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

In re **DETERMINATION OF ROYALTY RATES AND TERMS FOR EPHEMERAL RECORDING AND DIGITAL PERFORMANCE OF SOUND RECORDINGS (*WEB IV*)**	**DOCKET NO. 14-CRB-0001-WR (2016-2020)**

TESTIMONY OF

THOMAS Z. LYS, Ph.D.

Eric L. Kohler Chair in Accounting and Professor of Accounting and Information Management,
Kellogg School of Management, Northwestern University

PUBLIC VERSION

Witness for SoundExchange, Inc.

Table of Contents

I. Introduction ... 1
I.A. Qualifications ... 1
I.B. Statement of the Assignment ... 2
I.C. Summary of Conclusions ... 3

II. The Voluntary Streaming Agreements ... 4
II.A. Other Provisions ... 7
II.A.1. Payment Terms ... 7
II.A.2. Late Charges and Penalties ... 8
II.A.3. Right to Terminate ... 9
II.A.4. Audit / Enforcement Rights ... 9

III. The "Greater-of" Royalty Structure ... 10
III.A. Risks of a Pure Percentage-of-Revenue Approach ... 10
III.A.1. Business Model Risk ... 10
III.A.2. Consequences of Accounting Strategies ... 12
III.A.3. Private Agreements Can Deter Inappropriate Business or Accounting Strategies ... 13
III.B. The Per-Play Methodology ... 15
III.C. The "Greater-of" Rate Structure Minimizes the Risks Inherent in a Percentage-of-Revenue Only Approach ... 15

IV. Auditing ... 16

V. Payment Terms ... 18

VI. Adjustments ... 19

Appendix A. Curriculum Vitae ... 21

Appendix B. List of Service – Label Pairs Considered ... 31

List of Figures

Figure 1: Summary of Revenue Definition Terms Found in Private Agreements 5
Figure 2: Frequency of Private Agreements with a “Greater Of” Royalty Structure, by Label 6
Figure 3: Frequency of Private Agreements With a "Greater Of" Royalty Structure, by Streaming Service............7
Figure 4: Frequency of Private Agreements that Identify Specific Payment Terms 8
Figure 5: Frequency of Private Agreements that Identify Specific Interest Charges for Late Payments 9
Figure 6: Analysis of Private Agreements’ Provisions that Trigger Audit Fee-Shifting 10

I. Introduction

I.A. Qualifications

(1) My name is Thomas Z. Lys. I am the Eric L. Kohler Chair in Accounting and Professor of Accounting and Information Management at the Kellogg School of Management, Northwestern University, located in Evanston, Illinois.

(2) I have been a faculty member at Kellogg, one of the leading business schools in the world, since 1981. In addition, I have held academic positions at the Graduate School of Business at the University of Chicago (1986–1987) and the Graduate School of Business at Stanford University (1997).

(3) I have a PhD in accounting and finance from the University of Rochester (1982); an MS in accounting, also from the University of Rochester (1980); and a BS in Economics from the University of Berne, Switzerland (1976).

(4) In the past, I have testified on behalf of numerous corporate clients, including the trustee in the Enron bankruptcy, AMD, Sovereign Bank, and many others; as well as government entities, including the U.S. Department of Justice, the U.S. Department of the Treasury, the Russian Federation, and the Commonwealth of Australia in a variety of commercial, antitrust, and tax disputes.

(5) In 2011, I submitted an expert report on behalf of SoundExchange in the matter of Determination of Rates and Terms for Preexisting Subscription and Satellite Digital Audio Radio Services, Docket No. 2011-1 CRB.

(6) I have testified previously on matters relating to, among other topics, business valuation (involving both tangible and intangible assets), business purposes of certain transactions, liquidity, bankruptcy, antitrust, and pricing. My curriculum vitae is attached as Appendix A to this report, along with a list of my prior testimony.

(7) At Kellogg, I teach courses in financial reporting, mergers and acquisitions, security analysis, behavioral finance, security price analysis, and corporate governance in Kellogg's PhD, MBA, Executive MBA, and International Executive MBA programs (which are taught in the United States, Europe, and Asia), as well as in numerous non-degree programs. In addition, I am the faculty director of Kellogg's executive program, "Corporate Governance: Effectiveness and Accountability in the Boardroom."

(8) For my teaching at Kellogg, I was awarded the Outstanding Professor of the Year Award for the Executive Master's Program in 1996, 1997, 1998, 2000, and 2002, and the Sidney J. Levy Teaching Award in the regular MBA program in 1998–1999.

(9) My most recent scholarly research integrates the rational models of decision-making in economics, accounting, and finance, with the descriptive models of behavioral decision theory in order to predict the actions of various financial decision-makers. My research also includes issues relating to corporate valuations in mergers and acquisitions.

(10) My research has been published in peer-reviewed academic journals, including the Journal of Accounting and Economics, the Journal of Financial Economics, the Journal of Monetary Economics, The Journal of Business, The Accounting Review, and the Journal of Accounting Research.

(11) I have served as one of the editors of the Journal of Accounting and Economics (a leading academic journal in financial economics) for eleven years. I have been a member of the American Accounting Association since 1981.

(12) In addition to my academic work, I have consulted for a number of leading private and public companies, including, Ciba Specialty Chemicals, Cox Communications, General Electric, IBM, Eastman Chemical, Guidant Corporation, and USX.

(13) Some of the analyses underlying my opinions were supported by my research staff, working under my direction. All of the opinions expressed in this report are my own independent conclusions. I am compensated at a rate of $975 per hour for my work in this matter. My compensation is not dependent on the outcome of this case or on any of the opinions expressed in this matter.

I.B. Statement of the Assignment

(14) Counsel for SoundExchange asked me to address the following questions:

1) Do voluntary agreements between streaming services and content owners reflect any consistent approaches to defining revenue or contain common revenue definition terms?
2) What are the risks associated with a pure percentage-of-revenue royalty structure?
3) What can be done to mitigate the risks associated with a pure percentage-of-revenue royalty structure?
4) What safeguards should be granted to content owners to ensure self-reported royalty computations are accurate?
5) What kind of payment terms are included in voluntary agreements between streaming services and content owners?

6) How would a percentage-of-revenue royalty rate account for the use of sound recordings that are directly licensed or that otherwise do not require a license?

I.C. Summary of Conclusions

(15) My conclusions are based on an analysis of the voluntary agreements for 62 unique streaming service – copyright owner pairs. Appendix B contains a list of these 62 streaming service – content owner pairs. For each pair, I considered the latest iteration of the agreement between the service and the copyright owner because it represents the most up-to-date information regarding the terms that a willing buyer and willing seller would agree to.

(16) The agreements I considered cover a broad range of services, from young services (e.g., Yonder) to more established ones (e.g., Rhapsody), and from pureplay streaming services that exclusively focus on music streaming (e.g., Spotify) to streaming services that are bundled with other products or services (e.g., ROK Mobile).[1]

(17) Nearly all the agreements I examined included negotiated terms that define Attributable Revenue in some form.[2] For most of these agreements, Attributable Revenue was defined broadly to include all music-related sums paid or payable to the service provider from a variety of sources. I have also been able to identify other common terms related to the definition of revenue.

(18) Relatedly, royalty payments in only 6 percent of the agreements I reviewed are not, at least in part, based on Attributable Revenue. Thus, my evidence shows that the royalties between a willing buyer and a willing seller are typically not solely determined on per play or per subscriber basis but rather include a percentage of Attributable Revenue.

(19) However, there are a number of risks associated with a pure percentage-of-revenue royalty structure that are outside the control of copyright owners. First, because the statutory license is unilateral, statutory streaming services are free to engage in strategic conduct that may be contrary to the interests of content owners. For instance, streaming services can engage in market-share maximization strategies that sacrifice or delay revenue. Second, statutory streaming services have more freedom than counterparties to a voluntary agreement to structure their businesses and adopt accounting strategies that artificially reduce Attributable Revenue. Finally, statutory streaming

---

[1] One agreement I reviewed, the Clear Channel – Warner agreement, is for a terrestrial broadcaster that also offers simulcast and non-simulcast webcasting.

[2] The various agreements use slightly different terminology to describe the computation of the amount of revenue to which a percentage-of-revenue share is applied to calculate the total royalty fees owed. Substantively these definitions amount to the computation of what I am calling “Attributable Revenue.”

services that bundle their statutory service with other products or services have greater freedom to divert revenues to these other products or services.

(20) To mitigate the risks associated with a pure percentage-of-revenue royalty structure, the statutory royalty structure, like the vast majority of the voluntary agreements I reviewed, should contain a "greater of" formula with two prongs: (1) a per-play rate and (2) a percent-of-revenue share.

(21) In addition, because the computation of Attributable Revenue is performed by the statutory streaming services, it is crucial that SoundExchange receive the right to audit a streaming service's relevant books and records using qualified independent third party auditors in order to assure SoundExchange that streaming services are complying with the terms of the statutory license. Again, this proposal is supported by market evidence: in virtually all privately negotiated agreements I reviewed, streaming services grant such rights to content owners.

(22) In addition, based on my review of the agreements, I conclude that willing buyers and willing sellers would agree to the following basic payment terms: payments should be made within 30 days of the end of the monthly reporting period, with a monthly 1.5% charge applied to any late payments. This payment window protects copyright holders from extending too much credit to streaming services and substitutes for the requirement of advance payment, which often appears in private agreements.

(23) Consistent with the Judges' approach in *SDARS II*, I conclude that, in the context of a "greater of" structure, the most appropriate way to account for directly licensed recordings or recordings that otherwise do not require a license is to reduce the royalty calculated under the percentage-of-revenue prong by the percentage of the streaming service's total performances that were of such recordings.

(24) My complete opinions and the explanations for how I reached them appear throughout my report.

II. The Voluntary Streaming Agreements

(25) As I noted in my Summary of Conclusions, I analyzed the agreements for 62 streaming service – label pairs. These agreements were provided to me by counsel and I understand that they were selected based on a comparability analysis performed by Professor Daniel Rubinfeld. Appendix B contains a list of the 62 service – label pairs I considered. For each unique label-service pair, I considered the latest version of the parties' agreements. The reason for selecting the latest version was to get as close as possible to the terms a willing buyer and willing seller would presently agree to.[3]

[3] I have not relied on Apple's iTunes Radio agreements because it is my understanding that Apple has not waived certain

(26) Figure 1 below summarizes the prevalence of certain revenue definition terms found in the negotiated agreements.

Figure 1: Summary of Revenue Definition Terms Found in Private Agreements

Term	# of Observations	% occurrence
Presence of a "greater of" royalty structure	58	94%
Presence of a broad revenue definition[4]	48	77%

Source: Lys analysis of voluntary agreements between labels and streaming services.

(27) Figure 1 shows that the majority of the voluntary agreements include a broad "catch all" term that is designed to capture all the various types of income that could be earned by a service. In addition, a majority of the agreements explicitly include two specific types of revenue: (a) subscription fees and (b) advertising revenue. Given that subscriptions and advertising are two common methods of generating economic value from copyrighted content, this should be no surprise. Other types of revenue specifically mentioned in the voluntary agreements include referral fees, affiliate fees, and e-commerce revenue.

(28) A number of agreements restrict the deduction of bad debt expenses from revenues in a variety of circumstances. As I discuss below, these restrictions are likely included to address concerns related to accounting strategies that could artificially depress service provider revenues.

(29) Figure 2 shows that, of the 62 label-service pairings that I have analyzed, a full 94% (or 58 label-service parings) contain a "greater of" payment structure.[5] Furthermore, of the four agreements that do not have a "greater of" provision, two are structured as flat-fee [REDACTED] and another two are based on a per-device fee [REDACTED]. Therefore, I did not observe any revenue share benchmark agreements that did not also include some form of a per-play or per-subscriber minimum.

---

confidentiality clauses in those agreements.

4 The wording in the agreements varies with respect to the broad applicability of revenues. For example, I considered both of the following examples to be "broad terms:"

(A) "'Gross Revenues' means all revenues, income and other sums, including but not limited to, all monies actually received by, or receivable by, and all payments made to, or credited to Company..."

(B) "'Adjusted Gross Revenue' means the aggregate of (i) all Net Advertising Revenues; (ii) all Gross Margin Revenues; and (iii) all other gross monies (including non-refundable advances and guarantees, however characterized) paid or payable by or on behalf of any person and/or entity in connection with the operation and/or exploitation of the Service..." (emphasis added).

5 Some service-label pairs included a per-subscriber methodology in their "greater of" structures. As I explain, this component has relevant similarities to a per-play methodology when used as a component of such a structure. I included these pairs in my count.

(30) In each case, one of the prongs of the "greater of" structure was a share of revenue. The other prong was either a per-play fee or, for some subscription services, a per-subscriber fee. Moreover, each agreement that includes a revenue-based prong also includes a greater-of royalty structure.

(31) For a subscription service, a per-subscriber fee plays the same role as a per-play fee: it establishes a royalty floor that is tied to the consumption of music and that rises as the service's consumption increases. By contrast, a percentage-of-revenue fee captures a service's ability to generate revenue from that consumption.

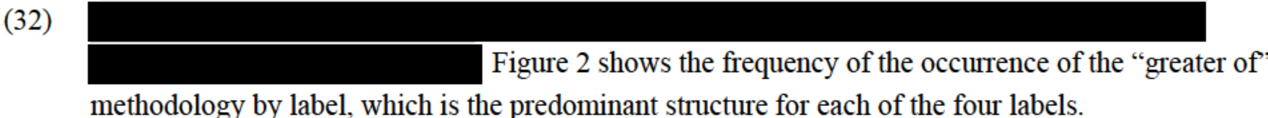
(32)  Figure 2 shows the frequency of the occurrence of the "greater of" methodology by label, which is the predominant structure for each of the four labels.

Figure 2: Frequency of Private Agreements With a "Greater Of" Royalty Structure, by Label

Label	Greater of	Total	Percent
EMI			
Sony			
Universal			
Warner			
TOTAL	58	62	94%

Source: Lys analysis of voluntary agreements between labels and streaming services.

(33) Similarly, with the exception of , my evidence shows that the entire spectrum of the analyzed streaming service providers have found a "greater of" methodology acceptable by agreeing to that approach in their privately-negotiated agreements. Demonstrating this, Figure 3 shows the frequency of the occurrence of the "greater of" methodology, grouped by streaming service, contained within the agreements.

(34) Interestingly, while agreements have the "greater of" structure, that structure.

Figure 3: Frequency of Private Agreements With a "Greater Of" Royalty Structure, by Streaming Service

Streaming services	Greater of	Total	Percent
Amazon Music			
Beats			
Boomio			
Classical Archives			
Clear Channel/iHeart Radio			
Google Play			
Microsoft - Xbox			
Midwest Tape			
MOG			
MySpace Music			
Nokia MixRadio			
Rara			
Rdio			
Rhapsody			
ROK Mobile			
Slacker			
Sony Music Unlimited			
Spotify			
Yonder			
TOTAL	58	62	94%

Source: Lys analysis of voluntary agreements between labels and streaming services.

II.A. Other Provisions

II.A.1. Payment Terms

(35) Most voluntary agreements require payment with a specific period of time after the end of the calendar month.[8] When included (59 of the 62 agreements), this period can range up to 60 days.

---

[6] agreements prescribe a flat fee payment, and consequently a "greater of" structure would not be meaningful, at least not in the same sense as with the other agreements.

[7] private agreements with are structured on a per-device-sold basis and do not include a "greater of" approach.

[8] In some agreements, the period of time is not triggered by the end of the calendar month but, instead, is based on the receipt of an invoice by the service from the label.

However, in the vast majority of voluntary agreements I reviewed, payment is required within 30 days. The results of my analysis are presented below in Figure 4.

Figure 4: Frequency of Private Agreements that Identify Specific Payment Terms

Payment terms in private agreements	# of occurrences	Percent of All Agreements
Within 30 days	55	89%
45 days	3	5%
60 days	1	2%
Not Defined	3	5%

Source: Lys analysis of voluntary agreements between labels and streaming services.

II.A.2. Late Charges and Penalties

(36) The voluntary agreements generally specified one of two types of late payment charges: (1) a fixed rate or (2) a floating rate pegged to a prominent interest rate benchmark.

(37) Many agreements contained fixed rates, which provide the advantage of simplicity. These fixed rates were typically specified as the lesser of a particular monthly percentage and the maximum rate permitted by law.

(38) Other agreements contained floating rates (for example, zero to four percent above the Wall Street Journal Prime Rate, one-month Euribor, or the Barclays Bank Base Rate). The advantage of floating rates is that they keep the penalty for tardy payments commensurate with prevailing sources of funds (thus avoiding the incentive to delay royalty payments as a relatively cheap source of short-term funds in high interest rate environments).

(39) The most common late charge by far, present in more than half of all agreements and in 63% of those containing specific interest charges for late payments, was the lesser of (A) 1.5% per month and (B) the maximum rate permitted by law. The results of my analysis are presented below in Figure 5.

Figure 5: Frequency of Private Agreements that Identify Specific Interest Charges for Late Payments

Interest Charges	No. of Occurrences	Percent of All Agreements
Lesser of 1.5% or maximum legal rate	34	55%
Floating rate	20	32%
None	7	11%
Unknown	1	2%

Source: Lys analysis of voluntary agreements between labels and streaming services.

II.A.3. Right to Terminate

(40) My review of the voluntary agreements revealed that licensors were typically given the right to terminate the agreement upon the provider's failure to pay. Moreover, because the agreements are short-term in nature, the option "not to renew" has, from an economic perspective, the same effect as the right to terminate.

II.A.4. Audit / Enforcement Rights

(41) Nearly every voluntary agreement provided the licensor with a right to audit the service provider.[9] The agreements call for the service providers to maintain and preserve records during the term and typically for three years thereafter. Generally, the licensors have the right to audit these records once per year upon reasonable written notice to the provider. The licensors bear the cost of these audits unless an underpayment in excess of a specified threshold is discovered. The underpayment thresholds ranged from 3 percent to 10 percent with a median threshold of 5 percent. The results of my analysis are presented below in Figure 6.

[9] 61 out of the 62 agreements I reviewed grant audit rights. I was unable to determine whether or not 1 agreement contained an audit provision.

Figure 6: Analysis of Private Agreements' Provisions that Trigger Audit Fee-Shifting

Term	No. of Occurrences	Percent of All Agreements
Underpayment threshold specified	55	89%
Underpayment threshold not specified	6	10%
Unknown	1	2%
TOTAL	62	100%
Mean Threshold	6.6%	
Median Threshold	5.0%	
Mode Threshold	5.0%	
Min Threshold	3.0%	
Max Threshold	10.0%	

Source: Lys analysis of voluntary agreements between labels and streaming services.

III. The "Greater-of" Royalty Structure

(42) In my expert opinion, statutory webcasting royalty fees should be defined as the "greater of" the fees calculated under (A) a percentage-of-revenue approach and (B) a per-play approach. The goal of royalty fees is to ensure that content owners and streaming services equitably share in the benefits of statutory webcasting. A royalty fee model based on a revenue share alone is insufficient because it subjects copyright owners to business risks that they cannot control and may not benefit from (despite supplying their creative works). However, these risks can be mitigated by combining the percentage-of-revenue approach with a per-play rate set at an appropriate level. I discuss these issues in more detail in the section below.

III.A. Risks of a Pure Percentage-of-Revenue Approach

III.A.1. Business Model Risk

(43) A variety of business models have emerged in today's marketplace with unique revenue-generating characteristics. These business models differ in the marginal contribution of the copyrighted content – that is, the incremental revenue that is obtained by adding the copyrighted material to the ultimate product. In other words, offering streaming copyrighted music to end users presents a different value proposition depending on the type of service.

(44) For pureplay streaming services, the ability to generate revenue from the streaming of copyrighted music is the main business activity and thus critically important. For other streaming services,

however, the streaming of music might be one of several ancillary services offered to entice customers into buying hardware or subscribing to other "primary" services through which the bulk of the service provider's profits are expected to be made. For example, iTunes Radio brings customers to the iTunes store where they may choose to purchase and download music or buy devices to play that music on, such as iPhones or iPads. Similarly, streaming music can be used to enhance the gaming experience (Xbox and PlayStation 4) or to influence the purchase of cellular telephones and service plans.

(45) A negotiated agreement can be tailored to the specific business model adopted by a service and can specify what features the service may offer and how and when the service may be bundled with other products. For example, a negotiated agreement can specify that a business will offer only a standalone streaming service or that it will offer only a cellphone bundle. Negotiated agreements can also specify the price of such services and whether the services will be advertising or subscription supported.

(46) The statutory license, however, is not limited to any particular business model. Thus the content owners don't have the ability to reject any streaming service that meets the statutory requirements. Services are able to adopt models that focus solely on webcasting, that bundle webcasting with other products or services, or that use webcasting to drive sales of other products or services. Moreover, because of the competitive and evolving nature of the industry, streaming services are likely to use pricing strategically to maximize their long-term profitability. These aspects of the statutory license create three negative consequences for content owners where the royalty obligation is calculated using only a pure percentage-of-revenue methodology.

(47) First, content owners would bear risks that they do not control. If royalties were solely based on a percentage-of-revenue basis, streaming services could engage in business strategies that discount current revenue (either subscription or advertising), in the hope of gaining market share in the future from other streaming services. While streaming services fully control such a decision, in a pure percentage-of-revenue regime, they face only a reduction of their current revenue of (1-r), where r is the royalty rate. Content owners bear the remainder of the reduction. Streaming services may rationally choose such a strategy given their perspectives, but that strategy would not have been chosen by the content owners.

(48) Second, a strategy of reducing current revenue while hoping to increase future revenue distorts the assignment of royalties because the content in the "investment phase" may differ from the content in subsequent periods.

(49) Finally, in a competitive environment, streaming services will set price to equal to their marginal costs. For the sake of argument assume that streaming services experience relatively low marginal costs. As a result, the equilibrium that may emerge is one where price and the resulting revenue are de minimis.

(50) But marginal costs are likely to differ between streaming services and content owners. Unlike for streaming services, the marginal costs for content owners include the opportunity cost of users diverted from services or products that generate higher revenues. Consequently, the equilibrium for streaming services may set the price of content below levels at which content owners would be willing to offer their copyrighted materials for webcasting. Nonetheless, in a statutory environment content owners would be forced to accept such pricing by virtue of the statutory license.

III.A.2. Consequences of Accounting Strategies

(51) Section III.A.1 discussed the business risks associated with a pure percent-of-revenue royalty structure. In addition, the pure percentage-of-revenue structure also imposes risks on the content owners that result from the strategic use of accounting. Specifically, streaming services can

1) Recognize revenue in ways that defeat the percentage-of-revenue approach;
2) Transfer revenues to affiliates;
3) Use sound recordings to promote other products in circumstances that make it hard to capture that promotional value in streaming service revenues.

(52) The difference between (1) and (2) is a matter of nuance. While (1) represents internal revenue-minimization strategies, (2) represents the ability to create syndicates or affiliates and allocate relevant revenue inappropriately.

(53) Inherently, all three concerns stem from transfer pricing strategies and revenue allocation strategies that affect streaming service revenue. Transfer pricing practices, for instance, are a significant issue for integrated companies because they affect the allocation of profits across and within divisions. While transfer prices are particularly relevant in determining taxable income, they are generally a means of revenue and profit allocation among affiliated business units.[10]

(54) In general, transfer prices can only be objectively determined when a perfectly competitive market for the intermediate products or the individual components exits. However, in practice, this condition is almost never satisfied, leaving companies considerable leeway to select transfer prices and allocate profits and revenue among affiliates.

(55) While the primary motivation for choosing transfer prices may not be to explicitly minimize royalty payments, a business's individual transfer pricing policies can ultimately result in minimizing

[10] "A transfer price is the price charged between related parties (e.g., a parent company and its controlled foreign corporation) in an intercompany transaction. . . . Transfer prices directly affect the allocation of group wide taxable income across national tax jurisdictions. Hence, a company's transfer-pricing policies can directly affect its after-tax income to the extent that tax rates differ across national jurisdictions." John McKinley and John Owsley, "Transfer Pricing and its Effects on Financial Reporting," *Journal of Accountancy* (Oct. 2013), http://www.journalofaccountancy.com/Issues/2013/Oct/20137721.htm.

webcasting revenue either through misallocating revenues and/or through shifting revenues to affiliates or other services.

(56) This is of particular concern with streaming services that offer bundled products or that have multiple revenue streams. For example, a company that bundles cellular telephone service with a music offering and sells it for $50 per month could strategically choose to recognize only $1 in music-related revenues. Similarly, a streaming service like Apple could give away a product like iTunes Radio for free in the hopes of attracting customers to the iTunes applications and the Apple hardware and software platforms.

(57) Additionally, instead of simply attributing revenues internally in a way that would minimize the portion of overall revenue that is included in webcasting (and is thus subject to royalty payments), a streaming service could establish affiliates or additional services to shield revenue from exposure to royalty obligations or artificially create additional costs that would minimize Attributable Revenue. For example, a streaming service that provides streaming music could set up multiple layers of syndication such that it appears that the license user is receiving only $1 in revenue when in fact multiple additional layers of entities are extracting additional revenue from the same music.

III.A.3. Private Agreements Can Deter Inappropriate Business or Accounting Strategies

(58) Within the private agreement universe that I studied, the policing mechanism is simple and straightforward. First and foremost, content owners are not compelled to enter into private agreements with streaming services, so there is a significant reputational cost to streaming services that unreasonably allocate or artificially reduce revenue. Repeated violators would quickly find themselves without the agreements necessary to legally stream music.

(59) In addition, there are many safeguards written into the voluntary agreements between streaming providers and content owners. For one, rights owners generally have the right to terminate the agreement if the service is acting in bad faith. And even if the determination of bad faith appears difficult to establish, the private agreements are generally short-term and not longer than two years. If a streaming provider repeatedly artificially reduces or misallocates revenues, the content owners can simply choose to not renew the agreement.

(60) Revenue definitions in private agreements often have firm caps on allowable deductions and explicitly prohibit the deduction of some of the more easily manipulated line-items such as provisions for bad debt. In many agreements, sales and/or purchases to affiliates must be recognized at fair market value to shield the content owners from the impact of non-arm's-length transactions.

(61) Additionally, the individual nature of the agreements (along with their short-term horizon) allow for a tailor-made definition of revenue that is particularly relevant to the streaming service and its business model. This individuality minimizes the chances of a dispute, as the two sides would have likely been negotiating and discussing business terms, and are therefore more familiar to each other. The individually tailored short-term agreements also protect the content owner from the emergence of evolving business models with unique revenue streams that may not have been anticipated at the time of the agreement.

(62) Another mitigating factor found in some private agreements is the granting of an equity stake in the streaming service to the label. For example, under [REDACTED] agreement with [REDACTED] [REDACTED] received a [REDACTED]% equity stake in that streaming service. The granting of the equity stake made [REDACTED] a *de facto* partner in the future success of the content owner. In such circumstances, to the extent that a provider underpays a content owner, that owner would still be at least partially compensated through its equity interest. However, such equity arrangements are very difficult to implement in the statutory setting.

(63) Finally, private agreements often include advances and minimum payment guarantees. Both of these provide added protection to content owners, which are safeguards that do not exist in the statutory environment.

(64) On the other hand, statutory licenses do not afford the owners of the content any of these safeguards. Consequently, it is important to recognize the economic impact of these safeguards (unique to the private agreements) on the (1) revenue definition, (2) percentage-of-revenue prong, (3) per-play prong, and (4) payment terms. The existence of so many stabilizing factors has the likely effect of reducing the monetary compensation envisioned under the private agreements, and are therefore incrementally in the streaming services' favor.

(65) In other words, had the labels been forced to sign, for example, 5-year private agreements that lacked the safeguards described above, they likely would have demanded higher compensation to compensate them for the additional duration risk.[11] Similarly, if they lacked the right to cancel agreements for bad faith behavior or could not ask for advances, the labels would have to have been compensated in some other way for the absence of these valuable features – most likely through higher percentages of revenue and higher per-play fees.

---

[11] While the argument that streaming services also face some amount of risk from the long-term nature of the statutory rates may have some initial appeal, the fundamental difference is that while labels are "stuck" in the statutory environment, streaming services are not: they have the option to negotiate direct agreements with labels, or exit the industry. So while both sides share in the risk of the long-term nature of statutory agreements, streaming services have mitigators at their disposal that labels do not.

(66) Therefore, the market-based rates that are calculated strictly by looking at the private agreements need to be adjusted upward in the statutory context in order to account for the fact that none of these important safeguards exist in the statutory environment.

III.B. The Per-Play Methodology

(67) In contrast to the pure percentage-of-revenue methodology, the pure per-play methodology avoids the difficulties discussed in Section III.A: Streaming services are charged a fee for each play of a song that is being broadcast. A per-play methodology is an attractive alternative for two reasons: First, it avoids the difficulty of creating a definition of Attributable Revenue and the risks inherent in such a definition (discussed in Section III.A). Second, it is easier to enforce and administer than a percent-of-revenue methodology.

(68) However, the pure per-play methodology also has its own risks. These risks include precluding content owners from benefiting from the contribution of their content to the success of a mature and economically-successful business unless the per-play rate is set appropriately high. However, if that were the case, such a high rate could deter entry by new competitors.

(69) Specifically, the pure per-play methodology with a fixed per-play rate across all business models cannot capture the specific contribution of the copyrighted material across a variety of business models and situations. In other words, a single per-play rate could create distortions in the marketplace (for example, by protecting mature businesses against new entrants) or prevent copyright owners from benefiting from the contributions that their intellectual property makes across heterogeneous businesses and business models.

(70) While one could envision a situation with a “menu” of royalty rates that would address these issues, as a practical matter, the ability to implement such a regime would be very complex, because properly set rates must vary not only across business models and businesses but also across the maturity of any specific business.

III.C. The “Greater-of” Rate Structure Minimizes the Risks Inherent in a Percentage-of-Revenue Only Approach

(71) Because the difficulties described above cannot be overcome with an isolated methodology in such a diverse market, a two-prong approach is necessary and desirable. Under this approach, royalty fees should be computed as the greater of:

1) The percentage-of-revenue methodology
2) The per-play methodology

(72) It is important to note that the proposed approach is not additive – that is, the proposed royalty fee definition is the greater of, rather than the sum, of each methodology. This two-pronged methodology captures the key aspects of different business models and offers a fair mechanism for compensating copyright-owners for their investment because it:

- Mitigates the downsides of the pure percentage-of-revenue methodology;
- Mitigates the downsides of the pure per-play methodology; and is
- Overwhelmingly agreed to by willing buyers and willing sellers in the marketplace.

(73) Businesses that price their webcasting services artificially low, and sacrifice immediate revenue opportunities from advertising or subscription fees while they work on growing their subscriber bases and gaining market share, would likely pay a royalty fee based on a per-play methodology. However, the “greater of” rate structure, as compared to a hypothetical statutory rate based on the per-play methodology alone, captures the additional economic benefit earned by mature streaming services that is attributable to the exploitation of sound recordings.

(74) A strictly per-play only statutory rate, however, would force the Copyright Royalty Judges to choose between calibrating the per-play rate with the (1) economy’s most-prominent streaming services’ pricing power or (2) a lower rate which would not discourage the emergence of fledgling streaming services. The “greater of” structure ameliorates this dilemma.

(75) Further, under a two-pronged “greater of" methodology, streaming services allow the copyright-owners both an immediate revenue stream from the usage of their work as well as an equitable portion of revenue from successful business models.

IV. Auditing

(76) Auditing is the “systematic inspection of accounting records involving analyses, tests and confirmations,”[12] and is therefore a critically important component for the orderly functioning of public financial markets. Under SEC rules, public companies self-report their financial performance and external accountants audit the reporting and confirm that it is GAAP-compliant. As the New York State Society of CPAs describes it:

> An audit can be compared to an annual checkup with the doctor. Just as the patient must pass certain exams to ensure a clean bill of health, a company’s financial “good health” standing relies on whether or not its financial statements abide by generally

[12] Clyde P. Stickney and Roman L. Weil, Financial Accounting, An Introduction to Concepts, Methods, and Uses, Eighth Edition, 1997, at G-9.

> acceptable standard and accounting principles. While the audit does not guarantee a perfect financial statement, it does provide reasonable assurance that the statements are free of misstatements. In this case, the doctor is the auditor, and the company is the patient.[13]

(77) Auditing serves the critical purpose of making self-reporting by public companies trustworthy to the broader external stakeholders. Accounting literature readily acknowledges that a company's management has incentives (as well as opportunities) to report as favorable of a picture as possible.[14] By having a qualified and unaffiliated third party perform the verification of a company's statements, auditing serves as a system of checks and balances on the financial reporting.

(78) In the context of webcasting royalties, through the creation of a royalty payment scheme that depends on self-reported financial statements, it is necessary to have a system of checks and balances to reassure stakeholders (such as SoundExchange) that the reporting is performed accurately.

(79) Establishing clear audit rights provides statutory and financial incentives to generate, maintain, and communicate accurate representations of the statutory streaming services' business and financial activity.

(80) As discussed above, virtually all private agreements I reviewed grant audit rights to content owners.[15] Because of the specific nature of the webcasting industry, it would be in the interest of all parties for auditors of the computation of attributable revenue to understand the complexity of this industry. Moreover, such expertise is not necessarily the same as is required in the typical audit function, as the concept of "attributable revenue" is neither a GAAP nor GAAS term.

(81) To facilitate the audit function, it is my opinion that statutory streaming services be required to maintain and keep complete and accurate books and records concerning the service, all performances, and the computation of Attributable Revenues and all of its components and exclusions during the statutory term and for a period of three years following the end of the term.

(82) To the extent a service provider claims any non-attributable revenues, it should have to maintain sufficient calculations, studies, third party valuation opinions, or internal assumptions used to establish the value of the non-attributable revenues.

(83) Further, SoundExchange should be permitted to appoint a qualified auditor to audit the applicable books and records of statutory streaming services at their principal places of business and during

---

[13] Learn the basics: Auditing 101. Accessed at: http://www.nysscpa.org/sound_advice/basics htm

[14] Clyde P. Stickney and Roman L. Weil, Financial Accounting, An Introduction to Concepts, Methods, and Uses, Eighth Edition, 1997, at 22.

[15] See Section II.A.4.

regular business hours. A qualified auditor must at all times be subject to a signed confidentiality agreement that protects the statutory streaming service's private information.

(84) Consistent with the private agreements and to mitigate "fishing expeditions," SoundExchange should bear all costs relating to any audits. If, however, any such audit reveals a royalty shortfall of 5% or more, then, without limiting any of SoundExchange's rights or remedies, including payment of the applicable royalty shortfall, the service should be required to reimburse SoundExchange for its reasonable out-of-pocket auditors' fees and costs relating to such audit, including without limitation, accountants' fees and attorneys' fees. As discussed above, this provision is consistent with my review of private agreements where streaming services have routinely agreed to cover audit costs in instances where the amount of the discovered discrepancy exceeds 5%.[16]

V. Payment Terms

(85) In my opinion, the statutory license should require streaming services to pay SoundExchange royalties for each calendar month within 30 days of the end of the month. This opinion is based on three factors. First, a 30-day payment window tracks the agreed-upon terms of the vast majority of the private agreements entered into between content owners and service providers.[17]

(86) Second, imposing a 30-day payment window is actually a conservative approach in favor of service providers. In the private agreement context, when a service provider makes a payment, the payment is immediately received by the content owner. In the statutory context, however, there is an additional delay because SoundExchange requires time to process the provider's statements and distribute funds. A 30-day payment window forces content owners—who have no choice but to enter into the statutory license—and not service providers to bear the entirety of this administrative delay.

(87) In other words, with a 30 day payment window under the statutory license, content owners will not receive payment within the same timeframe contemplated by their voluntary agreements, yet service providers will receive the same amount of time to make payments as under the voluntary agreements.

(88) Third, prompt payment is particularly crucial in the statutory context where content owners can neither seek advance payments to protect themselves against counterparty credit risk nor refuse to enter into agreements with risky counterparties.

(89) In addition, consistent with the voluntary agreements, late payments by statutory streaming services should bear interest from the date such amounts are due and payable at the rate of 1.5 percent per

---

[16] See Figure 6.

[17] See Figure 4.

month.[18] Again, this requirement is consistent with the agreements but is also particularly appropriate in the statutory context where content owners have no choice but to extend credit to service providers.

VI. Adjustments

(90) In *SDARS II*, the Judges adopted a method to account for the performances of sound recordings fixed before February 15, 1972 (pre-1972 recordings) and sound recordings for which the provider has previously obtained a license of all relevant rights from the copyright owner (directly licensed recordings).

(91) I propose an approach consistent with *SDARS II* to account for recordings that are directly licensed or that otherwise do not require a license.

(92) First, with respect to the per-play rate component, the per-play fees should not apply to recordings that are not being performed under the statutory license.

(93) With respect to the revenue share rate component, the royalty calculated under that component should be reduced by the percentage of performances that are directly licensed or that otherwise do not require a license.

---

[18] See Figure 5.

I declare under penalty of perjury that the foregoing testimony is true and correct.

Date: 10/6/2014

Thomas Z. Lys

Appendix A. Curriculum Vitae

A.1. Prof. Thomas Z. Lys

A.2. Education

- Ph.D. Graduate School of Management, University of Rochester, 1982 (Accounting and Finance).
- Lic. Rer. Pol. University of Berne, Switzerland, 1976 (Economics & Operations Research, summa cum laude).

A.3. Academic appointments

- Kellogg Graduate School of Management, Northwestern University (1981–present)
  - 2006–present: Eric L. Kohler Chair in Accounting and Professor of Accounting and Information Management
  - 1999–2006: Gary A. Rosenberg Distinguished Professor of Real Estate Management, Professor of Accounting and Information Management, and Director, Guthrie Center for Real Estate Research
  - 1997–1999: Gary A. Rosenberg Distinguished Associate Professor of Real Estate Management, Associate Professor of Accounting and Information Systems, and Director, Guthrie Center for Real Estate Research
  - 1995–1997: John L. and Helen Kellogg Distinguished Associate Professor of Accounting and Information Systems
  - 1989–1995: Associate Professor of Accounting and Information Systems
  - 1981–1989: Assistant Professor of Accounting and Information Systems
- Northwestern School of Law, Northwestern University
  - 2000–present: Professor of Law (courtesy appointment)
- Graduate School of Business, Stanford University (January–August, 1997): Visiting Associate Professor of Accounting
- Graduate School of Business, University of Chicago (1986–1987): Visiting Assistant Professor of Accounting

A.4. Publications—articles

(For recent articles, visit http://ssrn.com/author=23037)

34) Corporate Governance Reform and Executive Incentives: Implications for Investments and Risk-Taking (with Daniel Cohen and Aiyesha Dey), Forthcoming 2013 *Contemporary Accounting Research*.

33) An Examination of the Impact of the Sarbanes-Oxley Act on the Attractiveness of US Capital Markets for Foreign Firms (with Peter Hostak, N. Emre Karaoglu, and Yong (George) Yang), forthcoming, *Review of Accounting Studies,* Volume 18, Issue 2 (June 2013), pp. 522-559.

32) Earnings Management and the Predictive Ability of Accruals with Respect to Future Cash Flows (with Brad Badertscher and Daniel W. Collins), Volume 53, Issues 1–2, Pages 1-488 (February–April 2012), *Journal of Accounting and Economics*.

31) The Financial Reporting Environment: Review of the Recent Literature (with Anne Beyer, Daniel Cohen, and Beverly Walther), *Journal of Accounting and Economics*, December 2010, 50(2-3): 296-343.

30) Real and Accrual-based Earnings Management in the Pre- and Post-Sarbanes Oxley Periods (with Daniel Cohen and Aiyesha Dey), *The Accounting Review*, May 2008, 82(3): 757–787.

29) Endogenous Entry/Exit as an Alternative Explanation for the Disciplining Role of Independent Analysts (with Jayanthi Sunder), *Journal of Accounting and Economics,* August 2008, 45(2–3): 317–323.

28) Earnings Announcement Premia and the Limits to Arbitrage (with Daniel Cohen, Aiyesha Dey, and Shyam Sunder), *Journal of Accounting and Economics*, July 2007, 43(2–3): 153–180 (lead article).

27) Weighing the Evidence on the Relation between External Corporate Financing Activities, Accruals and Stock Returns (with Daniel A. Cohen), *Journal of Accounting and Economics*, October 2006, 42(1–2): 87–105.

26) Significant Clinical Practice Cost Savings through Downsizing Office Supply Inventory and Just in Time Ordering (with C. M. Gonzalez, T. Jang, M. Raines, and A. J. Schaeffer), *Journal of Urology*, 2006 176(1).

25) A Note on Analysts' Earnings Forecast Errors Distribution (with Daniel A. Cohen), *Journal of Accounting and Economics*, December 2003, 36(1–3): 147–164.

24) The internet downturn: finding valuation factors in spring 2000 (with Elizabeth K. Keating and Robert P. Magee), *Journal of Accounting and Economics*, January 2003, 34(1–3): 189–236.

23) The effect of accounting information on corporate financing choices: an examination of security issuances in the banking industry (with Marguerite Bishop), *Contemporary Accounting Research*, Fall 2001, 18(3): 397–423.

22) Empirical research on accounting choice (with Thomas Fields and Linda Vincent), *Journal of Accounting and Economics*, September 2001, 31(1–3): 255–307.

21) The Ohlson model, contribution to valuation theory, limitations, and empirical applications (with Kin Lo), *Journal of Accounting, Auditing, and Finance*, Summer 2000, 15(3): 337–367.

20) Auto-correlation structure of forecast errors from time-series models: Implications for post-earnings announcement drift studies (with John Jacob and Jowell Sabino), *Journal of Accounting and Economics*, December 1999, 28: 329–358.

19) Use of R^2 in accounting research: measuring changes in value relevance over the last four decades (with Stephen Brown and Kin Lo), *Journal of Accounting and Economics*, December 1999, 28: 83–115.

18) Expertise in forecasting performance of security analysts (with John Jacob and Margaret Neale), *Journal of Accounting and Economics*, November 1999, 28: 51–82.

17) A closer look at post earnings announcement drift: the role of the dissemination of predictable information (with Leonard Soffer), *Contemporary Accounting Research*, Summer 1999, 16: 305–31.

16) Abandoning the transactions-based accounting model: weighing the evidence, *Journal of Accounting and Economics*, July/September/November 1996, 22: 155–176.

15) An analysis of the value destruction in AT&T's acquisition of NCR (with Linda Vincent), *Journal of Financial Economics*, October-November 1995, 39: 353–378.

14) Analysts' forecast precision as a response to competition (with Lisa Gilbert Soo), *Journal of Accounting, Auditing, and Finance*, March 1995, 10: 751–765.

13) Lawsuits against auditors under the security acts (with Ross L. Watts), *Journal of Accounting Research*, Supplement 1994, 32: 65–93.

12) The evolution of lawsuits against auditors—determinants, consequences, and solutions, *Journal of Economics and Management Strategy*, Fall 1993, 2: 427–434.

11) Research design issues in grouping-based tests (with Jowell S. Sabino), *Journal of Financial Economics*, December 1992, 32: 355–387.

10) The association between revisions of financial analysts' earnings forecasts and security price changes (with Sungkyu Sohn), *Journal of Accounting and Economics*, December 1990, 13: 341–364.

9) The market for audit services: evidence from voluntary auditor changes (with W. Bruce Johnson), *Journal of Accounting and Economics*, January 1990, 12: 281–309.

8) Earnings expectations and capital restructuring: the case of equity for debt swaps (with Konduru Sivaramakrishnan), *Journal of Accounting Research*, Autumn 1988, 26: 273–299.

7) Auditor liability and information disclosure (with S.P. Kothari, Clifford W. Smith and Ross L. Watts), *Journal of Accounting, Auditing and Finance*, Fall 1988, 3: 307–340.

6) An empirical analysis of the incentives to engage in costly information acquisition: the case of risk arbitrage (with David F. Larcker), *Journal of Financial Economics*, March 1987, 18: 111–126.

5) Labor participation in private business making decisions: the German experience with code-termination (with Giuseppe Benelli and Claudio F. Loderer), *Journal of Business*, October 1987, 60: 553–575.

4) Daily monetary impulses and security prices (with Claudio F. Loderer and Urs Schweizer), *Journal of Monetary Economics*, July 1986, 18: 33–48.

3) Auditor changes following big eight takeover of non big eight audit firms (with Paul Healy), *Journal of Accounting and Public Policy*, Winter 1986, 5: 251–265.

2) Discussion of: Capital analysis of reserve recognition accounting, *Journal of Accounting Research*, Supplement 1986, 24: 109–111.

1) Mandated accounting changes and debt covenants: the case of oil and gas accounting, *Journal of Accounting and Economics*, April 1984, 6: 39–65, reprinted in *The Economics of Accounting Policy Choice*, Ray Ball and Clifford W. Smith JR., editors, McGraw-Hill, Inc.: New York, 1992: 681–707.

A.5. Publications—books, book chapters and other publications

- Getting more of what you want, (with Margaret Neale), Basic Books forthcoming.
- Financing Decisions by Company (Net Stock Anomalies), (with Daniel Cohen and Tzachi Zach) in *Conceptual Foundations of Capital Market Anomalies – Handbook of Investment Anomalies*, (Ed. Leonard Zacks). John Wiley Publishing, 2011
- Monetary theory and monetary policy—The collected essays of Karl Brunner, volume two, (editor), Edward Elgar Publishing Ltd: Cheltenham, UK, 1997
- Economic analysis and political ideology—The collected essays of Karl Brunner, volume one (editor), Edward Elgar Publishing Ltd: Cheltenham, UK, 1996
- Discretion in financial reports: communicating in a less-than-rational world (with Margaret Neale), *CEO Magazine*, December 1996, 119: 72–73.
- The real value of takeovers to shareholders, in *The Handbook of Communications in Corporate Restructuring and Takeovers*, Clarke L. Caywood and Raymond P. Ewing, editors, Prentice Hall: Englewood Cliffs, 1992: 86–89

A.6. Papers under review

- Signaling Through Corporate Accountability Reporting (with James P. Naughton and Clare Wang), 2012.
- The Nature and Implications of Acquisition Goodwill (with Linda Vincent and Nir Yehuda), 2012.
- Conservatism and analyst earnings forecast bias (with Henock Louis and Amy X. Sun), 2012.
- Are Private Targets Better Buys? (with Nir Yehuda), 2012.

A.7. Working papers

- How Much Silence is Too Much? An Empirical Analysis of Firms Ceasing Guidance of Different Frequencies (with Gary Chen and Jie Zhou), 2011.

- Motives for and Risk-Incentive Implications of CEO Severance (with Tjomme Rusticus and Ewa Sletten), 2008.
- Exceptions do not Change the Rule: Substance Overrules Form in US GAAP (with N. Emre Karaoglu), 2008.
- Optimal structure of the consideration in mergers and acquisitions (with Thomas Fields), 2002.
- Bridging the Gap between Value Relevance and Information Content (with Kin Lo), 2001.
- Determinants and implications of the serial-correlation in analysts' earnings forecast errors (with John Jacob), 2000.
- Estimating auto-correlation coefficients in small samples (with Jowell S. Sabino and John Jacob), 2000.
- The role of earnings levels vs earnings changes in explaining stock returns: implications from the time series properties of earnings (with K. Ramesh and S. Ramu Thiagarajan), 1999.
- Addressing recognition issues in accounting: an evaluation of alternative research approaches (with Patricia Dechow and Jowell Sabino), 1998.

A.8. Editorial positions

- Consulting Editor, Journal of Accounting and Economics, 2010-2011.
- Editor, Journal of Accounting and Economics, 1999-2010
- Associate Editor, Journal of Accounting and Economics, 1988–1999
- Editorial Board, The Accounting Review, 1986–1989

A.9. Teaching

- MBA level:
  - Financial Accounting
  - Security Analysis
  - Financial Statement Analysis
  - Mergers and Acquisitions
- Executive MBA level:
  - Financial Accounting
  - Security Analysis
  - Mergers and Acquisitions
- Executive non-degree:
  - Strategies for Improving Directors' Effectiveness (Academic Director)
  - Women's Director Development Program

  - Minority Director Development Program
  - Merger Week—Creating Value through Strategic Acquisitions and Alliances
  - Biotechnology—Strategies for Growth
- Lecture capabilities in English, French, German, and Polish

A.10. Honors and awards

- Outstanding Professor Award, Executive Masters' Program – KR 12, 2009
- Sidney J. Levy Teaching Award, Master of Management Program 2001–2002
- Outstanding Professor Award, Executive Masters' Program—46, 2000
- Outstanding Professor Award, Executive Masters' Program—44, 2000
- Sidney J. Levy Teaching Award, Master of Management Program 1998–1999
- Outstanding Professor Award, Executive Masters' Program—38, 1998
- Outstanding Professor Award, Executive Masters' Program—35, 1997
- Outstanding Professor Award, Executive Masters' Program—32, 1996
- State Farm Companies Foundation Business Doctoral Dissertation Awards Selection Committee 1996–2007
- Peat Marwick and Mitchell Research Grant (jointly with Ross Watts), 1987
- Notable Contribution to Accounting Literature Award Screening Committee 1987–1988
- Beatrice Foods Research Chair 1984–1985
- Ernst & Whinney Research Fellow 1983–1984

A.11. Chaired Dissertation committees

- Mark Kim (Co-chair, Accounting), in progress
- Spencer Pierce (Accounting), in progress
- Gary Chen (Accounting), in progress
- Jingjing Zang (Accounting), 2012, McGill
- Rafael Rogo (Accounting), 2012, University of British Columbia
- Jie Zhou (Accounting), 2012 Singapore Management University
- Liang Tan (Accounting), 2011, George Washington University
- Dora Altschuler (Accounting), 2011, Loyola University Chicago
- Ewa Sletten (Accounting), 2007, Massachusetts Institute of Technology
- Peter Hostak (Accounting), 2006, University of Massachusetts at Dartmouth

- Yong (George) Yang (Accounting), 2006, The Chinese University of Hong Kong
- Aiyesha Dey (Accounting), 2005, University of Chicago
- Xiaohui (Gloria) Liu (Accounting), 2004, University of Houston
- Daniel Cohen, (Accounting), 2004, University of Southern California
- Nuri Emre Karaoglu, (Accounting), 2003, University of Southern California
- Elizabeth Eccher (Accounting), 1996, Massachusetts Institute of Technology
- John Jacob (Accounting), 1995, University of Colorado, Denver
- Marguerite Bishop (Accounting), 1995, New York University
- Linda Vincent (Accounting), 1994, University of Chicago
- Sungkyu Sohn, (Accounting), 1992, CUNY, Baruch College

A.12. Dissertation committees

- Ann Beyer (Accounting), 2006, Stanford University
- Thomas Fields (Accounting), 2004, Harvard University
- Yan (Rock) Gao (Finance), 2002
- Xiaoquin Hu (Finance), 2002, University of Illinois, Chicago
- Stephen Brown (Accounting), 2000, Emory University
- Kin Lo (Accounting), 1999, University of British Columbia
- Rita Czaja, 1995 (Accounting), Michigan State University
- Jowell Sabino (Accounting), 1994, University of Pennsylvania
- Susan Wolcott (Accounting), 1993, University of Denver
- Byong Ho Kim (Accounting), 1992, Kook-min University, Seoul, Korea
- Billy Soo, 1991 (Accounting), Boston College
- Paula Koch, 1989 (Accounting), University of Illinois, Chicago
- Young Ho Lee (Finance), 1989, Hanwha Group, Seoul, Korea
- Naveen Khanna (Finance), 1986, University of Michigan, Ann Arbor

A.13. Service at Kellogg

- Chair EMBA Curriculum Review Committee (2013)
- Product Portfolio Review Team (2011-2012)
- Research Cluster Committee (2011-2012)
- Personnel Committee (2001–2005; 2009-2011)

- Chair Ph.D. Committee, Department of Accounting and Information Systems (1990–1996)
- Chair Recruiting Committee, Department of Accounting and Information Systems (1993–1995 and 2002–2006)
- Research Computing Committee, Kellogg Graduate School of Management (1989-2000; Chair 1989–1992)

A.14. Invited talks and presentations (last ten years)

- 2012-2013 University of California at Davis Sustainability and Finance Symposium
  Harvard University Conference on Corporate Social Responsibility
- 2011-2012 University of Colorado at Boulder Conference
  CAR Conference
  NBER Conference (Discussant)
- 2010-2011 University of British Columbia
  Stanford Summer Camp
- 2009-2010 *Journal of Accounting and Economics* Conference
  Stanford Summer Camp
- 2008–2009 University of Washington at Seattle
  Massachusetts Institute of Technology
- 2007–2008 Washington University Conference
  Accounting Symposium, London Business School
- 2006–2007 *Journal of Accounting Research* Conference
  Pennsylvania State University
  Journal of Accounting and Economics Conference (Discussant)
  University of Oklahoma Research Conference, featured speaker
  Hong Kong University of Science and Technology Summer Symposium on Accounting Research, featured speaker
  Harvard University, 2007 Information, Markets, and Organizations Conference
- 2005–2006 Leventhal School of Accounting, University of Southern California
  Columbia School of Business, Columbia University
- 2004–2005 *Journal of Accounting and Economics* Conference (Discussant)
  Jerusalem School of Business Administration, Hebrew University
  American Accounting Association Annual Meeting, Orlando, Florida
  Olin School of Business, Washington University Corporate Governance Conference
- 2003–2004 Massachusetts Institute of Technology

University of Colorado at Boulder

Georgetown University

Harvard University

London Business School

- 2002–2003 *Journal of Accounting and Economics* Conference (Discussant)

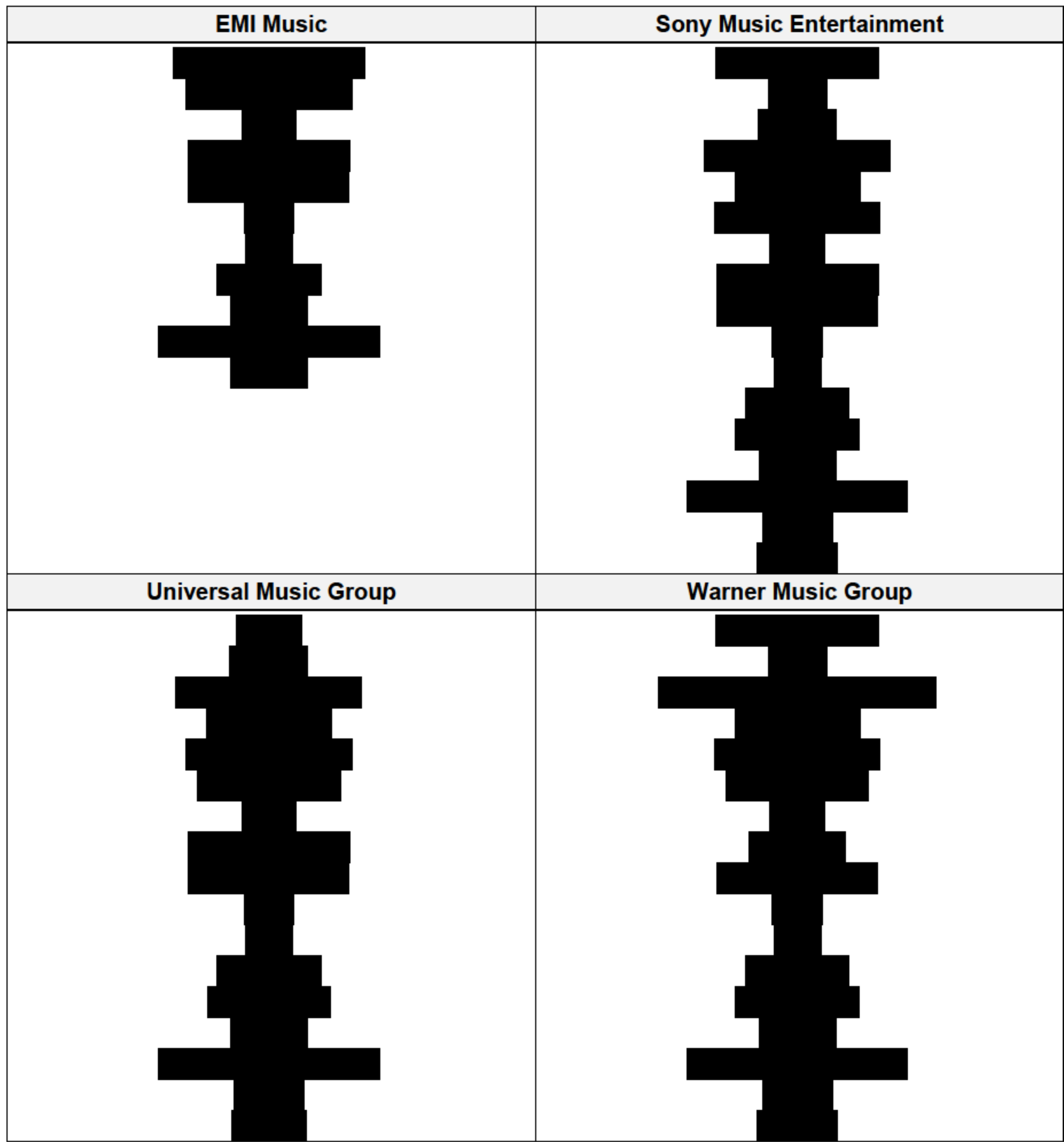
A.15. Expert witness assignments (last four years)

- Testifying expert for Plaintiffs in Anderson News LLC and Lloyd Whitaker, as the Assignee under an Assignment for the Benefit of Creditors for Anderson Services, LLC v. American media Inc., Bauer Publishing Co., LP, Curtis Circulation Company, Distribution Services, Inc., Hachette Filipacchi Media US, Inc., Hearst Communications Inc., Hudson news Distributors LLC, Kable Distribution Services, Inc., Rodale Inc., Time Inc. and Time/Warner Retail Sales & Marketing, Inc., in the United States District Court, Southern District of New York, 09-CIV-2227 PAC.
- Testifying expert for Defendants in Philip Morris Asia Limited v. Commonwealth of Australia; Arbitration Under the 2010 Arbitration Rules of the United Nations Commission on International Trade Law, PCA Case No. 2012-12
- Testifying Expert for Plaintiffs in Casino Guichard-Perrachon et al. v. Abilio Dos Santos Diniz et al.; Arbitration Pursuant to The Rules of Arbitration of the International Chamber of Commerce, ICC Case No. 17977/CA (C-18055/CA)
- Testifying Expert for Defendants in Re Rural Metro Corporation Shareholders Litigation in the Court Of Chancery Of The State of Delaware Consolidated C.A. No. 6350-VCL.
- Testifying Expert for plaintiff in Millennium Import, LLC v. Reed Smith LLP, Douglas J. Wood and Darren B. Cohen, Supreme Court of the State of New York, County of New York, Index No. 603350-07.
- Testifying Expert for plaintiffs in Salem Financial, Inc. as Successor-in-Interest to Branch Investments LLC, v. United States of America, in the United States Court of Federal Claims Case No. 10-192.
- Testifying Expert for plaintiffs in Santander Holdings USA, Inc. & Subsidiaries, v. United States of America, United States District Court District of Massachusetts, Case No. 09-cv-11043
- Testifying Expert for SoundExchange before the United States Copyright Royalty Judges Washington, D.C. In the Matter of Determination of Rates and Terms for Preexisting Subscription Services and Satellite Digital Audio Radio Services. Docket No. 2011-1 CRB PSS/Satellite II.
- Testifying Expert for plaintiffs in Oracle America, Inc. v. Micron Technology, Inc. and Micron Semiconductor Products, Inc., United States District Court For the Northern District of California, Docket No. 10-cv-4340.
- Testifying expert for plaintiffs in Option Care of New York Inc., v. William H. McMichael, John P. Mullen, Michael Breslin, Ezra Dottino, Veronica Terranova, Steve Kopp, Roy Larson, James McNally, John F. Mullen, Catherine Mullen, Karen Lorentzen, Robert Steinmetz, Jay Valentine,

Nancy Lynn Lynch, and Laura McMichael, individuals, in arbitration before ADR systems, INC. Chicago, Illinois.

- Testifying expert for defendant in John Hancock Life Insurance Company v. Commissioner of Internal Revenue, United States Tax Court, Docket Nos. 6404-09, 7083-10, 7084-10
- Testifying expert for defendant in Hulley Enterprises Limited v. The Russian Federation; Yukos Universal Limited v. The Russian Federation; and Veteran Petroleum Limited v. The Russian Federation, in the arbitrations pursuant to the rules of the United Nations Commission on International Trade Law, Permanent Court of Arbitration, Cases Nos. AA226/AA227/AA228
- Testifying expert for defendant Potash Corporation of Saskatchewan Inc., v. BHP Billiton Ltd., BHP Billiton Plc and BHP Billiton Development 2 (Canada) Ltd., United States District Court for the Northern District of Illinois, Eastern Division Civil Action No. 1:10-CV-06024.
- Testifying expert for defendant in Santa Clara Valley Housing Group, Inc. and Kristen M. Bowes, v. United States of America, United States District Court Northern District of California, Complaint for Refund of Internal Revenue Taxes, Case No. C08 05097.
- Testifying expert for defendants in Napoleon Perdis Cosmetics, Inc. v Sephora USA, Inc.; and does 1-50, Superior Court Of The State of California, County of Los Angeles, Central District; Case No.: Bc391382.
- Testifying expert for plaintiff in Advanced Micro Devices, Inc., and AMD International Sales & Service, Ltd., v Intel Corporation, and Intel Kabushiki Kaisha, United States District Court for the District Of Delaware, Civil Action No. 05-441.
- Testifying expert for plaintiff in Ventas, Inc., v. HCP, INC., United States Court for the Western District of Kentucky at Louisville; Civil Action No. 3:07 ‐ cv ‐ 238 ‐ H.
- Testifying expert for defendant in Wells Fargo & Company and Subsidiaries v. United States of America, United States Court of Federal Claims, Fed. Cl. No. 1:06-CV-628.
- Testifying expert for plaintiff in Richard G. Tatum v. R. J. R. Reynolds Tobacco Company, et al., United States District Court for the Middle District of North Carolina, No. 1:02-CV-00373

Appendix B. List of Service – Label Pairs Considered



EMI Music	Sony Music Entertainment
Universal Music Group	**Warner Music Group**