Association, Chennai, 2020.

29. *Research Trends*, Great Lakes Institute of Management, Chennai, 2020.

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31. *Effective Computational Advertising* (with Joe Konstan, Edward Malthouse, Claire Segijn, Stewart Pearson, and Joseph Yun), University of Minnesota, 2019.

32. *How Technology is Changing Retailing* (with John Scott Bull, Tom Douglass, John Hennessy, Mazie Johnson, Kirthi Kalyanam, Tirunillai Seshadri, and Pankaj Sethia), University of Arkansas, 2019.

33. *The Impact of Mobile Service Failures on Purchases in Online and Offline Channels* (with Unnati Narang and Sridhar Narayanan), Northwestern University, 2019.

34. *Going Backward to Move Forward? The Effects of Backward Compatibility (BWC) in Product Upgrade on Sales of Previous and New Generation Technology Products* (with Unnati Narang), Columbia University, New York, 2019.

35. *Activist Investor Intervention, Marketing and R&D Spending, and Firm Value* (with Hooman Mirahmad), Indian School of Business, 2019.

36. *Topic Hidden Markov Modeling: A New Machine Learning Approach to Make Dynamic Purchase Predictions* (with Milad Darani), University of Illinois, Urbana-Champaign, 2018.

37. *Mobile Marketing*, Case Western University, 2018.

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39. *Backward Compatibility in Product Upgrades: An Empirical Analysis of the Home Video Game Industry* (with Unnati Narang), National University of Singapore, 2018.

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43. Keynote Speech, *Digital Transformation in India*, Bangalore, 2018.

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48. Keynote Speech, *Emerging Market Innovations*, CUCBS, Cairo, 2018.

49. Keynote Speech, *Digital Marketing: Trends and Future*, Ain Shams University, Arab Academy for Maritime Science and Technology, Nile University, Cairo, 2018.

50. Keynote Speech, *Digital Marketing: Trends and Future*, American Chamber of Commerce, Cairo, 2018.

51. Keynote Speech, *The Future of Interactive Marketing: Machine Learning, AI, VR, AR & IoT*, Interactive Marketing Research Conference, Amsterdam, 2018.

52. *Delegation and Consignment in Marketing Channels* (with Jeff Cai), Indian School of Business, 2018.

53. *The Real Impact of Artificial Intelligence in Marketing*, Professors Institute, Dallas, 2018.

54. *The Effect of Mobile Service Failure on Shopping Outcomes* (with Unnati Narang and Sridhar Narayanan), University of California, Davis, 2017.

55. *Mobile- and AI-led Future of Retailing*, Keynote Talk at the Latin American Retail Conference, Sao Paulo, 2017.

56. *Identifying and Estimating Satiation: A Structural Hidden Markov Modeling Approach* (with Shane Wang), FGV, Rio de Janeiro, 2017.

57. *The Effects of Service Failure on App Usage and Shopping Outcomes* (with Unnati Narang and Sridhar Narayanan), invited special session, Marketing Science Conference, Los Angeles, 2017.

58. *Mobile App Stickiness: The Effect of App Drop on Shopper Behavior* (with Unnati Narang), University of Washington, Seattle, 2017.

59. *Dynamic Segmentation by Multiple Item Purchases Using Machine Learning: Leveraging Transactional and Attitudinal Data* (with Milad Darani), University of Utah, Salt Lake City, 2017.

60. *Mobile App Stickiness: The Effect of App Drop on Shopper Behavior* (with Unnati Narang), Theory and Practice of Marketing Conference, Charlottesville, 2017.

61. *The Effect of Shifting of New Product Development to Emerging Markets on Shareholder Value*, Texas Tech University, Lubbock, 2017.

62. *Dynamic Segmentation by Multiple Item Purchases Using Machine Learning: Leveraging Transactional and Attitudinal Data* (by and with Milad Darani), UTDFORMS conference, Dallas, 2017.

63. *Mobile App Stickiness: The Effect of App Drop on Shopper Behavior* (with Unnati Narang), Indian School of Business, 2017.
64. *Determinants of International Market Joint Venture Dissolutions in Emerging Markets* (by Kiran Pedada, with Kiran Pedada and Mayukh Dass), Indian School of Business, 2017.
65. *Leveraging Omnichannel Shopping through Mobile*, Disruption in Retail Conference, Wharton School, New York, 2016.
66. *Big Data Applications in Marketing*, Advances in Big Data Modeling, Computation, and Analytics, College Station, 2016.

67. *Mobile Apps and Shopping Behavior* (with Unnati Narang), Theory and Practice of Marketing Conference, Houston, 2016.

68. *Asymmetric Cross-channel Effects: An Empirical Analysis* (with Tarun Kushwaha), IDC, Herzliya, Israel, 2016.

69. *Marketing Expenditures over the Product Life Cycle: Asymmetries between Dominant and Weak Brands*, University of Miami, Miami, 2016.

70. *Mobile Apps and Shopping Behavior* (with Unnati Narang), Professors' Institute, Marketing EDGE, Dallas, 2016.

71. *Big Data and Analytics in Omnichannel Marketing*, Keynote speech, University of Michigan, Ann Arbor, 2015.

72. *Asymmetric Advertising and Cross-channel Effects: An Empirical Analysis* (with Tarun Kushwaha), Theory and Practice of Marketing (TPM) Conference, Atlanta, 2015.

73. *Applying Design Theory for Improving Online Trust and Customer Satisfaction: Adaptive Field Experiments* (with Yakov Bart and Glen Urban), Theory and Practice of Marketing (TPM) Conference, Atlanta, 2015.

74. *Effective Targeting by Sales Force and Resource Allocation Strategy Using Social Contagion Theory* (with Jiaoyang Li), Theory and Practice of Marketing (TPM) Conference, Atlanta, 2015.

75. *Panelist, Innovations in Retailing,* PricewaterhouseCoopers Seminar, Dallas, 2015.

76. *Channel Blurring Consumers*, Tenth Annual Industry Coupon Conference, San Antonio, 2015.

77. *A Flexible Approach to Measuring, Modeling Third Party Salesforce* (with Sudhir Voleti), Theory and Practice of Marketing (TPM) Conference, Evanston, 2014.

78. *Managing Profitability Based on Multichannel and Cross-channel Behavior*, MSI Conference on Multichannel and Multiscreen World, Dallas, 2014.

79. *Discussant, How Multistore Shoppers Buy,* University of Texas at Dallas, 2014.

80. *Sales Targeting Strategy Incorporating Social Contagion*, Bristol Myers Squibb, 2014.

81. *Reshaping Strategy under Uncertainty*, Guruspeak, Mumbai, 2014.

82. *Strategy under Uncertainty*, Guruspeak, Kolkata, 2014.

83. *The Impact of Offshoring New Product Development on Shareholder Value* (with Nicole Hanson), Indian Institute of Technology, Kharagpur, 2014.

84. *Retail Customer Acquisition Strategy,* Galaxy Institute of Management, Chennai, 2014.

85. *Retail Detailed*, Guruspeak, Chennai, 2014.

86. *Reimagining Change*, Guruspeak, Delhi, 2014.

87. *Multichannel Optimization* (with Tarun Kushwaha), Universidad de Chile, Santiago, 2014.

88. *Multichannel Marketing Insights* (with Tarun Kushwaha), Center for Retailing, Universidad de Chile, Santiago, 2014.

89. *The Impact of Offshoring New Product Development to Emerging Markets on Shareholder Value* (with Nicole Hanson), China India Insights Conference, New York, 2013.

90. *The Impact of Offshoring New Product Development to Emerging Markets on Shareholder Value* (with Nicole Hanson), Marketing Science Conference Special Session, Istanbul, 2013.

91. *Managing a Research Career,* University of Michigan, Ann Arbor, 2013.

92. *Managing Hybrid Bundles by Measuring Willingness-to-Pay* (with Jeff Meyer, Raghu Iyengar, and Len Berry)*,* University of Missouri, Columbia, 2013.

93. *The Impact of Offshoring New Product Development to Emerging Markets on Shareholder Value* (with Nicole Hanson), University of Texas, Arlington, 2013.

94. *Discussant, Drip Pricing when Consumers have Limited Foresight: Evidence from Driving School Fees,* University of Texas at Dallas, 2013.

95. *Effective Teaching,* University of Washington, Seattle, 2012.

96. *How Extendable are Brands? BRANDEX: A New Approach to Measuring and Managing Brand Extensions*, AMA Winter Educators' Conference, Las Vegas, 2013.

97. *A New Flexible Approach to Measure, Model, and Improve Sales Agency Productivity* (with Sudhir Voleti), Thought Leadership on the Sales Profession, Harvard Business School, Boston, 2012.

98. *A Flexible Nonparametric Approach to Measure, Model, and Improve Sales Agency Productivity* (with Sudhir Voleti), *Laurent Picard Distinguished Lecture*, McGill University, Montreal, 2012.

99. *The Dynamic Impact of Product-Harm Crises on Brand Equity and Advertising Effectiveness: An Empirical Analysis of the Automobile Industry* (with Yan Liu), University of Texas at Dallas, 2012.

100. *The Dynamic Impact of Product-Harm Crises on Brand Equity and Advertising Effectiveness: An Empirical Analysis of the Automobile Industry* (with Yan Liu), Indian School of Business, Hyderabad, 2012.

101. *The Effects of Advertising Capital and R&D Capital on Growth in Sales, Profit and Market Value* (with Gautham Gopal Vadakkepatt and Rajan Varadarajan), Special Session on Innovation, AMA Winter Educators' Conference, Austin, 2011.

102. *Research Career*, Texas Christian University, Fort Worth, 2010.

103. *New Product International Launch Window and Performance* (with Reo Song), Indian School of Business, Hyderabad, 2010.

104. *Perspectives on Shopper Marketing*, *MSI* Conference, New York University, New York, 2010.

105. *Marketing Expenditures over the Product Life Cycle: Asymmetries between Dominant and Weak Brands*, University of Iowa, Iowa City, 2010.

106. *Marketing Mix Allocation*, *MSI* Conference on Effective Marketing Spending, University of California, Los Angeles, 2010.

107. *Customer-Channel Segmentation Strategy* (with Tarun Kushwaha), MSI-ISMS Practice Conference, Boston, 2010.

108. *Emerging Research and Emerging Markets, Keynote Speaker,* Great Lakes-NASMEI Conference, Chennai, 2009.

109. *Cross-Channel and Advertising Effects in the Hierarchy of Consumer Decision Making* (with Tarun Kushwaha), Indian School of Business, Hyderabad, 2009.

110. Retailer Pricing and Promotion Decisions, AMA Summer Educators' Conference, Chicago, 2009.

111. *Determinants and Outcomes of B2B Service Innovations: How are they Different from those of B2C Service Innovations?* (with Thomas Dotzel and Len Berry), *PDMA Conference*, Anaheim, 2009.

112. *Cross-Channel and Advertising Effects in the Hierarchy of Consumer Decision Making* (with and presented by Tarun Kushwaha), Joint Statistical Meetings, Washington, D.C., 2009.

113. *Customer-Channel Strategy*, AMA Sheth Doctoral Consortium, Georgia State University, Atlanta, 2009.

114. *Optimal Allocation of Marketing Efforts by Customer-Channel Segment* (with Tarun Kushwaha and Jianhua Huang), Indian School of Business, Hyderabad, 2009.

115. *Advertising and Sales Force Expenditures over the Product Life Cycle*, *HighTower Speaker Series Presentation,* Emory University, Atlanta, 2009.

116. *Measuring and Managing Innovation* (with George Day and David Reibstein), University of Utah Innovation Summit, Park City, 2009.

117. *Empirical Generalization of the Effectiveness of Services Advertising*, Wharton School, Philadelphia, 2008.

118. *Marketing Metrics and ROI*, *MSI* Immersion Conference, Boston, 2008.

119. *Do Business Model Changes Improve Shareholder Value?* (with Alina Sorescu), *MSI* Metrics Conference, Dallas, 2008.

120. *Collaborating with Practitioners*, AMA Summer Educators' Conference, San Diego, 2008.

121. *Mobile Marketing: Marketing's Next Frontier?* AMA Summer Educators' Conference, San Diego, 2008.

122. *Creating and Managing Hybrid Innovations,* Institute for Study of Business Markets (ISBM) Business to Business (B2B) Consortium, Pittsburgh, 2008.

123. *Strategic Allocation of Marketing Resources: Methods and Insights,* AMA Knowledge Coalition's Evidence Based Marketing Conference, Atlanta, 2008.

124. *Hierarchy of Effects of Advertising*, AMA-Sheth Doctoral Consortium, Columbia, 2008.

125. *Mobile Marketing: Interactive and Direct Marketers' Next Frontier?* Direct Marketing Association's Luncheon Speaker, Houston, 2008.

126. *Are Marketing Strategies over the Product Life Cycle Different for Dominant and Weak Brands?* Cheung Kong Graduate School of Business, Beijing, China, 2008.

127. *Do Business Model Changes Improve Shareholder Value?* (with Alina Sorescu), Indian School of Business, Hyderabad, India, 2008.

128. *Service and Hybrid Innovations*, Deloitte Research, Hyderabad, India, 2008.

129. *Cross-Channel and Advertising Effects on the Hierarchy of Consumer Decision Making* (with Tarun Kushwaha), University of Texas, Dallas, 2008.

130. Moderator, *Online Marketing*, *MSI* Conference, Palm Springs, 2008.

131. *Multichannel Marketing that Matters* (Keynote Speech), IADIS (International Association for Development of the Information Society) E-Commerce Conference, Portugal, 2007.

132. *Are Marketing Strategies over the Product Life Cycle Different for Dominant and Fringe Brands?* Ohio State University, Columbus, 2007.

133. *Do Business Model Changes Improve Shareholder Value?* (with Alina Sorescu), University of Southern California, Los Angeles, 2007.

134. *Cross-Channel and Advertising Effects in the Hierarchy of Decision Making* (with Tarun Kushwaha), Direct/Interactive Marketing Research Summit, Chicago, 2007.

135. *Drivers of Online Price Dispersion during Boom, Shakeout, Restructuring and Mature Periods of E-Commerce* (with Xing Pan, Brian Ratchford), Economics Department, Texas A&M University, College Station, 2007.

136. *India and China: Future Economic Superpowers*, Nanyang Technological University, Singapore, 2007.

137. *What E-Tailers Must Know about Their Shoppers* (Lead Academic Talk), Internet Retailer Conference and Exhibition, San Jose, 2007.

138. Innovation and Shareholder Value, ISMS Doctoral Consortium, Singapore, 2007.

139. *Cross-Channel and Advertising Effects on the Hierarchy of Consumer Decision Making* (with Tarun Kushwaha), AMA Sheth Doctoral Consortium, Tempe, 2007.

140. *Online Two-Way Marketing*, UCR Sloan Center for Internet Retailing, Riverside, 2007.

141. *Creating and Managing Hybrid Innovations* (with Len Berry and Thomas Dotzel), Berkeley-Tekes Service Innovation Conference, University of California, Berkeley, 2007.

142. *Market Creating Hybrid Innovations* (with Len Berry, Janet Parish, Susan Cadwallader and Thomas Dotzel), Berkeley-Tekes Service Innovation Conference, University of California, Berkeley, 2007.

143. *Multichannel Marketing* (Lead Academic Talk), Fedex Thought Leadership Conference, *Dallas*, 2007.

144. *Emerging Trends in Multichannel Marketing* (Lead Academic Talk), Sponsors Forum, Center for Retailing Studies, Texas A&M University, College Station, 2007.

145. *Statistical Models in Marketing: An Application to Multichannel Marketing*, Department of Statistics, Texas A&M University, College Station, 2007.

146. *A Meta Analysis of Price and Deal Elasticities* (with Xing Pan), University of Texas at

Dallas, 2007.

147. *BRAN*EQT: A Model and Simulator for Managing Multicategory Brand Equity* (with Pablo Azar and Matthew Fuller), Harvard Business School, Boston, 2007.

148. *BRAN*EQT: A Model and Simulator for Estimating, Tracking, and Managing Multicategory Brand Equity* (with Pablo Azar and Matthew Fuller), *MSI* Trustees Meeting, San Francisco, 2006

149. Panelist, Meet the Editors, Direct Marketing Educational Foundation Conference, San Francisco, 2006.

150. *Emerging Trends in Retail Pricing*, Summer AMA Conference Special Session, Chicago, 2006.

151. Panelist, Meet the Editors, *Marketing Science Conference*, Pittsburgh, 2006.

152. *Global Marketing Segmentation*, SDA Bocconi, Milan; University of Bologna, Bologna; LUISS, Rome, 2006.

153. *A Model for Estimating Multicategory Brand Equity* (with Pablo Azar and Matthew Fuller), SDA Bocconi, Milan; University of Bologna, Bologna; LUISS, Rome, 2006.

154. *A Model for Estimating Multicategory Brand Equity* (with Pablo Azar and Matthew Fuller), University of California, Davis, 2006.

155. *Delegation and Replenishment in Distribution Channels* (with Yan Dong and Martin Dresner), Wharton Conference on Channels, Philadelphia, 2006.

156. *BRAN*EQT: A Model for Estimating, Tracking, and Managing Brand Equity for Multicategory Brands* (with Pablo Azar and Matthew Fuller), University of Houston, 2006.

157. Panelist, Thought Leadership Conference on *Managing Customers for Profits,* University of Connecticut, Storrs, 2005.

158. *Improving Singapore's Global Competitiveness*, to Deputy Prime Minister, Singapore, 2005.

159. *Global Segmentation: A Cross-National Empirical Analysis*, Nanyang Technological University, Singapore, 2005.

160. *A Model for Estimating Brand Equity for Multicategory Brands* (with Pablo Azar and Matthew Fuller), Singapore Management University, Singapore, 2005.

161. *Do Product Preannouncements Increase Shareholder Value?* (with Alina Sorescu and Tarun Kushwaha), University of Connecticut, Storrs, 2005.

162. *Navigating the Review Process*, Meet the Editors Special Session, AMA Doctoral Consortium, Storrs, 2005.

163. *Managing the Review Process, Meet the Editors Special Session,* AMS Annual Conference, Tampa, 2005.

164. *Panelist, Doctoral Consortium,* University of Houston, Houston, 2005.

165. *Are Marketing Strategies over the Product Life Cycle Different for Dominant and Fringe Firms? An Empirical Analysis,* Vrije Universiteit, Amsterdam, 2005.

166. *An Empirically Derived Taxonomy of Retailer Pricing Strategies* (with Ruth Bolton), *Journal of Retailing* Award Presentation, San Antonio, 2005.

167. Panelist, *Marketing Strategy Special Session,* AMA Winter Educators' Conference, San Antonio, 2005.

168. *Navigating the Review Process*, Meet the Editors Special Session, AMA Winter Educators' Conference, San Antonio, 2005.

169. *When do Firms Proactively and Reactively Use Product Line Length as a Competitive Weapon? An Empirical Analysis*, University of Texas at Dallas, 2005.

170. *Do Product Preannouncements and Announcements Increase Shareholder Value?* (with Alina Sorescu and Tarun Kushwaha), Tulane University, 2004.

171. *Are Multichannel Shoppers More Attractive to the Firm?* (with Tarun Kushwaha), eBusiness Research Center Member Companies, Penn State University, Webinar, 2004.

172. *Emerging Research Opportunities in Interactive Marketing*, Direct and Interactive Marketing SIG, AMA Summer Educators' Conference, Boston, 2004.

173. *Top 10 Items for the Publishing Journey, AMA* Doctoral Consortium, College Station, 2004.

174. *CHAN4CAST: A Multichannel Multiregion Forecasting Model for Consumer Packaged Goods at PepsiCo* (with Suresh Divakar and Brian Ratchford), *AMA* Doctoral Consortium, College Station, 2004.

175. *International Market Entry Strategy: A Source of Late Mover Advantage?* (with Marc

Fischer and Michel Clement), Indiana University, Bloomington, 2004.

176. *Emerging Research Opportunities in Interactive Marketing*, eCommerce Symposium, Bentley College, MA, 2004.

177. *The Impact of International Market Entry Strategy on Order of Entry and Marketing Mix Effects* (with Marc Fischer and Michel Clement), George Washington University, Washington, D.C., 2004.

178. *Retailer Pricing Strategies: What, Why and How?*, U.S. Department of Agriculture, Washington, D.C., 2004.

179. *Multimarketing Instrument Competition,* University of Connecticut, Storrs, 2004.

180. *Multimarket Competition and Collaboration* (with Shweta Oza), SDA University of Bocconi, Milan, Italy, 2003.

181. *Multi Marketing Instrument Competition*, Rice University, Houston, 2003.

182. *Determinants and the Role of Trust on the Internet: A Large Scale Exploratory Empirical Study* (with Yakov Bart, Glen Urban and Fareena Sultan), Texas A&M University, College Station, 2003.

183. *Determinants and the Role of Trust on the Internet: A Large Scale Exploratory Empirical Study* (with Yakov Bart, Glen Urban and Fareena Sultan), American University, Washington, D.C., 2003.

184. *Anticipation and Reaction Elasticities*, Nanyang Technological University, Singapore, 2003.

185. *Multi Marketing Instrument Competition*, INSEAD, Singapore, 2003.

186. *The Roles of the Product Life Cycle and Market Dominance in Marketing Expenditures of Products*, University of Washington, Seattle, 2003.

187. *Do Drivers of Online Price Dispersion Change as Online Markets Grow over Time?* (with Xing Pan and Brian Ratchford), American Economic Association Conference, Washington, D.C. 2003.

188. *M-business: Where is it Headed?,* Keynote Speaker, Annual European Digital Economy conference, Oulu, Finland, 2002.

189. *Price Competition between Pure Play vs. Bricks-and-Clicks e-Tailers: Analytical Model and Empirical Analysis* (with Xing Pan and Brian Ratchford), Cornell Pricing

Conference, Ithaca, 2002.

190. *Price Levels and Price Dispersion on the Internet: A Comparison of Pure Play Internet, Bricks-and-Mortar, and Bricks-and-Clicks Retailers* (with Fabio Ancarani), Fordham Pricing Conference, New York, 2002.

191. *When Demand Meets Supply in the Value Chain,* Keynote Speaker, Supply Chain Symposium, Mexico City, 2002.

192. *Customer Based e-Biz Benefits and Metrics* (with Arvind Rangaswamy), eBRC Conference on Realizing Measurable Benefits from e-Investments, New York, 2002.

193. *The Business of Bioinformatics*, AACSB Meeting, Chicago, 2002.

194. *Competition in Multiple Marketing Instruments: Reaction and Anticipation Elasticities*, University of Rotterdam, Rotterdam, Netherlands, 2002.

195. *A Meta Analysis of Price Elasticities* (with Xing Pan), Tilburg University, Tilburg, Netherlands, 2002.

196. *Why are Prices of the Same Item not the Same at Me.com and You.com?* (with Xing Pan and Brian Ratchford), Catholic University, Leuven, Belgium, 2002.

197. *Online Supply Chain Collaboration: A Two-Way Street Model* (with Yan Dong and Kefung Xu), *SAP* Business Innovation Congress, Tampa Bay, 2002.

198. *Customer Responsive Capabilities of Netcentric Firms* (with V. Sambamurthy), *SAP* Business Innovation Congress, Tampa Bay, 2002.

199. *CRM and Personalization: Current Trends and Emerging Issues*, Jamnalal Bajaj Institute of Management Studies, Mumbai, India, 2002.

200. *m-Business: Disruptive Technology or Untethered Extension of Business as Usual?* (with Tony O'Driscoll and Dave Reibstein), Academy of Management Excellence, Chennai, India, 2002.

201. *e-Business Transformation,* ESSEC Business Meet, Paris, 2001.

202. *Marketing in the Digital Economy,* Philips Executives Meet, Paris, 2001.

203. *Can Online Price Dispersion be Explained by Heterogeneity in e-tailer Services?* (with Xing Pan and Brian Ratchford), *MSI* Conference on e-Commerce, Boca Raton, 2001.

204. *Business School and Bioinformatics*, 51st Mid Atlantic Association Conference of

Colleges of Business Administration, Pittsburgh, 2001.

205. *Asymmetries in MultiMarketing Instrument Competition*, Sloan School of Management, MIT, Cambridge, 2001.

206. *Drivers of e-Tailer Price Dispersion* (with Xing Pan and Brian Ratchford), Center for eBusiness@MIT, MIT, Cambridge, 2001.

207. *Multiple Touch Point Marketing* (with Arvind Rangaswamy), *AMA* Faculty Consortium on e-Commerce, College Station, 2001.

208. *Mobile e-Business: Growing Pains vs. Gains*, IBM Academic Conference, Armonk, 2001.

209. *e-CRM: Emerging Trends and Future Issues*, ESSEC e-Business Symposium, Paris, 2001.

210. *Customer Price Sensitivity, Satisfaction and Loyalty in Online Markets* (with Amy Smith and Arvind Rangaswamy), SDA Bocconi, Milan, 2001.

211. *Marketing Mix Strategies over the Product Life Cycle*, Conference on Strategic Issues in the Pharmaceutical Industry, Evanston, 2001.

212. *Analyzing Purchases among Multiple Categories*, Choice Symposium, Monterrey, 2001.

213. *Asymmetries in Multiple Marketing Mix Competition, Marketing Science Institute* and *Marketing Science* Special Interest Conference on Competitive Responsiveness, Boston, 2001.

214. *A Brave New World: Covering e-Business*, National Media Symposium, College Park, 2001.

215. *Meta Analysis of Price and Deal Elasticities* (with Xing Pan), University of California, Irvine, 2001.

216. *The Impact of International Market Entry on Global Competitive Advantage*, Indian Institute of Management, Bangalore, 2001.

217. *Meta Analysis of Price and Deal Elasticities* (with Xing Pan), Singapore Management University, Singapore, 2001.

218. *Customer Relationship Management (CRM),* Dragoco Senior Executives Meet, Chennai, 2001.

219. *Drivers of Price Dispersion on the Internet* (with Xing Pan and Brian Ratchford), Temple University, Philadelphia, 2000.

220. *Competition and Network Externalities* (with Barry Bayus), Katz School of Business, University of Pittsburgh, Pittsburgh 2000.

221. *Advertising, Sales Force and Marketing Mix Allocation Strategies over the PLC: Asymmetries Between Dominant and Fringe Brands*, Bauer College of Business, University of Houston, Houston, 2000.

222. *Proactive Marketing Strategies for Services*, Katz Consulting Group, St. Michaels, 2000.

223. *Competitive Marketing Strategy in the Networked Economy*, Doctoral Consortium, *American Marketing Association*, London, Canada, 2000.

224. *The Growing Revolution in B2B e-Marketspaces*, IBM e-Business Research Conference, Armonk, 2000.

225. *e-Business Re-volution in the Auto Industry*, Canadian Pacific Railway Senior Executive Meet, Windsor, 2000.

226. *e-Business Valuation*, e-Business Research Conference, Washington, D.C., 2000.

227. *Online Customer Satisfaction and Loyalty* (with Amy Smith and Arvind Rangaswamy), Marriott International Senior Management Summit, Bethesda, 2000.

228. *Customer Satisfaction and Loyalty on the Internet* (with Amy Smith and Arvind Rangaswamy), Nanyang Technology University, Singapore, 2000.

229. *Network Effects and Competition* (with Barry Bayus), Hong Kong University of Science and Technology, Hong Kong, 2000.

230. *B2B e-Marketplaces or Hubs*, Warehouse of the Future: Innovative Technologies in Supply Chain Management Conference, Atlanta, 2000.

231. *Customer Satisfaction and Loyalty on the Internet: An Empirical Analysis of Online and Offline Customers* (with Amy Smith and Arvind Rangaswamy), University of Texas at Austin, 2000.

232. *To Be or B2B, that's the Question,* Web Consortium, Institute for Study of Business Markets (ISBM), Philadelphia, 2000.

233. *The Online Medium and Customer Price Sensitivity* (with Amy Smith and Arvind Rangaswamy), Pennsylvania State University, University Park, 1999.

234. *Customer Value E-Bundles*, IBM's Strategic Group Conference, Lost Angeles, 1999.

235. *Strategic E-Business Thinking: Evolution or Revolution?* IBM's First Academic E-Business Conference, Armonk, 1999.

236. *Market Entry and New Product Strategies* at the American Marketing Association's Doctoral Consortium, University of Southern California, Los Angeles, 1999.

237. *Matching Attitudinal Data and Scanner Data to Explain Consumer Purchases of Multiple Items* (with Dick Durand, P.K. Kannan, and Gabriel Biehal), *AMA Summer Educators' Conference*, Marketing Research SIG special session, San Francisco, 1999.

238. *Marketing Mix Modeling*, *SmithKline Beecham* Senior Executive Meets, Philadelphia, 1999.

239. *Late Mover Advantage: How Innovative Late Entrants Outsell Pioneers* (with Greg Carpenter and Lakshman Krishnamurthi) at the *Advanced Research Techniques (ART)* forum of *AMA*, Santa Fe, 1999.

240. *Competing on Value, Not Price, on the Internet* at the *National Account Management Association (NAMA)* Leadership Conference, Chicago, 1998.

241. *Consideration Sets Reconsidered: The Role of Cross-Category Effects, Innovative Entries, Price Bundling, Network Effects, and Online Choice Environment*, at HEC, Paris, 1998.

242. *How Does Internet Marketing Affect Price Sensitivity toward Marriott? A Research Study,* (with Arvind Rangaswamy and Mike Pusateri) at Marriott International, Bethesda, 1998.

243. *Emerging Marketing Issues in Electronic Commerce: Some Key Research Avenues* at the IBM T.J. Watson Research Center, Hawthorne, NY, 1998.

244. *Determinants of New Product Introduction and Incumbent Response Strategies*, University of North Carolina, Chapel Hill, 1998.

245. *Business Models in e-Commerce: A Marketing Perspective*, at Advanced Technology Program (ATP) conference on Electronic Commerce, National Institute of Standards and Technology (NIST), Gaithersburg, 1998.

246. *Determinants of New Product Introduction and Incumbent Response Strategies*, Penn State University, University Park, 1998.

247. *Network Effects and Competition: An Empirical Analysis of the Video Games Industry* (with Barry Bayus), Cornell University, Ithaca, 1998.

248. *Asian Economic Crisis: Opportunities and Challenges*, Federation of Indian Exporters Organization Seminar, Bangalore and Chennai, India, 1997.

249. *The Changing Face of Global Marketing*, Madras Management Association Seminar, Chennai, India, 1997.
250. *Cross-channel Analysis of Consumer Behavior* (with Jeff Inman) at Frito-Lay, Inc., Dallas, 1998.

251. *A Retailer Decision Model for Decisions on Regular Price, Deal Depth, and Deal Frequency: Analysis of National and Store Brands* (with Lakshman Krishnamurthi) at Frito-Lay, Inc., Dallas, 1997.

252. *Cross-Channel Variation in Consumer Shopping Behavior* (with Jeff Inman) before the Board of Trustees and member companies at the *Marketing Science Institute* conference, Chicago, 1997.

253. *International Joint Ventures*, at Maryland State Department of Business and Economic Development, Baltimore, 1997.

OTHER PRESENTATIONS

Over 200 presentations.

TEACHING EXPERIENCE

Strategic Digital Marketing, Texas A&M University (undergraduate), 2018-preent.
Marketing Management, Texas A&M University (MBA), 2009-2011.
Marketing Strategy, Texas A&M University (EMBA), 2004-present.
Customer Value Management, Texas A&M University (EMBA), 2006-present.
International Marketing, Texas A&M University (EMBA), 2005-present.
Research for Marketing Decisions (Master's), Texas A&M University, 2004-2008, 2011-present.
Seminar in Marketing Models (Ph.D.), Texas A&M University, 2004-present.
Marketing Research (undergraduate), Texas A&M University, 2014-present.
Digital/e-Business Strategy (MBA), University of Maryland, 2001-2004.
Marketing Management (MBA), University of Maryland, 1994-2003.
International Marketing (MBA), University of Maryland, 1996-2002.
MBA Consulting Projects (MBA), University of Maryland, 1996-2001.
Seminar in Competitive Marketing Strategy (Ph.D.), University of Maryland, 1995-1999.
Marketing Research Methods (MBA), Northwestern University, 1993-94.
Management of New Products, Marketing Channels, Marketing for Nonprofit Organizations (Undergraduate-Continuing Education), Northwestern University, 1991-94.

Consultant, *Teaching Assistants' Consulting Group***,** Northwestern University, 1991-1994.

EXECUTIVE DEVELOPMENT EXPERIENCE

1. Leading through Strategic Data Analytics, *Humana* Executive Development Program.

2. Leveraging Social Media, Executive Development Program, 2010.

3. Marketing Leadership, Halliburton Executive Development Program, Texas A&M University, 2009-present.

4. Marketing Strategy, Kuwait Oil Company Executive Development Program, Texas A&M University, 2015.

5. Marketing Strategy, Halliburton Executive Development Program, Texas A&M University, 2005-present.

6. Marketing Strategy, KBR Executive Development Program, Texas A&M University, 2007-2008.

7. *Global Strategy*, *Volvo* Executive Development Program, 2003.

8. Marketing Management, CEIBS, Shanghai, China, 2001.

9. Global Marketing Strategies, Northrop Grumman Executive Development Program, University of Maryland, 2001, 2002.

10. Global Marketing Strategies, ARINC Executive Development Program, University of Maryland, 2000, 2001.

11. Digital Business Strategy, Philips Executive Development Program, 2000.

12. Marketing in the New Economy, *Bureau of National Affairs* Executive Development Program, 2001.

13. International Marketing Strategies, *Northrop Grumman* Executive Development Program, University of Maryland, 1997-1999.

14. Electronic Commerce and Internet Marketing, Marriott Executive Development Program, University of Maryland, 1997-98.

15. Pricing Strategies: A Marketing Perspective, *Concert-British Telecom* Executive Development Program, 1997.

16. Marketing in the International Economy, *Marriott* Executive Development Program, University of Maryland, 1996-97.

INTERNATIONAL ACADEMIC EXPERIENCE

Visiting Professor, National University of Singapore, 2018.
Visiting Professor, Singapore Management University, Singapore, 2005, 2007.
Visiting Professor, SDA Bocconi, Milan, 2003, 2006.
Visiting Professor, Bologna University, Bologna, 2006.
Visiting Professor, LUISS, Rome, 2006.
Visiting Professor, Indian School of Business, Hyderabad, 2006, 2008-2020.
Visiting Professor, INSEAD, Singapore, 2003.
Visiting Professor, Nanyang Technological University, Singapore, 2003.
Visiting Professor, CEIBS, Shanghai, 2001.

GRADUATE STUDENT SUPERVISION

Chair, Doctoral Dissertation Committee:

1. Tarun Kushwaha
Tenured Professor of Marketing, George Mason University, 2020-present.
Tenured Associate Professor, Assistant Professor, University of North Carolina, Chapel Hill, 2007-2020.
Winner of $5,000 research grant from the Direct Marketing Educational Foundation.
Honorable Mention, Inaugural *Journal of Retailing*, Levy-Weitz Dissertation proposal competition
Finalist, eBRC, Penn State University's doctoral student dissertation competition.
Fellow, AMA-Sheth Doctoral Consortium, 2006.

2. Unnati Narang
Assistant Professor, University of Illinois, Urbana-Champaign, 2020-present.
Runner-up, EMAC Best Dissertation Award, 2021.
Winner, Shankar Spiegel Doctoral Dissertation Proposal, 2018.
Winner, AMA Doctoral SIG Mathew Joseph Award for Emerging Marketing Scholar Ph.D. student, 2019.
Winner, PDMA Award for Emerging Marketing Scholar Ph.D. student, 2019.
Fellow, Marketing Strategy Consortium, Indiana University, 2019.
Fellow, PDMA Consortium, University of Illinois at Urbana Champaign, 2019.

3. Hooman Mirahmad
Assistant Professor, Towson University, 2019-present.
Finalist, ISBM Best Doctoral Dissertation Award, 2018.

4. Milad Darani

Assistant Professor, Kent State University, 2019-present.
Fellow, Doctoral Consortium, Houston, 2018.

5. Nicole Hanson
Assistant Professor, California State University, Los Angeles, 2015-present.
Fellow, AMA-Sheth Doctoral Consortium, 2013.
Winner, ISBM Best Doctoral Dissertation Award, 2014.

6. Taotao Ye
Doctoral Student, Texas A&M University, 2019-present.
Fellow, ISMS Consortium, 2021.

Co-Chair, Doctoral Dissertation Committees:

6. Xing Pan
Assistant Professor of Marketing, University of California, Riverside, 2007.
Winner of SAP research award for outstanding doctoral research in e-Business, 2003.
Winner of Best dissertation proposal by Economics Club, Washington D.C., 2001.
Winner of award for outstanding doctoral student at the Smith School, University of Maryland, 2002.
Winner of Mary Kay Award for the Best Dissertation, from Academy of Marketing Science, 2004.
Fellow, AMA-Sheth Doctoral Consortium, 2002.

7. Kartik Kalaignanam
Tenured Professor, Associate Professor, Assistant Professor, University of South Carolina, Columbia, 2010-present.
Winner, Product Development Management Association (PDMA) Dissertation Competition Award, 2006.
Finalist, ISBM Best Doctoral Dissertation Award, 2006.
Fellow, AMA-Sheth Doctoral Consortium, 2005.

8. Bharadhwaj Sivakumaran
Chaired Professor, Great Lakes Institute of Management, Chennai, 2009-present.
Assistant Professor, Indian Institute of Technology, Chennai, 2004-09.
Assistant Professor, Nanyang Technological University, Singapore, 2002-2004.

9. Thomas Dotzel
Assistant Professor, University of Nebraska, 2019-present.
Assistant Professor, McGill University, Montreal, 2009-2019.
Winner, Liam Glynn Award, Frontiers in Services Conference, 2006.
Finalist, ISBM Doctoral Dissertation Award, 2008.
Outstanding Doctoral Student Research Award, Mays Business School, 2007.
Association of Former Students' Outstanding Doctoral Student Teaching Award, Texas A&M University, 2009.

Phil Gramm Fellowship, Texas A&M University, 2009.
Fellow, AMA-Sheth Doctoral Consortium, 2007.
Fellow, University of Houston Doctoral Consortium, 2007, 2008.

10. Jeff Meyer
Tenured Associate Professor, Bowling Green University, 2010-present.
Winner, *Marketing Science Institute* (*MSI*) Alden Clayton Dissertation Award, 2009.
First Runner-Up, Fisher IMS and AMA SERVSIG Best Dissertation Proposal Award, 2009-10.
Finalist, ISBM Best Doctoral Dissertation Award, 2009.
Outstanding Doctoral Student Research Award, Mays Business School, 2009.
Fellow, AMA-Sheth Doctoral Consortium, 2008.
Fellow, University of Houston Doctoral Consortium, 2008, 2009.

11. Gautham Gopal Vadakkepatt
Assistant Professor, George Mason University, 2014-present.
Finalist, ISBM Best Doctoral Dissertation Award, 2009.
Outstanding Doctoral Student Research Award, Mays Business School, 2010.
Fellow, AMA-Sheth Doctoral Consortium, 2009.
Fellow, University of Houston Doctoral Consortium, 2009.
Doctoral Dissertation Research Award, Center for New Ventures and Entrepreneurship, Mays Business School, 2008.

12. Reo Song
Assistant and Associate Professor, California State University, Long Beach, 2015-present.
Fellow, Haring Symposium, Indiana University, 2010.
Fellow, Marketing Science Doctoral Consortium, 2008.

13. Wonjoo Yun
Assistant Professor, Oakland University, 2014-2017.
Fellow, AMA-Sheth Doctoral Consortium, 2012.
Fellow, Marketing Science Doctoral Consortium, 2012.
Fellow, University of Houston Doctoral Symposium, 2012.

14. Zhongjian Lin
Assistant Professor of Economics and Econometrics, Emory University, 2014-present.

Member, Doctoral Dissertation Committees:

1. Yan Dong
Associate Professor of Supply Chain and Logistics, University of South Carolina, 2013-present.

2. David Dorsett
Visiting Assistant Professor of Marketing, Florida Institute of Technology, Melbourne, 2000-01.

3. Ann Mirabito
Associate Professor of Marketing, Baylor University, Waco, 2007-present.
4. Paul Dwyer
Assistant Professor of Marketing, Willamette University, Willamette, 2008-present.
5. Xiaoyuan Wang
Assistant Professor, University of Electronic Science and Technology of China, Chengdu, China, 2014-present.
6. Joon Ho Lim
Assistant Professor of Marketing, Illinois State University, Normal, 2016-present.
7. Guanglu Zhang
Post-Doctoral Fellow, Carnegie Mellon University, 2019-present.
8. Ephraim Karsagi
Transfer Pricing Senior Associate, KPMG, 2019-present.
9. Zeiling Bei
Assistant Professor, University of Missouri, Columbia, 2018-present.
10. Kiran Pedada
Assistant Professor, Indian School of Business, 2018-present.
Winner, Mary Kay Doctoral Dissertation Competition, 2019.

Advisor, Chi Zhang, Sanjana Surange, and Zijing Hu.

Co-Chair, Research Paper Committees: Xing Pan, Bharadhwaj Sivakumaran, and Ashwin Aravindakshan.
Chair, Master's Independent Studies: Lori Behrens, Vijay Kapoor, Sandrine Bakos, and Louis Cantaloupe.
Member, Master's Thesis Committee: Jeison George.

PROFESSIONAL SERVICE

1. Editor-Emeritus, *Journal of Interactive Marketing (JIM)*, 2010-present.
2. Co-Editor, *Journal of Interactive Marketing (JIM)*, 2002-2009.
   Helped journal become the flagship journal for direct/interactive/Internet/digital/e-marketing.
   Helped redirect flow of research in direct/interactive/Internet/digital/e- marketing.
   Helped substantially improve the impact factor of *JIM* and elevate to the Top 6 marketing journals.
   Brought out pioneering special issues on emerging topics such as online pricing, multichannel marketing, CRM and data mining.
   Helped improve managerial impact of the journal by publishing articles from thought leaders and leading practitioners.
3. Associate Editor, *Journal of Marketing Research*, 2014-2020.
4. Area Editor, *Journal of Marketing*, 2015-2018.
   - Outstanding AE Award, 2016.
5. Associate Editor, *Management Science,* 2001-2007.

6. Associate Editor, *International Journal of Research in Marketing*, 2018-present.
7. Editorial Review Board:
   - *Marketing Science* (2001-present)
     - Best Guest Area Editor, 2004-2005.
     - Top 3 Most Productive Reviewers, 2002.
     - Guest Area Editor, 2004-2008.
   - *Journal of Marketing Research* (2009-2018)
   - *Journal of Marketing* (2002-2005, 2009-present)
     - Outstanding Reviewer, 2020-2021.

   International Journal of Research in Marketing (2000-present)
   - *Journal of Retailing (*1998-present)
   - *Journal of Academy of Marketing Science* (1999-2012; 2015-present)
     - Best Reviewer, 2020-2021.
   - *Journal of Customer Needs and Solutions* (2013-present)
   - *Journal of Shopper Research* (2015-present)
8. Co-Chair, Marketing Strategy Consortium, 2022.
9. Member, Selection Committee, Bass FORMS Conference, 2022.
9. Chair, Interactive Marketing Research Conference, 2019.
10. Contributor, the Ph.D. project.
11. Chair, Theory and Practice in Marketing Conference, 2016.
12. Chair, Thought Leadership Conference on *Mobile Marketing and its Implications for Retailing*, 2015.
13. Chair, Paul E. Green Award Committee, *Journal of Marketing Research*, 2015.
14. Co-Chair, *MSI* Conference on Omnichannel Marketing, 2014.
15. Member, AMA/Irwin/McGraw-Hill Distinguished Marketing Educator Award Committee, 2012-2013.
16. Member, INFORMS Marketing Strategy Council, 2010-2013.
17. Member, *Journal of Interactive Marketing*, Policy Board, 2011-present.
18. Advisor, Program Committee, Marketing Dynamics Conference, 2011.
19. Member, Program Committee, Great Lakes-NASMEI Marketing Conference, 2011.
20. Co-Chair, First *MSI* Conference on *Marketing in Emerging Markets: The Indian Perspective*, ISB, 2010.
21. Judge, *MSI* Research Competition on Modeling Multichannel Customer Behavior, 2010.
22. Judge, *ISMS* Doctoral Dissertation Competition, 2010.
23. Co-Chair, Thought Leadership Conference on Innovations in Retailing, 2010.
24. Judge, *INFORMS-MSI* Practice Prize Competition, 2010.
25. President, *AMA* Special Interest Group (SIG) on Marketing Strategy, 2006-2008.
26. Co-Chair, Thought Leadership Conference on Marketing Perspectives in a Multichannel Multimedia Retailing Environment, 2009.
27. Co-Chair, *MSI* Metrics Conference, 2008.
28. Member, Program Committee, *ACR* Pre-Conference Program on e-Commerce, 2007.
29. Co-Chair, Research Program Committee, Direct/Interactive Marketing Research Summit, 2007.

30. Member, Board of Advisors, Marketing Science Conference, 2007.
31. Vice President (Membership), *INFORMS* Society for Marketing Science, 2004-2006.
32. Co-Organizer, *Workshop on CRM: Data Mining Meets Marketing*, New York University, 2005.
33. Co-Chair, *INFORMS Marketing Science* Conference, 2003.
34. Marketing Research Track Co-Chair, *AMA* Winter Educators' Conference, Austin, 2002.

Reviewer:
AMA Doctoral Dissertation competition, *ISBM Doctoral Dissertation* competition, *MSI Doctoral Dissertation Competition, eBRC Doctoral Dissertation Competition, EMAC-McKinsey Doctoral Dissertation Competition, PDMA Dissertation Competition*.
External Examiner, Doctoral Thesis: University of Toronto, Toronto, McMaster University, Hamilton.
External Examiner, Doctoral/Master's Thesis: Nanyang Technological University, Singapore.
External Examiner, University Grants Council, Hong Kong.
External Reviewer, Social Sciences and Humanities Research Council of Canada.
External Reviewer, Israel Science Foundation.
External Reviewer, National Science Foundation (NSF) Grants.

SERVICE AT TEXAS A&M UNIVERSITY

Creator and Host, New Business and Retail Insights (NBRI), a videocast/webcast/podcast show featuring leading researchers in marketing.
Member, President's Excellence Fund Steering Committee, 2020-present.
Member, X Grants Evaluation Committee, 2019-present.
Member, TAMIDS Faculty Advisory Committee, 2019-present.
Member, TAMIDS Data Science Steering Committee, 2019-present.
Judge, TAMIDS Data Science Competition, 2019-present.
Reviewer, TAMIDS Course Development Grants, 2020-present.
Director, CRS Director Search Committee, 2019.
Member, University Committee on Information Technology Governance, 2017-present.
Member, University Data Science Committee, 2016-2019.
Member, Organizing Committee, University Conference on Advances in Big Data Modeling, Computation, and Analytics, 2016.
Director of Research, Center for Retailing Studies, 2012-present.
Marketing Ph.D. Program Director, 2006-2012.
Member, Promotion and Tenure Committee, Mays Business School, 2004-2007, 2015-2018.
Member, Mays Strategic Planning Committee, 2015-present.
Organizer, Mays Marketing Department Research Camp, 2006-present.
Member, CRS Director Search Committee, 2013-2014.
Member, Research Council, Mays Business School, 2005-2008, 2009-2012.
Member, International Business Policy Committee, 2009-2011.
Member, Ph.D. Graduate Instruction Committee, 2006-present.
Member, MBA Graduate Instruction Committee, 2009-2011.

Member, EMBA Graduate Instruction Committee, 2015-present.
Member, Global EMBA Task Force, 2008-2010.
Member, University Distinguished Graduate Student Award Committee, 2010-2011.
Member, Department Head Search Committee, 2005-2006, 2009-2010.
Member, Center for Retailing Studies Faculty Advisory Council, 2006-2008, 2012-present.
Mentor, Regents Scholar Program, 2006-2009.
Organizer, Mays Marketing Research Seminar Series, 2006-2007.
Mentor, Freshman Business Initiative, 2005-2006.
Member, Department Faculty Recruitment Committee, 2004-present.
Member, Department Ph.D. Council, 2004-present.

SERVICE AT UNIVERSITY OF MARYLAND

Marketing Core Course Coordinator, 2003-2004.
Member, Strategy Council, Marketing Department, 2002-2003.
Member, Salary Review Committee, 2002.
Member, Marketing Department Recruiting Committee, 2002.
Chair, Global Task Force, 2001.
Faculty Advisor, BIO/Pharma Club, 2000-2001.
Co-Director, *QUEST* Program, 1998-2000.
Member, *IBM SUR* Grant Proposal Committee, 1998-99.
Faculty Advisor, MBA Marketing Club, 1996-2000.
Member, *DARPA* Net-centricity Project Task Force, 1999.
Member, Center for Knowledge Management and Information Technology Task Force, 1998-1999.
Member, *Krowe* Awards for Teaching Innovation Committee, 1998.
Member, Promotion and Tenure Process Guidelines Task Force, 1996-1997.
Member, Staff Awards Committee, 1997.

PROFESSIONAL AFFILIATIONS

Research Fellow and Board Member, Retail Analytics Council, 2016-present.
Advisory Board Member, B2B Leadership Board, 2011-present.
Member, INFORMS Marketing Committee, 2010-2014.
Advisory Board Member, Academic Liaison Committee, CMO Council, 2010-present.
Academic Trustee, *Marketing Science Institute*, 2007-2013.
Member, Board of Trustees, Direct Marketing Educational Foundation, 2006-2009.
Member, Board of Advisors, Marketing Science Conference, 2007.
Member, Board of Advisors, *NASMEI*, 2003-present.
Advisory Board Member, Kotler-Srinivasan Centre for Marketing Analytics, GLIM, 2010-present.
Advisory Board Member, *Ingenium* Corporation, 1998-2004.
Advisory Board Member, Technology Entrepreneurship Community Center (TECC), Washington, D.C., 2001-2004.
Advisory Board Member, *Hospitality Sales and Marketing Association International* (*HSMAI*)

Research Foundation, 1998-2001.
Senior Research Fellow, eBusiness Research Center, Penn State University, 2000-2010.
Fellow, *Academy of Marketing Science*, 2004-present.
Member, Marketing College, *Institute for Operations Research and Management Science (INFORMS)*, 1992-present.
Member, *American Economic Association*, 2002-2003.
Member, *American Marketing Association (AMA)*, 1992-present.
Member, The Indus Entrepreneurs (TiE) & Indian CEO Council, Washington, DC, 1999-present.

BUSINESS EXPERIENCE

Business Development Manager, *HSBC Corporation*, 1988-1990.
Product Executive, *Blow Plast Mattel Toys (India)***,** 1987-1988.

MEDIA APPEARANCES

Made several appearances as an *International Marketing/Business Expert* for CNN.
Appeared as *International Economics/Business Expert* on C-SPAN, the TV channel for United States Congressional issues.
Appeared as an e-business expert for NBC, CBS, NPR.
Appeared as a marketing expert on Maryland Public Television.
Appeared as an e-business expert on Maryland Flagship Channel.
Appeared as a marketing expert on Voice of America.
Appeared as a marketing expert on CNN, CGTN, ABC, NBC, CBS, Texas.
Appeared as an expert in Sirius XM's Wharton Business Radio.
Made appearances as e-Business and Hi-Tech expert on podcasts/videocasts such as CPG guys, the Millennium Alliance, TPCI.
Over 200 quotes and cites in several publications and media, including the *New York Times*, *Washington Post*, *Bloomberg*, *Reuters*, *Wired*, *Baltimore Sun*, *MSN, Yahoo, CNet*, *Dallas Morning News*, *Telegraph, Orlando Sentinel*, *Sales and Marketing Management*, *CIO Insight*, *Houston Chronicle, San Antonio Express-News, Texas Tribune, Tampa Bay Times, Slate, Information World*, *CFO First Mover*, *Energy User News*, *The Eagle,* and *NextMarkets*.

EXPERT WITNESS EXPERIENCE

Cases involving advertising, affiliate marketing, digital marketing, search advertising, and search engine optimization. trademark and trade dress infringement, infringement of Internet/digital technology, ecommerce, retailing, online marketing and personalization dispute, Internet intellectual property infringement, customer service discrimination, digital divide, affinity/interactive marketing, wrongful termination of business contract, market research methods, marketing communication, advertising strategy, marketing strategy, product defects, and product recalls.

SOME CONSULTING/EXECUTIVE TRAINING/SPEAKING ENGAGEMENTS

ARINC, Airtel, AkzoNobel, Alcatel Lucent, Allstate Insurance, Atos, Avendra, Axis Bank, Bank of Baroda, Bharat Petroleum Corporation Ltd., Boston Scientific, Bureau of National Affairs, Cap Gemini Ernst & Young, Colgate-Palmolive, Deloitte, Fedex, Frito-Lay, Giant Food, Glaxo SmithKline, Granherne, Halliburton, HEB, Hewlett Packard, Honeywell, HSBC, Humana, IBM, Infosys, Ingenium, Intel, International Paper, Lockheed Martin, Mahindra Group, Marriott International, Medtronic, Microsoft, Northrop Grumman, PepsiCo, Philips, PNC Bank, Sirius XM, Times Internet, United Nations Foundation, Vodafone, Volvo Group, Wegmans, and Zachry.

OTHER

U.S. Citizen.

APPENDIX B: PRIOR TESTIMONY IN LAST FOUR YEARS

Chrysler-Dodge-Jeep EcoCruze Clean Turbo Diesel Marketing, Sales Practices, And Products Liability Litigation. Was deposed by the Defendant FCA.

Dikla Gavrieli Unatin v Kfir Gavrieli. Was deposed by the Plaintiff Gavrieli Unatin.

Counts et al. v GM. Was deposed by the Defendant GM.

APPENDIX C: DOCUMENTS RELIED UPON

Written Direct Testimony of Professor John R. Hauser

Professor Hauser Work Papers (SPOT_P4_000002099)

Written Direct Testimony of Mr. Robert L. Klein

Mr. Klein Work Papers

Corrected Written Direct Testimony of Professor Joseph Farrell

Allen, Mike (2007), *The SAGE Encyclopedia of Communication Research Methods*, Sage Publishers.

Beck, M. J., S. Fifer, and J.M. Rose (2016), "Can you Ever be Certain? Reducing Hypothetical Bias in Stated Choice Experiments via Respondent Reported Choice Certainty," *Transportation Research Part B: Methodological*, 89, 149-167.

Blutton, K.S,, Ioannidis, J.P.A., B.A. Nosek, J. Flint, E.S.J. Robinson, and M.R. Manfo (2013), "Power Failure: Why Small Sample Size Undermines the Reliability of Neuroscience?" *Nature Reviews Neuroscience*, 14, 365-376.

Bourreau, M., P. Doğan, and S. Hong (2015), "Making Money by Giving it for Free: Radiohead's Pre-release Strategy for In Rainbows," *Information Economics and Policy*, 32, 77-93.

Buckell, J. and S. Hess (2019), "Stubbing out Hypothetical Bias: Improving Tobacco Market Predictions by Combining Stated and Revealed Preference Data," *Journal of Health Economics*, 65, 93-102.

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Harrison, Glenn W. and E. Elisabet Rutström (2008), "Experimental Evidence on the Existence of Hypothetical Bias in Value Elicitation Methods," in *Handbook of Experimental Economics Results*, Charles R. Plott and Vernon L. Smith, eds. Amsterdam: North-Holland.

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Iyengar, Sheena S. and Mark R. Lepper (2000), "When Choice is Demotivating: Can One Desire Too Much of a Good Thing?" *Journal of Personality and Social Psychology*, 79 (6), 995-1006.

Krosnick, Jon A. (1991), "Response Strategies for Coping with the Cognitive Demands of Attitude Measures in Surveys," *Applied Cognitive Psychology*, 5 (3), 213-236.

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Malhotra, Naresh K. (2019), *Marketing Research: An Applied Orientation*, 7th Edition, Pearson, New York, NY.

Reutskaja, Elena, Axel Lindner, Rosemarie Nagel, Richard A. Anderson, and Colin F. Camerer (2018), "Choice Overload Reduces Neural Signatures of Choice Set Value in Dorsal Striatum and Anterior Cingulate Cortex," *Nature Human Behavior*, 2, 925-935.

Schwartz, Barry (2004). *The Paradox of Choice*. New York: Harper Perennial.

Schwartz, Norbert and Daphna Oyserman (2001), "Asking Questions About Behavior: Cognition, Communication, and Questionnaire Construction," *American Journal of Evaluation*, 22 (2), 127-160.

Shadish, William M., Thomas D. Cook, and Donald T. Campbell (2012), *Experimental and Quasi-experimental Designs for Generalized Causal Inference*, Houghton Mifflin Company, Boston.

Smith, Vernon L. (1982), "Microeconomic Systems as an Experimental Science," *The American Economic Review*, 72 (5), 923-955.

Train, K.E. and W.W. Wilson (2009), "Monte Carlo Analysis of SP-off-RP Data," *Journal of Choice Modelling*, 2 (1), 101-117.

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
Library of Congress
Washington, D.C.

In the matter of DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords IV)	Docket No. 21-CRB-0001-PR (2023 2027)

WRITTEN REBUTTAL TESTIMONY OF DANIEL F. SPULBER

(On behalf of Copyright Owners)

April 22, 2022

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I. QUALIFICATIONS, OVERVIEW OF ASSIGNMENT, AND SUMMARY OF CONCLUSIONS

1. My name is Daniel F. Spulber. I am the Elinor Hobbs Distinguished Professor of International Business and Professor of Strategy at the Kellogg School of Management, Northwestern University, where I have taught since 1990. I am also Professor of Law (Courtesy) at the Northwestern University Pritzker School of Law. I received a Ph.D. in economics in 1979 and a M.A. in economics in 1976 from Northwestern University and a B.A. in economics in 1974 from the University of Michigan.

2. I previously taught at Brown University, the University of Southern California, and Cal Tech. I have served as the Research Director of the Northwestern University Center on Law, Business, and Economics at the Pritzker School of Law. I also served as the founding Director of Kellogg's International Business & Markets Program. I am the founding editor of the Journal of Economics & Management Strategy.

3. I have published fourteen books and numerous articles in leading economics journals and law reviews. I have received 37 research grants, including grants from the National Science Foundation, Qualcomm, the Ewing Marion Kauffman Foundation, and the United States Patent and Trademark Office (USPTO).[1]

4. I have been asked by the Counsel for the National Music Publishers' Association (NMPA) and the Nashville Songwriters Association International (NSAI) to provide expert economic analysis in response to the Written Direct Testimony of Joseph Farrell in this proceeding.

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[1] I submitted Written Direct Testimony in this proceeding on October 13, 2021. A copy of my curriculum vitae was attached to that testimony.

5. A summary of some primary conclusions are as follows:

- Professor Farrell incorrectly analyzes competition by considering only the supply side of the market for music rights, making his discussion uninformative on the questions of relevance.
- Market power and monopoly power are fully consistent with effective competition, and conclusions that one or the other exist does not inform the question of whether there is a lack of effective competition.
- The Cournot complements model is not applicable to the music licensing markets being considered in this proceeding.
- Professor Farrell's revised approach to Cournot complements based on "Vertical Externality" simply reinforces that his discussion has nothing to do with effective competition.[2]

II. PROFESSOR FARRELL INCORRECTLY ANALYZES THE WILLING BUYER/WILLING SELLER STANDARD AND COMPETITION IN THE MARKET FOR MUSIC RIGHTS

6. This section will explain why Professor Farrell incorrectly assesses reasonable rates and terms because he improperly applies the willing buyer/willing seller standard by mischaracterizing the market for music rights. The willing buyer/willing seller standard for reasonable royalty terms guides this proceeding. This important standard recognizes that any economic analysis of markets and competition must represent accurately both the supply side and the demand side of the market. Professor Farrell's economic analysis of the market for music rights is based on the supply side in isolation. This leads to a loaded economic analysis that is highly misleading for this rate-setting purpose.

[2] In forming my views, I have considered the documents and decisions cited herein.

A. Professor Farrell Mischaracterizes Competition in the Market for Music Rights

7. Professor Farrell – like all of the Services' experts – references the Cournot model as part of an attempt to persuade the Judges to *artificially reduce* reasonable royalty rates as determined through benchmarks or game-theoretic modelling. The story being presented to the Judges is that there has been some artificial *increase* in sound recording royalty rates established in the free market for interactive streaming. Thus, say the Services' experts, the Judges should now artificially *decrease* royalty rates derived from those benchmarks, or adopt assumptions in game theoretic modelling that are biased toward the Services as a sort of an offset.

8. The Judges should see some significant red flags with this story. Foremost is that Professor Farrell (or any of the Services' experts) has done absolutely no empirical analysis to identify whether there is in fact any supra-competitive pricing by record companies. There are numerous methods that an economist might use to go about analyzing whether or not a market is charactered by supra-competitive pricing. Professor Farrell has applied no such methods.

9. Equally troubling as the absence of empirical analysis is the lack of a proper theoretical foundation for Professor Farrell's approach to the question of royalty rates. Professor Farrell draws conclusions about the state of competition in the upstream market for interactive music streaming without any consideration of the demand-side of the market.

10. Professor Farrell only considers supply-side market structure (horizontal consolidation) and supply-side conduct (contracting practices) in asserting that each major record label has a monopoly position.[3] Focusing exclusively on the supply side of the market for music

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[3] Amended Corrected Written Direct Testimony of Joseph Farrell, D.Phil, eCRB Docket No. 26290 (Mar. 8, 2022) ("Farrell Statement") ¶ 13.

rights, Professor Farrell refers to separate rights for the same work as "vertical fragmentation".[4] Professor Farrell then leaps to the conclusion that record labels, music publishers, performing rights organizations (PROs), and the Mechanical Licensing Collective (MLC) are a Cournot complementary oligopoly:

> This vertical fragmentation, combined with horizontal market power, causes a number of Cournot complements problems, in addition to the well-recognized one among the major labels. Such complementarities among entities with market power bias the total royalty rate upward relative to vertically coordinated rates, even given the level of horizontal market power. [5]

11. With this analysis, Professor Farrell draws economic conclusions based on an extreme economic model – the Cournot complementary oligopoly model – while providing no evidence for either the model's assumptions or its predictions. The Cournot complementary oligopoly model (or complementary monopolies model) has a number of features that do not apply to the market for music rights, including demand-side aspects, supply-side conduct and market institutions.[6] When a model's assumptions do not apply, it would take *at a minimum* powerful empirical evidence that the model's predicted effects hold in order to justify even

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[4] Farrell Statement at ¶ 13 ("a number of different horizontally consolidated intermediaries with market power control and license multiple legally separate copyrights that are perfect complements for an interactive streaming service. In order to stream one track, an interactive streaming service must typically obtain at least three, and often many more, separate licenses from different rights-holders—mechanical license(s) from one or more publishers, performance license(s) from one or more PROs, and a sound recording license (bundling mechanical and performance rights) from a record label.")

[5] Farrell Statement ¶ 13.

[6] Among the properties of the market that conflict with the Cournot analysis are market power on the demand side and bargaining between record labels and streaming services. If the Cournot model were to apply, buyers in the market for music rights would be price takers with no market power. There is no empirical or even intuitive support for the conclusion that major buyers of content, Amazon, Google/YouTube, Apple, and Spotify, have no market power.

trying to apply the model. Yet here, none of the predictions apply either.[7] There is no evidence provided of a reduction in output. There is no evidence provided for alleged supra-competitive pricing. The streaming services are experiencing great business success. Neither the assumptions nor the predictions of the Cournot complements model hold for the market for music rights.

B. Professor Farrell's Failure to Analyze the Demand Side of the Market Alone Makes His Discussion of Competition Uninformative

12. The willing buyer/willing seller standard explicitly recognizes that markets involve interactions between the demand side and the supply side of the market.[8] Under the willing buyer/willing seller standard, the Judges are required to address both sides of the relevant market. The standard further recognizes that markets involve both supply and demand because it specifies a hypothetical negotiation that would have occurred without statutory compulsory licensing.[9]

13. Economists define a market based on interaction between the demand side and the supply side of the market. A market cannot be defined by describing only one side, that is,

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[7] Professor Farrell also attributes extraordinary supply-side market power using solely hypothetical scenarios: "One way to understand the competitive problems with must-have major labels and with Cournot complements is that a copyright owner can threaten, by withholding a license, to block a disproportionate share of a service's business." (Farrell Statement ¶ 13.) There is no evidence that such threats have occurred, let alone that they had credibility *and then had an effect on market outcomes*. This last part of the analysis alone – actual market outcomes that reflect a lack of effective competition – is necessary to make the analysis relevant, and yet *none* of the parts of the analysis are shown to be applicable**.**

[8] Copyright Law of the United States, and Related Laws Contained in Title 17 of the United States Code, 17 U.S.C. § 115 (c) (1) F, https://www.copyright.gov/title17/title17.pdf

[9] "The marketplace the Judges look to is a hypothetical marketplace, free of the influence of compulsory, statutory licenses. *Web II,* 72 Fed. Reg. 24084, 24087 (May 1, 2007); Web V at 2, "Within these categories, the Judges' determination shall account for (1) whether the Internet service substitutes for or promotes the copyright owner's other streams of revenue from the sound recording and (2) the relative roles and contributions of the copyright owner and the service, including creative, technological, and financial contributions, and risk assumption." Id.

taking either the demand side or the supply side in isolation. As the economist Alfred Marshall emphasizes, "[w]hen demand and supply are spoken of in relation to one another, it is of course necessary that the markets to which they refer should be the same."[10] A market functions through the interaction of buyers and sellers. Marshall cites the economist Antoine Augustin Cournot: "[e]conomists understand by the term *Market*, not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such free intercourse with one another that the prices of the same goods tend to equality easily and quickly."[11]

14. The economist Léon Walras has provided insightful statements of this understanding of markets and competition:

> *Value in exchange* is the property certain things have of not being obtained or given up freely, but of being *bought* and *sold*, received and given up in return for other things in certain quantitative proportions. The buyer of a thing is the seller of what he gives in exchange. The seller of a thing is the buyer of what he receives in exchange for it. In other words, every exchange of two things, one for the other, is composed of a double purchase and a double sale. …
>
> Value in exchange left to itself occurs naturally in the market under the regime of *competition*. As buyers, the traders make *offers to buy at higher prices*; as sellers, they make *offers to sell at lower prices*, and their competition thus leads to a certain value in exchange that is sometimes rising, sometimes falling, sometimes stationary.[12]

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[10] Alfred Marshall, 1890, Principles of Economics (8th ed), London: Macmillan and Co. 8th ed. 1920, Online Library of Liberty, http://oll.libertyfund.org, at 189.

[11] Emphasis in original. Marshall, id. at 189 citing Antoine Augustin Cournot, Recherches sur les Principes Mathématiques de la Théorie des Richesses, ch. IV.

[12] Emphasis in original. Walras, Léon, 1900, Éléments d'économie politique pure. Elements of Theoretical Economics: The Theory of Social Wealth, Fourth edition, Cambridge University Press. Kindle Edition. [Donald A. Walker and Jan van Daal, trans, 2014]. at 42.

15. Characterizing markets and competition requires describing actions on both sides of economic transactions, involving the supply of products by sellers and the purchase commitments by buyers. As the economist George Stigler observes: "[t]his fact that every transaction involves two parties is something that economists do not easily forget."[13]

16. Yet Professor Farrell persists in defining effective competition by focusing solely on seller-side competition:

> Effective competition is not easily defined in a few phrases, and the D.C. Circuit recognized that the standard is "inherently ambiguous," but in spirit it requires that sellers vie, and have ample scope to vie, for additional business by improving on each other's offers.[14]

17. Consideration of both sides of the market is necessary to evaluate "effective competition". The economist John Clark introduced the concept of "workable competition,"[15] and he emphasized that defining competition requires specifying many market conditions, including both demand side features and supply side features.[16] The economist Morris Adelman, explaining "effective competition", or equivalently "workable competition", highlights the countervailing effects of bargaining power. [17]

18. Professor Farrell's supply-side definition of effective competition ignores countervailing power on the demand side, rendering his analysis useless for reaching any

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[13] Stigler, George J. A Theory of Oligopoly." Journal of Political Economy 72, no. 1 (1964): 44-61, at 44-45.
[14] Farrell Statement ¶ 56. He similarly relates effective competition to having substitute products at ¶ 58.

[15] Clark, John M., 1940, Toward a Concept of Workable Competition. The American Economic Review: 241-256.

[16] Clark, id. at 243. ("The specific character of competition in any given case depends on a surprisingly large number of conditions - so many, in fact, that the number of mathematically possible combinations runs into the hundreds or thousands - and suggests the possibility that every industry may be in some significant respect different from every other, or from itself at some other stage of development.")

[17] Adelman, Morris Albert, 1948, Effective Competition and the Antitrust Laws. Harvard Law Review 61, no. 8: 1289-1350 at 1300.

conclusions about effective competition. This would be the case even if Professor Farrell had done an accurate analysis of the supply side of the market, but this did not occur either. His approach is akin to looking only at how many runs one team scored in a baseball game, and then reaching conclusions about who was the winner.[18] This is of special concern when the buyer side of the market includes companies that are among the largest in the world, e.g. Amazon, Google, and Apple.

C. A Monopolist Is Fully Consistent with Effective Competition

19. The need to examine both sides of the market and their interaction is reflected in the fact that knowing only that there is a monopolist on one side of a market does not inform as to whether the market is effectively competitive.

20. To help explain this, we can consider the example of a bilateral monopoly. In a bilateral monopoly market, there is one buyer and one seller. It would be incorrect to characterize such a market as either a monopoly market or monopsony market.[19] A monopolist chooses prices and faces a downward-sloping demand curve with price-taking buyers. A monopsonist chooses prices and faces an upward-sloping supply curve with price-taking sellers.[20] The outcome in a bilateral monopoly market, however, involves market power on both

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[18] To be more precise with this analogy, Professor Farrell's analysis is more akin to speculating on how many runs one team might have scored in a baseball game by pondering abstractly whether they were "must haves" for the baseball game, and then not even considering the other team, and then reaching conclusions about who won the game.

[19] Blair, Roger D., and Jeffrey L. Harrison. *Monopsony in law and economics*. Cambridge University Press, 2010; Boal, William M., and Michael R. Ransom. Monopsony in the labor market. Journal of economic literature 35, no. 1 (1997): 86-112. At 86. ("numerous models of buyer market power have been developed that do not assume a single buyer or even a small number of buyers. Today the term "labor monopsony" is applied more broadly to any model where individual firms face upward-sloping labor supply.")

[20] Boal and Ransom, id.

the supply side and the demand side. In a bilateral monopoly, the buyer and the seller each have some control over the outcome.

21. In a bilateral monopoly, neither the buyer nor the seller is likely to be a price taker. So, the market outcome will correspond to negotiation, with the outcome reflecting the relative bargaining powers of the seller and the buyer. The buyer and seller have an incentive to maximize their joint benefits, with bargaining determining the division of those benefits.[21] In a bilateral monopoly in which the buyer purchases multiple units of a product and the seller supplies multiple units of a product, economics and game theory suggest that the outcome will be efficient.[22]

D. The Cournot Complements Model Referenced by Professor Farrell in His Original Written Direct Testimony Is Not Applicable

1. A Finding of "Must-Have" Music Catalogs in The Economic Sense of an Essential Input Would Be Unreasonable

22. In Web V, the CRJs note that "'[c]omplementary oligopolists' supply products or, as here, offer licenses, for access to products, that are 'perfect complements,' meaning that the products or licenses they offer are essential, i.e., 'Must Haves,' for a buyer/licensee in order to

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[21] Fritz Machlup and Martha Taber, 1960, Bilateral Monopoly, Successive Monopoly, and Vertical Integration, Economica, May, 1960, New Series, Vol. 27, No. 106, May, at 101-119; Layard, P. R. G. and Alan A. Walters, 1978, Microeconomic Theory. New York: McGraw-Hill, at 244-245; Henderson, James M. and Richard E. Quandt, 1980, Microeconomic Theory, 3rd ed. New York: McGraw-Hill, at 222-226.

[22] Machlup and Martha Taber, id. See also Coase, Ronald, The Problem of Social Cost. The Journal of Law and Economics 3 (1960): 1-44; Nash, Jr., John F., 1950, The Bargaining Problem, Econometrica, 18 (2), April, 155-162; Rubinstein, A., 1982, Perfect Equilibrium in a Bargaining Model, Econometrica, 50 (1), 97-109; Binmore, K. G., A. Rubinstein, and A. Wolinsky, 1986, The Nash Bargaining Solution in Economic Modelling. Rand Journal of Economics, Vol. 17, 176-188; Thomson, William, 1994, Cooperative Models of Bargaining, Handbook of Game Theory with Economic Applications, 2, pp.1237-1284.

operate its business. Such products/licenses are known in economics as 'Cournot Complements.'"[23]

23. Perfect complementarity is not a supportable finding with respect to music catalogs. Products are said to be perfect complements if buyers must use all the products in fixed proportions to obtain any benefits.[24] Perfect complements corresponds to the Leontief production function where inputs are used in fixed proportions.[25] For example, recipes such as those for cakes, usually involve combining ingredients in fixed proportions. Perfect complementarity and fixed proportions technologies are not commonly observed in practice.[26]

24. There is no technological basis for suggesting that the catalogs of all major record companies are necessary for a streaming service to obtain any benefits. A streaming service can provide digital streaming with the content of only one or two record labels. The fixed-proportions production technology described by Cournot complements does not describe streaming technology. Cournot's complements refers to the hypothetical technological need for a producer of brass to combine copper and zinc in fixed proportions. There is no corresponding

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[23] 2021-2025 (Web V) at 7, citing Web IV, 81 Fed Reg. at 26342-43.

[24] Hal R. Varian, 2014, Intermediate Microeconomics with Calculus: A Modern Approach, International Student Edition, Norton, at 40.

[25] Leontief, Wassily. The Structure of American Economy, 1919–1929. Harvard University Press, Cambridge, 1941; Leontief, Wassily. 1951. "Input-Output Economics," Scientific American, reprinted in Wassily Leontief, Input-Output Economics, Press, New York, 1966; Dorfman, Robert. In appreciation of Wassily Leontief. Structural Change and Economic Dynamics 6, no. 3 (1995): 305-308.

[26] Moss Laurence S., 2010. Finding New Wine in Old Bottles: What Historians Must Do When Leontief Coefficients Are No Longer the Designated Drivers of Economics. The American Journal of Economics and Sociology, 69(1), 431-460; Majeau-Bettez, Guillaume, Richard Wood, and Anders Hammer Strømman. "Unified theory of allocations and constructs in life cycle assessment and input-output analysis." Journal of Industrial Ecology 18, no. 5 (2014): 747-770. In practice, productivity variations within industries cast doubt on perfect complementarity. Moss, id. Klein, Lawrence R., 1952, On the Interpretation of Professor Leontief's System. The Review of Economic Studies 20, no. 2: 131-136.

technological need for a streaming service to combine digital content from one or more record labels in any particular manner.

25. Professor Farrell also provides no evidence that a streaming service needs to have access to the repertoires of all of the major record labels to be commercially viable. More importantly, empirical analysis of the marketplace for music streaming offerings shows that there is commercial viability without full catalogs.[27] The market for entertainment goods further shows that such comprehensive coverage is not necessary for commercial viability. Video streaming services, such as Netflix, Amazon, or Disney provide distinct content, not all possible content. Broadcast radio stations provide distinct content, not all possible content. Cable television networks provide distinct content, not all possible content. Publishers in print and online digital publishers provide distinct content, not all possible content. Chains of movie theaters do not need all possible content from all major movie studios.

26. A more general product definition would be helpful in designing reasonable royalty rates and terms. It appears more accurate to consider the "must-have" status of the repertoires of the major record labels to mean "highly desirable" rather than a commercial necessity. The licenses for the repertoires of major record labels contribute substantially to the profitability of the leading streaming services without requiring that each repertoire is necessary to stay in business. In practice, licenses for the repertoires of the major labels might be viewed as imperfect complements or even imperfect substitutes.[28]

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[27] Dr. Eisenach provides an overview of streaming services in the marketplace in his Written Direct Testimony. (Eisenach WDT at ¶¶ 48-53).

[28] When products are imperfect complements, using more of one product increases the marginal benefit from using the other products. (Seidman, id) With imperfect complements, a buyer need not purchase all of the products to obtain benefits. (Seidman, id) For example, a consumer may obtain benefits from consuming complementary goods peanut butter and jelly, but the consumer can purchase one or the other product and can vary the relative amounts.

27. As the Judges noted, perfect complementarity is an assumption of the Cournot model, and further indicates that this extreme model does not apply to the upstream market for sound recording licenses for interactive streaming. Sound recording licenses may be "must haves" in the sense of being "highly desirable" but are not perfect complements.

2. Markets Routinely Address Complementary Products

28. The previous section established that perfect complementarity is an extreme assumption that does not correspond to the market for sound recording licenses for interactive streaming. Sound recording licenses may be imperfect complements or imperfect substitutes. Professor Farrell does not provide evidence that complementary products pose an insurmountable economic problem. Contrary to the dire predictions of Professor Farrell, competitive markets routinely address complementary products, even those that are "highly desirable". In practice, complementary products are common in practically every market.[29] Every day, buyers and sellers exchange complementary products without serious consequences.

29. Market institutions exist that efficiently handle complementary products. For example, complementary inputs are combined to produce mobile phones, computers, automobiles, and household appliances. Apple deals with over 200 suppliers to provide

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When products are imperfect substitutes, using more of one product decreases the incremental benefit to buyers from using more of another product. (Eaton, B. Curtis, and Richard G. Lipsey. Product differentiation. Handbook of industrial organization 1 (1989): 723-768. ("The consumers' goods produced by different firms in the same industry are differentiated from each other so that two products produced by two different firms are rarely, if ever, identical.")) Firms tend to offer products that are imperfect substitutes for the products of other firms, that is, their products generally are differentiated rather than identical. (Singh and Vives, id.) For example, a car sold by General Motors is an imperfect substitute for a car sold by Ford Motor Company.

[29] Negotiation with complementary products has been addressed in the economics literature. *See* Daniel F. Spulber, Complementary Monopolies and Bargaining, 2017, Journal of Law & Economics, 60 (1), February, pp. 29-74. Daniel F. Spulber, Antitrust Policy toward Patent Licensing: Why Negotiation Matters, 2021, Minnesota Journal of Law, Science and Technology, Vol. 22, No. 1, pp. 83-161.

smartphones, tablets, and other consumer devices.[30] Automobiles contain over 30,000 parts on average.[31] Automobile companies routinely purchase these parts from many suppliers, assemble vehicles, and compete for customers. Commercial aircraft contain even more complementary parts than automobiles or mobile phones. According to Boeing, there are around 6 million parts in a 747-8 aircraft.[32] The parts for the 747-8 aircraft are "manufactured by more than 550 suppliers in almost 30 countries, including the United States, China, Germany, Japan, South Korea and the United Kingdom. In the U.S., more than 450 suppliers across almost 40 states contribute to the 747-8 program."[33]

30. Innovative companies routinely obtain licenses for multiple patents that are complementary. Patents are unique because they involve novel and distinct technologies. When patent holders have "standard essential patents" (SEPs), that is, patents that read on a standard, patent licenses may be "must haves" that are highly desirable or even necessary. Empirical analysis of the world wireless industry demonstrates that even though the number of SEP holders grew steadily over a period of years, worldwide sales of devices that included those patented

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[30] 9 Major Companies Tied to the Apple Supply Chain (Mar. 22, 2022), https://www.investopedia.com/articles/investing/090315/10-major-companies-tied-apple-supply-chain.asp. For a list of Apple suppliers, see https://www.apple.com/supplier-responsibility/pdf/Apple-Supplier-List.pdf

[31] How Small Parts Play A Big Role In Keeping Your Car Moving, https://www.essentracomponents.com/en-us/news/product-resources/how-small-parts-play-a-big-role-in-keeping-your-car-moving ("Industry estimates suggest that it takes about 30,000 individual parts to make a modern car, with each tiny component vital to the final build. Some of these parts are made at the **Original Equipment Manufacturer** (OEM), but suppliers play a critical role in providing many of the items that go into making a car – and keeping it on the move.")

[32] Boeing, Boeing Celebrates Delivery of 50th 747-8, June 6, 2013, https://boeing.mediaroom.com/2013-05-29-Boeing-Celebrates-Delivery-of-50th-747-8#assets_20295_128690-117

[33] Boeing, id.

technologies grew many times over, prices of those devices decreased, and cumulative royalties were low.[34]

3. Markets Routinely Address Highly Desirable "Must Have" Products

31. Effective competition routinely addresses "must have" inputs that are highly desirable. Professor Farrell makes the ungrounded claim that effective competition depends on having "no must-have suppliers," and that "[e]ffective competition further requires adequate substitutability among goods in the market. In particular, it requires that substitution effects should ensure no must-have suppliers and should dominate or render harmless any complementarity that would otherwise create Cournot problems."

32. Competitive markets *effectively and routinely* address highly-desirable or "must-have" inputs. "Highly desirable" inputs are fully consistent with competition, consumer choice, and efficient market outcomes. Competitive markets normally involve companies that offer collections of "must-have" brands. These collections of brands do not interfere with effective and routine operation of competitive markets. For example, companies such as Procter & Gamble (P&G), Unilever, and Nestlé provide supermarkets with collections of "must-have" branded products to supermarkets. In particular, P&G offers 65 brands organized in 10 product categories, including Tide, Bounty, Gillette, Braun, and Crest.[35] Although supermarkets need to obtain these highly desirable or "must-have" brands and provide them to customers, supermarkets continue to function effectively year after year.

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[34] Galetovic, Alexander and Kirti Gupta. 2020, The case of the missing royalty stacking in the world mobile wireless industry. Industrial and Corporate Change, 29, no. 3: 827-853; See also Galetovic, Alexander, Stephen Haber, and Lew Zaretzki. 2018, An estimate of the average cumulative royalty yield in the world mobile phone industry: Theory, measurement and results. Telecommunications Policy, 42, no. 3: 263-276

[35] PG, About Us, https://www.pgcareers.com/about-us

33. Competitive markets effectively handle "must-have" products and collections of "must-have" products. This is not limited to supermarkets. Competitive markets effectively handle the distribution and sale of "must-haves" that arise in retail segments such as clothing, furniture, hardware, appliances, automobile parts, and consumer electronics.

4. A Finding that the Services Have No Market Power Would be Unreasonable

34. Beyond the incorrect assumptions concerning perfect complements and essential inputs, the Cournot complements model referenced by Professor Farrell also requires that the demand side of the market for music rights is composed of passive price-taking buyers without market power: "Consumer demand is represented by a linear, downward sloping demand curve."[36]

35. The Copyright Royalty Judges in Web V correctly recognize that the streaming services have market power that balances that of record companies.[37] The streaming services exercise their market power through negotiation of royalties with record companies.[38]

36. There is no evidence that the streaming services are passive price takers. Rather, we see that streaming services and record companies engage in bilateral negotiations to establish music license agreements. The demand-side market power of the streaming services interacts with the supply-side market power of the record companies.

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[36] Farrell Statement ¶ 205.

[37] In re Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (Web V), Docket No. 19-CRB-0005-WR (2021-2025), United States Copyright Royalty Judges, The Library of Congress.

[38] Galbraith, John Kenneth, 1954. Countervailing power. The American Economic Review, 44(2), pp.1-6. ("the neutralization of one position of power by another"); See also John Kenneth Galbraith, 1952, American Capitalism: The Concept of Countervailing Power.

37. Economists refer to multiple firms with demand-side market power as an *oligopsony*, and their market power as *oligopsony power*. Competition among firms with demand-side market power is referred to as *monopsonistic competition*.[39] The streaming services are an oligopsony because they have market power on the buying side of the market. Together, Amazon, Google/YouTube, Apple, and Spotify engage in monopsonistic competition for content.

38. There is considerable evidence that Amazon, Google, and Apple have substantial market power as sellers.[40] According to a report by the House of Representatives on Competition in Digital Markets (hereafter House Report), Amazon, Google, Apple and other companies have dominant market positions.[41] Antitrust authorities in many countries have

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[39] Bhaskar, Venkataraman, Alan Manning, and Ted To. 2002. Oligopsony and monopsonistic competition in labor markets. Journal of Economic Perspectives 16, no. 2: 155-174; Rogers, Richard T., and Richard J. Sexton. 1994. Assessing the importance of oligopsony power in agricultural markets. American Journal of Agricultural Economics 76, no. 5: 1143-1150; Just, Richard E., and Wen S. Chern. 1980, Tomatoes, technology, and oligopsony. The Bell Journal of Economics: 584-602; Mei, Bin, and Changyou Sun. 2008. Assessing time-varying oligopoly and oligopsony power in the US paper industry. Journal of Agricultural and Applied Economics 40, no. 3: 927-939.

[40] Luigi Zingales and Filippo Maria Lancieri, 2019, Stigler Committee on Digital Platforms: Policy Brief, in Stigler Committee on Digital Platforms, Final Report (hereafter "Stigler Report"), Stigler Center for the Study of the Economy and the State, Booth School of Business, University of Chicago, September, "Google, Facebook, Amazon, Apple, and Microsoft raise different concerns regarding how their 'bottleneck power' impacts the markets in which they operate.") https://www.chicagobooth.edu/-/media/research/stigler/pdfs/digital-platforms---committee-report---stigler-center.pdf

[41] House of Representatives, Subcommittee on Antitrust, Commercial, and Administrative Law of the Committee on the Judiciary, Majority Staff Report and Recommendations, Investigation of Competition in Digital Markets, 2020, https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf The dominance of these platforms "has diminished consumer choice, eroded innovation and entrepreneurship in the U.S. economy, weakened the vibrancy of the free and diverse press, and undermined Americans' privacy." Stigler report at 78. ("the evidence thus far does suggest that current digital platforms face very little threat of entry and are negatively impacting investment in key digital areas. This is reinforced by the fact that the key players in this industry remained the same over the last two technology waves, staying dominant through the shift to mobile and the rise of AI.")

identified the problem of market tipping resulting in the market dominance of these companies.[42] The Judges even noted streaming service market power in Web V.[43]

E. "Fractionalization of Rights" Is a Concept That Does Not Meaningfully Inform the Question of Effective Competition

39. At one point in his report, Professor Farrell claims that the "'Cournot complements problem' prevalent in the music publishing industry [is] due to the fractionalization of rights."[44] He does not explain the basis for this opinion, which again is offered without any evidence that the model is applicable or that its predictions are sound. Fractional ownership simply means that there can be multiple owners of a single work, and licenses are needed from all of the owners.

40. It should be emphasized that companies making payments to multiple input providers for a single product is a standard situation in every competitive market. It is difficult to think of a firm in a competitive market that does *not* make multiple payments. A sandwich shop makes separate payments for bread, cheese, lettuce, tomatoes, and condiments, not to mention rent, electricity, labor, and equipment. The economic purpose of the sandwich shop is to assemble inputs to create a sandwich, including making payments to the input providers. An

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[42] See a survey of reports from eighteen antitrust authorities: Maria Lancieri, Filippo and Sakowski, Patricia, Lancieri, F. and Sakowski, P.M., 2021, Competition in Digital Markets: A Review of Expert Reports, Stanford Journal of Law, Business, and Finance, 26, 65. See also Stigler Report at 35. ("When markets are prone to tipping, the competitive process shifts from competition in the market to competition for the market.")

[43] "In this regard the Services describe these negotiations as follows: [W]hat is apparent from the evidentiary record is only that, predictably and in keeping with the course and tenor of any negotiation, [Universal] did not make a clean sweep of all the many ambitious deal terms it sought. And [Universal] received significant and noteworthy concessions in return …. [Universal] and Spotify reached an agreement that did not incorporate all of [Universal's] favored terms … par for the course in a deal negotiation … Services RPFFCL ¶¶ 426-427 (and record citations therein)." Web V, at 64; Id. at 72 ("the Judges find that Spotify, through its success as a market leader among interactive services and as the dominant independent pureplay interactive service, has acquired a significant measure of bargaining power in its licensing negotiations with the Majors").

[44] Farrell Statement ¶ 168.

original equipment manufacturer (OEM) making smartphones or automobiles pays for all the parts and components, including any IP used in the product. The economic purpose of the OEM is again to assemble the inputs to make smartphones or automobiles, again including making payments to input providers.

41. This is not a trivial point. "Fragmentary property rights" does not describe a real competition problem. Indeed, Professor Farrell does not even claim that this situation results in the streaming services having to pay any additional rightsholders, acquire any additional licenses or incur any additional costs. Streaming service licenses are typically at a *catalog* level. If a streaming service fails to reach an agreement with a rightsholder it will lose access to that catalog. Fractional licensing simply means that in such a situation, the lost catalog may include works beyond just those works in which the licensors owns a 100% interest. However, there is nothing inherently wrong with this, or inherently right with the idea that a streaming service should only require the approval of a single co-owner in order to exploit a work.[45] These are just details of licensing. In either event, the streaming service pursues a catalog license, and if it fails to obtain that license, there is a catalog of works that the streaming service cannot legally use. The size of that catalog will be different in each case anyway, so the fact that a particular rightsholder's catalog of fractional-owned works may be of a different size than its catalog of fully-owned works does not add any licensing dynamic that does not already exist in the marketplace, and does not support any conclusions about competition in the market.

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[45] Of course, a license is needed from the sound recording copyright owner as well. Clearance of numerous different intellectual property rights can also be required in connection with a single audiovisual work. But sound recordings do not present fractional licensing issues as sound recordings are typically owned solely by one or another record company. And with the blanket licenses now available from the MLC, the supposed problems presented by fractional licensing do not exist.

III. PROFESSOR FARRELL'S AMENDED TESTIMONY REVEALS HIS COURNOT COMPLEMENTS THEORY TO BE UNCONNECTED TO THE QUESTION OF EFFECTIVE COMPETITION, AND IS THEREFORE IRRELEVANT TO THIS RATE-SETTING PROCEEDING

42. In this section, I respond to an additional section in Professor Farrell's Amended Corrected Written Direct testimony.[46] The section is titled "**VI.B.1. Cournot Complements**." In this section, Professor Farrell seeks to back away from his earlier testimony, which I discuss above, and redefine a new Cournot Complements "problem." This additional section is described as a response to my report (as well as those of Professor Watt and Dr. Eisenach) in the Phonorecords III Remand. The additional material appears motivated by Professor Farrell's realization that our analyses correctly explain how the actual Cournot complements model cannot be applied to this market. Thus, Professor Farrell sets out to redefine the Cournot complements model, and to make his competition assertions appear much broader and milder in application.

A. Professor Farrell's Discussion of Vertical Externality Bears No Relevance to this Proceeding

43. In taking his discussion of competition away from the narrow and severe restrictions of the Cournot model, Professor Farrell makes the discussion *irrelevant* to this proceeding. His revised analysis makes only uninteresting points about efficiency and mergers and does not support any conclusions about effective competition. Even further, Professor Farrell reveals that his assertions about a lack of effective competition *do not arise* from an alleged Cournot complementary oligopoly. Yet, Professor Farrell appears to have forgotten that neither he nor any Service expert has done any *empirical* analysis on upstream competitive pricing, and none of them advance any other theory to indicate a lack of effective competition.

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[46] Farrell Statement, VI.B.1. Cournot Complements.

Thus, we are left with a new and uninteresting discussion of "vertical externality", and no empirical or theoretical basis to conclude that the upstream sound recording licensing marketplace lacks effective competition. Effective competition would be the question of relevance to these proceedings, which are to set royalty rates, not to approve a merger.

44. Professor Farrell begins his "walking back" of his Cournot complements assertions by stating that my discussion of Augustin Antoine Cournot's actual economic model is instead "a special version of the Cournot complements problem that does not fit the facts here," and writing that, "I do not view the Cournot complements problem, and nor do I think the CRJs view it, as narrowly as those witnesses do."[47] Remarkably, Professor Farrell claims that the actual Cournot model that the Judges cited and relied upon at the urging of the Services is instead a "straw man."[48]

45. Professor Farrell then goes on explain that the "Cournot complements" problem that the Services invoke – which is not the actual Cournot model – is really a "vertical externality" that "is intuitive and robust":

> It applies not only to "posted" pricing, but also to a distributor (in a value chain consisting of a manufacturer and a distributor) choosing a level of service, or a manufacturer choosing how much to invest in innovation. It is not necessary that either or both seller [sic] be a pure monopolist. It is not necessary that they dictate prices: the effect can apply to the choice of a negotiation strategy (such as whether to push hard for maximum reward at the risk of failing to reach agreement). In other words, the Cournot complements problem is much broader than the Copyright Owners' experts suggest.[49]

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[47] Farrell Statement ¶ 205. As shown below, the Judges' past writings on Cournot complements indicate that the Judges did understand the constraints of the model, and did not consider it so broadly as Professor Farrell now does.

[48] Id. at ¶ 207.

[49] Id. at ¶ 208.

46. To begin with, these new, "broader" scenarios substantially depart from the Cournot model. Professor Farrell's only citation for them is to a section in the economist Jean Tirole's text entitled "The Basic Vertical Externality," within the subchapter "Externalities and Vertical Control," in the chapter "Vertical Control."[50] The "vertical externality" discussion does not offer any more insights than does the Cournot model. In the cited passage, Professor Tirole illustrates the "vertical externality" concept using the economist Joseph Spengler's successive monopolies model that is similar to the Cournot model.[51] Again, neither the assumptions of the "vertical externality" model nor the predictions of that model apply to the market for music licensing. Professor Farrell presents no evidence for the alleged presence of "double marginalization". Professor Farrell presents no empirical justifications for either the assumptions or predictions of the "vertical externality" model.

47. Professor Farrell's forced exercise raises the question of why he is going to such great lengths to rebrand "Cournot complements" as a "vertical externality". Why does not Professor Farrell just stick with the Cournot complements story? I think the answer is that the Services' experts are trying to leverage a prior finding by the Judges that royalty rates might be artificially lowered based upon "Cournot complements." As we can see in their testimony, none of the Services' experts have provided any empirical analysis or economic theory that justifies an artificial lowering of royalty rates on an argument that Amazon, Apple and Google are victims of

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[50] Jean Tirole, The Theory of Industrial Organization (Cambridge: The MIT Press, 1988), sec. 4.2.2, at 174.

[51] Spengler, Joseph J., 1950. Vertical Integration and Antitrust Policy. Journal of Political Economy, 58:347–52. See Tirole id. at 174. In this extreme model, a monopoly manufacturer sells a product to a monopoly retailer. Retail customers are passive price takers. Both the manufacturer and the retailer choose constant linear prices per unit of output. The manufacturer chooses a take-it-or-leave-it wholesale price and the retailer then chooses a take-it-or-leave-it retail price. The manufacturer's output and the retailer's output are in a fixed-proportions relationship. The result is "double marginalization", that is, a mark-up at both the wholesale level and the retail level.

market power. Hence, the Services' experts are left to cite the Judges back to their own previous "Cournot complements" holdings.

48. Professor Farrell's attempts to explain away why he was referencing the Cournot model *when nothing about the market for music licensing fits the Cournot model* has led him to an even more consequential admission: that is, nothing about his discussion of complementary goods *has to do with effective competition*.

B. Professor Farrell's "Vertical Externality" Theory Does Not Apply to the Market for Music Licensing

49. Professor Farrell makes the following incorrect assertion:

> Those Copyright Owner witnesses fail to grapple with the fundamental "vertical externality," which rather generally arises when complements are supplied by separate sellers each with some degree of market power. Unless a contract or another institution changes the incentives ("internalizes the externality"), each complementer will tend to choose actions or strategies, such as pricing, in a way that gives less weight to the effect on the other sellers of these complements than would be mutually preferred or would be expected if the separate sellers of complements were (vertically) integrated.[52]

Professor Farrell attributes the "vertical externality" to upstream sellers providing complements.

50. Professor Farrell's claim that the streaming services suffer from a negative "vertical externality" produced by record companies is unsound as an economic conclusion.[53] It is undisputed that streaming services and record companies *negotiate and enter into contracts*.

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[52] Professor Farrell id. at ¶ 206.

[53] Economists refer to an "externality" or "external economy" as something outside the market, that is, a benefit or cost that is not addressed through transactions or contracts. An "externality" occurs when one of the parties creates a benefit or cost that is received by other parties but there is no transaction or agreement between the creators and receivers of that benefit or harm. For example, an externality occurs if one party creates pollution that imposes harm or cost on another party that is not reflected in an economic transaction between the two parties. Pollution is said to be a "negative externality" if there is no contractual relationship between the polluter and the receiver that addresses the harm.

In fact, in the cited passage, Professor Farrell even identifies "a contract" as something that prevents the situation from arising. That alone removes any externality effect. As the Nobel Prize winning economist Ronald Coase emphasized, negotiation between a party creating a harm and the party suffering the harm "internalizes" that harm.[54] Negative externalities do not exist because negotiation and contracting account for the effects of the transaction on the parties. In other words, the harm no longer is outside the market but instead is inside the market because it is reflected in the terms of the transaction or contract between the buyer and the seller. Through negotiation, the terms of the deal mitigate potential harm and specify payments that provide compensation for the harm or compensation for reduction of the harm.

51. Professor Farrell states that this supposed "vertical externality" exists whenever there are sellers of complementary goods that have "some degree of market power." To be clear, in the real world, *virtually everyone has "some degree of market power."* A complete lack of market power is an aspect of perfectly competitive markets, which are theoretical constructs, not real-world markets. The presence of market power is consistent with effective competition and is indeed a feature of effective competition. As already seen, Professor Farrell persists in defining effective competition by focusing solely on seller-side competition. So, Professor Farrell is just talking about standard economic interactions in competitive markets, and the fact that such interactions exist would not support any other conclusion about competition.

52. Professor Farrell's discussion of "vertical externality" speaks to the idea that a merged entity can be more efficient, because it will have more information and control and

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[54] Coase, Ronald, 1960. "The Problem of Social Cost." The Journal of Law and Economics, 3, 1-44, also Vol. 56, No. 4 (November 2013), 837-877.

therefore would be able to increase the total profit of the two entities. It is important to note that this entire area of economic discussion is more or less irrelevant to this rate-setting proceeding. This economic concept generally applies in the context of antitrust policy toward mergers because regulators historically accept efficiency defenses for mergers.[55] Thus, merging parties may use economic theory to argue that their merger will create efficiency benefits that outweigh any anti-competitive concerns. But the existence of "vertical externalities" does not indicate that a market is not effectively competitive, and so the question of whether they exist and why is not relevant to this rate-setting inquiry.

53. Professor Farrell does not explain what he means by "some degree of market power," beyond a tangential citation to a pure theory textbook. Professor Farrell is downgrading his description of the market situation to interactions between almost any two companies, each with some minimal level of market power. The phrase "some degree of market power" is imprecise and consistent with a minimal level of market power. Professor Farrell makes no effort to define the relevant market, examine market shares, describe competitive conditions in the market, or estimate empirically levels of market power. Without such analysis, the notion that music labels have "some degree of market power" is meaningless. Because most firms have "some degree of market power" and the market still can reflect effective competition, his assertion cannot be used to make any inferences or predictions about effective competition, or adjustments to benchmarks of theoretical models.

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[55] Professors Farrell and Marx cite to Vertical Merger Guidelines to exemplify the concept, and neither provides examples of this dynamic occurring in a real-world market that resembles the music licensing market. See Vertical Merger Guidelines, U.S. Department of Justice and Federal Trade Commission, Washington, D.C., June 30, 2020, https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical_merger_guidelines_6-30-20.pdf.

54. Economists have considered measurement of a firm's market power as the effect of changes in the firm's price on the amount of demand for the firm's product. This is a difficult problem that, as a first step, requires characterizing the products offered by the firm, the prices offered by the firm, and the characteristics of demand by customers of the firm.[56] It is also necessary to determine the effects of substitutes and complements on the customer demand for the firm's products. Also, it is necessary to account for the supply responses of competing firms. For example, one approach might be to estimate the firm's residual demand function, that is, the relationship between the price and quantity demanded of the firm's products taking into account the supply responses of competing firms.[57] These elements are missing from Professor Farrell's discussion.

55. However, we can also say conclusively that a "vertical externality" *does not exist here*, because, as discussed above, the parties are negotiating and entering into contracts, which internalize any such effects between them.[58] As Professor Farrell notes, *both parties* want to get

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[56] It is well known that it is difficult to measure market power in a market with differentiated products. Baker, Jonathan B., and Timothy F. Bresnahan. Estimating the residual demand curve facing a single firm. International Journal of Industrial Organization 6, no. 3 (1988): 283-300 at 283 ("In industries with differentiated products, the extent of market power is hard to measure quantitatively.") Music recordings are certainly differentiated products. These recordings involve different performing artists, different musical compositions, and different musical genres. Products that are complements or imperfect substitutes are differentiated products. Because of the difficulties in measuring market power with differentiated products, Professor Farrell's unfounded assertion that music labels have "some degree of market power" is particularly egregious.

[57] Baker and Bresnahan, id. at 284. ("By residual demand function we mean the relationship between one firm's price and quantity, taking into account the supply response of all other firms.")

[58] Just as there are no externalities between record labels and streaming services, there also are no "externalities" among the record labels. **Negotiation** and **contracts** between record labels and streaming services **internalize** the benefits of recordings licensed by the record labels to the streaming services. Put simply, a firm increasing or decreasing its price cannot be characterized as a nuisance or negative external effect for other firms. Prices are by their very nature inside market transactions. Of course, in any market, the price charged by a firm can affect the demand for the products provided by a competitor. For example, if a firm decreases its price, the demand for a competitor's product may also decrease if some customers shift their purchases to the lower priced good. Also, if a firm decreases its price, the demand for a complementary product may increase if customers buy more of the primary product and more of the complementary products. This is the opposite of an "externality" because it reflects

rid of any negative externality, because otherwise the result is worse "than would be mutually preferred." Indeed, Professor Farrell's statement that this externality problem "generally arises" is inaccurate to an extreme. This scenario is far closer to a theoretical than to the actual market situation, and Professor Farrell does not point to real-world applications of this alleged problem, let alone empirical evidence that it generally occurs.

56. The Appendix presents an economic model of bargaining. The analysis shows that negotiation between Streaming Services and Record Companies gives royalties that are **strictly less** than the monopoly level. Because of negotiation and contracts, there is no need for record labels and streaming services to merge vertically, or for record labels to merge horizontally due to the complementary nature of their goods, to avoid negative externalities. Rather, negotiation and contracts provide sufficient incentives and institutions to address these potential problems.

C. Even Double Marginalization Requires a Showing of Empirical Evidence

57. While I show above that the shift to "double marginalization" and "vertical externalities" reveals a discussion that is no longer relevant to the effective competition question, I also want to show that double marginalization is itself problematic as well. It is my hope in discussing these layers of problems that the Judges appreciate how conclusions about a lack of effective competition cannot be justified based on the abstract appeal to these types of concepts.

58. Professor Farrell states that, "[t]he antitrust economics of vertical integration and 'double marginalization,' which is essentially the same phenomenon as Cournot complements, asks whether the problem could or would be addressed through contract or some other method

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the standard effects of prices on transactions in a market. This cannot be compared with pollution or some other nuisance that takes place outside of market transactions.

short of vertical integration."[59] Double marginalization, along with "elimination of double marginalization" ("EDM"), has been a theory asserted by merging companies as an efficiency defense to the anti-competitive effects of a merger. However, the government has raised serious doubts about it in theory and in practice.

59. While Assistant Attorney General of the Antitrust Division at the Department of Justice, Makan Delrahim explained that EDM only applies in some situations, and places the burden of proof on the parties to a vertical merger to provide evidence for EDM as a defense:

> First, we require evidence that the characteristics of the relevant markets caused both parties to mark up price pre-merger.
>
> Second, the parties should show they were unable to reach the joint profit-maximizing arrangement through contract and, therefore, would be unlikely to do so in the future absent a merger.
>
> Third, we need evidence of how much the elimination of double marginalization is likely to effect the downstream price to the consumer—that is, the profit-maximizing reduction in price given the shape of the downstream demand curve."[60]

Here, there has been no evidence presented that record labels and streaming services cannot reach agreements through contract negotiation.

60. In 2021, the Federal Trade Commission (FTC) withdrew from the 2020 Vertical Merger Guidelines (VMGs). The FTC highlighted the "VMGs' flawed discussion of the purported procompetitive benefits (i.e., efficiencies) of vertical mergers, especially its treatment

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[59] Farrell Statement ¶ 209, n.269.

[60] Makan Delrahim, Assistant Attorney General, Antitrust Division, U.S. Department of Justice "Harder Better Faster Stronger": Evaluating EDM as a Defense in Vertical Mergers, Remarks as Prepared for Delivery at George Mason Law Review 22nd Annual Antitrust Symposium, Arlington, VA (February 15, 2019), https://www.justice.gov/opa/speech/file/1132831/download

of the elimination of double marginalization ('EDM'), could become difficult to correct if relied on by courts."[61] According to the FTC,

> The VMGs' reliance on EDM is theoretically and factually misplaced. It is theoretically flawed because the economic model predicting EDM is limited to very specific factual scenarios: mergers that involve one single-product monopoly buying another single-product monopoly in the same supply chain, where both charge monopoly prices pre-merger and the product from one firm is used as an input by the other in a fixed-proportion production process. Yet outside this limited context, economic theory does not predict that EDM will create downward pricing pressure. [62]

61. The economist Steven Salop observes that "[t]he limitations of EDM are beginning to carry more force. Both the Federal Communications Commission (FCC) and the DOJ were skeptical of the EDM claims in the Comcast-NBCU merger. The DOJ concluded that 'much, if not all, of any potential double marginalization is reduced, if not completely eliminated, through the course of contract negotiations.' The FCC also noted the opportunity cost concern and concluded that the EDM claims were both overstated and not merger specific."[63] Professor Salop points out that "claims that EDM must lead to lower downstream prices are overstated for several reasons," including the following: "double marginalization may have been totally or partially eliminated in the premerger market by contracts with quantity forcing or

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[61] Statement of Chair Lina M. Khan, Commissioner Rohit Chopra, and Commissioner Rebecca Kelly Slaughter on the Withdrawal of the Vertical Merger Guidelines, Commission File No. P810034, United States Federal Trade Commission, Washington, D.C (September 15, 2021), https://www.ftc.gov/system/files/documents/public_statements/1596396/statement_of_chair_lina_m_khan_commissioner_rohit_chopra_and_commissioner_rebecca_kelly_slaughter_on.pdf; See also Statement of FTC Chair Lina Khan and Antitrust Division Acting Assistant Attorney General Richard A. Powers on Competition Executive Order's Call to Consider Revisions to Merger Guidelines (July 9, 2021), https://www.ftc.gov/news-events/press-releases/2021/07/statement-ftc-chair-lina-khan-antitrust-division-acting-assistant.

[62] Khan et al. Statement, September 2021, id. at 4.

[63] Salop, Steven C., 2018, "Invigorating Vertical Merger Enforcement." The Yale Law Journal, 1962-1994, at 1971.

'nonlinear' pricing," and "EDM would not be merger-specific if it can be achieved as a practical matter absent the merger."[64]

62. Empirical evidence shows that markets and contract negotiation address issues related to complementarities between inputs or complementarities in vertical relationships. For example, an empirical economics study of pricing by railroads shows that there is little if any difference between pricing of railroad transport segments by separate firms versus pricing by a firm that bundles or vertically integrates similar segments.[65]

63. Because streaming services and record labels engage in contract negotiation, the "vertical externality" concept provides no support for the argument that the Judges should artificially reduce reasonable royalty rates as determined through benchmarks or game-theoretic modelling. Justifications for vertical mergers do not support decreasing reasonable royalty rates. As John Stewart et al. point out, there is a "staggering variety of merger motives that have been proposed in the finance and industrial organization literatures. These hypothesized motives include mergers to readjust financial characteristics (e.g., liquidity, debt capacity), mergers for the purpose of diversification, mergers for scale economies, mergers for market power and other

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[64] Salop, id. at 1971.

[65] Alexandrov, Alexei and Russell Pittman, and Olga Ukhaneva, 2018, Double Marginalization in the Pricing of Complements: The Case of U.S. Freight Railroads, https://wwws.law.northwestern.edu/research-faculty/clbe/events/innovation/documents/alexandrov_pittman_ukhaneva_royalty_stacking.pdf ("[w]e found that, in the U.S. freight rail, prices for shipping coal are not consistent with a Cournot-like complementary monopoly outcome. Instead, we find evidence consistent with an equilibrium, where complementary monopolists on routes AB and BC do not charge more than a single monopolist would charge if she were to own the whole route AC." The railroads coordinate pricing through contracts and negotiation. Id. ("How are the railroad companies able to accomplish this? In discussions with industry experts, we have learned that coal shipment contracts that involve two interconnecting railroads often include discussions and negotiations between the railroads concerning both the joint rate and the divisions of the rate, and that these discussions may be motivated/incentivized by coal customers, such as power plants soliciting joint rate bids for coal supplies. In such circumstances it seems not at all surprising that the two railroads seeking to win a joint bid can avoid the double marginalization characteristic of independent price setting of complements.")

reasons too numerous to mention. Unfortunately, empirical verification or rejection of hypothesized merger motivation has lagged substantially behind theorizing."[66]

[66] Stewart, John F., Robert S. Harris, and Willard T. Carleton. 1984. The role of market structure in merger behavior. The Journal of Industrial Economics: 293-312.

I, Daniel F. Spulber, declare under penalty of perjury that the statements contained herein are true and correct to the best of my knowledge, information and belief.

Executed on April 22, 2022 in Wilmette, Illinois.

Daniel F. Spulber

Daniel F. Spulber

APPENDIX A

64. This appendix presents a Nash Bargaining Model showing that royalties that are strictly less than the monopoly level. Consider the bargaining problem with a set of agreements in which every streaming service obtains a music license from every record company. Index streaming services by i = 1, …, I, where I is the total number of streaming services. Index record companies by j = 1, … , J where J is the number of record companies. The payments from streaming service i to record company j will reflect the underlying revenues, non-content costs, and content costs. Let M_{ij} denote the market payment from streaming service i to record company j. Let R_i denote the revenue and let C_i denote the non-content costs of streaming service i. Let K_j denote all of the costs of record company j. Let S_{ij} indicate the compulsory content costs that streaming service i incurs that are related to a compulsory license associated with music obtained from record company j. Let μ be the bargaining power of a record company and 1 – μ the bargaining power of a streaming service. The bargaining power parameter μ is strictly greater than zero and strictly less than one.

65. The payoff for a streaming service i is as follows,

$$P_i = R_i - C_i - \sum_{j=1}^{J} S_{ij} - \sum_{j=1}^{J} M_{ij}.$$

The payoff for a record company j is total royalties received net of costs,

$$W_j = \sum_{i=1}^{I} M_{ij} - K_j.$$

66. To address the concerns of the streaming services, consider the extreme case in which the music licenses are perfect complements. This means that a streaming service cannot operate unless it has all of the music licenses. It is reasonable to suppose that the disagreement

payoff is zero for the streaming service because it cannot operate the shared enterprise without a license. The record company's disagreement payoff is zero because we net out the return from reaching an agreement with all other streaming services. So, record company j's net benefit from reaching an agreement with a streaming service i equals the royalty M_{ij} because the record company can offer content to other streaming services.

67. The Nash bargaining solution the consists of royalty payments M_{ij}, i = 1, …, I and j = 1, …, J, that maximize the product of players' net benefits,

$$N = (P_i)^{1-\mu}(M_{ij})^{\mu}.$$

Each bargaining pair consisting of a streaming service i and a record company j takes as given the equilibrium royalties chosen by all other bargaining pairs. Maximization generates I·J equations that determine the values of the I·J royalties.

68. The Nash bargaining solution solves the following conditions,

$$\mu P_i = (1-\mu)M_{ij}.$$

The royalties will depend on the number of streaming services and record companies, the bargaining power parameter, streaming services' revenues and costs, and record companies' costs.

$$\mu[R_i - C_i - \sum_{j=1}^{J} S_{ij} - \sum_{j=1}^{J} M_{ij}] = (1-\mu)M_{ij}.$$

69. The conditions can be solved for the royalties. It follows from these conditions that a streaming service i will pay the same royalties M_i to each record label, so this condition can be written as

$$\mu\left[R_i - C_i - \sum_{j=1}^{J} S_{ij} - JM_i\right] = (1-\mu)M_i.$$

Solving for the royalties paid by streaming service i gives

$$M_i = \frac{\mu}{(1-\mu)+\mu J}\left[R_i - C_i - \sum_{j=1}^{J} S_{ij}\right].$$

The total of the royalties paid by streaming service i equals JM_i

$$JM_i = \frac{\mu J}{(1-\mu)+\mu J}\left[R_i - C_i - \sum_{j=1}^{J} S_{ij}\right].$$

70. The analysis of the Nash bargaining problem has the following important implication. The total royalties paid by each streaming service i is strictly less than their net benefits.

$$JM_i < \left[R_i - C_i - \sum_{j=1}^{J} S_{ij}\right].$$

If a bundling monopolist chose the total royalties paid by streaming service, the streaming service would pay royalties **equal** to their revenues net of costs, so that each streaming service would have a payoff P_i equal to zero. This is clearly not the case as indicated by the solution to the bargaining problem. **Total royalty payments with negotiation are strictly less than the monopoly level.**

PUBLIC VERSION

Before the
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Washington, D.C.

In the matter of DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords IV)	Docket No. 21-CRB-0001-PR (2023-2027)

WRITTEN REBUTTAL TESTIMONY OF RICHARD WATT (PHD)

(On behalf of Copyright Owners)

APRIL 22, 2022

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I. Scope of assignment and qualifications

(1) At the request of the Copyright Owners in this proceeding, the National Music Publishers' Association and the Nashville Songwriters Association International, I was asked to analyse and respond to opinions offered by Service expert witnesses in Written Direct Testimony in this proceeding. I do not attempt to address every such argument, but here address select opinions.

(2) My qualifications and curriculum vitae are set forth in my Written Direct Testimony. In forming my opinions, I have relied upon materials as set forth in Appendix C.

II. Summary of opinions

(3) An overview of some of my primary opinions is as follows:

a. The Services collectively offer one game theoretic model to inform this rate proceeding, a Nash-in-Nash bargaining model offered by Prof. Farrell. The model is riddled with inappropriate and at times mystifying modelling choices that bias the results. However, it is straightforward to unravel the main problems, which reveal that the model predicts a royalty rate of at least 22.3% of revenues, even while maintaining much of its bias in favour of the Services.

b. The discussions of the Services' experts in regard to effective competition and market power have become untethered to both economics and the evidence in the proceeding. The Services' experts' speculations concerning supra-competitive royalty rates are inconsistent with economic theory and not reflected in observable market outcomes, and the Services make no attempt to provide an empirical foundation for what is otherwise biased speculation. Moreover, none of the Services' experts discuss market power on the *service* side of the market, despite the presence of companies with historic levels of market power. The failure to consider both sides of the market makes their speculation on effective competition useless. I discuss a more appropriate understanding of competition and "must have" music content, based on empirical evidence and accepted economic theory.

c. There are numerous problematic arguments raised by the Service experts in connection with the Service rate structure proposals. Further, a number of their arguments in fact conflict with their proposals and analyses. The logic of a number of their statements supports the use of an uncapped TCC rate prong, and Prof. Farrell's opinions on division of surplus point directly to Shapley analysis as the ideal methodology to derive those divisions. The Services' experts across the board fail to grapple with, let alone address, the serious revenue diminution concerns that plague the marketplace, and their hollow statements that the Services' interests are "aligned" with copyright owners cannot substitute for rates with reasonable alternative prongs and protections, as would be (and are) negotiated in the free marketplace.

III. Rebuttal concerning the Services' game theoretic modelling

A. Prof. Farrell's Nash-in-Nash bargaining model appears to be intentionally overcomplicated in order to conceal modelling flaws, and ultimately delivers at least 22.3% of revenues as a royalty rate

(4) The Services offer one game theoretic model to support their proposals, a "Nash-in-Nash" bargaining model offered by Prof. Farrell.[1] The Nash-in-Nash approach is an expansion on the bargaining model developed by John Nash.[2] While a traditional Nash bargaining model analyses a single bilateral negotiation, Nash-in-Nash modelling seeks to model a larger marketplace with multiple pairs negotiating simultaneously, so as to arrive at an equilibrium solution that captures the net effects of each pair upon the others.[3]

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[1] I discussed the importance of economic modelling and game theory to the rate-setting task in this proceeding in my CWDT at Sections IV and V.

[2] Prof. Farrell incorrectly ascribes the Nash-in-Nash framework to John Nash himself (see footnote 214). The original paper, Nash (1950), never considered a Nash-in-Nash framework. The Nash-in-Nash concept appears to have been first considered by Horn, H. and A. Wolinski (1988), "Bilateral Monopolies and Incentives for Merger", *RAND Journal of Economics*, 19(3); 408-19.

[3] One description in the literature explains this bargaining solution as, "a set of transfer prices between 'upstream' and 'downstream' firms where the price negotiated between any pair of firms is the Nash bargaining solution (Nash, 1950) for that pair given that all other pairs reach agreement. Because this solution can be cast as a "Nash equilibrium in Nash bargains"—i.e., separate bilateral Nash bargaining problems within a Nash equilibrium to a game played among

(5) In the main body of his report, Prof. Farrell describes his Nash-in-Nash bargaining model, with the objective of estimating an appropriate all-in musical works rate.[4] Moreover, the model itself is strangely overcomplicated, riddled with redundant and excessive formula notation.[5] It is hard to imagine that an experienced economist created such an unnecessarily burdensome model by accident, and so it appears to be an intentional attempt to bury unreasonable modelling choices. As further unnecessary complication, Prof. Farrell spends a substantial amount of space discussing a publisher opportunity cost analysis. This analysis appears to also be the sole purpose for Prof. Hauser's survey report in this proceeding. And yet, after 10 pages devoted to the analysis in Prof. Farrell's main report, as well as his entire Appendix F, Prof. Farrell acknowledges, buried in his footnote 252, that *the entire analysis is essentially irrelevant to his model*.

(6) I address these issues further below and my Appendix B unravels Prof. Farrell's model and its notation in detail, to explain what is occurring in the model, which is simpler than what appears in his Appendix G, but also different from what he describes in his main report. Here I summarize key takeaways from the model, the most notable being that the model quite clearly and unambiguously delivers an estimated all-in musical work royalty rate of at least 22.3% of revenues.

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all pairs of firms—we refer to it as the 'Nash-in-Nash' solution." Allan Collard-Wexler, Gautam Gowrisankaran, Robin S. Lee (2019), "'Nash-In-Nash' Bargaining: A Microfoundation For Applied Work", *Journal of Political Economy*, 127(1); 163-195. The quote is from page 165.

[4] I note that the spreadsheet formulas that underlie the tables in his report, which were provided in his separate workpapers, do not dovetail precisely with the formulas in his formal description of the model in his report. These variances do not affect any of the opinions that I offer herein on the model and its results.

[5] Perhaps top of the list of unnecessarily complex formulas is Prof. Farrell's "weighted average percent of revenue royalty rate that Spotify premium pays to all other publishers", $V_i = \frac{\sum_{k \neq i} X_k S_k}{\sum_{k \neq i} S_k}$. As an aside, there is a further error in Prof. Farrell's model in that he fails to adjust the stream shares of the publishers other than i when publisher i is lost. That is, in his formula for V_i, the variable S_k measures the stream share of publisher k when publisher i is present, and also when publisher i is not present. In fact, since the loss of publisher i is assumed to result in the loss of streams, the effect will be to increase the stream share of all of the other publishers.

1. An unreasonable assumption for a fabricated "power ratio" reduces the royalty rate from the model's predicted rate of at least 22.3% of revenues

(7) The model relies heavily upon what Prof. Farrell calls a "power ratio" (denoted in his formulas by the symbol *Z*) which is a parameter that does not exist in the Nash (or Nash-in-Nash) bargaining literature to my knowledge, and Prof. Farrell cites no precedent for his novel concept as presented (although below I explain that it is actually just the standard bargaining power parameter concealed). Moreover, the "power ratio" assumption is the primary driver of Prof. Farrell's conclusions. As I show, when the inappropriate "power ratio" is removed, even where the other assumptions and modelling choices of Prof. Farrell are kept, his Nash-in-Nash model delivers an all-in musical works royalty rate of over 22.3% of revenues.

(8) Prof. Farrell states that he devised the "power ratio" parameter in order to represent the ratio of the fraction of subscribers that are lost when one publisher is deleted to the fraction of total streams of that publisher before being deleted. The idea in essence seems to be to represent whether a publisher "punches above its weight" or not. If a publisher's catalogue represents 10 percent of the songs that are streamed, and losing a license for that publisher's catalogue would mean that the streaming service loses 10% of its subscribers, that publisher would be punching right at its weight, and would have an even power ratio, which Prof. Farrell represents as 100%. If on the other hand, losing that publisher's catalogue would mean that the service loses a larger share, say 20%, of its subscribers, that publisher would be punching above its weight, and would have a power ratio of 200%. Contrarily, if losing that publisher's catalogue would mean that the service loses only 5% of its subscribers, that publisher would be punching below its weight, and would have a power ratio of 50%.

(9) It is quite easy to see right from the start that the *average* power ratio across all publishers would need to be at least even (*i.e.*, 100%), since the loss of *all* of the music would have to be presumed to lead to a loss of *all* of the subscribers.[6] It is not reasonable to assume that someone would subscribe to a music streaming service that has no music at all. In fact, the most reasonable

[6] In the Appendix, I show that this is indeed the case, where the "average" in question is in fact the weighted average of power ratios with weights equal to stream shares.

presumption is that the average power ratio is *more* than 100%, indicating that subscribers would probably reach zero before music reaches absolute zero. It has been the position of streaming services throughout these proceedings that the loss of even a single major record company, with only 20% or so market share, would make a streaming service unable to operate competitively. I disagree with this extreme version of a "must have" notion, as discussed below, but it reflects at least the Services' view that copyright owners are perceived to punch at least at their weight, namely at a power ratio of at least 100%.

(10) Yet Prof. Farrell instead adopts an *average* power ratio range of 20 to 40%, which is frankly quite absurd. This presumes that a music streaming service could *lose all of its music and yet retain 60 to 80% of its revenues*. 60 to 80% of subscribers would continue to subscribe to a music streaming service that has no music! Of course, this is a wholly unreasonable assumption.

(11) Prof. Farrell explains this "working assumption" as that it "appears consistent with where *Z* might lie in the actual market for small rights-holders with substitutable catalogs", without citing to a single piece of supporting evidence. (Id. at ¶165) He seems to be attempting to sell as intuitive the idea that a single, small publisher with a substitutable catalog facing a negotiation with a monopsonist (Spotify) would in fact punch far, far below its weight and therefore Spotify could bargain for virtually all of the surplus.

(12) But this example is really a bait and switch. Prof. Farrell's model "assume[s] that all publishers are symmetric with 1% share each, so that they would reach the same Nash bargaining solution in their negotiations with Spotify." (Id. at ¶161) By assuming symmetric publishers, so that each arrives at the same bargaining outcome, Prof. Farrell in fact models the power ratio for each publisher to be the same, and therefore the power ratio for each publisher is also the average power ratio for all publishers. Thus, the small, powerless publisher is not simply an example in the field, but is rather his model of the *entire* publishing industry. This leads right back to the point above that it is absurd to model an industry where streaming services can lose all of their music and yet retain 60 to 80% of their revenues.

(13) To be clear, it is not reasonable to assume that Prof. Farrell's counterintuitive result can be achieved by taking each publisher one at a time and not grappling with the average.[7] Even if the substitutability assumption was accurate, and Spotify could lose some small publishers with a less than proportional impact, each publisher they lost would imbue the remaining publishers with more proportional impact and change the power ratio going forward. In the end, the average power ratio cannot be less than 100%. As Prof. Farrell explains, his model assumes that, for each bargaining pair, "Spotify has reached an agreement with all other publishers", and, "[i]f Spotify fails to reach a deal with publisher i, publisher i's catalog will be removed from Spotify." (Id. at ¶196) If Spotify failed to reach a deal with 99 out of the 100 small publishers because it deemed them all substitutable and so refused to pay proportional royalties, that would leave Spotify bargaining with a single publisher who comprised all of its streams – and who had a power ratio of 100%. Simply put, Nash bargaining does not allow for Spotify to evade the aggregate necessity of publishing catalogues for its streaming service, or assume that Spotify can bargain from a position of being able to retain its profits without any music.

(14) It is worth noting that [redacted]"[8] (COEX-9.22 – Prime Music Licensing Strategy (June 29, 2015), AMZN_RMND_00003550.) [redacted] (*Id.*) [redacted]

[7] This would, also, invalidate the use of a Nash-in-Nash model, in which the bargains are assumed to be all done simultaneously rather than sequentially.

[8] While [redacted] (COEX-9.22 – Prime Music Licensing Strategy (June 29, 2015), AMZN_RMND_003550, 3552 fn. 5.)

[redacted] (*Id.* at AMZN_RMND_00003555.) This is precisely the give and take of negotiation. Each side understands that the other could walk away from a deal, *but* each side also understands that walking away from one contracting party improves the bargaining position of prospective substitutes.

(15) It may be worth reflecting here on this insight. It helps explain why bargaining models do not predict binary results, as if bargaining was a game of "chicken" where a party with more bargaining power takes everything and the loser gets nothing. The critical assumption here for effectively competitive markets is *symmetric information*. With symmetric information, it can be assumed that each bargaining party understands how each bargain affects the next, and how the failure to reach a deal will make the next deal harder *for both parties*, which is a great incentive for all parties to reach deals at reasonable terms. This insight is captured in Nash-in-Nash bargaining models in the assumption that all bargains are done simultaneously and every player knows the positions of every other player. In the end, the equilibrium division of surplus should *proportionally* reflect the *relative value and necessity* of the bargaining parties in the marketplace.

(16) In Appendix A, I show that these intuitive concepts are also mathematically reflected in Prof. Farrell's model. While there is a tremendous amount of excessive formula, much of which is redundant and serves only to confuse the model[9], *at a minimum*, the average power ratio as Prof. Farrell defines it, must be at least 100%. Making just that change, Prof. Farrell's model delivers a suggested musical works rate of over 22.3% of revenues. (*See* Appendix A at 4.)

2. The power ratio is just a hidden bargaining power parameter that gives the Services a massive bargaining power advantage

(17) Prof. Farrell begins the summary of his bargaining model with a very misleading statement:

[9] Of note, Prof. Farrell's workpapers, from which he derives the final numbers in his Figure 13, use a slightly different formula than the one notated in his report. The differences do not change any of my conclusions, although they do reflect the excessive formula in the report.

> In Nash bargaining models, each party to a negotiation would capture a fraction of the total gains from trade available to the two parties currently at the table. Absent evidence to the contrary, it is typical to assume that this fraction equals 50%, i.e., the parties equally split the total gains from trade, and I follow this assumption. (*Id.* at 159)

(18) This passage is a reference to the "bargaining power" parameter in Nash modelling. As was discussed at length in the *Phonorecords III* Remand proceeding, Nash bargaining models generally use a bargaining power parameter to indicate the share of surplus that goes to each party, after costs are reimbursed. Nash's original model assumed this power to be even (50% each), and that is commonly used as an assumption in the absence of a basis to model otherwise. With an assumption of even bargaining power, the bargaining power parameter effectively disappears from the model, mathematically speaking.

(19) With the statement above, Prof. Farrell seeks to portray his model as evenly dividing the gains of trade between the service and the publisher, but this is not at all the case with his model. His model assigns the vast majority of the gains from trade to the service. It does this through the above-discussed "power ratio" parameter.

(20) As I thought about the fact that Prof. Farrell's formula factors out the bargaining power parameter (by assuming even power), but then includes a new "power ratio" parameter, it occurred to me to analyse the formula to see if the bargaining power and "power ratio" parameters were functionally equivalent, and indeed they are.

(21) This is to say that Prof. Farrell's model with his "power ratio" parameter is *exactly mathematically equivalent* to a regular Nash bargaining model (*i.e.*, one without a "power ratio"), in which the relative bargaining powers of the two parties are *not* necessarily equal. This led me to the question: what bargaining power correlates to the different power ratios that Prof. Farrell assumes? The answers are fascinating:

"Power ratio" parameter	Corresponds to the following bargaining power parameters		Delivers following royalty rate as a % of revenues
	Service	Publisher	
20%	83.3%	16.7%	7.5%
40%	71.4%	28.6%	12.8%
100%	**50%**	**50%**	**22.3%**
150%	40%	60%	26.9%
200%	33.3%	66.6%	29.9%

(22) Prof. Farrell's assumption of a power ratio of 20% works out to be exactly equivalent to assuming that the service has an unrealistic bargaining power of over 83%. However, recall that Prof. Farrell stated that he was modelling equal bargaining powers (*see* ¶¶ 17-18 above). As this chart shows, the "power ratio" of 100% corresponds to Prof. Farrell's stated assumption of equal bargaining power, which as discussed above predicts a royalty rate of over 22.3%. The full details of this analysis is included in my Appendix A.

(23) There is a certain "hiding in plain sight" aspect to Prof. Farrell's "power ratio." He is discussing a *power* ratio in a *bargaining* model. It should come as no surprise that this is nothing more than the *bargaining power* parameter. But it bears repeating that the *equal* bargaining power assumption is the same as a *100%* power ratio, or what I described above as punching right at one's weight, not above or below.

(24) Moreover, 100% is best viewed as a *floor* for a "power ratio" assumption, which is another way of saying that the publisher's bargaining power is best viewed as *no less* than equal. The Services' experts have consistently argued that copyright owners have *higher* bargaining power than the Services. When asked in his deposition whether copyright owners have better bargaining positions than the Services, Prof. Katz testified that, "I would certainly say in the absence of the compulsory license in the shadow that [copyright owners] would have a better bargaining position." (COEX-9.23 – Transcript of *Phonorecords III* Deposition of Prof. Katz at 163.)

(25) I agree that this a reasonable conclusion from the relative necessity and substitutability of the two sides. The Services have repeatedly explained how they are more substitutable, while copyright owners are more necessary. (Prowse AWDT ¶ 225.) This appears to be an accurate description of the market. The Services provide streaming products that are quite substitutable, while

copyright owners provide musical works that, while having some substitutability, have unique properties. The Services' great bargaining advantage is their asymmetric information, but as the Judges have as their task modelling a market with effective competition, asymmetric information should not be part of such a model.[10] As the Judges noted in the Final Determination in the *Web V* proceeding:

> One of the necessary conditions for a market to be effective is the absence of asymmetric information. *See* CLIFFORD WINSTON, GOVERNMENT FAILURE VERSUS MARKET FAILURE at 27 (2006) ("efficiency … requires that buyers and sellers be fully informed …. If consumers are uninformed or misinformed about the quality of a product, they may derive less utility from it than they expected."); Karl-Gustaf Lofgren et al., *Markets with Asymmetric Information: The Contributions of George Akerlof, Michael Spence and Joseph Stiglitz*, 104 SCANDINAVIAN J. ECON., no. 2, 195, 205 (2002) (Joseph Stiglitz, winner of the Nobel Prize for his work on the economics of information, and "probably the most cited researcher within the information economics literature … has time and again pointed out that economic models may be quite misleading if they disregard informational asymmetries [and] that many markets take on a different guise in the perspective of asymmetric information …."); DIANE COYLE, MARKETS, STATE, AND PEOPLE 73, 303 (2020) ("The absence or presence of information asymmetries can make all the difference to how a market functions …. The assessment of efficiency … should account for … likely behavioral responses."). But the LSEs tacitly assume a market infected by such informational asymmetry regarding the offerings of a noninteractive service, and in so doing create an experimental market infused not with effective competition, but rather with *market failure*. *See* JOSEPH E. STIGLITZ & JAY K. ROSENGARD, ECONOMICS OF THE PUBLIC SECTOR 93 (4th ed. 2015) (identifying "imperfect information" as one of "six basic market failures"); ANNE STEINEMAN, MICROECONOMICS FOR PUBLIC DECISIONS 147 (3d. ed. 2018) ("Market failures can also occur because of imperfect information. Efficiency requires *that all relevant information be available to consumers* ….") (emphasis added). The irony of this point is not lost on the Judges: Professor Shapiro endorses as evidence of a hypothetical effectively competitive market an experiment (the LSEs) that generate the absence of a condition—adequate information – whose presence is necessary to avoid market failure.[11]

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[10] I discuss this principle in my Corrected Written Direct Testimony ("Watt CWDT") in this proceeding. (Watt CWDT at ¶¶16-17, 70-77.)

[11] Final Determination, Determination of Rates and Terms for Digital Performance of Sound Recordings and Making of Ephemeral Copies to Facilitate Those Performances (*Web V*), 86 Fed. Reg. 59452 at 59541-42, n.287.

(26) The Judges in *Web V* discussed asymmetric information between the buyers (consumers) and seller (Pandora) in the downstream market, but of course they are precisely the same principles as apply between the buyers and sellers in any market, including the upstream market for music licenses.

3. Modelling the service as a consolidated monopsonist while dividing up music publishers into one-percent market shares is biased and unreasonable

(27) The model assumes 100 publishers, each with a 1% market share, which negotiate with a single service (Farrell WDT at ¶¶ 142, 161). Prof. Farrell states that he is doing this "[t]o approximate an effectively competitive seller market." (*Id.* at ¶161) But he provides no empirical analysis to explain why it is appropriate to model Spotify as a single, consolidated entity, while dividing up music publishers into small units.[12] If Prof. Farrell felt disaggregation was essential, he should have also disaggregated Spotify, which aggregates millions of individual user contracts into a single consolidated buyer. Spotify has a much larger buyer market share than [redacted] has a licensor market share, and the four largest Services have a much larger combined buyer market share than [redacted] have a combined licensor market share. Prof. Farrell could have set up a Nash-in-Nash with 100 1% publishers and 100 1% services, but he instead gave Spotify monopsonist power while modelling music publishers as small, substitutable entities. Prof. Farrell offers only partisan speculation about effective competition, which does not justify an intentionally incorrect modelling of one side of the market, biasing the result to lower royalties.

(28) If the publishers are modelled as having even just a 10% market share each, Prof. Farrell's model delivers a suggested musical works rate of over 23.2% of revenues (under the assumption of equal bargaining power, aka 100% "power ratio"). 10% is [redacted] than the average market share of [redacted], and thus is a more appropriate assumption. Prof. Farrell does not provide any empirical analysis or evidence that rates negotiated with any copyright owner are above effectively competitive rates, and such an

[12] In paragraph 34, Prof. Farrell recognises that the largest 3 publishers in total control [redacted] of the market. These numbers are decidedly at odds with the assumptions model used by Prof. Farrell to determine musical works rates.

assumption would be an extreme and counterintuitive economic conclusion that cannot reasonably just be assumed.

4. The model grossly misanalyses costs in multiple ways

(a) *The model violates the outside options principle by including opportunity costs as refundable financial costs*

(29) Prof. Farrell spends an inordinate amount of time and effort in his report to calculate the opportunity costs of the publishers. However, as it happens, the actual value that Prof. Farrell ends up estimating is essentially irrelevant for the final calculated musical works rate. As he states in a footnote in an Appendix, "the Nash bargaining solution is relatively insensitive to errors in OC. A +/-10% change in OC results in less than a 0.03% (in absolute value) change in the predicted bargaining outcome." (*Id.* at F-4, n. 252) It is unclear what Prof. Farrell was attempting to do with an opportunity costs analysis here, but the model's near complete insensitivity to the opportunity cost assumptions itself raises significant questions.

(30) The model set-up violates a basic principle of bargaining theory, the outside options principle, by introducing opportunity costs as a refundable financial cost in a Nash bargaining model.[13] Prof. Farrell does this in paragraphs 136 and 138 (where he describes the cost in question as a "walk-away" opportunity cost, or a "fall back" value), and 141 (where he directly recognises that the cost is in fact an "outside option"). In paragraph 162, Prof. Farrell also directly brings the outside option of publishers into the model as a financial cost (albeit an irrelevant financial cost), and for the service, he does the same by including as a financial cost to the Service the value of "lost" streams or subscribers *if it were to be the case* that there is no deal with the publisher. This again is very clearly an opportunity cost or outside option, which has no place in a Nash bargaining model other than as a constraint on the final bargained outcome.

[13] I have given a detailed outline of the outside options principle in my rebuttal report in the *Phonorecords III* Remand at (P3R Watt WRT at ¶¶53-78).

(b) *The model assumes biased opportunity costs – publisher opportunity costs so low as to not act as a constraint, and service opportunity costs so high as to deliver a biased result*

(31) In addition to improperly factoring in the opportunity cost (outside option) as a financial cost, Prof. Farrell's assumptions for opportunity costs are unreasonably biased. His calculation of the value of the publisher's outside option is so low that it becomes meaningless in the model, and does not even act as a constraint on a zero royalty rate. The same is definitely not true of his assumptions of service opportunity costs, which are massive in relation to what the Service gets from the deal. When that is improperly brought into the bargaining model as if it were a financial cost, there is a significant impact upon the model, biasing it towards a much lower royalty rate.

(32) It is also notable that what Prof. Farrell models is exactly the *opposite* of what Prof. Marx opined on behalf of Spotify in her Nash bargaining model in the *Phonorecords III* Remand. Here, Prof. Farrell assumes a very high opportunity cost for the service, and an extremely low opportunity cost for the copyright owner. In the Remand, Prof. Marx opined that *copyright owners* would have *high* opportunity costs, while modelling *no* opportunity costs for services. (P3R Watt WRT, ¶53, n.12, n.14; ¶¶54-63)

(33) To be clear, both Profs. Marx and Farrell are incorrect in including outside options in the model as financial costs in the first place, as discussed above and in the Remand. (*Id*. at ¶¶53-78) Each is simply warping the model to obtain a biased outcome. The fact that they each use opposite, contradictory assumptions highlights that the assumptions are arbitrary in addition to the modelling being incorrect.

(34) Indeed, the fact that Prof. Farrell's opportunity costs for the publishers are so low that they do not materially impact the model indicates another modelling error. Opportunity costs would act as a constraint on the negotiation, meaning that a party would not enter into a bargain that delivers less profit than the party loses in giving up its alternative opportunities. Yet, in Prof. Farrell's model, the opportunity costs are so low that the publishers' share of royalties can be brought down to essentially *zero* through "power ratio" assumptions, and the opportunity costs do not act as any constraint. The model is severely biased in favour of the service, and yet still delivers a royalty rate of 22.3% of revenues under equal bargaining power.

(c) *Prof. Farrell biases his model by recognising financial costs for the Service but not for the publisher*

(35) All else equal, the higher are the financial costs of a player in a Nash bargaining model that sets revenue sharing rates, the larger will be the share of revenue that the model allocates to that player. Likewise, the revenue sharing fraction of a player is lower the lower are their financial costs (all else equal). Clearly, Prof. Farrell understands that relationship between the model's outcome and financial costs. And equally clearly, by including financial costs for the Service (variable costs per-subscriber, plus the significant payments made to labels), and by excluding any financial costs at all for the publisher, the model used by Prof. Farrell purposely introduces a severe bias against the publisher's revenue sharing rate. It is, however, undeniable that in order to operate and to provide material for the Service to broadcast, publishers do suffer financial costs that do therefore need to be taken into account in a Nash bargaining model. Those costs are reductions in shareable surplus, and any appropriately set up Nash bargaining model would take them into account by correspondingly increasing the payoff associated with the publisher. Introducing the relevant financial costs of the publisher would, therefore, have the effect of increasing the revenue sharing outcome well beyond even the 22.3% that (with an appropriately valued "power ratio") Prof. Farrell's model delivers.

(36) In summary, Prof. Farrell has developed a Nash bargaining model that is (a) internally inconsistent, (b) a poor representation of the actual situation to be analysed, (c) in violation of a fundamental pillar of Nash bargaining, and (d) guilty of using cost assumptions that severely bias the model towards lower royalty rates. Correcting *only* for the issue of internal consistency leads to his model delivering a revenue sharing rate of 22.3%. Correcting for the other flaws as well would only increase that number, perhaps significantly.

IV. Rebuttal concerning opinions about effective competition

A. The Services' discussion of "must have" catalogues and effective competition has become untethered from economic reason and evidence

1. "Must have", as used by the Services, does not refer to catalogues that are necessary to operate a music streaming business

(37) The use of the term "must have" with respect to interactive streaming content has become a puzzle in these proceedings. A number of Service witnesses use the term, generally without attempt to define it and never as part of empirical analysis.

(38) At many points, in many of the Services' expert witness reports and testimony, the Services are at pains to claim that major record companies or music publisher catalogues are "must haves" for the survival of an interactive music streaming service. That is, it would be impossible to survive in the market unless the service is able to provide all of the music catalogue of each of the majors. For example, Prof. Marx reiterates upon this theme in her paragraphs 132 and 133.[14]

(39) The use of the term by the Services does not connect to the definition of the term by the Judges, who equated "must have" with perfect complements:

> "Complementary oligopolists" supply products or, as here, offer licenses, for access to products, that are "perfect complements," meaning that the products or licenses they offer are essential, i.e., "Must Haves," for a buyer/licensee in order to operate its business. Such products/licenses are known in economics as "Cournot Complements". (See *Web IV*, 81 Fed Reg. at 26342-43; see also *Web V*, 86 Fed. Reg. at 59455.)

(40) In my discussion of Shapley analysis modelling choices in my WDT, I examined the need for a more nuanced understanding of "must have" record companies (or music publishers). (Watt CWDT at ¶¶60-69, 168-188) There I noted that "must have" is more nuanced than a need for

[14] It is curious in general how the idea of music being a "must have" has become linked with royalty rate *reductions*. As discussed below, any such suggestion is worth scepticism because it runs counter to what economics tells us about surplus sharing in an effectively competitive market. Economics generally finds that market players that provide unimportant, unnecessary goods should receive less, and market players that provide important, necessary goods should receive more.

every record company (or even major record company) before surplus is generated. Rather, I explained my modelling whereby the loss of a music catalogue would reduce, but not prevent, revenues. Notably, in Shapley analysis, there are no selective hold-outs, but each player must cooperate with all other players in every coalition permutation (which removes any abuse of market power and focuses the division of surplus on relative contribution). Because record company players are not removed for only some services in a Shapley analysis, my discussion focused on the "must have" assumption where a record company catalogue is removed for all services.

(41) Here I expand my discussion beyond the Shapley analysis context, in response to the Services' experts' opinions. The primary addition to my discussion is explicitly addressing the "must have" question in the context of loss of a music catalogue by only some services.

(42) It is unreasonable to conclude that the catalogues of any particular copyright owner, even major labels or publishers, are in fact necessary to operate a music streaming service, if only because many of the music streaming offerings currently operating in the United States *do not have* the full catalogues of all of the major labels.[15] Some of these offerings are: Amazon Music Prime, which has been offered as part of the Amazon Prime bundle since 2014; SoundCloud Go, which is priced at $4.99 and has been offered since 2017; Audiomack, which is priced at $4.99 and has been offered since 2018; and Anghami and Jiosaavn.[16]

(43) Services with less than full catalogues generally just *cost less*, exactly what would be expected in the marketplace. It may be the case that a streaming service without the catalogue of a major label would not be able to charge as high a price as a competitor with such catalogue, but this is

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[15] Of course, because of the U.S. blanket compulsory mechanical license, any interactive streaming service can get a mechanical license to full catalogues of all of the publishers.

[16] See Mechanical Licensing Collective, DSP Notices, https://themlc.com/dsp-notices (and subpages); Amazon Launches Prime Music Streaming Service, Minus UMG (June 12, 2014), https://www.billboard.com/music/music-news/amazon-launches-prime-music-streaming-service-minus-umg-6114217/; SoundCloud Go, https://checkout.soundcloud.com/go; SoundCloud Go introduces new cheaper $5/month plan w/limited catalog (Feb. 28, 2017), https://9to5mac.com/2017/02/28/soundcloud-go-mid-tier-cheaper-plan/; Streaming service Audiomack now has 1.5m daily active users (Jan. 16, 2019), https://musically.com/2019/01/16/streaming-service-audiomack-now-has-1-5m-daily-active-users/; Anghami, https://www.anghami.com/; JioSaavn, https://www.jiosaavn.com/.

hardly economic news or a matter of concern. Rather, this is exactly what we would see in any marketplace. Fitness centres with less equipment and fewer amenities would be expected to cost less than fitness centres with more of such. Budget airline seats with fewer amenities cost less than full-featured airline seats. Amusement parks with fewer rides would be expected to cost less than larger such parks (unless perhaps they distinguish themselves in some other way, such as by location or by the quality of the rides that they do have). Most product or service markets involve heterogeneous goods, which compete on multiple vectors and at multiple prices, and the downstream market for consumer interactive streaming is not different.[17]

(44) While it is hard to say for certain, the confusion on this point in this proceeding seems to come from the conflation of the ability to provide a streaming service at a competitive price with the ability to provide *any* streaming service at the *highest* market price. The Services seem to be postulating that a service with a $10/month full catalogue offering cannot lose a major label catalogue because their customers would all defect for a competitor service that includes that catalogue at the same $10/month. This may be true, but why would the service that lost the major label catalogue assume that it can continue to charge $10/month? If the service instead lowered its price to a more competitive price for the quality that it was providing, it would surely find customers willing to stay, trading off the lesser catalogue for the lower price.

(45) Interestingly, this very point is not lost on the Services' witnesses. At paragraph 70 of her report in these proceedings, in a discussion of the "must have" status of the major labels, Elena Segal states:

> Therefore, a premium service – which is the most profitable service for rights holders – cannot reasonably compete in the interactive streaming market without the full catalog from each of the Majors. Consumers would simply unsubscribe and switch to a different service if they routinely searched for popular songs on Apple Music and could not find them. **Alternatively, Apple would have to lower its consumer price relative to services with music from all the Majors**. (emphasis supplied)

[17] See, e.g., Steven Berry and Philip Haile, *Identification in Differentiated Products Markets*, Annu. Rev. Econ. 2016. 8:27–52 ("most markets involve differentiated goods") (at http://www.econ.yale.edu/~pah29/AR.pdf)

(46) Ms. Segal perfectly captures the situation: major label or publisher catalogues are not essential inputs without which the Services *cannot operate*. Rather, these catalogues simply *deliver substantial value*, without which the Services *cannot charge as much*. This conclusion is of course not empty conjecture. Besides resting on basic economic principles of competition, and Apple's own admission, we see that this is precisely what is happening with many services in the current market, which offer smaller catalogues for lower prices, many of which have been in the market for years, and some of which are quite large. Amazon's Prime Music subscription service reports [redacted] subscribers on a more limited catalogue offering. (COEX-9.24 – Subscriptions by Service, AMZN_Phono IV_00003105.)

(47) Moreover, this dynamic of competitive pricing is not limited to just catalogue size. Rather, a service could compete with a less than full catalogue on avenues other than price. There are streaming services with smaller catalogues that charge the same or even more than $10 because of other music specialization. For example, a service called Beatport curates its limited catalogue for a particular audience, and charges up to $30/month.[18] A service called Idagio offers a tailored experience for classical music fans, and charges $10/month with a catalogue that is more than an order of magnitude smaller than full catalogue services.[19] The point is that streaming services, *like virtually all businesses*, can compete across multiple vectors. Having fewer features, whether that means less content or less functionality, does not prevent them from competing, it just factors into their pricing and value proposition.

(48) This is also what we see in other markets, such as video streaming, in which there are numerous competing entities (such as Netflix, Hulu, Apple TV+, Amazon Prime Video, HBO Max or Disney+). In this market, no single service has all of the content, and each charges a lesser price than a service would if it had all of the content. Consumers can then choose whether to purchase one video streaming offering with a limited catalogue for a lower price, or multiple streaming offerings with a combined larger catalogue for a higher total price.

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[18] Beat Port Subscriptions, https://www.beatport.com/subscriptions.

[19] Idagio, https://www.idagio.com/us/#plans-section.

(49) To isolate the economic reasoning at work, we can consider the following simplified thought experiment: Assume that there are 3 copyright owners ("Majors"), each offering an equivalently popular catalogue of music, and that there are no other copyright owners. Assume that the market price to license each of the Majors' catalogues is $3 per subscriber (the same for each because they are assumed to be equivalent). Assume as well that there are 3 services offering interactive streaming under a subscription model. Finally, assume that there are 3 million subscribers who desire access to all music.

(50) Now, consider two different market structure assumptions. First, assume a structure similar to the Services in this proceeding. Each service obtains a license from each Major, and thus each service offers to subscribers an identical product, which is access to all of the music. Each service charges the same $10 price, and the subscribers allocate themselves evenly across the 3 services. We see that each service has 1 million subscribers and revenue of $10 million. Each service will owe royalties of $9 million ($3/subscriber x 1 million subscribers x 3 Majors), and keep $1 million for itself. Together the market will provide 3 million users with access to all music for $10/month, for combined industry revenues of $30 million, and combined service share of $3 million.

(51) Now, assume a different market structure. The copyright owners, license fees, services and consumers are the same, but now each service obtains the rights to only one Major catalogue, and each one different to the others. Thus, each service now offers only a third of the available music, but has only a third of the royalty costs. Each service can now lower its price to $3.33, and retain the same 10% margin. A user must subscribe to all three services to get all the music, but each service costs one-third of the price. Thus, users can still obtain all the music for $10/month. Moreover, *the services have the same economics as well*. While each service charges one-third of the price, they now have three times as many customers. Since now each service is subscribed to by each subscriber, each service has 3 million customers, for a total income of 3 million times $3.33, which is still $10 million. Each service pays the same royalties of $9 million ($3/subscriber x 3 million subscribers x 1 Major), and retains the same $1 million share. The services, the Majors and the subscribers are all indifferent between the two assumed market structures.

(52) This example is simplified, but it depicts the fundamental economic reasoning that partial catalogues can compete at lower prices (which again is also proven by the many music streaming offerings *currently competing* without full catalogues).[20] It is true that the customers in the second scenario would have to coordinate their listening across three different subscriptions, but there is no evidence or reason to believe that this is a serious obstacle. Music streaming is an outlier in having *any* option for such a level of consolidated access. One cannot watch all video content under one subscription, or read all news periodicals under one subscription, or play all video games under one subscription, or consume all of the products in virtually any market under a single subscription. Yet all of these markets thrive with heterogeneous goods.

(53) In fact, we can see ways that the second market structure would *increase* competition. For one thing, it would promote upstream competition by the services. It is highly conspicuous that the interactive streaming services in the U.S. do not appear to compete on the buyer side on price in the upstream market. In other words, they do not appear to secure significant exclusive licenses for music content (by paying a higher price for the exclusive right), and thereby differentiate themselves so as to be able to earn profits (since homogeneous goods or commodities would not earn significant profits in a competitive market). It is a normal feature of most markets that downstream entities would seek to differentiate themselves through obtaining exclusive content

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[20] This dynamic is reflected in Prof. Farrell's own report. At paragraph 55, he includes the following explanation of substitutability in the music streaming market:

> A fundamental of competition is that one seller can (perhaps by lowering price and accepting a lower margin) acceptably serve the needs of buyers who would otherwise have bought from another seller, and that possibility hinges on substitutability. In recorded music, I might ideally prefer to listen to track A, but often if that were unavailable for any reason, I would turn to an alternative track B, perhaps controlled by different rightsholders. Because the option to turn to a substitute softens the impact of losing access to a particular good, that impact—or, to put it positively, the value of access to any one good—is less when one has a substitute than when one does not.

While Prof. Farrell is focused on the upstream market, of course the same reasoning applies to downstream competition among services (who are equally "sellers", and indeed, are the sellers of the final product). When applied to the downstream market, his reasoning shows precisely why his opinions on major label "must haves" are unsound. Let us examine: Prof. Farrell explicitly notes that competition among sellers can be reflected in *different prices*, "hinged" upon product substitutability, and also recognises that musical tracks indeed have some form of substitutability for consumers. These are the simple moving pieces of partial catalogue competition, and indicate that particular catalogues are only "must haves" *if services do not engage in competitive pricing*. And the actual market evidence of lower-priced partial catalogue services indicate that services can indeed price offerings based upon partial catalogues competitively.

(at higher prices) upstream, and this is what we see in the directly adjacent video streaming and podcast streaming markets. The Services' lockstep on much of the consumer pricing, combined with their failure to compete for significant exclusive content through higher prices, makes the buyer side of the interactive streaming upstream market resemble a monopsony.[21]

(54) Another, even more straightforward, experiment is to simply imagine that a major label chooses to start its own in-house streaming service and withdraw its catalogue from every other streaming service. For example, imagine Warner Music Group ("WMG") decides to start WMG Music Streaming, and offer exclusive access to only WMG content on that platform. According to the perfect complements or Cournot model, all streaming services would then cease to operate, including WMG Music Streaming, because no service has access to all of the major label content.[22]

(55) We do not need to implement this scenario in real life to see that the outcome *cannot possibly* be that the entire interactive streaming sector collapses on this event. There is nothing in the history of economics or actual market experience that would reasonably predict that outcome. Rather, what we would expect to see is either (a) WMG Music Streaming succeeds as a standalone service, and we have a version of the second scenario above, where both the original services and WMG Music Streaming charge less, and consumers can choose to pay for both or just one, much like video streaming services, or (b) WMG Music Streaming fails as a standalone service and returns to licensing content to other services.

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[21] This is a good place to remind that the domination of the current streaming marketplace by Services with full catalogues cannot reasonably be read as evidence that such is the only music streaming business model that can thrive. The streaming service market has been dominated in the U.S. by four companies (Apple, Google, Amazon and Spotify), three of which are among the largest companies in the world. The business models that are seen in the market reflect the business goals of those four dominant companies and their investment in securing market share. As in the hypothetical above, if Apple, Google and Amazon decided to pursue a different strategy and each purchase a major record company, the market structure would change quickly, with no basis to expect that the streaming industry would be destroyed. The three Big Tech companies are famous "disruptors", and there is no reason to expect that their current choice of music streaming business models will last even through the upcoming rate period.

[22] Using Cournot's original example, the production of brass requires both copper and zinc. If the copper monopolist continues to supply the brass factory, while the zinc monopolist goes off on its own to start a brass factory, both factories will of course fail, since brass cannot be made without both copper and zinc. *This* is what an essential input means economically, a very different kind of "must have" from the music streaming marketplace, in which additional catalogues simply increase the relative value of the product (and thus the price that can be charged).

2. A more accurate "must have" concept is important to the rate-setting task

(56) As discussed in the prior section, there is no theoretical or empirical basis to consider any music catalogue to be a "must have" in the sense of actually being an essential input for a streaming service to operate. This leads to the question of whether there is value in analysing a more accurate "must have" definition for this market, where catalogues are contributors of core value, such that the service may not be able to charge the same price without the catalogue.

(57) I believe that this lesser "must have", which should instead be called something like "highly valued", is a critical concept for setting royalty rates. As I discuss in my WDT, compensation for inputs should be based upon the relative contribution of each such input to the overall value of surplus. Inputs that are more necessary to the endeavour are therefore responsible for a greater contribution to surplus, and this should be correspondingly rewarded.[23] Inputs that are so important and unique that surplus is significantly reduced without them, are the most highly valued of all inputs. My lesser concept of "must have" still requires that inputs are remunerated in strict accordance with their individual contribution to surplus, which is straight-forwardly achieved using a Shapley model of surplus allocation to determine the relevant royalty rate.[24]

(58) Prof. Farrell writes in paragraph 57: "Effective competition … also tends to calibrate each creative contributor's reward to a level commensurate with its incremental contributions to listener value." Again, this is exactly what a Shapley model does.

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[23] It appears that Prof. Farrell is in agreement with this. In his summary of opinions, he states "Efficient and effective competition in intellectual property rights to recorded music would reward the creative contributors in reasonable alignment with their incremental contributions" (Farrell WDT at ¶12.)

[24] The statute also corroborates this perspective on remuneration by requiring that the CRB set a rate that "reflects the relative roles of the copyright owner and the compulsory licensee in the copyrighted work and the service made available to the public with respect to the relative creative contribution, technological contribution, capital investment, cost, and risk." 17 U.S.C. § 115(c)(1)(f).

3. A more appropriate "must have" conception points to the appropriateness of Shapley analysis in modelling effective competition

(59) Although the Services' experts misdefine and misapply the concept of "must have" into an unprincipled bias point for their analyses, there is a kernel of economic reason in a "must have" assumption based around the idea of *availability* as part of effective competition.

(60) In modelling a market with effective competition, it is ideal to model it where no buyer (i.e. service) is artificially or strategically foreclosed or barred from accessing the output of any given seller (i.e. record company). Modelling this type of availability ensures the exclusion of strategic behaviour such as players agreeing to form cohorts with barriers to entry of other players, or players holding back their input until they are the last one required. Those sorts of strategic plays are contrary to effective competition, and they are expressly excluded from the realm of possibility by the set-up and structure of a Shapley model.

(61) As I discuss in my CWDT, the economic modelling that best captures this availability, is Shapley analysis. (Watt CWDT at ¶¶18-45.) In Shapley analysis, players cannot selectively join or decline to join coalitions, but rather they must join each coalition that the analysis allocates them to, whether or not they would prefer to join that coalition. In that way, players strategically holding out the provision of an input, or strategically establishing closed cohorts is expressly avoided and excluded from a Shapley analysis. In short, all types of strategic abuse of any sort of market power is removed from the realm of possibility in a Shapley model. At the same time, a Shapley analysis recognises and appropriately rewards the relative individual contributions to surplus of each and every player. Thus, players who are more valuable, in the sense of their relative contribution to surplus being greater, are duly accorded a higher remuneration. This is equivalent to modelling a market that functions under conditions of strict effective competition. The Services' economic witnesses talk at great length about effective competition, yet none of them offers a valid or reasonable economic approach to determining an effectively competitive

rate, but rather they studiously ignore the renowned economic model precisely suited for this process.[25]

B. The Services' experts' opinions on effective competition lack clear definitions, theoretical grounding or empirical evidence of predicted effects

1. The absence of empirical analysis by the Services' experts concerning upstream market definition, competition, output, prices, quality, profits, or any other metrics that might bear on a determination of market power or effective competition is the elephant in the room

(62) In paragraphs 124 to 130, Prof. Marx spells out what she believes to be an "effectively competitive" market. The underlying principle is that no firm uses a dominant position, or "market power" to artificially inflate the price that it charges to those that consume the output of that firm. One example of such artificial price inflation is the so-called "Cournot complements" problem, which the Services' experts are at pains to convince the Judges exists in the current market. I have commented in detail on this issue in my remand reports in the *Phonorecords III* proceedings, where I show that there is absolutely no evidence in the record to support the hypothesis that a "Cournot complements" problem exists in the interactive streaming market. Indeed, there are significant theoretical reasons for why such a problem does **not** exist in the market in question.

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[25] A comprehensive collection of recent economic literature confirms the well-respected place of Shapley analysis as an economic modelling tool, including this introduction:

> Game theory is a towering intellectual achievement of the post-World-War-II era and the Shapley value (Shapley, 1953b) a centerpiece of the branch of game theory known as "cooperative game theory". Introduced in the early days of the subject when mathematicians were its main contributors, it was quickly adopted by economists, political scientists, and operations researchers. Its popularity is reflected in the multiple theoretical analyses of which it has been the object over the years and in the ever expanding scope of its applications. Although the fortunes of some other concepts of game theory have waxed and waned, the Shapley value is as fascinating today as it was when first defined… Shapley's 1953b paper is his most cited paper. Together with the Nash bargaining solution (Nash, 1950), it is an obligatory reference in general game theory texts and, of course, it is given detailed attention in all comprehensive treatments of cooperative game theory. It even has an important place in the leading graduate microeconomics textbook (Mas-Colell et al., 1995).

William Thomson, "The Shapley Value, a Crown Jewel of Cooperative Game Theory", Handbook of the Shapley Value (Chapman & Hall/CRC Series in Operations Research) (2020), p. 1.

(63) A common theme among several of the Services' expert reports is a reference to a conclusion from outside this proceeding that major record companies are "complementary oligopolists" or have "monopoly power", along with an *ipse dixit* statement that there is a lack of effective competition benefitting copyright owners or supra-competitive upstream prices. (See, e.g., Farrell WDT at ¶¶73-89; Marx AWDT ¶ 124; Prowse AWDT ¶¶ 197-200.)

(64) This is an extremely deficient approach to economic analysis. I cannot believe that any of these economists think that such biased pronouncements, made without underlying empirical analysis or economic proof, pass muster under any standards for economic reporting.

(65) Much of the problem is that the Services' experts' use of economic terms surrounding competition is inconsistent. Prof. Marx opines that, "[e]conomists define 'market power' as the ability to price above a competitive level." (Marx WDT at ¶126.) This statement is only accurate if "competitive" means *perfect* competition.[26] But as Prof. Marx admits, "a market with sustained 'perfect' competition, with prices consistently at marginal cost, likely does not exist outside of textbooks", and that "in most industries, most firms have some market power." (Marx WDT at ¶126.) Thus, that an entity has "market power" really tells us nothing at all about *effective* competition, but simply tells us that the entity is in the real world and not a textbook model.

(66) The Services' experts' use of the term "monopoly power" also does not meet the task of analysing effective competition. To begin with, the term is not used consistently, and often "monopoly power" just has the same, irrelevant meaning as market power.[27] Monopoly power is a fundamental feature of effectively competitive markets.[28] Thus, it is inadequate to reach any

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[26] *See, e.g.*, Thomas J. Klotz, *Monopoly Power: Use, Proof And Relationship To Anticompetitive Effects In Section 2 Cases*, p. 4 (December 1, 2008), https://www ftc.gov/system/files/documents/public_events/section-2-sherman-act-hearings-single-firm-conduct-related-competition/section2monopolypower.pdf ("Market power is defined by economists as the ability profitably to price above marginal cost. As a matter of economics, a firm possesses market power when the conditions of perfect competition are absent.")

[27] *See, e.g.*, Klotz at 8 (citing multiple sources, including Thomas G. Krattenmaker, Robert H. Lande & Steven C. Salop, *Monopoly Power and Market Power in Antitrust Law*, 76 GEO. L.J. 241, 247 (1987) ("Economists use both 'market power' and 'monopoly power' to refer to the power of a single firm or group of firms to price profitably above marginal cost.")

[28] The concept of "effective", or "workable", competition goes back to the middle of last century. Adelman (1948, pg. 1303) makes it clear that a certain amount of market power is indeed required in a workably competitive market: "A proper blend of competitive and monopolistic elements is needed in any particular market to produce workable

particular conclusion about whether effective competition exists in a market based upon whether a firm in that market has monopoly power.

(67) The emptiness of the Services' experts' pronouncements highlights the lack of grounding or analysis in their reports. The four Services' economists submitted over 350 pages of expert report material in this proceeding, and each of them bases their position largely on a finding of market power that would justify reducing royalty rates from their game theoretic or benchmark levels. And yet none of them undertakes any empirical analysis at all to justify those competition assumptions. This is particularly unreasonable where: (i) there is no empirical evidence in the record at all that any music royalty rates exceed an effectively competitive level; (ii) the conditions for a scenario of complementary oligopoly pricing do not exist in this market;[29] (iii) the predictions of a complementary oligopoly model are not seen in this market; (iv) record company royalty rates have [redacted], even as the streaming market thrives; (v) the Services possess substantial asymmetric information about the market; (vi) the downstream market has come to be dominated by three of the largest companies in the world; and (vii) no sound recording or music publishing entity has a market share that even approaches the minimum benchmarks to expect monopoly power.[30]

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competition." (Adelman, M. (1948), "Effective Competition and the Antitrust Laws", *Harvard Law Review*, Vol. 61; pp. 1289-1350). More recently, Bender et al. (2011, pg. 5) remind us that "The concept of workable competition introduced by Clark explicitly takes market power into account and constitutes the basis for what today is termed effective competition in economic theory and law." (Bender, C.M, G. Götz and B. Pakula (2011), "Effective Competition: Its Importance and Relevance for Network Industries", *Intereconomics*, 1; pp. 4-10). Furthermore, Bender et al. (2011, pg. 6) recognise that "Effective competition does not imply absence of market power." Indeed, any economist will, or should, understand that the ability to earn profit is the underlying source of incentives for investment, for efficiency, and for innovation. A well-respected textbook on competition policy, Motta (2004, pg. 89) states this in the following words: "The prospect of having some market power (i.e. some profit) represents a most powerful incentive for firms to innovate and invest." (Motta, M. (2004), *Competition Policy: Theory and Practice*, Cambridge MA: Cambridge University Press).

[29] I discuss this issue in detail in my Additional Written Direct Testimony ("Watt Remand AWDT") in the *Phonorecords III* Remand, which I attach and incorporate as Appendix D. (Watt Remand AWDT at ¶¶49-57) I also offer this report in rebuttal to the portions of the Amended Corrected Written Direct Testimony of Joseph Farrell concerning effective competition and the Judges' Working Proposal in the Remand.

[30] *See, e.g.*, U.S. Dep't of Justice, Competition and Monopoly: Single-Firm Conduct Under Section 2 of the Sherman Act (2008), available at http://www.usdoj.gov/atr/public/reports/236681.pdf. ("The Department is not aware… of any court that has found that a defendant possessed monopoly power when its market share was less than fifty percent. Thus, as a practical matter, a market share of greater than fifty percent has been necessary for courts to find the existence of monopoly power.")

(68) Indeed, it is particularly unacceptable from the perspective of economic analysis that Profs. Marx and Farrell and Dr. Prowse all discuss effective competition without any analysis of the power of the Services, which include firms that are widely understood to have historic levels of power in the marketplace.[31] But as the Judges noted in *Web V*, conclusions cannot be reached about effective competition without factoring in *both* sides of the market. (*Web V*, 86 FR at 59456-57)

(69) Prof. Marx writes that, "a publisher holding a particular percentage of publishing revenue would be expected to have greater market power over interactive streaming services than a record label holding an equivalent revenue share." (Marx WDT at ¶136.) To say that a rightsholder would "have" market power "over" streaming services confuses the concepts at work. As Prof. Marx admits, "in most industries, most firms have some market power." (Marx WDT at ¶126.) The insinuation that market power is "over" the buyer implies a dominance and control that is not empirically grounded. The result of a negotiation between a rightsholder and Amazon is the result of *Amazon's* position as well as that of the rightsholder, and where Amazon's position is left out of the discussion, there is no legitimate economic conclusion to be reached about whether the result is supra-competitive.[32]

(70) Lacking any empirical analysis to support speculation that itself does not have economic grounding, Prof. Farrell simply jumps to the conclusion that: "All this indicates that, overall, listeners (through the services) are paying too much in royalties." (Farrell WDT at ¶88.) But nothing that came before that statement (or after) provides empirical support for such a conclusion. It is such an empty statement that it becomes unbelievable. But more so, to me it speaks to Prof. Farrell's understanding that some *empirical proof* of effects showing a lack of

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[31] For example, Prof. Farrell states that each major label "has a monopoly position in licensing sound recordings" to services, and "[s]ound recording rates alone can therefore be expected to be above competitive levels for the full set of rights." (Farrell WDT at p.4.) One cannot jump from the vague statement that an entity has "a monopoly position" to a conclusion that royalty rates are supra-competitive, let alone do so without factoring in the other side of the market at all.

[32] Where I use the term "supra-competitive" herein, I mean above an *effectively* competitive rate, not simply above a perfectly competitive rate. A perfectly competitive rate prices at marginal cost, and there is nothing per se wrong with a rate that is above a perfectly competitive rate.

effective competition is necessary. And yet the Services offer none, and Prof. Farrell is left to simply state, *ipse dixit*, that *something* "indicates" that royalties are too high.

(71) We can contrast the Services' experts' speculation with the type of actual empirical analysis that is done to properly support conclusions as to monopoly power and competition, even by the Services' own experts in other contexts. Economists and regulators regularly analyse competition in markets to see if there is a lack of competition.

(72) As an example of the type of empirical analysis called for to reach conclusions on these questions, the UK Competition & Markets Authority ("UK CMA") recently reviewed the acquisition by Sony Music Entertainment ("SME"), of the AWAL and Kobalt Neighbouring Rights ("KNR") businesses.[33] AWAL is a music platform providing marketing, distribution and other services, and KNR collects neighbouring rights royalties arising from the public use of music.[34] The UK CMA cleared the acquisition, and in its 155-page Final Report, laid out the detailed empirical analysis underlying its conclusion. The UK CMA analysed competition among content providers related to digital distribution, which it found "takes place primarily through competition for repertoire and artists as a Provider's strength in competing to supply DSPs is dependent upon the size of its repertoire, which can be increased by, for example, recruiting artists who produce music to add to its repertoire."[35] The UK CMA also concluded that:

> Providers [defined as providers of recorded music distribution], in addition to competing to supply services to artists and labels, also compete in the provision of music to DSPs. Some Providers negotiate directly with DSPs to distribute their catalogue. These negotiations are wide-ranging, and negotiations focus on the key financial terms of the agreements, access to data, and a variety of other clauses that cover the extent to which DSPs can engage with the repertoire of a Provider, e.g.

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[33] See COEX-9.25 – Final Report, Completed acquisition by Sony Music Entertainment of AWAL and Kobalt Neighbouring rights businesses from Kobalt Music Group Limited, UK Competition & Markets Authority (March 16, 2022), also available at https://assets.publishing.service.gov.uk/media/6231d78dd3bf7f5a8a6955f4/Sony_AWAL_-_Final_Report.pdf ("UK CMA Report").

[34] UK CMA Report at ¶ 6.

[35] UK CMA Report at ¶6.58; see also ¶6.47 ("Competition between Providers is primarily to attract artists but that is closely linked to competition on the DSP side as it in turn allows Providers to offer an attractive repertoire to DSPs and negotiate favourable terms. These terms feed back into the quality of a Provider's offering to artists both directly (in terms of aspects such as marketing and playlist promotion) and indirectly (through financial terms).")

> whether they can market the music of particular artists or work with the artist directly.[36]

(73) As part of its report, the UK CMA engaged in detailed empirical analysis relating to the assessment of competition, framework for assessing loss of competition, constraint from competitors, and potential future competitive effects. I do not raise this report to imply that the Judges should adopt its conclusions, as it involves a different context. Rather, I raise it as an example of the type of diligent, empirically-grounded analysis that goes into assessing whether there are anti-competitive effects concerning *simply one market transaction*. In stark contrast, the Services' experts offer ungrounded conclusions about anti-competitive activity across an entire marketplace without any of this type of analysis.

(74) Nor is this type of analysis out of reach for the Services' experts. Indeed, in a recent case, Prof. Marx was retained as an expert in a U.S. federal lawsuit relating to allegations of anti-competitive pricing behaviour. According to the court's description of the case[37], Prof. Marx undertook an econometric analysis of input pricing to determine the extent, if any, of input overcharging related to abuse of market position. She used a regression analysis on a price index to derive a specific amount of overcharging as an explicit range of between 16.4% and 18.9% of what the charges would have been in absence of price-fixing. Dr. Prowse, also an expert in that proceeding, "expressed the opinion that [Prof. Marx's price index] is 'not a peer-reviewed or otherwise accepted methodology in the economics community for calculating market-wide overcharges due to price-fixing.'"[38]

(75) However, in this proceeding, both Prof. Marx and Dr. Prowse (along with the other Services' experts) abandon any connection to "peer-reviewed or otherwise accepted methodology in the economics community" for calculating supra-competitive prices, instead they simply *assume* the result after decidedly uneconomic discussions of undefined concepts like being a "must have".

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[36] UK CMA Report at ¶6.20-6.21.

[37] *In re Capacitors Antitrust Litig.*, No. 14-3264, 2021 WL 5407452 (N.D. Cal. Nov. 18, 2021).

[38] *Id*. at *2.

We see no discussion, let alone a properly grounded and scientific analysis, of market conditions that could justify the Services' speculations on ineffective competition.[39]

(76) Rather, we see a market where record companies and music publishers compete intensely on quality, where there are no barriers of entry at all to the licensor market, where no licensor has a market share that approaches antitrust concern, where there has been no decrease in output or quality, no increase in pricing, and streaming services are growing in number and profits. All of this evidence conflicts with the speculation of the Services' experts concerning competition, and their failure to marshal any serious empirical analysis on the notion that their clients are victims of market power—particularly when they represent three of the largest companies in the world—reflects the lack of justification for their claims.

2. The existence of steering or anti-steering provisions does not lead to any clear economic conclusion or support a finding of ineffective competition

(77) In paragraphs 67-70, Prof. Farrell discusses steering as a possible anticompetitive practice by the major labels. He provides no empirical analysis to assess whether the major labels are earning profit above a competitive level, and as was discussed at length in the *Phonorecords III* Remand, as the streaming market has become *more* successful, the major labels' share of revenues has gone *down*, which on its face does not indicate supra-competitive profits.

(78) Prof. Farrell's argument also does not ring true. Record labels and music publishers primarily compete on *quality*. They compete to sign the most talented songwriters and artists, and to generate the most desirable music content. This intense competition has been cited by regulators in the U.S. and abroad. One citation that I find mystifying in this case is the repeated citation by the Services' experts of a two-page letter from September *2012* from the U.S. FTC's Bureau of Competition Director Richard A. Feinstein concerning a merger of Universal Music Group and EMI Recorded Music.[40] This decade-old letter is cited by Prof. Farrell *and* Prof. Marx, although

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[39] For example, there is no empirical analysis of profitability or profit levels (either as to effectively competitive profits or supposedly supra-competitive profits), output levels, pricing, quality, demand elasticity, anticompetitive effects, market shares, etc.

[40] See COEX-7.145 (Richard Feinstein, "Statement of Bureau of Competition Director Richard A. Feinstein In the Matter of Vivendi, S.A. and EMI Recorded Music," Federal Trade Commission (Sept. 21, 2012), available at

it is a summary document that does not pretend to provide empirical evidence.[41] Moreover, the letter describes significant competition that exists among record companies: "In the recorded music business, the products are highly differentiated, and companies compete for distribution in multiple ways, including: (1) the sale of new titles in large retailers; (2) the sale of catalog titles; and (3) the opportunity to promote artists and records."

(79) As I understand the term to be used in this context, a "steering" contract is economically equivalent to a pay-for-play contract. The record company gives the service money (through a royalty rate discount) in return for the service promoting its music with a goal of increased consumption. There are many reasons why record companies would not want to engage in this practice, and would be wary of participating in a platform that significantly engages in this practice. My understanding is that it is in fact illegal in the United States in connection with terrestrial radio, unless full disclosure is made to listeners. Communications Act of 1934, 47 U.S.C. §§ 317, 508. Pay-for-play practices can directly undermine the quality competition on which the record companies expend great resources, and could even have pernicious effects on the consumer perception of the "authenticity" of the music experience, which could impact its value.

(80) These types of concern are reflected in Spotify's defensive public statements downplaying their "steering" transactions. In June 2021, members of the U.S. Congress wrote an open letter to Spotify concerning its steering practices in its "Discovery Mode" feature, which allows record companies to get priority "in Spotify's algorithmic recommendations" in return for "agreeing to be paid a lower, 'promotional' royalty rate" for those streams. (COEX-9.26 – U.S. House of Representatives Letter to Daniel Ek (June 2, 2021), https://judiciary.house.gov/uploadedfiles/hjc_letter_to_daniel_ek.pdf.)

(81) In response, Spotify sought to minimize the idea that it was engaged in steering, making such statements as: Spotify "only ever presents recommendations that a listener will enjoy", that, "we

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https://www.ftc.gov/sites/default/files/documents/closing_letters/proposed-acquisition-vivendi-s.a.emirecorded-music/120921emifeinsteinstatement.pdf.)

[41] Farrell WDT at ¶67, n.104; Marx WDT at ¶132.

always prioritize listener satisfaction", that "we only promote Discovery Mode tracks to listeners whom we think will like them based on their past listening tastes and preferences", and that steering "does not take the place of listener satisfaction as the key driver for recommendations on our platform." (COEX-9.27 – Spotify Letter to Chairman Nadler and Chairman Johnson (June 16, 2021), https://judiciary.house.gov/uploadedfiles/spotify_ltr_to_reps._nadler_johnson_6_16_21.pdf.)

(82) Spotify's defensiveness is evidence that steering or any form of pay-for-play poses risks for those involved, and therefore should not be considered a natural aspect of competition, particularly where there is intense competition for quality, which is undermined by steering.

(83) It is also worth noting that a steering agreement, in which a rightsholder agrees to lower rates *in return for more plays*, is not clearly a form of increased price competition, because on the whole, the rightsholder is not necessarily agreeing to a lower price. It is thus not at all clear whether a steering agreement is pro-competitive, or an anti-steering agreement is anti-competitive, in its nature.[42] Rather, the rightsholder is agreeing to a different payment package that includes an in kind marketing/promotion commitment. A clear case of increased price competition would be the rightsholder simply lowering its royalty rate, without conditions, presumably in the hope that this influenced licensees to "buy" more, *i.e.*, steer to that rightsholder's music. But if the service agrees to provide additional consideration in the form of promotional commitment, that is not price competition as much as it is just a differently structured contract. As an analogy, let's imagine a market for newspaper ink. A supplier of newspaper ink could engage in increased price competition by lowering its price from $1,000 to $900, in hopes of capturing more of the newspaper printing market. But we would not call it increased price competition if the supplier of newspaper ink agreed to a contract that paid it $900 in cash and $100 in free advertising space. The supplier is not necessarily charging less, and the buyer is not necessarily paying less. This

[42] Indeed, a steering agreement could well be considered anti-competitive in a marketplace characterized by quality competition, as a steering agreement seeks to increase consumption based not upon quality or consumer demand, but based upon a goal of lowering royalties. In her report, Prof. Marx criticizes a rate structure that would "introduce inefficient distortions into a service's preferences over which songs it streams or to which subscribers it streams those songs." (Marx WDT at ¶155) While I am not entirely sure what Prof. Marx means with this statement, steering agreements would appear to have exactly such a distorting effect on a service's streaming preferences.

is the same situation that a steering contract presents, and thus it would require empirical analysis just to determine whether the practice of steering itself is procompetitive or anticompetitive, let alone the effect of anti-steering provisions.[43]

V. Rebuttal concerning opinions on rate structure

A. The Services' experts' economic arguments conflict with their objection to the TCC rate prong

(84) In several of her paragraphs (e.g. 157, 176-8), Prof. Marx (like most of the other Services' experts) is critical of a royalty structure involving a TCC rate. She describes (in paragraph 157) the TCC as "inefficient" and "distortionary", because (according to her opinion) it imports labels' complementary oligopoly power into the musical works royalty rate. She also claims that setting the musical works rate as a fraction of the sound recording rate introduces uncertainty into the determination of musical works royalties.[44]

(85) This disapproval of a TCC rate prong stands in stark conflict with Prof. Marx's opinion that the most efficient system would be one in which the sound recording is understood to be a single final product that is used by the streaming services, and that the musical works are merely an input into the sound recording. (Marx WDT ¶¶140-149.) Such a system would involve a single rate to be paid by the services to the sound recording rightsholder, which would implicitly include an amount earmarked for the musical works rightsholder. But such a model is simply an *uncapped TCC rate structure*. Under an uncapped TCC rate structure for the musical works royalty, the only price is set in the negotiation with the record company. If the record company negotiates a fraction of revenue for itself of, say, s, and the TCC rate is set at t, then the record company is effectively negotiating a total royalty of (in terms of fraction of revenue) $(1 + t)s$.

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[43] I understand that Services' experts have acknowledged that anti-steering provisions are not inconsistent with an effectively competitive market. See *Web V*, 86 Fed. Reg. at 59541-42, at 59463 ("as Professor Shapiro himself acknowledges, in an effectively competitive market, a service might agree to accept an anti-steering provision in return for a rate reduction. (COEX-9.28 – 8/20/20 Tr. 3089-92 (Shapiro).)

[44] In the appendix to this report, I show that even an uncapped TCC introduces full certainty into the total royalty burden of the services, and the musical works royalty amount. I also show in the appendix that, contrary to Prof. Marx's claim that a percent-of-revenue structure rather than a TCC structure would align the incentives of the services and the publishers (paragraph 154), the truth is that an appropriately set TCC rate does indeed achieve that end.

Since the TCC rate structure and rate is known to both the record company and the service, the negotiation proceeds with the understanding of all parties that they are effectively negotiating a single total price for full access to music, p, where $p = (1 + t)s$. It makes no difference exactly how the service pays that total cost, whether all to the record companies, who then pass on the part ts to the music publishers, or by the service making the payment s to the label and ts to the publishers (or the Mechanical Licensing Collective). The end result of the uncapped TCC rate structure would be exactly the system that Prof. Marx considers to be the best of all options.[45]

(86) However, I do not believe that a rate structure with *only* a TCC rate prong is reasonable, because it would not provide adequate protection against a service strategically diminishing its royalties, such as by acquiring the rights to sound recording content (which I understand would mean that no payment need be recorded for the associated sound recording right in calculating the TCC). Prof. Eisenach describes some of the ways that a TCC rate calculation is susceptible to strategic diminishment. As a result, multiple adequate alternative prongs are appropriate. But to be clear, in such a multi-prong structure, Profs. Marx and Farrell should not have an objection to an uncapped TCC rate prong, since that prong works to generate the "single rate" that they both prefer.

(87) In Appendix B, I provide a Nash bargaining model to explain the insight that a pure, uncapped TCC rate structure should be the Services *preferred* outcome compared to *any* percent-of-revenue musical works rate. Given the choice between a pure TCC system and a pure percent-of-revenue system, the Services should always choose the pure TCC system to deliver lower total royalties, *regardless of the TCC rate or the percent-of-revenue rate*.

(88) In paragraph 29, Dr. Prowse summarises his objections to the TCC as being three issues, namely (1) TCC reflects label's complementary oligopoly power due to their must-have status, (2) TCC reflects bargaining power of labels, not of musical work copyright holders, and (3) the imbalance

[45] Prof. Farrell reflects this same contradiction, opining against the uncapped TCC rate structure while advocating that market power issues can be alleviated if "rights-holders could agree to offer full rights for a single price." (Farrell WDT at p. 5.)

in bargaining power between labels and services cannot be determined, so the appropriate adjustment cannot be calculated.

(89) The first of these is inappropriate as an objection, because the notion of a complementary oligopoly has not been shown to apply, and is in conflict with the market realities. It also bears emphasis that "complementary oligopoly *power*" is not a cognizable economic concept. A complementary oligopoly is a form of prisoner's dilemma, and being in a complementary oligopoly is harmful for the monopolist[46] suppliers, who are in the position analogous to the prisoners. There is no more of a "complementary oligopoly power" than there is a "prisoner's dilemma power." As Prof. Spulber noted, being in a complementary oligopoly is a curse, not a power.[47] Cournot's model does specify that the suppliers are monopolists, and thus they would have monopoly power, but if they unfortunately became trapped in the dilemma of a complementary oligopoly, it would only be cynically that one would say they have a new "power."

(90) The second point is also unpersuasive where, as here, the TCC rate is calibrated to any perceived difference between the shares due to sound recording versus musical work copyright holders. The third point effectively says that finding the right adjustment is difficult, but this abdicates from the task. That the task is difficult does not mean that there is no reasonable way to accomplish it. What needs to happen is that economic thinking should be employed to attempt to address the measurement of proper shares. Shapley analysis, first and foremost, as well as economic models of bargaining, are able to estimate the sort of information that is required, as can be proper benchmarks analysed in light of accepted economic theory.

(91) Finally, I find the objection to the TCC prong on account of it frequently binding in the rate formula to be particularly illogical (e.g. Prowse ¶175). The TCC prong was explicitly put in place

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[46] In standard economic terminology, a complementary oligopoly would be made up of monopolists, not oligopolists. Oligopoly theory deals with entities providing substitutable goods.

[47] Additional Written Direct Testimony Of Daniel F. Spulber, Phonorecord III Remand, ¶2, n.1 (January 24, 2022). *See also* Appendix D at ¶ 51, n.10.

to protect against revenue diminution, and the fact that it frequently binds speaks directly to revenue diminution and the revenue rate and other alternative prongs being too low.

B. The Services' claim to an "alignment of interests" cannot justify an unprotective rate structure

(92) The Services argue that a percent-of-revenue prong "aligns" the interests of copyright owners and Services, because "both the services and the copyright owners benefit from any increase in revenue." (Marx WDT at ¶¶154-156.) This statement is impossibly naïve and therefore appears cynical. It is true that in a hypothetical economic textbook model with fully symmetric information and no revenue definition and measurement problems, a revenue-sharing model might appear as a reasonable vehicle for royalties. But that is simply not the real world. As has been much discussed in these proceedings, revenue definition and measurement problems are unavoidable. There does not appear to be a reasonable way to define revenue so as to capture all gains from the venture for all services. Without such a definition, a revenue prong cannot dependably deliver the intended share of venture gains. Further, the measurement of revenue is quite controversial, as these proceedings reflect, and characterized by asymmetric information. And on a more fundamental level, with respect to interests, royalties are a cost for the Service, and the Service thus wants to *minimize* royalties, which is not in alignment with copyright owners' interests.

(93) Prof. Marx herself outlined some of the problems in testimony in another proceeding:

> [W]hen you have complementary products, if you're going to maximize your profits overall, you wouldn't be maximizing the revenue streams on each individual one. That's the nature of having complementary revenue streams. … I presume [Apple is] using iTunes Radio to best maximize the overall profits of the business. So using it to promote hardware sales, its iTunes Match service, music downloads.

(COEX-9.29 – Cross-Examination of Dr. Leslie Marx, Trial Tr. at 874-875 (Jan. 29, 2014), *United States v. ASCAP (In re Petition of Pandora Media, Inc.),* 6 F.Supp.3d 317 (S.D.N.Y. 2014) (Nos. 12 Civ. 8035(DLC), 41 Civ. 1395(DLC)).)

(94) At the *Phonorecords III* hearing, Prof. Marx elaborated on her opinions in this area:

> Q. So with diversified companies, you can have problems capturing all of the value attributable to music, correct?
>
> A. You can have trouble if you rely on a percentage of revenue royalty with no back-stop.
>
> …
>
> Q. As soon as you have a material portion of your revenues that aren't in the revenue base, you have a measurement problem, potentially, correct?
>
> A. Potentially, yes. It is going to depend upon the complementarity and substitutability of these other revenue streams with your interactive streaming service, but potentially, yes.
>
> …
>
> Q. Put aside the back-stop, assume maybe we don't have the option of a back-stop. You are working with a revenue share definition, that definition should be such as to capture all of the revenue that is attributable to music regardless of where in the books it shows up, correct?
>
> A. If you are forced to use a percentage-of-revenue fee with no back-stops and you have a revenue measurement issue, you have a problem, and we would have to talk about what the best solutions are for that.
>
> (*Phonorecords III* Hearing Tr. 1962:1-5; 1966:6-12; 1968:22-1969:7 (Marx))

(95) What stands out to me about this testimony is Prof. Marx's reliance on "back-stops" to justify her rate structure opinions. "Back-stops" are just rate prongs that are *not* revenue-based, such as per-subscriber rate prongs, per-play rate prongs or the TCC rate prong. For all of her discussion surrounding the economics of a revenue-base rate structure, Prof. Marx admits that if there was such a structure, "you have a problem." The reasonableness of the rate structure thus depends on including rate prongs that are *not* revenue-based, and the reasonableness is only to the extent that those other rate prongs are adequately chosen and set at rates high enough to actually protect against revenue diminution. Otherwise, as Prof. Marx says, "you have a problem."

C. The Services' experts' attempts to downplay the revenue diminution problems are not economically or empirically persuasive

(96) In his paragraph 118, Prof. Farrell wonders why revenue deferral that is profitable for a service would not be equally profitable for copyright holders. The purpose of this speculation is to

suggest that the Judges need not take into account the need to protect against such deferral in setting a reasonable rate structure and rates. This would be a mistake for several reasons.

(97) Perhaps the most important is that a temporary "deferral" of revenue is most likely to become a permanent "displacement" of revenue. This is shown in a striking manner by Spotify's CEO, who explained to investors that after having used discounted music to build a valuable user and data asset (potentially just a "deferral" of revenues into the future), Spotify shifted its focus to using this valuable user and data asset to generate revenues in *different* business lines that are *not shared with copyright owners*. As Ms. Flynn explained in her Written Direct Testimony, Spotify built a user base from music and since has moved to monetize those users through advertisements in other products that generate revenues that are "100% Spotify's and not shared" with music creators. (Flynn WDT ¶¶42-43.) What a remarkable statement on the ruthlessness of business. As I have discussed, music royalties are simply *costs* for Spotify, and they should be expected to seek to minimize those costs at any point in time. It is unreasonable to think that Spotify keeps track of deferred royalties and intends to "pay back" copyright owners. Of course that is not happening. Rather, Spotify explains that it intends to take the assets built by music and seek to monetize them as much as possible, in ways that do not require sharing with copyright owners, since that would be consistent with Spotify's minimization of its costs.

(98) Another clear-cut example on this point is Amazon's discounting of music services for college students who are members of its popular Prime retail bundle. Amazon discounts this program by *90%* from the standard pricing, charging a mere $1 per month to college students who have the resources to subscribe to and pay for Amazon's retail shopping subscription service. While Amazon's incentive is to incubate these valuable present and future consumers[48] in its ecosystem, the future value from that present discount is unlikely to be to the benefit of copyright owners, who do not share in the revenue from any other aspect of Amazon's ecosystem.

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[48] Studies consistently show that attending college is a reliable indicator of higher average future earnings. See, e.g., "The College Payoff,: Education, Occupations, Lifetime Earnings", Georgetown University Center on Education and the Workforce, at https://cew.georgetown.edu/cew-reports/the-college-payoff/. It is, of course, irrelevant to Amazon whether college is the *cause* of the higher earnings, or simply *correlated*, with those earnings. Amazon is only concerned with identifying the higher purchasing power.

(99) However, even if there was a prospect for true deferral of revenues into the future, it would not be appropriate for the Judges to ignore this revenue on the assumption that it might someday inure to the benefit of copyright owners. Not only is it true that current copyright holders are different to those in the future, but also copyright holders will have different rates of intertemporal preference, and different rates of risk aversion to a multi-billion dollar firm, leading naturally to different preferences over intertemporal investments.

(100) What is optimal for a large streaming service is sure to be rather sub-optimal for copyright holders. Under revenue deferral, copyright holders get no choice as to which periods of time revenue will accrue to, and as such they are essentially held to ransom by the firm. Effectively, the copyright holders are made to finance the investment strategies of the streaming services. Revenue deferrals are transfers of current (non-risky) revenue into risky future revenue. However, since current share prices reflect expected future income, a service that engages in revenue deferral receives, up front and in the present, the expected value of the investment as an increased share value, while the copyright holders are forced to wait and see what the future actually brings. In essence, when revenue deferral takes place, highly risk averse copyright holders are made to provide full and fair insurance to far less risk averse streaming companies.

D. Prof. Marx's arguments concerning efficiency and per-play rates are not economically sound

(101) In her paragraph 171, Prof. Marx discusses per-play rates, arguing that they are inefficient because they would raise the marginal cost of a play for a service, presumably because the assumption is that the services would not be willing to change from the current subscription model to one that charges users per-play.[49] However, the efficiency or not of per-play, or indeed per-subscriber, rates, depends critically upon what units are involved. We can agree that, without a per-play rate the marginal cost of a stream is essentially 0, while with a per-play rate it becomes

[49] Prof. Marx's argument on the issue of using a per-play rate goes back to her WDT in *Phonorecords III*, paragraphs 130-133. That analysis, as well as that in her current report, mistakenly assumes that either a per-play rate for the input (musical works royalty) will imply a per-play rate charged to final users, or that the Service otherwise affects the consumption of music by specific subscribers in an interactive service with a subscription by fixed fee. There is no reason to conclude that a per-play rate for the input leads to inefficiencies at any point in the value chain. I addressed this in my Written Rebuttal Testimony in *Phonorecords III*, in my Appendix 1.

positive. But if the units of measurement of the input (music) is taken to be a play, then charging per unit of input (per-play) is no less efficient than any other business that should pay per unit of input. Since subscribers are held to a fixed subscription price regardless of the plays they stream, then changing the input structure from a blanket license to a per-play will not change the amount of consumption of music (unless the subscription price changes, which Prof. Marx herself has argued will not occur – see her footnote 62). And because the service is fully interactive, the service is unable to implement meaningful changes in its demand for the input in response to an increased marginal cost of a play. All that would happen is that the total cost of the service might change (it could increase, or it could decrease, or indeed it might stay exactly the same), and likewise the total royalty remuneration for copyright holders would change (again, either up or down or no change). But no fewer plays would, in principle, result, and the effect upon the efficiency of the system (taken as being the total cost required to deliver a given number of plays) is unknowable.

(102) In short, simply arguing that adding a marginal cost to an input, where it is possible to supply the same input with only a fixed cost, is "inefficient", is a fallacy that occurs by taking a simple and standard microeconomic model that in reality does not apply for the interactive streaming industry.[50]

E. The Services' approach to bundled offerings does not address the problem

(103) Prof. Marx (e.g., ¶¶189-192) and Dr. Prowse (e.g., ¶¶285-289) opine in support of a definition of revenues for bundled subscriptions that takes the difference between the combined standalone prices of all of the bundle components and the bundle price, and prorates it as a discount across

[50] On page 7 of his report, Prof. Farrell asserts that "A classic result in economics indicates that a percentage of revenue structure creates less incentive to reduce output and raise prices than does a per-play royalty structure." This is a myopic statement that does not even identify the "classic result" referred to. To begin, Prof. Farrell appears to ignore the incentives for *copyright owners* altogether, although it is their creative material that drives streaming service output. A royalty rate that is too low, which may be expected from utilizing a rate structure based upon revenues subject to asymmetric information, deferral, displacement and gaming, could very well lead to a reduction in new music. In contrast, it is harder to see how streaming services would reduce the output of their all-you-can-eat offerings. Indeed, Prof. Farrell's statement seems to hinge entirely on an assumption that does not hold in the real marketplace: that there is symmetric knowledge of revenues and that all gains are included in the revenue base, regardless of where such gains are realized by the service. But these assumptions do not hold, and thus there is no reliable alignment of incentives.

all of the components in the bundle. To be clear, there is *no economic basis* for this methodology, which entirely ignores the relative value of the components to the bundle. Unsurprisingly, neither expert explains the economic basis, with Prof. Marx stating vaguely that it "lies between… extremes" and would be "more balanced" (Marx WDT at ¶189) and Dr. Prowse simply describing the problem and then suggesting that Apple's proposal is "easy to implement and objective."[51] (Prowse WDT at ¶193) These opinions are decidedly uneconomic.

(104) The economic theory on how best to "unbundle" the total price is clear: the constituent individual products in a bundle should share in the bundle revenue in accordance with Shapley values (the average marginal contribution to bundle value of each bundle component, over all possible arrival orderings of that component in the bundle).[52] It may well be true that in some bundles, a proper Shapley analysis would conclude that attributable music service revenues should be less (or more) than the standalone published price. But frankly, that possibility is irrelevant because proper analyses (which would lead to different rates for each bundle) cannot happen as part of a compulsory rate-setting regime.

(105) The question at hand is best understood as: how should revenue be determined for the use of a music product in a bundle *in the absence of a proper analysis*? I believe the Judges captured the relevant concept far better than the Services' experts: information asymmetry. The "economic indeterminacy" of bundle component value, as the Judges discussed in the *Phonorecords III* rehearing order, is fully within the domain of the streaming service. Rehearing Order at 18 ("it is the Services—not the Copyright Owners—that are in a position to provide evidence of how they price bundles and value the component parts thereof") The service has complete control of the business model, choosing the bundle components and pricing, as well as the accounting for

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[51] Using the standalone published price of the music offering is much more "easy to implement and objective" than Apple's proposal.

[52] Shiller, Benjamin and Waldfogel, Joel, "The Challenge of Revenue Sharing with Bundled Pricing: An Application to Music" (2013). *Economic Inquiry*, Vol. 51, Issue 2, pp. 1155-1165. The abstract of the paper (pg. 1155) states: "Although bundling can substantially increase profits relative to standalone pricing, particularly for zero-marginal-cost information products, it has one major problem: bundling produces revenue that is not readily attributable to particular pieces of intellectual property, creating a revenue division problem. … We find the Shapley value, a well-motivated theoretical solution, is universally incentive compatible (all bundle elements fare better inside the bundle than under standalone pricing), but revenue-sharing schemes feasible with readily available consumption data are not."

the bundle. In the face of information asymmetry, it is appropriate to demand additional reassurance that is not subject to asymmetric information. Standalone published prices are just that kind of assurance in that they are not subject to asymmetric information.

(106) Another feature of the streaming marketplace makes the Services' proposed definition especially unreasonable. The largest service bundles appear to be comprised of other products *that are priced by the same service*. For example, Apple One bundles, which include numerous different services from Apple. The information asymmetry is multiplied in these situations, as Apple can add components and set their prices at will, which could dilute music streaming royalties.

(107) Shifting risk onto copyright owners in this situation without a risk premium is not appropriate under accepted economic theory. Not providing adequate insurance against revenue mismeasurement is also not appropriate under accepted economic theory, if the compulsory rate is meant to reflect a willing buyer/willing seller standard. The fact that the economic indeterminacy of individual bundles cannot be solved in the compulsory rate is *not* a basis for turning over more control over the setting of that rate (through their power to set prices) to the services. That would be akin to seeing difficulty in figuring out how best to protect the henhouse, and then concluding that the fox should be put in charge. As I have discussed, economic principles tell us that willing sellers will insist on protection against the information asymmetry and measurement problems (to the extent that they are aware of them), which is best found through using the standalone published price.

(108) There is also a different kind of asymmetry that comes into play: if it is not possible to set a particular compulsory rate with economic precision, such as because economic precision would give each product a different rate, in which direction is it more economically reasonable to err? Here again, I think the answer is clear. A low rate cannot be remedied by negotiation in the marketplace (since the Service would surely reject such negotiation), while a high rate can.[53] There is a clear asymmetry in the scope of possible negative outcomes.

[53] If a rate is set too high, all it does is set a ceiling on any market negotiations. That is, both parties may agree that a lower rate is beneficial, and go about negotiating mutually agreeable terms.

F. Prof. Farrell's explanation of the willing buyer/willing seller standard supports the use of Shapley methodology more than the other analyses in which he engages

(109) Prof. Farrell begins his report with an outline of the current setting for copyright holders in music, and his interpretation of the willing buyer/willing seller standard. He describes his opinion of effective competition as that, "Efficient and effective competition in intellectual property rights to recorded music would reward the creative contributors in reasonable alignment with their incremental contributions…" (Farrell WDT at ¶12), and that, "Effective competition among appropriate intellectual property rights also tends to calibrate each creative contributor's reward to a level commensurate with its incremental contributions to listener value. As is standard in economics, that pattern of rewards corresponds to an efficient incentive system." (*Id*. at ¶57 (citing Carl Shapiro, "Patent Reform: Aligning Reward and Contribution", *Innovation Policy and the Economy* 8, (2007): 113 ("…economic efficiency is promoted when rewards provided to patent holders are aligned with their actual social contributions."))) He also considers that remunerations of the inputs should be "commensurate with their incremental contributions to overall listener satisfaction, and do not face undue market power …"

(110) As such, Prof. Farrell's description of effective competition does not correspond closely with the analyses he engages in to derive royalty rates, but rather corresponds with an almost exact statement that the Shapley methodology, which is squarely based on remunerations calculated according to incremental contributions and on total removal of any abuse of market power, will deliver the correct payments. This is further supported by his opinion that, "One way to understand the competitive problems … is that a copyright holder can threaten, by withholding a license, to block a disproportionate share of a service's business." Even assuming this problem existed in the market (which Prof. Farrell does not attempt to prove in any empirical fashion), this is simply the "hold-out" problem that is specifically addressed and removed when a Shapley methodology is used.

(111) Prof. Farrell's clear statements of the objectives to be achieved are directly aligned with the Shapley methodology being the most appropriate device for calculating a willing buyer/willing seller rate that reflects an effectively competitive market.

I, Richard Watt, declare under penalty of perjury under the laws of the United States of America that the statements contained herein are true and correct to the best of my knowledge, information and belief.

Executed on April 22, 2022 in Christchurch, New Zealand.

Richard Watt

Appendix A: Prof. Farrell's Nash in Nash Bargaining Model

1. Prof Farrell's publisher opportunity costs are either a red-herring, or they are significantly undervalued

At the very end of his Appendix G, specifically in paragraph 203, Prof. Farrell finds the following equation for the share of revenue going to publisher i (indeed, the same share going to all publishers, since they are all identical):

$$X_i^* = \frac{G_i(A-F) - UAG_i + G_iOC_i}{A(S_i+G_i)}$$

However, in his results, Prof. Farrell links the share of revenue, X_i^*, with the "power ratio", without actually showing that link in his workings. By hiding the relationship between the royalty sharing rule and the power ratio, even though it is central to his results, Prof. Farrell also hides many issues in his model that point to flawed assumptions throughout.

Notice that in the above equation (which is exactly Prof. Farrell's model), there is a common factor on the numerator of G_i which we can factor out to get

$$X_i^* = \frac{G_i\left((A-F) - UA + OC_i\right)}{A(S_i+G_i)}$$

Prof. Farrell defines the "power ratio" as $Z_i = \frac{G_i}{S_i}$. So, multiply both the numerator and the denominator of the equation by $\frac{1}{S_i}$:

$$X_i^* = \frac{Z_i\left(A(1-U) - F + OC_i\right)}{A(1+Z_i)}$$

Now we can factorise out the terms in Z_i:

$$X_i^* = \left(\frac{Z_i}{1+Z_i}\right)\left((1-U) - \frac{F}{A} + \frac{OC_i}{A}\right)$$

This is the equation that Prof. Farrell *should* have given in his report, since it directly relates the negotiated royalty pool, X_i^*, with the power ratio, Z_i. It is still his *exact* model, but now with the relationship between X_i^* and Z_i being clearly observable.

Now, clearly, X_i^* is larger the larger is the publisher's opportunity cost, OC_i, therefore by

excluding this opportunity cost, it must be true that in this model

$$X_i^* \geq \left(\frac{Z_i}{1+Z_i}\right)\left((1-U)-\frac{F}{A}\right)$$

This is an important equation for Prof. Farrell's model, and I will refer back to it thoughout the discussion in this Appendix.

From Prof. Farrell's working papers (Excel files), we find:

$$A = \$9.99,\ U = 0.524 \text{ and } F = \$0.3$$

Substituting these values into the inequality above, we get

$$X_i^* \geq \left(\frac{Z_i}{1+Z_i}\right)\left((1-0.524)-\frac{0.3}{9.99}\right)$$

Carrying out the numerical calculations, this is

$$X_i^* \geq \left(\frac{Z_i}{1+Z_i}\right) \times 0.446$$

So, taking Prof. Farrell's headline value of $Z_i = 0.2$, this gives

$$X_i^* \geq \frac{0.2 \times 0.446}{1.2} = 0.0743$$

That is, with $Z_i = 0.2$, the Nash-in-Nash revenue share for musical works is greater than 7.43%. The number calculated by Prof. Farrell for the $Z_i = 0.2$ scenario is 7.5%. Clearly, the opportunity cost issue, as calculated by Prof. Farrell at quite some effort, is of little relevance, only increasing the rate above the threshold value by 0.07 percentage points. For the case $Z_i = 0.3$, the model gives

$$X_i^* \geq \frac{0.3 \times 0.446}{1.3} = 0.10292$$

That is, 10.29%, which is now only 0.01 percentage points below the reported 10.3%. Finally, if we look at the scenario in which $Z_i = 0.4$, then

$$X_i^* \geq \frac{0.4 \times 0.446}{1.4} = 0.1274$$

In this case, the Nash-in-Nash fraction of revenue for musical works is greater than 12.74%

of revenue. Prof. Farrell's calculation of 12.8% is 0.06 percentage points higher than the threshold, so again we see the irrelevance of opportunity costs as Prof. Farrell has calculated them. In short, the huge calculation effort carried out for the publisher's opportunity costs is little more than a red-herring, since it makes absolutely no material difference to the final outcome of Prof. Farrell's model.[1] Alternatively, one would have quite some doubt as to the value of the opportunity costs that Prof. Farrell has calculated; it seems likely that they are much higher than the values Prof. Farrell reports.

2. The values of Z_i assumed by Prof. Farrell are inconsistent with his model

By definition, the power ratio of publisher i is $Z_i = \frac{G_i}{S_i}$. Cross-multiply the S_i so that this reads as $Z_i S_i = G_i$. Now sum over all publishers; $\sum_i Z_i S_i = \sum_i G_i$. It is necessarily true that $\sum_i G_i = 1$, since G_i is the fraction of subscribers lost if publisher i is lost, so $\sum_i G_i$ is the fraction of subscribers lost if all of the publishers are lost (i.e. there is no music at all to offer to subscribers).[2] Therefore, regardless of whether or not all publishers are identical, it must always be $\sum_i Z_i S_i = 1$. The left-hand side of this is a weighted average, since by definition the sum of the stream shares is 1, $\sum_i S_i = 1$. Therefore the weighted average (with weights equal to stream shares) of the power ratios over all publishers must be 1, regardless of whether the publishers are assumed to be identical or not.[3] Finally, then, if we add in Prof. Farrell's assumption that all of the publishers are identical, and so they must all have the same power ratio, $Z_i = Z$ for all i, then $\sum_i Z_i S_i = Z \sum_i S_i = Z$. In the end, then, since $\sum_i Z_i S_i = 1$, and with identical publishers $\sum_i Z_i S_i = Z$, the only possible value of Z in Prof. Farrell's model is $Z = 1$. That is, the assumption used by Prof. Farrell that all publishers are identical, directly implies that the power ratio of each publisher can only be 100%. Using values of Z_i of 20%, 30% and 40% is inconsistent with the model itself.

Above it has been shown above that Prof. Farrell's exact model delivers a sharing agree-

[1] He notes this fact only buried in a footnote within an appendix (para. 195, footnote 252). This is a very unhelpful approach. Prof. Hauser's entire report is for the purpose of this publisher opportunity cost analysis, and Prof. Farrell spends 10 pages of his main report and an entire Appendix discussing publisher opportunity costs. And then, buried in footnote 252, he acknowledges that the entire analysis turns out to be essentially irrelevant to his opinions.

[2] I have assumed that $\sum_i G_i = 1$, i.e. if all publishers withdraw, there is no music to play, so all subscribers are lost, which is surely true. However, in fact it is very reasonable that $\sum_i G_i > 1$. Recall that the subscription cost is held constant at A. This is certainly a price that achieves many subscribers when all publishers (and so all music) are present. But imagine that only some (relatively small) fraction of publishers are present. There would be a serious loss in musical catalog, and it is therefore reasonable to assume that, even if there is still some small amount of music left, no subscriber finds it worthwhile to subscribe at the price A. Say it happens that all subscribers are lost when a given fraction λ of the publishers are withdrawn. Then it would be the case that $\lambda \sum_i G_i = 1$, or $\sum_i G_i = \frac{1}{\lambda} > 1$.

[3] In fact, it may well be that the weighted average of the power ratios Z_i is *greater than* 1. This would happen if, as has just been argued in the previous footnote, $\sum_i G_i > 1$.

ment that satisfies

$$X_i^* \geq \left(\frac{Z_i}{1+Z_i}\right) \times 0.446$$

However, since the power ratio Z_i can only be equal to 1, in reality Prof. Farrell's Nash-in-Nash model predicts

$$X_i^* \geq \left(\frac{1}{1+1}\right) \times 0.446 = \frac{0.446}{2} = 0.223$$

That is, the MW share of revenue should be no smaller than 22.3%. Since (in Prof. Farrell's calculation) the Publisher's opportunity costs are in fact essentially irrelevant, an internally consistent version of Prof. Farrell's model generates a musical works sharing rate of about 22.3% of revenue.

3. Interpretation of the power ratio in Farrell's Bargaining Model

As I have noted in my point 1 above, in Prof. Farrell's bargaining model (exactly as he presents it), the equation for the share of revenue going to publisher i (indeed, the same share going to all publishers, since they are all identical), can be expressed as:

$$X_i^* = \left(\frac{Z_i}{1+Z_i}\right)\left((1-U) - \frac{F}{A} + \frac{OC_i}{A}\right)$$

In this equation, we can ignore the term $\frac{OC_i}{A}$, which captures the opportunity costs of the publishers, because in Prof. Farrell's calculations that cost is miniscule. Therefore, his model boils down to

$$X_i^* = \left(\frac{Z_i}{1+Z_i}\right)\left(1 - U - \frac{F}{A}\right)$$

Here, X_i^* is the share of revenue going to the publishers, and U and $\frac{F}{A}$ essentially represent the costs of the service (payments for sound recordings, and other costs).

We can easily compare this model to a more conventional one in which there is no "power ratio", but in which there is a general bargaining power parameter. The easiest place to find such a model is in the expert reports submitted by Profs. Katz and Marx in the remand of Phonorecords III. In both of those models, a service negotiates with a copyright supplier, taking as given the payment for the other copyright supplier. Even though the remand reports were focussed on the negotiations between a service and a label, taking the musical works rate as given, structurally there is absolutely no difference between that and a model

of a service negotiating with a publisher and taking the sound recording rate as given.

The closest model to Prof. Farrell's setting is the one put forth by Prof. Marx, because both of those models make the same assumption regarding the costs of the bargaining copyright holder (i.e. no fixed costs).[4] The equation for the bargained royalty rate in the model of Prof. Marx (maintaining her exact notation) is:

$$\delta = \mu(1 - r_d - \theta)$$

In this equation, δ is the share of revenue going to the copyright holder, r_d represents the costs of the service, and θ is the payment (share of revenue) for the other copyright holder. The parameter μ measures the relative bargaining power of the copyright holder participating in the bargaining process. Thus, we can see an exact equivalence between this model and that proposed by Prof. Farrell. Specifically, Prof. Farrell's X_i^* corrsponds to Prof. Marx's δ, Prof. Farrell's $\frac{F}{A}$ corresponds to Prof. Marx's r_d, Prof. Farrell's U corresponds to Prof. Marx's θ, and Prof. Farrell's $\frac{Z_i}{1+Z_i}$ corresponds to Prof. Marx's μ.

We therefore have the fundamental insight that

$$\frac{Z_i}{1 + Z_i} = \mu$$

and so a choice of Z_i has exactly the same effect as a choice of μ in a conventional bargaining model. Since μ is the bargaining power of the copyright holder in the negotiations, the bargaining power of the Service is given by

$$1 - \mu = 1 - \frac{Z_i}{1 + Z_i} = \frac{1}{1 + Z_i}$$

Given that, we can see that when Prof. Farrell chooses a value for Z_i, he is effectively (albeit implicitly) chosing a value for the bargaining power of the Service in question. Prof. Farrell's headline choice for Z_i is 0.2. This is exactly equivalent to assuming a conventional bargaining model in which the Service has bargaining power equal to $\frac{1}{1+0.2}$, or approximately 0.83. Clearly, such a number for the bargaining power of the Service if it were to negotiate with a publisher in a free and unrestricted market is starkly in contrast with all of the arguments put foward by the Services, which amount to the music copyright holders having

[4] Prof. Katz assumed fixed costs, which changes slightly the final equation reached.

by far the balance of bargaining power. It is therefore clear that either Prof. Farrell's choice of Z_i is entirely unrealistic, or it contradicts the theory that the copyright holders have most of the bargaining power in free and unrestricted negotiations regarding license payments.

Indeed, the following table reports the implied bargaining power split between the Service and Publishers delivered by Prof. Farrell's model, for a range of values of the power ratio, including the two chosen by Prof. Farrell (20% and 40%):

"Power ratio" parameter	Corresponds to the following bargaining power parameters		Delivers following royalty rate as a % of revenues
	Service	Publisher	
20%	83.3%	16.7%	7.5%
40%	71.4%	28.6%	12.8%
100%	50%	50%	22.3%
150%	40%	60%	26.9%
200%	33.3%	66.6%	29.9%

In fact, Prof. Farrell's model is premised on the idea that the copyright holder (the publisher) and the service have the same bargaining power, that is, $\mu = 1 - \mu = \frac{1}{2}$. Consistency, then, again requires that he set $Z_i = 1$ so that $\frac{1}{1+Z_i} = \frac{1}{2}$, which is the only way the implied bargaining power can come out to be one-half.

4. Prof. Farrell's model is based on a very unrealistic assumption of publishers

Prof. Farrell's model rests upon an assumption that all publishers are equal, and that each publisher has a streamshare of 1%, that is, his model contains 100 publishers, each with 1% streamshare. The Service is not a must-have for any particular Publisher, nor is any particular Publisher a must-have for the Service. Prof. Farrell justifies his model set-up with the statement (Farrell report, footnote 216):

> "Based on an internal Spotify document, there are not hundreds, but thousands of publishers in operation today. Based on the total number of publishers (which is well over 15,000), I determine that the existence of publishers who maintain a share smaller than 1% is not only possible, but common in the marketplace."

In fact, that there might be literally thousands of publishers with streamshares of less than 1% does not justify a model that contains *only* 100 publishers each with a streamshare

of 1%. If one looks at the list of music publishing companies ranked according to their market share, we see that the three largest companies (Sony Music Publishing, Universal Music Publishing Group and Warner Chappell Music) together account for about 50% of all streams. (Watt CWDT at ¶ 210) Clearly, Prof. Farrell's model is totally non-representative of the market.[5]

Of course, by modelling the Publisher side of the market by many tiny units, and the Service side of the market by a single player, Prof. Farrell grossly biases things in favor of the Service.

5. Prof. Farrell's model misanalyses costs in several inappropriate ways

a) Opportunity costs and outside options

A well-established principle in bargaining theory, the "Outside Options Principle", establishes that outside options and opportunity costs should not be included as if they were financial costs in a Nash bargaining model. I have already given a detailed explanation of this in my rebuttal report submitted for the remand proceedings in *Phonorecords III*. (Watt CWDT, Appendix F at ¶¶ 52-78) In his model, in direct violation of the Outside Options Principle, Prof. Farrell includes an outside option for the publisher,[6] and he also includes the opportunity cost for the Service as if it were a financial cost. The first is introduced in a very direct manner, while the second is introduced without any clear or obvious indication that an opportunity cost is included. As I have already mentioned above (in point 1), the inclusion of opportunity costs for the Publisher, while inappropriate, has no material effect upon the model, since Prof. Farrell estimates those costs to be borderline zero anyway. Of far greater concern is the inclusion of the Service's outside option as if it were a financial cost. The Service's opportunity cost appears when the payoff to the Service is assumed to be what they can achieve with publisher i involved less *what they could achieve if no deal is closed with that publisher*. What the Service can achieve without the publisher is exactly the opportunity cost, or the outside option, for the Service. Since, in Prof. Farrell's model, the Service's opportunity cost (profit without publisher i) is almost equal to their profit with publisher i, this leads to a massive opportunity cost imbalance between the two players

[5] In his paragraph 34, Prof. Farrell recognises that the actual market does not in fact look anything like 100 publishers with 1% market share and a single service.

[6] Prof. Farrell refers to this opportunity cost explicitly as an "outside option"; Farrell report, paragraph 141.

in the model, which severely biases the final result of the model towards a smaller revenue sharing rate.

An appropriate set-up of the model in terms of opportunity costs (outside options) would have the Service counting its profit if a deal is struck with the publisher, and with the Publisher's payoff being simply the payment from the Service for participating.[7] Then, there would be two constraints upon the standard Nash maximisation process. First, what the Service achieves through the negotiated deal must be no less than their opportunity cost (what they achieve by not closing a deal with publisher i), and second what that Publisher achieves through the negotiated deal must be no less than their opportunity cost. The outcome would almost certainly be that neither constraint binds, since (i) Prof. Farrell estimates that the Publisher's outside option is irrelevant in terms of its value, and (ii) the model is set up such that the Service's opportunity cost is *always* smaller than what they achieve through the bargain.

b) Publisher financial costs

Another clear bias that Prof. Farrell directly includes in his model is that, while he takes the financial costs of the Service into account (the payments to labels, and variable costs per subscriber), he does not allocate any financial costs at all to the Publisher. That is totally unreasonable, and it has the effect of reducing the final revenue sharing rate to a level below what an appropriately modelled bargain would deliver. Since including financial costs for the Publisher is a simple and straight-forward addition to the model, I can only conclude that Prof. Farrell decided not to include them because he was aware that any reasonable assumption on the value of those costs would cause his model to deliver a revenue sharing rate that was higher, perhaps much higher, than what he wanted to see eventuate.

[7] Actually, as I mention below, the Publisher should also be able to deduct financial costs related to the business. Prof. Farrell completely ignores this in his model, thereby biasing his results towards lower royalty rate outcomes.

Appendix B: Label and service negotiation with a TCC rate for musical works

(112) Several of the Services' experts have condemned the inclusion of an uncapped TCC in the statutory rate structure arguing that, by anchoring the musical works rate to the sound recording rate, the royalty burden of the Services will increase severely. However, this fear is ungrounded. As it happens, by the very nature of the bargaining process between labels and services, under a structure that has *only an uncapped TCC* the total royalty burden is *constant* independent of the actual TCC rate that is set, and it is *lower* than the total royalty burden under a structure that contains only a share of revenue (herein after, SOR) rate, regardless of exactly what revenue sharing rate is set. In this appendix, I show this to be the case when the negotiation between labels and services is modelled using the Nash bargaining model.[54]

(113) Consider the standard Nash bargaining model, but under the assumption that instead of there being a set share of revenue (SOR) rate, θ, as payment for musical works, there is a TCC rate, τ, such that if the negotiated share of revenue for sound recordings is δ, then the payment for musical works is at the rate $\tau\delta$. In this model then, the total royalties that the service will pay is a fraction of revenue equal to $\delta(1+\tau)$, and the label and service bargain over the value of δ.

(114) The Nash bargaining model solution sharing rule for sound recordings, δ^*, is the value of δ that maximises:

$$(R - r_d R - \delta(1+\tau)R)^{1-\mu}(\delta R(1-r_L))^{\mu}$$

where R is total service revenue, $r_d R$ is the service's non-content costs (expressed as a fraction of revenue), $\delta R r_L$ is the label's costs (expressed as a fraction of the label's revenue), and μ is the

[54] The Nash bargaining model has been used extensively in many prior proceedings before the CRB to explain the negotiation process between services and copyright holders.

label's bargaining power (which is a parameter valued strictly between 0 and 1).[55] In this equation, we can factor out R, and thus we only need to maximise

$$(1 - r_d - \delta(1+\tau))^{1-\mu}(\delta(1 - r_L))^{\mu}$$

(115) The first-order condition for an optimal value of δ is

$$-(1-\mu)(1 - r_d - \delta^*(1+\tau))^{-\mu}(1+\tau)(\delta^*(1 - r_L))^{\mu} + \mu\big(1 - r_d - \delta^*(1+\tau)\big)^{1-\mu}\big(\delta^*(1 - r_L)\big)^{\mu-1}(1 - r_L) = 0$$

(116) Taking out the common factor, we get

$$\big[\big(1 - r_d - \delta^*(1+\tau)\big)^{-\mu}\big(\delta^*(1 - r_L)\big)^{\mu}\big][-(1-\mu)(1+\tau) + \mu\big(1 - r_d - \delta^*(1+\tau)\big)\big(\delta^*(1 - r_L)\big)^{-1}(1 - r_L)] = 0$$

(117) The first bracketed term is positive, so the second bracketed term is equal to 0;

$$(1-\mu)(1+\tau) = \mu\big(1 - r_d - \delta^*(1+\tau)\big)\big(\delta^*(1 - r_L)\big)^{-1}(1 - r_L)$$

(118) The term $(1 - r_L)$ cancels, leaving us with

$$(1-\mu)(1+\tau) = \frac{\mu\big(1 - r_d - \delta^*(1+\tau)\big)}{\delta^*}$$

(119) This is just

$$(1-\mu)(1+\tau)\delta^* = \mu(1 - r_d) - \mu\delta^*(1+\tau)$$

(120) Collecting common terms gives

$$\delta^*(1+\tau) = \mu(1 - r_d)$$

[55] It makes little sense to set up a bargaining model with an extreme value of the bargaining power parameter (either 0 or 1). Such a setting is essentially a case of pure monopoly which makes a take-it-or-leave-it offer. Bargaining per se does not happen.

(121) So that the negotiated sound recording rate will be

$$\delta^* = \frac{\mu(1 - r_d)}{1 + \tau}$$

(122) Given this sound recording rate, the payment to musical works will be a fraction of revenue equal to

$$\frac{\tau\mu(1 - r_d)}{1 + \tau}$$

and the total royalty burden is just

$$\frac{\mu(1 - r_d)}{1 + \tau} + \frac{\tau\mu(1 - r_d)}{1 + \tau} = (1 + \tau) \times \frac{\mu(1 - r_d)}{1 + \tau} = \mu(1 - r_d)$$

(123) We can see, then, that the total royalty burden when the musical works license is paid for under an uncapped TCC, $\mu(1 - r_d)$, is constant (i.e. independent of the actual TCC rate used). Why is this so? Well, the label receives a fixed fraction of the total royalty payment, and so the objective of the label is to negotiate as if it were negotiating the total royalty, rather than just their part of that total royalty. After all, the higher is the total royalty, the higher will be the label's payoff.

(124) Further, notice that at the Nash bargaining solution, the services will end up retaining a fraction of revenue equal to

$$1 - r_d - \mu(1 - r_d) = (1 - \mu)(1 - r_d)$$

which is also independent of the TCC rate τ. This tells us that the share of revenue that is retained by the service is always the same, regardless of what TCC rate is set.

(125) What a pure TCC system does, then, is to give the labels the incentive to negotiate always a deal such that the total royalty payment by the services is a constant, regardless of exactly which TCC rate is in place. Then, the TCC rate only serves the purpose of dictating how that total royalty pool is shared between the sound recording and musical works copyright holders, with a fraction $\tau/(1 + \tau)$ of the royalty pool going to musical works, and a fraction $1/(1 + \tau)$ going to sound

recordings. In short, under a pure TCC system, capping the TCC rate is totally unnecessary – the negotiations between the service and the label imply that total royalty payments are effectively capped anyway by the bargaining process itself.

(126) It is a simple matter to compare the pure uncapped TCC model with a pure SOR model, such as has been put forward in the Services' rebuttal reports of *Phonorecords III*.[56] In the Nash bargaining solution in a model in which, instead of a pure TCC rate, the musical works copyright holders are remunerated with a statutorily set fraction of the surplus (SOR) equal to θ, the Nash bargaining negotiated sound recording rate is $\delta^* = \mu(1 - r_d - \theta)$.[57] Thus, the total royalty burden, expressed as the fraction of revenue that is paid in royalty license fees, in such a model is

$$\theta + \delta^* = \theta + \mu(1 - r_d - \theta) = \mu(1 - r_d) + (1 - \mu)\theta$$

(127) Clearly, regardless of the value of θ that is chosen, this is strictly greater than the total royalty license fee fraction of revenue under the pure uncapped TCC model (which is only the term $\mu(1 - r_d)$), since $\mu < 1$. In the SOR model, the service retains a share of revenue equal to

$$1 - r_d - \theta - \delta^* = 1 - r_d - \theta - \mu(1 - r_d - \theta) = (1 - \mu)(1 - r_d - \theta)$$

as opposed to $(1 - \mu)(1 - r_d)$ in the pure TCC model. Given that $\theta > 0$, it is evident that the service clearly retains a greater share of revenue under a pure TCC rate than under a pure SOR rate system, regardless of what the TCC rate and the SOR rate actually are. In short, given a choice between either of the two models as pure sharing rules, the services have a strict preference for a pure TCC system over a pure SOR system, regardless of which parameters are set in place.

(128) This seemingly strange result is actually not so strange once we look through the model for intuition. The intuition for the result that under a pure uncapped TCC, the label will always negotiate such that the total royalty payment is constant. We also know that, in a model in which

[56] For example, such a model can be found in the *Phonorecords III* rebuttal report of Prof. Marx.

[57] See the paragraph 70 of the appendix of the rebuttal report of Prof. Marx, *Phonorecords III*.

there is a SOR rate only, (ceteris paribus) the higher is the share of revenue that is set, the lower will be the negotiated sound recording rate (the see-saw effect). In effect, under a SOR system, the negotiated sound recording fee (as a share of revenue) is

$$\delta^* = \mu(1 - r_d - \theta) = \mu(1 - r_d) - \mu\theta$$

(129) That is, when musical works is paid by a SOR, the label's fee consists of the total royalty burden under the TCC system, less a fraction μ of the SOR rate. But since $\mu < 1$, the label undercuts the equivalent total TCC license fee by less than what the service must pay under the SOR system to musical works. Naturally, this implies that the SOR total royalty burden rises above the TCC total royalty burden.

(130) In short, it is always possible to design a TCC system in which the musical works copyright holders get a share of revenue payment that is equal to what they receive under any given pure SOR rate system. Such a model will simply give a lower total royalty burden for the services, and correspondingly a lower payment to sound recording copyright holders. The TCC system also has the added virtue of guaranteeing that the total royalty is held constant, in spite of the TCC payment being uncapped.

Appendix C: Materials Relied Upon

(This list is in addition to materials cited directly in the report and Appendices and materials identified as relied upon in my previous reports in this proceeding and the *Phonorecords III* proceedings)

Academic Books, Journal Articles, and other Academic Literature

- As cited in the report

Restricted Documents

21-CRB-0001-PR (2023-2027)

- Written Direct Statement of Amazon, Volume I
- Written Direct Statement of Apple, Volume I
- Written Direct Statement of Google, Volume I
- Written Direct Statement of Spotify, Volume I
- Written Direct Testimony of Joseph Farrell (and workpapers)
- Amended Corrected Written Direct Testimony of Joseph Farrell
- Written Direct Testimony of Gregory Leonard
- Written Direct Testimony of Leslie Marx
- Written Direct Testimony of Stephen Prowse
- Written Direct Testimony of Elena Segal
- Written Direct Testimony of Tami Hurwitz
- Written Direct Testimony of Niklas Lundberg
- Written Direct Testimony of Kajal Gayadien
- Written Direct Testimony of David Kaefer

Other proceedings

- Final Determination, Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings (*Web IV*), 81 Fed. Reg. 26316 (May 2, 2016)

- Final Determination, Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings (*Web V*), 86 Fed. Reg. 59452 (October 27, 2021)

Public Documents

- As cited in the report

Appendix D: *PHONORECORDS III (REMAND)* ADDITIONAL WRITTEN DIRECT TESTIMONY

PUBLIC VERSION

Before the
COPYRIGHT ROYALTY BOARD
LIBRARY OF CONGRESS
Washington, D.C.

In re DETERMINATION OF ROYALTY RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords III)	Docket No. 16-CRB-0003-PR (2018-2022) (Remand)

ADDITIONAL WRITTEN DIRECT TESTIMONY OF RICHARD WATT (PHD)

(On behalf of Copyright Owners)

JANUARY 24, 2022

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I. Scope of assignment

(1) At the request of the Copyright Owners in this proceeding, the National Music Publishers' Association and the Nashville Songwriters Association International, I was asked to evaluate the questions and proposals in two orders from the Copyright Royalty Judges (the "Judges"), the December 9, 2021 *Notice and Sua Sponte Order* (the "December 9 Order"), eCRB Docket No. 25965, and the January 6, 2022 Order on Copyright Owners' Motion For Reconsideration (the "January 6 Order", and together with the December 6 Order, the "AMOs"), eCRB Docket No. 26039, including with respect to the "Working Proposal" discussed therein. My qualifications and CV are included in my Remand Written Rebuttal Testimony in this proceeding, filed on July 2, 2021, eCRB Docket No. 25425.

(2) I understand that there are legal concerns regarding the procedure of the AMOs and Working Proposal, addressed by counsel in separate briefing. I do not consider such legal issues or objections, but evaluate the AMOs and Working Proposal as economic proposals independent of the legal context and objections in which they arise.

II. Summary of opinions

(3) An overview of some of my primary opinions is as follows:

(i) The Judges are insightful in their determination that a combined royalty share of [redacted] percent of revenues is inappropriately low, and such a low share is unjustified under any proper Shapley analysis. My adjustment of Prof. Marx's model delivered a range of [redacted] percent for combined royalties, and my analysis incorporated assumptions from Prof. Marx that made it conservatively low. Prof. Gans' robust rebuttal Shapley model predicted combined royalties at [redacted] percent even when maintaining Prof. Marx's decision to model a single monopolist service, and up to [redacted] percent with other player modelling. These Shapley ranges are appropriate to address the Judges' query.

(ii) The Working Proposal formula for deriving revenue rates is, mathematically, exactly the same formula used to derive revenue rates in the Final Determination published on February 5, 2019 ("Final Determination"), and is thus of course consistent with that determination. However, there is an impactful error in one of

the inputs in the Working Proposal. The Board's Shapley-derived ratio of sound recording to musical work royalties was 2.5:1, chosen out of a range from [redacted]. I will refer to this ratio in this report as the Shapley Content Share Ratio. The Working Proposal mistakenly substitutes 3.82:1, which is not a Shapley-derived ratio, but which comes from an *adjusted* TCC rate which itself was derived *from* the revenue rate. This output should not be used as an input to the very calculation from which it came.

(iii) The Judges appropriately raise important doubts about whether record company market power should impact the derivation of rates from Shapley analysis. I believe the answer is firmly in the negative. Not only does Shapley analysis eliminate the effects of abuse of market power, but in the current marketplace, there is no compelling support for the notion that record companies wield abusive market power over the services. On the contrary, the services possess a substantial information asymmetry that gives them the ability to obtain supranormal shares of the surplus from music streaming (including surplus that goes beyond the declared Service Provider Revenue on which the revenue rate royalties are calculated).

(iv) The Judges' framing for the Working Proposal appears to assume a dollar-for-dollar "see-saw" between sound recording and musical work royalty rates. As discussed in my rebuttal report, I do not think that this is a certain conclusion or a necessary assumption. The salient Nash bargaining insight captured by the Board is that a reduction of surplus would be *proportionally* borne by the labels. If the labels had in fact negotiated for nearly all of the surplus, then the reduction would be borne largely by them. And if the labels had *not* obtained nearly all of the surplus, then (1) the services would bear their proportion of a reduction in surplus and (2) this would further contradict arguments that there is a record company market power problem, since the services are successfully bargaining for and obtaining surplus. As I discussed in detail, the Board correctly captured the critical point, and the actual negotiated surplus shares do not change the calculus, since the bargaining parties will take changes into account and proportionally adjust as needed. The evidence on actual outcomes presented in the remand is entirely consistent with this analysis.

III. Concerns with the AMOs and Working Proposal

(4) As noted above:

- The AMOs accurately confirm that [redacted] percent combined royalties is too low and is not a reasonable Shapley analysis result.
- The Working Proposal is exactly the same formula for deriving a revenue rate as used the Final Determination, except that it utilizes a Shapley Content Share Ratio that is too high, falling even outside the range of ratios from Shapley analyses contemplated by the Board.

(5) Below, I will attempt to describe economic concepts that are raised in the AMOs and the Working Proposal, and address their consistency with the Final Determination and record. I will begin by taking a moment to explain some of the basics surrounding what a Shapley model "delivers" in results, and the different ways that one can portray those results. My hope is that this will help to unravel a conflation that has occurred between the Shapley Content Share Ratio and the adjusted TCC rate.

A. Explaining Shapley analysis results

(6) A Shapley model will simultaneously deliver surplus shares for all of the players in the model, which together add up to 100% of the surplus. Thus, if there are 3 players in the model, the Shapley will deliver 3 shares that together add up to 100%.

(7) The direct result of Shapley modeling is to deliver defined units of surplus (such as dollars or some other currency) to the players, rather than percentages or relative shares. However, the units of surplus are easily converted into percentages or relative shares. Here are different ways of portraying Shapley results, using a particular example:

Units

(8) As discussed above, a three-player Shapley analysis in a model with total available surplus equal to 50 units will directly deliver three shares of surplus in defined units, such as:

- 10 units to P
- 25 units to L
- 15 units to S

Percentages of the whole

(9) In order to better understand the context for unit shares, one could also represent them as percentages of the whole, by dividing each share into the whole:

- P's 10 out of 50 units are equivalent to 20% of the total surplus
- L's 25 out of 50 units are equivalent to 50% of the total surplus
- S's 15 out of 50 units are equivalent to 30% of the total surplus

Relative Shares: Ratios and Percentages

(10) In order to better understand relative positions, one could also directly represent player units in relation to other player units, such as:

- L's share = 2.5 x P's share
- S's share = 1.5 x P's share

(11) A more common way to describe these relationships is through a ratio (the quantitative relation between two amounts showing the number of times one value contains or is contained within the other):

- The ratio of L's share to P's share is 2.5:1 ("2.5 to 1")
- The ratio of P's share to L's share is 1:2.5 ("1 to 2.5")

(12) One can express these same ratio relationships in terms of fractions or percentages of one another, simply by taking one side of a ratio and dividing it by the other side of the ratio. Thus:

- The ratio of L's share to P's share is 2.5:1, so L's share is $\frac{2.5}{1}$ of P's share. $\frac{2.5}{1}$ is 2.5, which corresponds to 250% of P's share.
- In the other direction, P's share is $\frac{1}{2.5}$ of L's. $\frac{1}{2.5}$ is .40, which corresponds to 40% of L's share.

(13) These example shares of L and P are not arbitrarily chosen, but reflect the Board's Shapley Content Share Ratio, a 2.5:1 ratio of sound recording to musical work shares. When this ratio is expressed as a percentage, it can be seen as a TCC rate insofar as it states a musical work rate as a percentage of sound recording royalties.[1] Here, the 2.5:1 Shapley Content Share Ratio is mathematically equivalent to a 40% TCC rate.

[1] The ratio is expressed as "2.5:1" in the Final Determination, listing the sound recording share first, but can equally be expressed in the other direction, as "1:2.5", and described as the derived ratio of musical works to sound recording royalties.

(14) This process of expressing a ratio as a percentage relationship (1:2.5 = 40%) is straightforward mathematically, but the Board's use of a modified process to adjust the TCC rate has led to conflation of two distinct concepts in the AMOs and Working Proposal: (1) the Shapley Content Share Ratio, and (2) the *adjusted* TCC rate, which is derived from a different analysis. As shown below, the conflation of these two figures creates an inconsistency between the Working Proposal and the Board's findings in the Final Determination concerning the Shapley analyses.

B. How the 15.1% revenue rate was derived from Shapley analysis

(15) The Board derived the revenue rate percentage using two data points from Shapley analysis:

- The [redacted] combined royalties figure from Prof. Marx
- The 2.5:1 SR:MW ratio from Prof. Gans

(16) To be clear, while the Board's zone of reasonableness included a number of other data points, the final revenue rate of 15.1% is derived solely from these two data points. The appeals court in this proceeding accurately described this methodology and calculation in its decision. The court goes beyond my discussion to address evidence behind the full zone of reasonableness, but its summary of the Board's final derivation is:

> The Board ultimately settled on the revenue rate of 15.1% "based on the [[redacted]] highest value of overall royalties predicted by Professor Marx's model and the [2.5:1] ratio of sound recording to musical work royalties determined by * * * Gans's analysis." (84 Fed. Reg. at 1959–1960.)

Figure 1

[redacted]

(17) I will now walk through just how the revenue rate was derived from these two points.

(18) Going back to our initial point above, namely that a Shapley model will deliver the shares for all of the players simultaneously, we might ask why one would engage in determining the ratio of one player to another. The answer to this lies in the specific method that the Board used to derive the Shapley shares in this case. Due to the Board's lack of sufficient confidence in any of the individual Shapley models presented as a whole, the Board derived Shapley shares in two steps, using two models. The first step divides the pie into two slices. The second step divides one of those slices into two smaller slices. The two steps together accomplish the shares at issue. Here are the steps:

> Step One: the Board derived the split of surplus between two sides: (1) the digital services (S) on one side, and (2) the combined copyright owners (L+P) on the other. The split was determined using Shapley conclusions from Prof. Marx. The Board utilized [redacted] of the total for the combined royalties (L+P), and thus [redacted] of the total for the services.[2]
>
> Step Two: the Board determined the split of the combined royalties, in other words, the specific, smaller, shares for sound recording copyright owners (L) and musical work copyright owners (P). This was done using Shapley analysis from Prof. Gans, which determined the ratio to be 2.5:1. This ratio means that if there were 3.5 units of combined royalties, L's share would be 2.5 units and P's share would be 1 unit. If there were instead 7 units of combined royalties, L's share would be 5 units and P's share would be 2 units. And so on. Because P gets 1 unit for every 3.5 units of combined royalties, we can say that P gets $\frac{1}{3.5}$ of the combined royalties. Likewise, because L gets 2.5 out of every 3.5 units of the combined royalties, we can say that L gets $\frac{2.5}{3.5}$ of the combined royalties. Now we can see how simple the math is: to determine P's share, we simply multiply the [redacted] combined royalties by P's $\frac{1}{3.5}$ share. [redacted] x $\frac{1}{3.5}$ is the same thing as [redacted] divided by 3.5, and we see that [redacted]. The derivation of the revenue rate was as straightforward as that.[3]

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[2] As discussed further below, this was a notable decision because the Board had just previously determined, quite correctly in my view, that the [redacted] was part of a set of combined royalty values that "understate what would be a fair allocation of surplus to the upstream content providers." The Board now indicates an understanding that this value was indeed too low, and should be raised in order to calculate a fair royalty percentage. (December 9 Order, p.3, fn. 5, "the Judges do not find it appropriate to include in their analysis Professor Marx's assumption that the Services should retain [redacted] of the revenue generated by streaming, and the mechanical works royalty rate in the Judges' contemplated approach accordingly is higher than under Professor Marx's approach.")

[3] These same steps can be taken to derive L's share directly. [redacted] x $\frac{2.5}{3.5}$ is the same as [redacted] divided by 1.4, which equals [redacted] is of course also 2.5 x 15.1%, and [redacted] (allowing for errors due to rounding).

(19) With these two steps, the Board derived the shares for the 3 players in the Shapley analysis. Again, all three shares could be output simultaneously if a single Shapley model was being used, so the two steps are a function of the Judges utilizing aspects of two different Shapley models.[4]

(20) It is important to understand that this two-step derivation is still based entirely upon Shapley analysis outputs. It does not incorporate any record company market power distortions, and cannot warrant reduction due to such concerns, such as the Board's complementary oligopoly concerns with respect to the TCC prong, discussed below. The Board even refers to the revenue rate derived with its formula as the "(non-complementary-oligopoly) percentage revenue rate." (Final Determination at 73.)

(21) Therefore, regardless of what one might think concerning record company market power (which again I discuss below), the 15.1% revenue rate cannot be considered too high or inflated by any record company market dynamics. Quite the opposite, as noted above (footnote 2), the Board chose for its combined royalties input here a figure that it acknowledged was *too low*, and which thereby delivers a revenue rate that is too low.

C. How the adjusted TCC rate was derived from the 15.1% revenue rate

(22) The Board acknowledged that the direct TCC rate implicated by its Shapley analysis was 40%, based on the Shapley Content Share Ratio of 2.5:1. (Final Determination at 72, 75 (tables).) However, the Board did not use this directly-derived TCC rate out of concern for "importing complementary oligopoly profits" of record companies through the TCC rate. (Final Determination at 73.)

(23) The Board derived an "adjusted TCC" rate to address its concern. This rate was also derived using two data points, but both different than the ones used to calculate the revenue rate, and with the derived 15.1% revenue rate as one of the *inputs* to the adjusted TCC rate calculation.

(24) It is important to recognize at the start that this adjustment process only applies to the TCC rate, since that is the rate that could "import" record company market power to the musical work rate. As discussed above, the "non-complementary-oligopoly" revenue rate was derived using Shapley

[4] The Board shows the result of this calculation in two tables in the Final Determination, on pages 72 and on page 75. The chart on page 72 is aptly titled, "Implied Musical Work Royalty (% of revenue) Based on Ratio and Total Royalties."

analysis and cannot "import" record company market dynamics, but on the contrary was set using an input (the [redacted]% combined royalties) that "understates" fair royalties.

(25) The adjusted TCC rate was derived using:

- The derived musical work revenue rate percentage (15.1%)
- The actual combined royalty rate in the market, [redacted] to represent the market ([redacted]%)

(26) We can see that these two metrics are the only inputs in the formula expressed by the Board:

> The target TCC rate is computed using the formula $TCC = 1 \div ((R_t/R_{mw}) - 1)$, where R_t is the **combined royalty rate in the marketplace** ([[redacted]]%), and R_{mw} is **the musical work royalty rate yielded by the Shapley value analysis**. (Final Determination at 73, fn. 135.)

Figure 2

[redacted]

(27) As this shows, the January 6 Order statement that the Working Proposal "appl[ies] without alteration the Majority's 26.2% TCC that generated the percent-of-revenue rate of 15.1%", should be corrected. (January 6 Order at page 9 (citing to page 75 of the Final Determination).) The 26.2% adjusted TCC does not generate the 15.1% revenue rate, but rather it is the reverse.

D. [redacted] mirrors the formula used in the Final Determination

1. The Working Proposal utilizes the same base formula as the Final Determination

(28) The Judges have put forth a formula for deriving the musical works rate in the Working Proposal. As it happens, this Working Proposal formula mirrors the formula used by the Board in the Final Determination for deriving the 15.1% revenue rate, but with the Shapley Content Share Ratio changed.

(29) The two formulas are exactly equivalent expressions using two variables: (1) a combined rate for sound recording and musical works; and (2) a ratio of sound recording to musical work royalty rates. As discussed above in connection with the formula used in the Final Determination, the first variable divides the pie into two slices (the combined content share and the service share) and the second variable divides the content slice into a sound recording slice and a musical work slice.

(30) The formula is quite simple. It works on the premise that: Combined Rate = Sound Recording Rate + Musical Work Rate. Of course, if one knows 2 out of 3 rates, it is easy to solve for the third. But if one knows 1 out of 3 rates and the *ratio* of the other two rates to each other, it is also easy to solve for them. This is what the formula does.

(31) Despite being the same formula, the Working Proposal formula at first glance may seem different. This is simply the result of different terminology. While the Board discussed "combined royalties", the Working Proposal discusses what the Services are "allowed to retain." Despite the distinct phrasing, what the Services are "allowed to retain" is just the difference between total surplus and combined royalties. The Judges acknowledge this in the January 6 Order:

> [T]he Working Proposal uses a hypothetical percent-of-revenue rate of 32% as the revenue percentage that the complementary oligopolistic Major record companies allowed the Services to retain. Arithmetically, this 32% example means that the licensors of the sound recordings and the musical works would have been paid 68% of the revenues generated by interactive services. (January 6 Order at 9.)

(32) Further, while the Final Determination solves directly for the musical work rate, the Working Proposal solves for the sound recording rate (requiring an extra step to then solve for the musical work rate from the sound recording rate).

(33) In the Board's discussion of deriving the rates, it provides tables solving for both the musical work and the sound recording rate with this formula. (Final Determination at 72.) The Working Proposal method is the same as reflected in the second table on page 72, except with the Shapley Content Share Ratio changed.

2. The Adjusted TCC rate cannot be substituted for the Shapley Content Share Ratio in the formula

(34) The Judges appear to have an intention for the Working Proposal to use the same Shapley Content Share Ratio as was determined in the Final Determination, except applied to a higher combined royalty rate:

> Thus, in the Working Proposal, the Judges indicated their interest in potentially identifying from the existing record an appropriate percentage of revenue that these complementary oligopolists allow the Services to retain, and then **applying the same percentages that the Majority utilized in the Phonorecords III Determination**. Simply put, **the Judges have not indicated a willingness to revisit the Shapley Value proportions**, but rather to apply them in a formula that is based on the record and that reflects the actual workings of the market. (January 6 Order at 6.)

(35) As discussed above, the language "an appropriate percentage of revenue that these complementary oligopolists allow the Services to retain" is another way of identifying combined royalties. Thus, the Judges describe the Working Proposal as identifying a new, higher combined royalty rate, and applying the same Shapley Content Share Ratio.

(36) As discussed above, the Working Proposal base formula mirrors that in the Final Determination, and thus would be appropriate to use to accomplish the Judges' intention, if used with the correct Shapley Content Share Ratio. In discussing "the Shapley Value allocations that the Majority determined previously", the December 9 Order states that, "the ratio adopted by the Majority in the determination under review was 3.82:1." (December 9 Order at 2.) As discussed above, the Shapley Content Share Ratio used by the Board was 2.5:1.

(37) Utilizing a 3.82:1 ratio in this formula drastically reduces the royalty rate. 3.82:1 is the reciprocal of the *adjusted* TCC rate, which reduces the directly derived TCC rate by 35 percent to address complementary oligopoly concerns. If this substantially reduced output is fed back in as an input, it would double the reduction and apply it to a revenue rate when there is no economic basis for such a reduction.

(38) This input mix-up leads the examples in the December 9 and January 6 Orders to predict royalty rates well below what they should generate at the various contemplated combined royalty rates. Since the Working Proposal with the correct Shapley Content Share Ratio is the same formula as used in the Final Determination, there is already a chart in the Final Determination that identifies the predicted revenue rate at various combined royalty rates. This is found in the first table on page 72 of the Final Determination, and indicates, for example, that 67% combined royalties delivers a revenue rate of 19.1% (rather than the 13.9% identified in the January 6 Order, p. 10).

(39) Further, the table on page 73 of the Final Determination explains that, as this combined royalty rate rises, the adjusted TCC rate also rises (because there is less of a reduction to align the model's combined royalty rate with the actual market combined royalty rate), an important mathematical fact that should be factored into any re-evaluation of rate percentages. As the combined royalty rate in the model increases, the adjusted TCC rate will converge on the 40% TCC rate derived from the Shapley analysis, which is a more appropriate TCC rate under the Board's other findings.

(40) Thus, the Working Proposal can address the Board's concern that the [redacted]% combined royalty rate was too low, but to "maintain the Shapley Value proportions", the formula should use the 2.5:1 Shapley Content Share Ratio. The 3.82:1 ratio would not be appropriate to use as an input for the revenue rate derivation. Doing so would unjustifiably import complementary oligopoly reductions into the "non-complementary-oligopoly" revenue rate.

E. Appropriate combined royalty rates

(41) The Judges request input concerning "a market-based percent-of-revenue that the Major record labels allow the interactive services to retain in order to provide for the latter's viability."[5] (January 6 Order at 11.) As discussed above, the Order elsewhere explains that this is meant to be equivalent to 100% less the combined royalty rate, which means delivering either the service share or the combined royalty rate solves for this variable. We can find guidance on proper numbers for these variables from the Shapley analysis evidence in the record.

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[5] This way of describing the share of surplus that the service obtains after negotiated transactions is unusual, as it implies an omniscience and omnipotence of the part of the Majors that is not realistic. As discussed in my remand rebuttal report [redacted]. (Watt RWRT at ¶¶ 39-40.) A party that cannot even accurately

(42) My report at the original hearing was in rebuttal of Prof. Marx and so worked from her assumptions. While I adjusted some assumptions to show some of her modelling errors, my points were limited (for example, I did not adjust for her failure to include *any* costs for songwriters), and I noted multiple times that my analysis of royalty shares was conservatively low. (*See, e.g.*, Watt WRT at 30, fn.16, 33, fn.21, 54-59.) The range delivered was [redacted] percent, and I specifically noted the midpoint as a conservative value within the range.

(43) The Judges' survey of Shapley evidence from this proceeding on this question should not end with Prof. Marx and my rebuttal though. In his rebuttal report, Prof. Gans provided an insightful and very robust Shapley analysis that addressed the shares of all three players. Prof. Gans' initial Shapley analysis, from which the Board drew its 2.5:1 Shapley Content Share Ratio, focused on the division of surplus between sound recording and musical works rightsholders. In his rebuttal report, Prof. Gans also addressed Prof. Marx's Shapley analysis, and modeled multiple multi-player Shapley scenarios:

- Prof. Gans' first rebuttal Shapley scenario maintains Marx's Shapley model with a single service, in which each player is a monopolist, but adjusting for unsound revenue and cost assumptions. (Gans WRT at 36-54.) With a single service, correcting only for other inputs, this model predicts **combined royalties of [redacted] percent**. (Gans WRT at 70, Table 2.) In my view, modeling the services as a monopolist leads to *over*statement of their fair share, given their greater substitutability in the market. Certainly, the services cannot complain of market power bias when they are modeled as a monopolist.

- Prof. Gans' other two Shapley scenarios model multiple services. (Gans WRT at 55-62.) These Shapley models predict **combined royalties of [redacted] percent and [redacted] percent**. (Gans WRT at 70, Table 2.)

(44) Prof. Gans' rebuttal Shapley analysis is a helpful contribution to the assessment of an appropriate combined royalty rate. It reinforces that the combined royalty rate should be substantially higher than [redacted] percent, and is backed by sophisticated economic analysis and detailed explanation. In my opinion, the ranges in the rebuttal Shapley analyses done by myself and Prof. Gans would be

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identify the surplus cannot be assumed to obtain all of the surplus in negotiations. Rather, the services can leverage their information asymmetry to obtain supranormal surplus. (*Id.* at ¶¶ 39-40, 51; Eisenach RWRT at ¶¶ 46-51.)

appropriate estimates to use in the Working Proposal, together with the Shapley Content Share Ratio.[6]

F. Shares of surplus in Shapley analysis and Nash bargaining

(45) The December 9 Order stated that:

> The Copyright Owners' experts testified that the Majors will set royalty rates that allow the Majors to acquire all of the surplus generated in a Shapley Value Model, less any of that surplus Copyright Owners might acquire if the mechanical royalty rates set by the Judges were high enough to allow them to acquire a portion of that surplus. (December 9 Order at 2.)

The January 6 Order then clarified that "the expert who testified regarding the division of the Shapley surplus between the Major sound recording companies and Copyright Owners was Professor Watt, whose testimony in this regard was quoted by the Majority. See Phonorecords III Determination at 72." (January 6 Order at 10.)

(46) This quote of my testimony on page 72 of the Final Determination is:

> [The reason] my predicted fraction of revenues for sound recording royalties is significantly less than what is observed in the market [is] simple. The statutory rate for mechanical royalties in the United States is significantly below the predicted fair rate, and the statutory rate effectively removes the musical works rightsholders from the bargaining table with the services. Since this leaves the sound recording rightsholders as the only remaining essential input, bargaining theory tells us that they will successfully obtain most of the available surplus. (Watt WRT ¶ 36)

(47) As the quote indicates, I did not testify that the Majors acquire all of the surplus generated in a Shapley Value Model. Here I clarify some points concerning these topics:

- No player is allocated all of the surplus in a Shapley model. If a player is modelled to make outsized contributions to surplus, they may be allocated most of the surplus, but all players receive surplus shares, in proportion to their contributions.

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[6] It is worth noting that the content share ratios delivered by the Shapley analyses in Prof. Gans' rebuttal are much lower than the 2.5:1. The rebuttal report ratios are [redacted] and [redacted]. I think that these lower ratios, which would predict even higher revenue rates, reflect a more appropriate prediction of the hypothetical free market with effective competition. It is also important to note that neither Prof. Gans nor I adjusted for revenue diminution, meaning these shares should be of *all* of the value generated by the licensed uses, not just what might be collected in subscription fees or advertising charges and declared as "Service Provider Revenue." In the absence of a definition that reliably captures this full value, calibrated alternative rate prongs (including TCC, per-subscriber and per-play prongs) should be included to deliver the fair shares.

- The relevant insight from Nash bargaining theory is that it predicts that sound recording rightsholders will obtain a share of the surplus that is commensurate with their bargaining power. This share will be large if in fact the record companies have disproportionately large bargaining power, and small if the reverse is true. As I discussed at length in my remand rebuttal report, my Nash model worked from Prof. Marx's assumption that record companies have very high bargaining power, which led to the conclusion above. This assumption also leads to the corollary conclusion that, if the record companies obtained most of the surplus, then a decline in surplus would be mostly borne by the record companies. This feature is what has become known as the "see-saw", and it has been the subject of much debate throughout this remand. My remand rebuttal report explains in great detail how this dynamic works, and why the Board's insights from Nash bargaining were appropriate and consistent with economics. (Watt RWRT at 7-82)

- I have not testified concerning particular issues of Major record company market power, let alone that Majors acquire all of the surplus. Below I provide economic thinking to ground a discussion of so-called "must have" record companies. It is also important to note that if the Majors extract all of the surplus from the interactive streaming market, less what musical work rightsholders obtain, that would also imply that independent record companies are not obtaining any surplus. These are not opinions that I have advanced or to which I subscribe.

(48) The Judges state that the Majors acquire all of the residual surplus, *less the musical work royalty*.[7] Importantly, this claim assumes a see-saw effect of 100%, that is, any increase in the musical work rate will result in a decrease in the sound recording rate of the same amount, leaving total royalties constant. Under this assumption, the Services would be agnostic as to the musical work rate, as they would not be receiving surplus anyway, and increases to the musical work rate would simply lead to a commensurately lower sound recording rate.[8] I do not advance a see-saw effect of 100%, nor do I believe that it is necessary to do so to support the Board's conclusions on Nash bargaining. As explained in detail in my RWRT, the salient insight from Nash bargaining, which

[7] *See, e.g.*, December 9 Order at 2 ("The Copyright Owners' experts testified that the Majors will set royalty rates that allow the Majors to acquire all of the surplus generated in a Shapley Value Model, less any of that surplus Copyright Owners might acquire if the mechanical royalty rates set by the Judges were high enough to allow them to acquire a portion of that surplus.")

[8] It is important that this is the logical conclusion of a premise that record companies extract all of the surplus from the market. If such was true, then the Services would not be obtaining any surplus, no matter what happens with the musical work rate. Lowering the musical work rate would only give more surplus to the record companies, and raising the rate would only take surplus from the record companies.

the Board accurately captured, is that declines in surplus should be expected to be borne in the proportions that gains in surplus were obtained.

IV. Relevance of record company market power

(49) In the January 6 Order, the Judges ask:

> What is the impact, if any, of the Major record companies' complementary oligopoly power on the appropriateness of relying on their rates and "greater-of" rate structures to determine the revenue base for the calculation of royalties to be paid and received under statutory mechanical rate?

The question of record company market power may be worth breaking into two parts. First is the question of whether or not a "Cournot complements" problem exists. I believe the answer to this is plainly in the negative. The second is then whether there remains any effective competition problem to address concerning record companies being "must haves." In sum, my conclusion is that there is no basis in economic theory to justify reducing royalties due to concerns over record company market power.

A. Cournot complementary oligopoly theory

(50) There have been a number of references to the concept of "complementary oligopoly", as described in the theories of the 19th-century French mathematician Antoine Augustin Cournot, throughout this proceeding, although no economic modelling or empirical analysis showing how the concept might apply. This flags an issue of concern, and the Judges are astute to re-examine the issue and question its applicability. The Cournot model from which the concept comes is a strict mathematical proof of an unusual and counterintuitive scenario that does not appear to be applicable in this context.[9]

(51) Cournot's complementary oligopoly theory is at its core a mathematical proof that given certain conditions, multiple sellers of complementary goods will charge more than a single seller of the same goods. The Cournot complements problem is an example of the well-known "prisoners' dilemma", in which by pursuing individually optimal pricing strategies, suppliers of the complementary inputs end up worsening their aggregate and individual welfare from other

[9] Prof. Spulber addressed the inapplicability of this Cournot theory to the sound recording license market in his rebuttal report, an analysis that accurately captures the economics. (Spulber RWRT at ¶¶ 53-71.)

options that are available to them. However, Cournot's mathematical proof only works under very specific assumptions:

- The prisoners' dilemma is a statement on one-shot games (economic interactions that are not repeated), in which the players are unable to communicate. Both of those premises are incorrect in this market, which is a case of repeated interaction, and where the players do have the ability to communicate.[10] Cournot's problem would not even arise in theory in this situation. The fact that the problem does not arise in theory calls attention to the lack of empirical analysis that it occurs in fact.
- The proof only works under the assumption that the consumer's demand for the final product (which is the full set of all inputs) is downward sloping in the total price paid for inputs. So, it is necessary that the services' demand for inputs is a strictly decreasing function of the aggregate price that must be paid. But for this to happen, the services must demand a greater number of units of each input as the price is lowered, and a smaller number of units of each input as the price is raised. When the input is a blanket license to use with as many subscribers and plays as the service likes, then then the service only needs 1 unit of total input (the license to access the label's catalogue), the demand curve is flat, and another necessary predicate for a complementary oligopoly problem would not arise.

(52) Another problem with the complementary oligopoly theory is that it is premised on a lack of competition among record companies. But this is not what we see in the market. Record companies appear to compete intensely, including on price. The market shows that licenses between record companies and services are structured with the record companies agreeing to take only a prorated portion of a single pool, based upon the share of plays of their works, a share that is determined by whether their sound recordings are played by users instead of other sound recordings. The final payment to the record company is then a fraction of that royalty pool, where the fraction is the ratio of plays from the catalogue of the record company in question to the total number of plays on the service.[11]

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[10] This is not to say that there is collusion. As Prof. Gans explained at the hearing, the existence of negotiation eliminates the Cournot problem because the *buyer* will allow for the necessary coordination. (Hearing Tr., 4001:12-4006:25 (Gans).) It must be remembered that the Cournot complementary oligopoly is a situation that *no one wants to occur*. If it existed, the seller would suffer from it just as the buyer would, and so would welcome its avoidance.

[11] The Judges discuss sound recording licenses in detail in the *Web V* Final Determination, and this royalty structure is at the heart of the concept of "steering." *See, e.g.*, *Web V*, 86 Fed. Reg. at 59461-64. The fact that record companies accept a royalty structure that even allows for the risk of steering or other low-play royalty losses, instead of

(53) Record companies thus compete intensely for plays, *which determines the price they receive for the license to their catalogue*. The price that each record company ends up receiving for its repertory is determined by a highly competitive process in which record companies compete for plays, which also translates to the record companies competing on price.

(54) Note that this structure also places substantial risk upon the record companies. If they do not create and effectively market successful sound recordings, they can face a precipitous decline in royalties. If the record companies were indeed monopolists, they would not choose this royalty structure. They would choose the option to avoid this risk and competition, by simply demanding a set price that is not prorated with other suppliers (for example, instead of taking a prorated share of 50% of revenues, a record company could demand simply 20% of revenues, or even a flat fee).

(55) These are just some of the problems with applying Cournot's theory to this market. The theory also requires that the services have no bargaining power at all. These are severe economic conclusions, which would call for rigorous proof, including empirical evidence of the required predicates and predicted effects.

B. "Must have": necessity and contribution of value

(56) The idea of record companies being "must have" has become linked with royalty rate reductions. (Final Determination at 54 (noting "the complementary oligopoly effect arising from the 'must have' status of the sound recordings") and 73 (reducing TCC rate to avoid "importing complementary oligopoly profits").) This link should be scrutinized because it runs counter to what economics tells us typically should happen. Economics generally finds that market players that provide unimportant, unnecessary goods should receive *less*, and market players that provide important, necessary goods should receive *more*.

(57) As discussed above, simply having "must have" sellers does not make Cournot's theory applicable, but rather that theory is not applicable to this market. Further, there is no economic basis for reducing a Shapley-derived share, or a benchmark rate, based simply upon the party being critically important to the joint enterprise. On the contrary, necessity is what we would examine to *validate* a party's *larger* share of surplus. We must recognize a distinction between

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demanding royalties not contingent on play share, is alone persuasive evidence that they do not exert monopoly control over the market.

necessity or contribution of value, on the one hand, and abuse of market power on the other, even if there may be situations where the two occur at the same time. Necessity and contribution of value are not economic grounds for *reducing* a party's share of surplus. Abuse of market power can be a basis to reconsider a party's negotiated share. But that calls for an economic argument showing abuse of market power. Economic evidence of necessity and contribution of value are not the same thing or a substitute. Using a showing of necessity or contribution of value to derive an abuse of market power conclusion is not economically supportable.

I, Richard Watt, declare under penalty of perjury under the laws of the United States of America that the statements contained herein are true and correct to the best of my knowledge, information and belief. Executed on January 24, 2022 in Christchurch, New Zealand.

Richard Watt

Proof of Delivery

I hereby certify that on Thursday, April 28, 2022, I provided a true and correct copy of the Written Rebuttal Statement of Copyright Owners - Volume III [Written Rebuttal Testimony of Expert Witnesses] - PUBLIC [CORRECTED] to the following:

Google LLC, represented by Gary R Greenstein, served via E-Service at ggreenstein@wsgr.com

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Powell, David, represented by David Powell, served via E-Service at davidpowell008@yahoo.com

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Sony Music Entertainment, represented by Steven R. Englund, served via E-Service at senglund@jenner.com

UMG Recordings, Inc., represented by Steven R. Englund, served via E-Service at senglund@jenner.com

Apple Inc., represented by Mary C Mazzello, served via E-Service at mary.mazzello@kirkland.com

Amazon.com Services LLC, represented by Joshua D Branson, served via E-Service at jbranson@kellogghansen.com

Johnson, George, represented by George D Johnson, served via E-Service at george@georgejohnson.com

Warner Music Group Corp., represented by Steven R. Englund, served via E-Service at senglund@jenner.com

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Signed: /s/ Benjamin K Semel