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

In re **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 MICHAEL L. KATZ

(On behalf of Pandora Media, Inc.)

Submitted February 24, 2022

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I. TESTIMONY

1. My name is Michael L. Katz. I have provided a detailed description of my qualifications, as well as copy of my curriculum vitae, earlier in this proceeding.[1]

2. Below, I assess—from the perspective of economics—certain claims made in the written supplemental remand testimony of experts retained by the Copyright Owners.[2]

3. Drawing on my training and experience as an economist, my examination of the public records of earlier proceedings, my analysis of the relevant industries, and my examination of the evidence produced in the present proceeding—including the written and oral testimony of Copyright Owners' economic experts—I continue to reach all of the conclusions reached in my earlier written direct, rebuttal, supplemental rebuttal, and direct remand testimony.[3] I also reach the following additional conclusions:

- *There are points on which the economists retained by Copyright Owners and I are in agreement.* These points include:
  - — *The Working Proposal is based on the invalid assumption that any increase in the royalty rate paid by the Services to musical works copyright owners will be entirely offset by a corresponding decrease in the royalty rate paid by the Services to sound recording copyright owners*.[4] In fact, changes in sound recording royalties will not offset changes in the musical works royalty rate. As I explained in earlier testimony, the Working Proposal seeks to place as much of the burden of the record companies' complementary oligopoly market power on the Services as is possible and privileges

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[1] Written Direct Testimony of Michael L. Katz, November 1, 2016 (hereinafter *Katz WDT*), ¶¶ 2-4 and Tab 1, Curriculum Vitae of Michael L. Katz.

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

I have not attempted to address all of the arguments presented by Drs. Eisenach, Spulber, and Watt. Any silence with respect to a particular fact or opinion stated should not be interpreted as agreement with Copyright Owners' witnesses unless I specifically state such an agreement. I reserve the right to supplement or amend this testimony if my opinions change as the result of analyzing evidence that newly becomes available to me.

[3] Appendix A lists the additional materials on which I rely in my current testimony.

[4] Written Supplemental Remand Testimony of Michael L. Katz, January 24, 2022 (hereinafter *Katz WSRT*); § II; *Watt AWDT*, ¶ 48.

musical works copyright owners at the Services' expense.[5] Placing the burden entirely on the Services neither reflects the relative contributions of the musical works copyright owners and the Services, nor corresponds to any economic notion of fairness of which I am aware. It also is not the outcome that one would expect if musical works copyright owners and the Services bargained with each other in an effectively competitive market (or, indeed, in any situation in which the Copyright Owners had less than 100 percent of the bargaining power).

— *There are complex interactions among the different components of the overall royalty scheme*.[6] As I explained in earlier testimony, because of the interactions arising when an alternative prong in a greater-of structure has effect, the headline, percentage-of-revenue rate must be set *below* the Working Proposal rate (which is an *effective* rate ostensibly derived from Shapley modeling, not a headline rate) in order to ensure that the effective rate actually paid ends up equaling the Working Proposal's effective rate.[7]

- *There are several instances in which the economists retained by Copyright Owners make statements that contradict well-established economic principles.* Examples include:

— Dr. Eisenach claims that the fact that "the economic returns to music streaming are sufficiently high to generate continuing investment and new entry" implies that sound recording royalty rates are "prima facie 'effectively competitive'."[8] However, even a monopolist, if economically rational, will set the price for an input that it sells to other firms at a level that incentivizes its customers to continue to invest in and sell their products. The monopolist does so because its customers' sales and investments create demand for its product. By Dr. Eisenach's reasoning, a monopolized market is effectively competitive. It is unsurprising that Dr. Eisenach cites no authority for his claim.

— Dr. Eisenach asserts, again without citation or supporting analysis, that "the analytical framework that underlies the complementary oligopoly theory does not apply to bargaining markets."[9] But, contrary to his claim, the economic logic of complementary oligopoly does apply to bargaining situations.

Consider the example of a Nash bargaining model in which there are two labels negotiating license fees with a single interactive service, and each label's portfolio is "must have." Let S denote the surplus available to be split among the three parties (i.e., S equals the service's revenues minus non-content costs and musical works royalties). Each party receives 0 if there is no agreement. Then, when the parties

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[5] *Katz WSRT*, ¶ 8.

[6] *Eisenach AWDT*, ¶ 43; *Katz WSRT*, § V. To be clear, I am not endorsing Dr. Eisenach's analysis of these interactions.

[7] *Katz WSRT*, § V.

[8] *Eisenach AWDT,* ¶ 37.

[9] *Eisenach AWDT,* ¶ 36.

have equal bargaining-power parameters, it is a Nash-in-Nash equilibrium for each label to bargain to a royalty rate that yields it royalties of $S/3$. To see that this is an equilibrium, note that if one label has reached a deal with the service at this rate, then there is $S - \frac{1}{3}S = \frac{2}{3}S$ of surplus for the other label to divide equally with the service, which yields a royalty of $S/3$. The total royalties collected by the complementary duopolists are $\frac{2}{3}S$. Now, suppose instead that a monopolist controls both portfolios and bargains over the royalty rate for a single license covering both. Given equal bargaining power, the Nash solution is to split the agreement surplus (S) equally, so that the monopolist receives total royalties of $S/2$. In sum, the complementary oligopolists bargain for higher royalties than does the monopolist ($\frac{2}{3}S > \frac{1}{2}S$).[10]

— Dr. Watt asserts that the complementary oligopoly problem cannot arise under blanket licensing because demand is "flat."[11] This claim is incorrect. First, even with lump-sum, blanket licenses, the complementary oligopoly problem arises when—as Dr. Watt and I agree is the case[12]—the labels have imperfect information about different services' willingness to pay. In such situations, when a label demands greater royalties, it risks inducing some or all interactive services to cease operating and thus reduce the quantity of licenses demanded for the label's sound recordings.[13] Second, many of the blanket licenses are paid under percent-of-revenue prongs. Raising the royalty rate may induce the Services to raise their downstream prices and thus reduce their revenues. Hence, both factors imply that the demand curve faced by a Major (expressed as expected sales at any given price) is, in fact, downward sloping, contrary to Dr. Watt's claim.

— Dr. Watt asserts that a reduction of the joint surplus available to the labels and Services must be borne in the same proportion that the surplus was originally divided.[14] However, Dr. Watt ignores the critical fact that most or all sound recording royalty rates for the *Phonorecords III* period *have already been set*. As a result, when

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10 The economic logic also applies to settings with an explicit bargaining process. Consider, for example, a market in which there are two differentiated goods, 1 and 2, having demand functions $q_i = 4 - \frac{2}{9}p_i - \frac{1}{9}p_{-i}$ for $i = 1,2$, where q_i is the quantity of good i demanded and p_i is its price. The products are economic complements: an increase in the price of good $-i$ lowers the quantity of good i demanded. Straightforward calculations demonstrate that a monopolist controlling the two products in the model would set prices $p_1 = 30/5 = p_2$, while two firms that independently set the prices of their products (so-called Bertrand duopolists) would charge $p_1 = 36/5 = p_2$. These price-setting duopolists can be thought of as offering buyers take-it-or-leave-it price offers in bargaining. Here, too, the complementary oligopolists bargain for higher royalties than does the monopolist.

11 *Watt AWDT*, ¶ 51.

12 *Watt AWDT*, ¶ 3(iii) and n. 5; *Katz WSRT*, ¶ 19.

13 Note 17 below presents an algebraic example illustrating this effect.

14 *Watt AWDT*, ¶¶ 3(iv) and 47.

applied to the effects of change in musical works royalties, his claims have no grounding in economic theory or market facts. Moreover, Dr. Watt bases his claim on a particular model in which the bargaining-power parameter is also the rate at which the see-saw effect occurs.[15] That model fails to account for asymmetric information that he identifies elsewhere in his testimony as a critical driver of the bargaining outcome.[16] Contrary to Dr. Watt's assertion, it is straightforward to identify bargaining models in which a reduction of the joint surplus available to the labels and Services is not borne in the same proportion that the surplus was originally divided.[17] Hence, contrary to Dr. Watt's assertion, the see-saw effect may be small even when the Majors have substantial bargaining power.

- *There are several instances in which the economists retained by Copyright Owners make misleading or unsubstantiated claims.* Examples include:

  — Dr. Eisenach claims that "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."[18] However, Dr. Eisenach ignores the existence of floors and minimums that address this issue more directly—and thus more effectively and fairly. Moreover, to the extent that musical works copyright owners benefit from past revenue deferral done as an investment that has led industry revenues to grow, the existence of such deferral suggests that the chosen Combined Royalty Rate should be *lower* than otherwise, not higher.

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15 Written Direct Remand Testimony of Michael L. Katz, April 1, 2021 (hereinafter *Katz WDRT*), ¶ 123.

16 *Watt AWDT*, ¶ 3(iii) and n. 5.

17 A stylized example of a monopoly label bargaining with a single interactive service proves this point. If operating, the service earns revenues of 1 and incurs non-content costs C. The value of C is known to the service, while the label's beliefs about C are uniformly distributed on the interval $[0,1]$. Let m and s denote the musical works and sound recording royalty rates, respectively. The parties bargain by having the label make a take-it-or-leave-it offer to the service after m has been set. (To keep the example simple, there is no opportunity for service to shut down before the label makes its offer.) The service will accept the offer and remain in business if and only if $C \leq 1 - m - s$. From the label's perspective, this occurs with probability $1 - m - s$. The label chooses s to maximize $s \times (1 - m - s)$, which is done by setting $s = \frac{1}{2}(1 - m)$.

The label's equilibrium bargaining strategy implies a see-saw rate of 50 percent. However, conditional on the service's remaining in business, the label's share of the surplus split between the label and the service is $\frac{1}{2}(1 - m)/(1 - m - C)$, which rises from 50 percent when $C = 0$ to 100 percent when $C = \frac{1}{2}(1 - m)$. In other words, with probability one, the label's share is greater than the see-saw rate, often considerably.

18 *Eisenach AWDT*, ¶ 34.

— Dr. Spulber asserts that I assumed that "the record companies have relatively low bargaining power and the streaming services have relatively high bargaining power."[19] In truth, I made no such assumption, and I believe it is contrary to the facts. Dr. Spulber bases his incorrect claim on my earlier testimony analyzing Dr. Watt's bargaining model.[20] However, I was explicit in that testimony that I was neither adopting nor fully repairing that model, but instead was identifying some of its important flaws.[21]

— Dr. Watt continues to assert that "Shapley analysis eliminate[s] the effects of abuse of market power."[22] Tellingly, he cites no economic literature in support of his claim even though my earlier testimony pointed out that he neither provided any citation to the academic literature nor offered any definition of what "abuse of market power" means as a matter of economics.[23]

— Dr. Watt asserts that the *Determination*'s two-step, Shapley-inspired model "does not incorporate any record company market power distortions, and cannot warrant reduction due to such concerns…."[24] Critically, Dr. Watt ignores the fact that, due to the Majors' complementary oligopoly market power, actual sound recording royalties are significantly greater than indicated by the Shapley-inspired analysis utilized by the Majority.[25] As I have already explained, this fact must be taken into account in order to derive rates that are fair and/or reflect relative contributions.[26]

— Dr. Watt asserts that "[r]ecord companies appear to compete intensely, including on price."[27] But he provides no citation to *any* evidence that the Majors compete on price with respect to interactive services. Moreover, his claim is directly contradicted by record evidence in other proceedings, which demonstrates that the Majors do not

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19 *Spulber AWDT*, ¶ 19.

20 *Id*., quoting *Katz WDRT,* ¶¶ 123 and 136, out of context.

21 *Katz WDRT*, ¶ 135 ("It is important to recognize that the calculations in this appendix demonstrate that Professor Watt's approach—not just the specific prediction he makes—is unreliable; the corrections above do not rehabilitate his model. That is, although the predictions derived above based on more realistic assumptions are superior to Professor Watt's prediction, they have flaws as well.").

22 *Watt AWDT*, ¶ 3(iii).

23 *Katz WDRT*, ¶¶ 37-38. I also demonstrated that that the outcome of a Shapley analysis can starkly fail to correspond to the outcome of an effectively competitive market. (*Id*., ¶¶ 39-43.)

24 *Watt AWDT*, ¶ 20 referring to Phonorecords III, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords*, Docket No. 16-CRB-0003-PR (2018-2022), Final Determination (hereinafter *Determination*).

25 *Determination*, pp. 71-73.

26 *Katz WSRT*, ¶ 8.

27 *Watt AWDT*, ¶ 52.

compete on price at all—let alone intensely—to license to interactive streaming services.[28] Dr. Watt may be confused about the services at issue. He cites the concept of "steering" raised in *Web V* but he ignores the fact that the practical steering opportunities for non-interactive services are much greater than those for interactive services.[29]

— Dr. Watt asserts that, "[i]f the record companies were indeed monopolists, they would not choose [a] royalty structure" in which they bear risk.[30] This claim has no basis in economic theory of which I am aware. Certainly Dr. Watt cites none.

— Dr. Spulber challenges the validity of the specific model that Cournot analyzed in 1838 but Professor Spulber fails to acknowledge the underlying principle applies much more broadly. Specifically, Dr. Spulber asserts that the conditions of Cournot's model are not met in the present setting and therefore "the record companies are not a complementary oligopoly."[31] In doing so, Dr. Spulber ignores the economic learning of the intervening two centuries that establishes that the problem of complementary oligopoly extends far beyond the specific assumptions of Cournot's original model.[32]

— Dr. Watt similarly asserts that "Cournot's theory… also requires that the services have no bargaining power at all."[33] If he is referring to Cournot's original model (published in 1838), then Dr. Watt's claim is both correct and irrelevant. The general problem of complementary oligopoly pricing can arise is situations where buyers

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28 Web IV, *In re Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings*, Docket No. 14-CRB-0001-WR (2016-2020), pp. 60-61 ("[T]he Services note that a lack of effective competition in the upstream interactive market is confirmed by the testimony of numerous SoundExchange witnesses, who conceded that the licenses between record labels and on-demand services are the product of a market devoid of any price competition between record companies to obtain additional plays on on-demand services." [Cited testimony omitted.])

Web V, *In re Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings*, Docket No. 19-CRB-0005-WR (2021-2025) (hereinafter *Web V Determination)*, § III.B.1 (finding that Spotify lacked the pricing power to mitigate or offset the complementary oligopoly power of the Majors) and p. 65 (citing "the absence of horizontal price competition.").

29 *Watt AWDT*, n. 11; *Web V Determination*, p. 21 (noting that, in *Web IV*, the Judges found that *noninteractive* services could ameliorate the effects of the Majors' complementary oligopoly power through credible threats to steer) and § III.B.1.c (finding that the interactive service Spotify did not have a similar ability).

30 *Watt AWDT*, ¶ 54.

31 *Spulber AWDT,* ¶ 6. See also *Watt AWDT,* § IV.A.

32 See, e.g., the examples in note 10 and accompanying text above.

33 *Watt AWDT*, ¶ 55.

> have bargaining power.[34] Indeed, the same economic forces can arise: when a label is bargaining with an interactive service, the label ignores the adverse effects that obtaining greater sound recording royalties for itself will have on other record labels. Other labels are harmed, for example, when a service responds to higher royalties by changing its own pricing and exit decisions in ways that reduce the total economic surplus available to be split between the service and the other labels.

4. Unless the Working Proposal is substantially modified, it is incapable of determining a rate structure that satisfies the Section 801(b)(1) objectives. By contrast, the rates and rate structure approach of the 2012 Settlement provides an economically sound benchmark on which to base the statutory rates for the 2018-2022 period.[35] Using the 2012 Settlement as a benchmark remains the best approach to rate setting for the *Phonorecords III* period. Nothing in the testimony of economic experts retained by the Copyright Owners changes these conclusions.

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[34] See, e.g., the example in the text accompanying note 10 above. As long as both sides had some bargaining power, duopoly would lead to higher than monopoly prices under Nash bargaining even if the bargaining-power parameter favored the service.

[35] *Katz WDT*, §§ IV and V; *Katz WDRT*, § VIII.

APPENDIX A: MATERIALS RELIED UPON

Determinations and Orders

	Date	Bates Number(s)
Phonorecords III, *In re Determination of Royalty Rates and Terms for Making and Distributing Phonorecords*, Docket No. 16-CRB-0003-PR (2018-2022).	Feb. 2019	--
Phonorecords III, Notice and *Sua Sponte* Order Directing the Parties to Provide Additional Materials	Dec. 2021	--
Phonorecords III, Order Granting in Part and Denying in Part Copyright Owners' Motion for Reconsideration or, in the Alternative, Clarification	Jan. 2022	--
Web IV, *In re Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings*, Docket No. 14-CRB-0001-WR (2016-2020)	March 2016	--
Web V, *In re Determination of Royalty Rates and Terms for Ephemeral Recording and Webcasting Digital Performance of Sound Recordings*, Docket No. 19-CRB-0005-WR (2021-2025)	July 2021	--

Written Testimony

	Date	Bates Number(s)
Phonorecords III, Written Direct Testimony of Michael L. Katz.	Nov. 2016	--
Phonorecords III, Written Direct Remand Testimony of Michael L. Katz.	April 2021	--
Phonorecords III, Written Supplemental Remand Testimony of Michael L. Katz	Jan. 2022	--
Phonorecords III, Additional Written Direct Testimony of Jeffrey A. Eisenach, PH.D.	Jan. 2022	--
Phonorecords III, Additional Written Direct Testimony of Daniel F. Spulber, PH.D.	Jan. 2022	--
Phonorecords III, Written Direct Testimony of Richard Watt (PHD)	Jan. 2022	--

Other

	Date	Bates Number(s)
17 U.S.C. §801 - Copyright Royalty Judges; Appointment and Functions.	--	--

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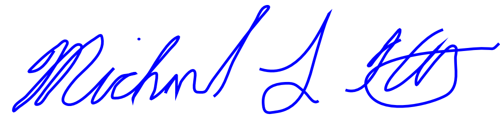
In re **DETERMINATION OF RATES AND TERMS FOR MAKING AND DISTRIBUTING PHONORECORDS (Phonorecords III)**	**Docket No. 16-CRB-0003-PR (2018-2022) (Remand)**

DECLARATION OF MICHAEL L. KATZ

I, Michael L. Katz, 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 23rd day of February, 2022 in Wailea, HI.



Michael L. Katz

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 Michael L. Katz to the following:

Johnson, George, represented by George D Johnson, served via ESERVICE at george@georgejohnson.com

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

Nashville Songwriters Association International, represented by Benjamin K Semel, served via ESERVICE at Bsemel@pryorcashman.com

Google LLC, represented by David P Mattern, served via ESERVICE at dmattern@kslaw.com

Amazon.com Services LLC, represented by Scott Angstreich, served via ESERVICE at sangstreich@kellogghansen.com

Spotify USA Inc., represented by Richard M Assmus, served via ESERVICE at rassmus@mayerbrown.com

Signed: /s/ Todd Larson