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PUBLIC VERSION

Before the
UNITED STATES COPYRIGHT ROYALTY JUDGES
The Library of Congress

In the Matter of **DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (PHONORECORDS III)**	)	**Docket No. 16–CRB–0003–PR (2018–2022) (Remand)**

WRITTEN SUPPLEMENTAL REBUTTAL REMAND TESTIMONY OF LESLIE M. MARX, PHD

FEBRUARY 24, 2022

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I. Scope of charge

(1) I have been asked to review and respond to the additional written direct testimonies of Dr. Jeffery Eisenach, Professor Daniel Spulber, and Professor Richard Watt, submitted on January 24, 2022.[1] The materials upon which I relied in forming the opinions expressed herein are cited throughout this testimony.

II. Copyright Owners' experts sow confusion regarding the market power of the record labels

(2) The testimonies of Dr. Eisenach, Professor Spulber, and Professor Watt contain extended discussions of the market power of the major record labels. Among the three of them, they argue that the record labels should not be considered complementary oligopolists, that they in fact compete intensely with one another, and that any market power they have is deserved and should therefore be ignored in this rate setting proceeding.[2] Throughout their discussions, they obscure rather than clarify the notions of what constitutes market power, what constitutes complementary oligopoly power, the applicability of the specific model of Antoine Augustin Cournot, and the ways in which record labels do or do not compete with one another in their dealings with interactive streaming services. Below, I discuss these ideas within a unified framework and point out where Dr. Eisenach and Professors Spulber and Watt go wrong.

II.A. Market power and complementary oligopoly power

(3) Economists define market power as the ability of a firm to profitably set a price above the competitive price.[3] Because many firms have some degree of market power, economists and legal scholars often put substantial and sustained market power in a distinct category, which

[1] Additional Written Direct Testimony of Jeffrey A. Eisenach, PhD, January 24, 2022 [hereinafter, "Eisenach AWDT"]; Additional Written Direct Testimony of Daniel F. Spulber, PhD, January 24, 2022 [hereinafter, "Spulber AWDT"]; Additional Written Direct Testimony of Richard Watt (PhD), January 24, 2022 [hereinafter, "Watt AWDT"].

[2] On the first point, see Eisenach AWDT, ¶¶ 35–36; Spulber AWDT, ¶ 6; Watt AWDT, ¶ 49. On the second point, see Eisenach AWDT, ¶ 37; Watt AWDT, ¶ 52. On the third point, see Watt AWDT, ¶ 56.

[3] *See* Massimo Motta, *Competition Policy: Theory and Practice*, (Cambridge: Cambridge University Press, 2004), 40.

is sometimes labeled "monopoly power."[4]

(4) Major record labels have substantial and sustained market power because of the large agglomerations of recordings that they control, giving them "must-have" catalogs from the perspective of interactive streaming services. Because the record labels' market power derives from the must-have nature of their catalogs (implying that their catalogs are perfect complements) the term "complementary oligopoly" has often been used in Copyright Royalty Board proceedings.

(5) Economic theory teaches that when multiple suppliers control key complementary inputs, outcomes for buyers can be even worse than if these inputs were controlled by a single monopoly. The intuition behind this, associated with Antoine Cournot from his 1838 treatise, is straightforward.[5] In its pricing decisions, a complementary oligopolist seller exerts a negative externality on the other complementary oligopolist sellers that a single monopoly firm would instead internalize. So, if the monopoly price is defined as the price that exactly balances the inframarginal gains from a slightly higher price with the lost profits due to lost sales from a slightly higher price, a complementary oligopolist would have an incentive to deviate from that price by charging a higher, supra-monopoly price. Intuitively, the complementary oligopolist would receive the same gains from such a price rise that a single monopolist would, but incur only a fraction of the losses, and so would find a price increase at the monopoly price to be profitable.[6]

(6) The intuition that leads to supra-monopoly profits due to complementary oligopoly is robust to a variety of settings. It does not disappear outside of the stylized realm of a one-shot,

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[4] *See e.g.*, Herbert Hovenkamp, *Federal Antitrust Policy: The Law of Competition and its Practice*, 2nd ed. (St. Paul, MN: West Group, 1999), 78; William M. Landes and Richard A. Posner, "Market Power in Antitrust Cases," *Harvard Law Review* 94, no. 5 (March 1981): 937; Austan Goolsbee, Steven Levitt and Chad Syverson, *Microeconomics*, 2nd ed. (New York: Worth Publishers, 2016), Ch. 9.

[5] Augustin Cournot, *Researches into the Mathematical Principles of the Theory of Wealth*, 1838, translated by Nathaniel T. Bacon, (London: The MacMillan Company, 1897).

[6] A comparable scenario arises with two monopolists at successive stages on a supply chain, an effect sometimes referred to as "double marginalization."

simultaneous-move game involving price-setting oligopolists and price-taking customers discussed in the original Cournot treatise, as Professors Watt and Spulber claim.[7] Even though real-world firms generally do not have one-shot interactions involving simultaneous moves, the complementary oligopoly intuition often applies in real world settings, and is a common and useful way of thinking about pricing by firms with complementary oligopoly power.[8]

(7) Professor Spulber and Professor Watt also seem to believe that if buyers and sellers want to get rid of the externalities that lead to supra-monopoly pricing, they will be able to negotiate them away.[9] But due to, for example, the inability to write complete contracts,[10] the lack of perfect information, and legal restrictions on firms sharing information, these types of inefficiencies persist in the real world.

(8) But even if Professors Watt and Spulber were right and complementary oligopolist sellers could coordinate to reach the monopoly outcome, such behavior hardly solves the market power problem. The price in that case is still the joint *monopoly* price rather than a supra-monopoly complementary oligopoly price. From either the perspective of the 801(b)(1) factors, which call for fair returns, or a notion of "effective competition," the complementary oligopoly price and the joint monopoly price both require substantial downward adjustment if they are used as an input to set the musical works rates at issue in this proceeding.

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7 Professor Watt characterizes "[t]he Cournot model from which the concept comes" as "a strict mathematical proof of an unusual and counterintuitive scenario." Watt AWDT, ¶ 50. See also Watt AWDT, ¶¶ 51, 55. Similarly, Professor Spulber claims that because all of the strict conditions of Cournot's original model do not hold in the case of record labels' dealings with interactive streaming services, there is no reason to expect record labels to behave as complementary oligopolists. Spulber AWDT, ¶¶ 10–11, 13, 16–17. Dr. Eisenach similarly incorrectly asserts that the complementary oligopoly problem cannot occur in a bargaining market. Eisenach AWDT, ¶ 36.

8 The complementary oligopoly intuition plays a key role in how the Department of Justice Antitrust Division analyzes mergers of firms selling complementary goods. U.S. Department of Justice, "Vertical Merger Guidelines," June 30, 2020, at 11. "Double markups" have been empirically detected in industries such as the television industry and the automobile industry. *See, e.g.*, Gregory S. Crawford et al., "The Welfare Effects of Vertical Integration in Multichannel Television Markets," *Econometrica* 86, no. 3 (May 2018): 891–954; Rebecca Hellerstein and Sofia B. Villas-Boas, "Outsourcing and pass-through," *Journal of International Economics* 81, no. 2 (July 2010): 170–183.

9 Watt AWDT, fn. 10; Spulber AWDT, ¶ 18.

10 By a "complete contract," I mean one that is perfectly verifiable and enforceable and takes into account all possible contingencies. It is a theoretical construct that does not actually occur in the real world. *See* Bernard Salanié, *The Economics of Contracts*: *A Primer* (Cambridge: MIT Press, 1997), at 175.

(9) The Copyright Owners' experts deny the necessity of a downward adjustment of price due to label market power for a variety of reasons that contradict each other. They sometimes imply the labels have no market power by arguing that because the theoretical model that they present does not exactly match the real world, there must be no market power problem. They sometimes say that the labels are intense competitors and that the price they charge is an effectively competitive price.[11] Other times they acknowledge the existence of record label market power but call it simply a valid return from their "necessity."[12]

(10) Findings of substantial and sustained market power on the part of the major record labels in their negotiations with interactive streaming services have been consistent and clear.[13] The "must-have" power of the major record labels does not derive from the unique value of individual recordings, but rather the agglomeration of sound recordings controlled by each major label. The fact of this agglomeration does not "validate" their obtaining a large share of the available surplus, as Professor Watt argues, or mean that such market power should be ignored when calculating musical works rates derived from them. Rather, if major label sound recording rates are used to derive musical works rates that satisfy the 801(b)(1) factors (or that are effectively competitive), a substantial downward adjustment is needed.

(11) Somewhat paradoxically, in addition to arguing that supracompetitive returns accruing to "must-have" sellers would be a just reward for their necessity, Professor Watt also argues that there are no supracompetitive returns available to record companies because "record

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11 *See, e.g.*, Watt AWDT, ¶ 52. Eisenach AWDT, ¶ 37.

12 Watt AWDT, ¶ 56.

13 For instance, in its 2012 evaluation of the merger of Universal and EMI, two of the four major record labels at the time, the Federal Trade Commission found that each major label portfolio was "must have" for interactive streaming services. Statement of Bureau of Competition Director Richard A. Feinstein *In the Matter of* Vivendi, S.A. and EMI Recorded Music, September 21, 2012. This analysis is consistent with the findings of the Board in the Web IV and V and *Phonorecords III* proceedings. Final Determination, *Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, Docket No. 16-CRB-0003-PR (2018–2022) (CRB November 5, 2018) [hereinafter, "Phono III Final Determination"], at 47; Determination, *In re: Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings (Web IV)*, Docket No. 14-CRB-0001-WR (2016–2020) [hereinafter, "Web IV"], at 40–41; Final Determination, *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 N. 19-CRB-0005-WR (2021–2025) [hereinafter, "Web V"], at 8.

companies appear to compete intensely, including on price."[14] This view contradicts prior CRB findings.[15] Further, Professor Watt points to no evidence of price competition among labels in their dealings with interactive streaming services, and, as discussed below, the [redacted]

II.B. Major labels' contracts reflect their market power

(12) Professor Watt argues that the nature of the contracts between record labels and interactive streaming services—[redacted]—demonstrates the lack of major record label market power. He says that this structure both induces competition and "places substantial risk upon the record companies" and thus "[i]f the record companies were indeed monopolists, they would not choose this royalty structure."[16]

(13) On the first point about inducing competition, Professor Watt [redacted].[17] [redacted][18] In addition, [redacted][19] On the second point about assuming risk, Professor Watt ignores the [redacted]

[14] Watt AWDT, ¶ 52.

[15] The Judges have previously concluded that no such price competition has taken place. *See, e.g.*, Web V, at 21–33; Web IV, at 67 ("the Judges cannot ignore the testimony from several record company witnesses, discussed in this determination, in which they acknowledged that they never attempted to meet their competitors' pricing when negotiating with interactive services.").

[16] Watt AWDT, ¶ 54.

[17] *See, e.g.*, Web V, at 25–27; [redacted].

[18] *See, e.g.*, [redacted]

[19] *See, e.g.*, [redacted]

[redacted][20]

(14) Thus, [redacted].

III. Copyright Owners' experts' use of a [redacted] ratio is incorrect

(15) Ignoring labels' market power leads the Copyright Owners' experts to call for replacing the 3.82:1 sound recording to musical works ratio in the Working Proposal with a ratio of [redacted]. Inserting the [redacted] ratio into the Working Proposal would create the exact problem that caused the Majority to adjust [redacted] to 3.82:1 in the *Phonorecords III* Final Determination in the first place.

(16) The [redacted] ratio was proposed by Professor Gans in the *Phonorecords III* proceeding.[21] It was used along with the total royalty as a percentage of revenue from one of my Shapley models ([redacted]) to arrive at the 15.1% musical works royalty rate that the Board adopted.

(17) The fundamental problem with using the [redacted] ratio in the Working Proposal is that it is meant to be a ratio of Shapley values, and it is undisputed that the record labels earn far more in the real world than the Majority's Shapley value analysis would allocate to them. The fact that the labels earn more than the Majority's Shapley allocates to them is the source of what I have called in this proceeding an "imbalance" problem. Because labels extract more than

[20] *See, e.g.*, Written Direct Remand Testimony of Christopher Bonavia, ¶ 11.

[21] Phono III Final Determination, at 69. As I have said earlier in this proceeding, I do not believe that the ratio derived from Professor Gans' partial Shapley model reflects a correct application of the Shapley methodology. Written Rebuttal Testimony of Leslie M. Marx, PhD, February 15, 2017 [hereinafter "Marx WRT"], at ¶¶ 182–186.

their Shapley value of [redacted], musical works rightsholders and Services will necessarily earn less together than their combined Shapley values. The *Phonorecords III* Final Determination gives musical works rightsholders their full Shapley value and assigns the burden of label market power entirely to the Services. I have advocated in this remand proceeding that, instead, the burden of label market power should be shared proportionately between musical works rightsholders and interactive streaming services to better satisfy the 801(b)(1) factors.[22]

(18) The Copyright Owners' experts' proposal would exacerbate this imbalance problem. Their preferred [redacted] ratio would transfer the labels' market power to musical works rightsholders, assigning both labels and the Copyright Owners more than their Shapley values, and thus assigning Services even less than their Shapley value as determined in the *Phonorecords III* Final Determination. This moves the musical works royalty rate even further away from any notion of the fair division of surplus called for by the 801(b)(1) factors.

(19) The Majority recognized in the *Phonorecords III* Final Determination that applying the [redacted] ratio to market sound recording rates imports market power from sound recording royalties to musical works royalties. As they wrote then, "[a]pplying the ratios derived from the experts' models to the higher total royalties that prevail in the marketplace would yield musical works royalty rates higher than the models predict."[23] The implications of this problem became evident in their attempt to calculate a TCC ratio.[24] To address the problem of "in essence, importing complementary oligopoly profits into the musical works rate," the Judges adjusted the [redacted] sound recording to musical works ratio to 3.82:1.[25]

(20) The Copyright Owners' experts ignore this reasoning when explaining why the Judges should

[22] Written Direct Remand Testimony of Leslie M. Marx, PhD, April 1, 2021 [hereinafter "Marx WDRT"], § VI; Written Second Supplemental Remand Testimony of Leslie M. Marx, PhD, January 24, 2022 [hereinafter "Marx WSSRT"], § V.A.

[23] Phono III Final Determination, at 73.

[24] Phono III Final Determination, at 73.

[25] Phono III Final Determination, at 73.

use the [redacted] ratio rather than the 3.82:1 ratio in the Working Proposal. Professor Watt attempts to draw a distinction between applying the 3.82:1 ratio to market sound recording rates for the purposes of a TCC calculation versus applying the ratio to market sound recording rates for the purposes of determining a headline percentage of revenue rate.[26] In both cases, however, a ratio is applied to market sound recording rates to determine the musical works royalty rate. Professor Watt draws a distinction by claiming that record label market power can be "imported" in one case (when calculating the appropriate TCC) but not the other (when calculating the appropriate headline percentage of revenue rate).[27] This distinction makes no sense. If record company market power can be imported by applying a [redacted] ratio to actual royalty rates via the TCC prong, it can equivalently be imported by applying a [redacted] ratio to actual royalty rates within the context of the Working Proposal.

(21) Unlike Professor Watt, Dr. Eisenach does not attempt to reconcile his call for a [redacted] ratio to convert market sound recording rates to musical works rates with the use of the 3.82:1 ratio for the same purpose in the *Phonorecords III* Final Determination and the Working Proposal. He simply asserts that "when used with the [redacted] Shapley ratio, the Working Proposal is consistent with the *Final Determination*."[28] It is not. In the Final Determination, the Majority specifically found that a modification was necessary when applying the [redacted] ratio to real world sound recording rates so as not to import market power from the sound recording side of the market to the musical works side.[29]

IV. Professor Watt's and Dr. Eisenach's proposed inputs into the Working Proposal are flawed

(22) In their December 9, 2021 Order, the Judges requested inputs regarding "the percent of

[26] Watt AWDT, ¶ 22–24.

[27] Watt AWDT, ¶ 22–24.

[28] Eisenach AWDT, ¶ 22.

[29] Phono III Final Determination, at 73.

royalties the Majors allow the interactive service sector to retain."[30]

(23) Professor Watt proposes a number of Shapley-based rates as inputs into the Judge's Working Proposal, summarized in Figure 1 below.

[RESTRICTED] Figure 1. Shapley-based royalty rate inputs proposed by Professor Watt

	Proposed combined royalties	Source description
1	[redacted]	Shapley value combined royalties from Watt WRT, Table 1
2	[redacted]	Shapley value combined royalties from Gans WRT, Table 2, column 2
3	[redacted]	Shapley value combined royalties from Gans WRT, Table 2, column 3
4	[redacted]	Shapley value combined royalties from Gans WRT, Table 2, column 4

Source: Watt AWDT, ¶¶ 42–43.
*Gans WRT, Table 2 shows combined royalties of [redacted] for this input. I report in this table the values presented by Professor Watt.

(24) As I mentioned in my previous report, the rates that the Judges seem to be looking for do not correspond to the theoretical values that come out of the Shapley model, which in any case vary significantly depending on underlying modeling choices, data, and assumptions required to adapt data to the theoretical model.[31] In addition, Professor Watt draws heavily from the Shapley value model described in Professor Gans' rebuttal report, which I did not have a chance to rebut and was not relied on in the *Phonorecords III* Final Determination.[32]

(25) Dr. Eisenach proposes a variety of non-Shapley derived inputs to the Working Proposal, as

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30 Notice and *Sua Sponte* Order Directing the Parties to Provide Additional Materials, *In re: Determination of Royalty Rates and Terms for Making and Distributing Phonorecords (Phonorecords III)*, Docket No. 16-CRB-0003-PR (2018–2022) (Remand), December 9, 2021 [hereinafter, "December 9, 2021 Order"], at 2. In my supplemental report, I provided a set of possible inputs in response to the Judges' request. Marx WSSRT, Figure 2.

31 Marx WSSRT, ¶ 8.

32 I did not have an opportunity to provide a report to critique this model in the initial *Phonorecords III* proceeding. I have not addressed it subsequently because it has not been relied upon by the Judges throughout the *Phonorecords III* proceeding, including the remand. Given page limitations, I am not able to fully critique that model here. One of its many flaws is that it relies heavily on picking a particular prediction of Service non-content costs as a percentage of revenue that is clearly an outlier among the models considered in Dr. Gans' backup, and that model predicts [redacted]. *See* Written Rebuttal Testimony of Joshua Gans, February 13, 2017, ¶¶ 44–47, Figure 6. [redacted].Marx WSSRT, ¶ 13.

summarized in Figure 2 below.

[RESTRICTED] Figure 2. Royalty rate inputs proposed by Dr. Eisenach

	Proposed combined royalties	Source description
1	[redacted]	Eisenach estimated combined royalty rate of Services from 2018 through end of P3 rate period
2	70%	"Industry standard" split according to Dr. Eisenach
3	70%	Apple iTunes (PDD) and Netflix royalty rates
4	>71.4%	Hulu royalty rate
5	71.5%	Apple's royalty rate announcement at launch of Apple Music in June 2015
6	[redacted]	Spotify's historical (2015/2016) combined royalty rate (from Phono III Final Determination)
7	[redacted]	Eisenach estimated combined royalty rate of Amazon, Google, Pandora, and Spotify in 2017.

Source: Eisenach AWDT, ¶¶ 27, 31–33 and Table 1.

(26) The highest rate that he proposes is his [redacted] estimated combined royalty rate of Amazon, Google, Pandora, and Spotify in 2017. The rates from which this combined rate is derived include a wide range of rates from different services ranging from [redacted].[33] It is not clear why [redacted], should be included when trying to calculate a "survival" rate for interactive streaming services.[34] Using Dr. Eisenach's data, but focusing just on [redacted].[35] Dr. Eisenach also points to 2015 rates for Apple and

[33] Remand Written Rebuttal Testimony of Jeffrey A. Eisenach, PhD, July 2, 2021 [hereinafter, "Eisenach RWRT"], at C-9.

[34] Eisenach RWRT, at C-9.

[35] Marx WSSRT, Figure 2. [redacted]. Marx WSSRT, ¶ 15.

Spotify (and 2011 rates for Apple PDDs) that are less current and relevant than [redacted]

(27) Finally, Dr. Eisenach points to unregulated royalty rates for subscription video streaming services Hulu and Netflix without explaining their relevance to this context.[36] I do not consider any of the inputs put forward by Dr. Eisenach or Professor Watt to be better suited to the Judges' request than the four rates that I put forward in rows 3–6 of Figure 2 in my second supplemental report.[37]

[36] Eisenach AWDT, ¶ 33.

[37] Marx WSSRT, Figure 2.

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DECLARATION OF LESLIE M. MARX

I, Leslie M. Marx, declare under penalty of perjury that the statements contained in my Written Supplemental Rebuttal Remand Testimony in the above-captioned proceeding are true and correct to the best of my knowledge, information, and belief. Executed this 24th day of February 2022 in Durham, North Carolina.

Leslie M. Marx

Leslie M. Marx

Proof of Delivery

I hereby certify that on Thursday, February 24, 2022, I provided a true and correct copy of the Written Supplemental Rebuttal Remand Testimony of Leslie M. Marx, PHD to the following:

National Music Publishers' Association (NMPA) et al, represented by Benjamin Semel, served via ESERVICE at Bsemel@pryorcashman.com

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Signed: /s/ Richard M Assmus