PUBLIC

Before the
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Washington, D.C.

In the Matter of Mechanical and Digital Phonorecord Delivery Rate Adjustment Proceeding	))))))	Docket No. 2006-3 CRB DPRA

TESTIMONY OF

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TABLE OF CONTENTS

Section | Page

I. INTRODUCTION AND SUMMARY 1
- A. Background and Qualifications 1
- B. Background on Matter 2
- C. Summary of Conclusions 4
  - 1. The royalty rate structure should be changed to a percentage basis. 5
  - 2. Rates should be lowered significantly -- to 7.8% or less of wholesale revenues. 6
  - 3. Rates recommendation. 8

II. THE ECONOMIC THEORY OF VALUING INNOVATION AND CREATIVE ACTIVITY 9

III. THE MUSIC INDUSTRY: 1970 TO THE PRESENT 15
- A. The Recording Industry's Performance Has Declined 15
  - 1. Record Companies' Revenues Have Dropped 15
  - 2. Unit Shipments of Albums and Spending on Music at Retail List Prices 16
  - 3. Unit Shipments of Recorded Music By Delivery Format 19
  - 4. Sales of the "Hits" Have Dropped Dramatically Since the Late 1990s 21
- B. The Mechanical Royalty Rate 24
  - 1. Statutory Rate History 24
  - 2. Since 1997, the Mechanical Royalty Rate Has Risen Substantially While Wholesale CD Prices Have Fallen Substantially 26
  - 3. The "Effective" Mechanical Royalty Rate Has Likewise Risen, Taking an Increasing Percentage of Recording Industry Revenue 28
- C. Causes of Industry Business Declines 32
  - 1. Piracy is a Primary Cause of the Drop in Record Company Revenues Since 1999 33
    - a. Music Piracy Explodes in 1999 33
    - b. Economic Effects of Piracy 35
  - 2. Record Company Business Partners 41
- D. Industry Responses To the Post-1999 Business Challenges 42
  - 1. Reduction in New Releases and New Artists 43
  - 2. Industry Response to Piracy 45
    - a. Record Company Staffing Reductions: 1999 Through 2005 46
    - b. Publicly Available EMI Data on Employment and Costs 47
    - c. Publicly-Available EMI Data on the Outlays By Its Music Publisher and Record Company Segments 49
    - d. Publicly Available Information from Warner 51
- E. The Outlook for the Recording Industry's Sales and Revenues 51

TABLE OF CONTENTS
(Cont.)

Section | Page

F. The Music Publishers Have Prospered 58
1. Music Publishers' Royalty Revenue Has Grown Significantly While the Recording Industry's Revenue Has Declined 58
2. Music Publisher Profitability Significantly Exceeds That Of Record Companies 63
3. Music Publishing Is A Low Risk, High Margin Business 63

IV. ANALYSIS AND RATE RECOMMENDATION 69

A. The Rate Structure Should Be Changed To a Percentage 69
1. Percentage Structure 69
2. The Appropriate Royalty Base 74

B. 1981 CRT Decision and Changed Circumstances Show the Rate Should Be 7.8% Or Less 76
1. 1981 CRT Decision -- The Last Mechanical Rate Proceeding 76
2. 1981 CRT Decision Implies a Current Rate of 7.8 Percent Or Less of Wholesale Revenues 79
3. The Section 801(b) Objectives and Changed Circumstances 81
a. Objective One: Maximize the availability of creative works to the public 82
(1) Economics of Maximizing Availability 82
(2) Trends in Availability of Creative Works Today 83
b. Objective Two: Afford the copyright owner a fair return and the copyright user fair income under existing economic conditions. 85
(1) Economics of Comparative Returns 86
(2) The Current Balance of Return to Copyright Owners and Income to Copyright Users 89
c. Objective Three: Reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk, and contribution to opening new markets for creative expression and media for their communication 91
(1) Economics of Relative Roles 92
(a) Record Company Contributions 93
(b) Record Company and Publisher Risk 100
(c) Record Company Efforts to Develop New Markets 101
(d) The Music Publisher's Contribution 105
d. Objective Four: Minimize any disruptive impact on the structure of the industries involved and on generally prevailing industry practices. 108
e. Conclusion: The 801(b) Objectives Support a Percentage Rate and a Substantial Decrease in the Rate 110

TABLE OF CONTENTS
(Cont.)

Section | Page

C. Other Benchmarks 111
1. Implications of the 1997 Settlement and Its Aftermath 111
2. Mechanical Royalty Rates in the U.K. 114
a. The U.K. Uses a Percentage-Based System 114
b. The UK Mechanical Royalty Rate for Physical Products 115
c. Current U.K. Mechanical Rates for On-line Products 116
D. Rate Recommendation 117

Value Creation, Value Capture, And Appropriate Royalties In The Recorded Music Industry

I. INTRODUCTION AND SUMMARY

A. Background and Qualifications

My name is David J. Teece. I received my Ph.D. in Economics from the University of Pennsylvania in 1975. I am currently the Mitsubishi Bank Professor in the Haas School of Business and Director of the Institute of Management, Innovation and Organization at the University of California at Berkeley, and Director and Chairman of LECG, LLC (an international consulting firm). I also have taught at Stanford University and Oxford University.

I have published over 200 scholarly books and articles in the fields of industrial organization, technology management, the valuation and management of intellectual property, and public policy. Several of my academic papers have involved studies of the distribution of the rewards from innovative and other creative activity. According to *Science Watch* (Nov/Dec 2005), I was the tenth most cited author world-wide in economics and business for the decade 1995-2005. I am the co-editor and co-founder of *Industrial and Corporate Change*, an academic journal published by Oxford University Press that concentrates on issues surrounding technological change and business organization. I also have extensive experience in consulting in a wide range of industries. I have studied licensing in a variety of contexts, and have been a member of the Licensing Executive Society for many years. The analytical frameworks that I have developed for determining the ways in which innovations can be combined with other assets and capabilities to create value, and for determining the distribution of returns to innovation are widely referenced, and can usefully be applied to creative industries, such as the music industry.

A copy of my curriculum vitae, containing my list of publications, is attached hereto as Appendix A. I have testified as an expert witness before courts and tribunals in the U.S., Canada, Australia, New Zealand, and Europe. A discussion of material considered in preparing this Report is attached at Appendix B.

B. Background on Matter

Section 115 of the U.S. Copyright Act (17 U.S.C. §115) provides a compulsory license for making and distributing phonorecords of a musical work. This right is colloquially referred to in the music industry as a "mechanical" license. The license covers traditional "phonorecords" – *i.e.*, physical forms of sound recordings such as compact discs ("CDs") – as well as "digital phonorecord deliveries" or "DPDs," such as digital downloads of sound recordings.[1] Compliance with the statutory terms permits use of a musical work upon payment of the statutory rate for each copy of the musical work distributed.

For the first 70 years of the mechanical compulsory license, Congress set the rate directly. In the Copyright Act of 1976, however, Congress delegated the task of setting a specific rate to a Copyright Royalty Tribunal ("CRT") which was empowered to hold hearings in support of its rate setting. Congress directed the CRT to set "reasonable terms and rates of royalty payments" in accordance with four "objectives" (the "Section 801(b) objectives"). Although there have been some intervening changes, the Copyright Royalty Judges in *this* proceeding must also set a "reasonable royalty" while accounting for the same Section 801(b) objectives:

[1] *See* 17 U.S.C. §115(a).

1. To maximize the availability of creative works to the public.
2. To afford the copyright owner a fair return for his or her creative work and the copyright user fair income under existing economic conditions.
3. To reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk, and contribution to opening new markets for creative expression and media for their communication.
4. To minimize any disruptive impact on the structure of the industries involved and on generally prevailing industry practices.[2]

The CRT held the first (and last) adjudicated mechanical royalty rate proceeding in 1980 and rendered its decision in early 1981. The CRT considered evidence from essentially the same parties involved in this current proceeding – principally the Recording Industry Association of America ("RIAA") on behalf of the record companies, the National Music Publishers Association ("NMPA") on behalf of music publishing companies, and several songwriter associations.

At the conclusion of the 1980 proceeding, the CRT decided that "there should be an immediate substantial increase in the mechanical royalty rate . . ." and ordered that the rate be changed from 2.75 cents per song to 4 cents per song -- a 45% increase.[3] The CRT explained that this particular rate was based in part on maintaining the relationship between the cost of the mechanical royalties for an album and the retail list price of the record album -- the mechanical royalties being approximately 5 percent of the retail list price -- over the fifteen years before their

[2] 17 U.S.C. §801(b)(1).
[3] 46 Fed. Reg. at 10485.

decision.[4] The U.S. Court of Appeals for the D.C. Circuit affirmed the CRT's decision with respect to the rate.[5]

C. Summary of Conclusions

The recording industry is in the midst of a transformative change. The explosion of piracy and new technology has led to what appears to be a permanent decline in the recording industry's traditional business model -- making and distributing physical copies of sound recordings (*e.g.*, LPs, cassettes, CDs) and the pressing need to develop new ways of selling sound recordings. As a result, the recording industry has experienced the increased risks associated with developing and implementing new business models, while suffering a decline in CD prices and industry revenues. Competition is increasing for the consumer's entertainment spending. The recording industry has had to simultaneously (i) cut costs, (ii) develop and attempt to commercialize multiple products and the parallel distribution systems that are required by the digital sound recording marketplace, and (iii) defend the record companies' and the publishers' intellectual property against the onslaught of piracy.

I have been asked by the RIAA to recommend how changes in the recording industry over the last twenty-five years should affect the statutory mechanical royalty rate pursuant to the Section 801(b) objectives, industry circumstances and history and economic theory. As I discuss in more detail in my testimony, I have reached the following conclusions.

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[4] The CRT assumed that, on average, there were 10 songs per album. 46 Fed. Reg. 10466, at 10476, 10481, 10484.
[5] *RIAA v. Copyright Royalty Tribunal*, 662 F.2d 1 (D.C. Cir. 1981).

1. The royalty rate structure should be changed to a percentage basis.

Under conditions of uncertainty, a percentage rate structure is beneficial. A percentage rate would automatically accommodate such uncertainty. A fixed cents-per-tune rate would have to be adjusted continuously to accommodate this uncertainty. A percentage rate would more closely align the economic incentives of the parties so that the record companies' incentive to increase profits would be expected to protect the publishers' interests.[6] A percentage royalty rate regime would provide much more flexibility to the record companies than would a fixed cents-per-tune rate regime. For example, a percentage royalty rate regime would allow the recording industry to test innovative business models involving lower price point products where doing so will result in more sales and profit. The percentage royalty rate regime also will facilitate entry into new markets.

A percentage rate achieves the Section 801(b) objectives better than a fixed cents-per-tune rate. The built-in flexibility of a percentage rate will allow record companies to increase availability of both musical works and sound recordings by encouraging them to record, release and promote songs where the risk of financial loss would otherwise be too high. In so doing, songs that otherwise would not have been available to the public and which would have produced no income for their writers and publishers, will have a chance to earn mechanical royalties as well as performance and synchronization royalties that follow from the creation of a sound recording.

Likewise, a percentage rate would make it less likely that the income of either the copyright owner or the copyright user would be unfairly burdened by changes in the market. If the demand for legal sound recordings increases, both would benefit proportionally. If demand

[6] The close alignment of interests under a percentage rate, while not perfect, would make it profitable to record music that would not be profitable to record under a cents-per-tune regime (*e.g.*, low price-point recordings).

for legal sound recordings falls, both will bear the burden proportionally. Finally, once a percentage rate is set, the royalties paid will rise and fall with the market and occasion less need for adjustment and therefore less chance that the industry would be disrupted by further rate change.

2. Rates should be lowered significantly -- to 7.8% or less of wholesale revenues.

The 1981 CRT decision, and Congress before them, concluded that the songwriters and music publishers were entitled to a relatively small portion of the revenue generated by a sound recording of the writer's musical work -- about 5% of retail. As an academic, I have devoted significant time to studying the economics of innovation. That work fully supports the value allocation reflected in the rate I recommend. Because rates are now well above that level while the industry faces unique challenges, a significant downward adjustment is appropriate.

Since 1981, the fixed cents-per-tune rate has steadily risen, roughly tracking the CPI. But the financial situation of the recording industry has changed dramatically, even in just the last six years, and the rate has not reflected those changes. In 1981, the CRT concluded that application of the 801(b) objectives required an "immediate substantial increase in the royalty rate . . ."[7] In my opinion, consideration of the objectives in light of recent industry developments shows that the opposite is now true.

First, the evidence suggests that the availability to the public of sound recordings, and therefore songs, is decreasing. Releases of new music seem to be down and retail inventories are more limited than previously. Lower rates will encourage record companies to invest in new sound recordings, new products and new distribution channels resulting in more sound recordings in the public's hands.

[7] 46 Fed. Reg. at 10485.

Second, the 1981 CRT concluded, in applying the second 801(b) objective, that a rate increase was, in part, appropriate because of rapid growth in recording industry revenues. The same reasoning now points in the opposite direction as industry revenues have been in decline. By contrast, publisher income, principally in the form of mechanical, performance and synchronization royalties, has grown as a result of songs that have been recorded. The net result is that music publishers have enjoyed high revenue growth and margins and the record companies have not. A lower rate would bring these relative returns more into balance.

The third objective -- reflecting the relative roles of the publisher and the record company with respect to risks and to creative, technological and capital contributions as well as efforts to open new markets and develop new media -- also supports a significant downward change in the rate. These contributions of the record companies have increased substantially where the contributions of the publishers have diminished. Whereas the publicly-available data on publishing companies suggest they are high margin, low risk "annuity-like" businesses, record companies invest significant amounts of risk capital with unstable but generally low returns (particularly as compared to publishers). Record companies also make essential creative, technological and capital contributions to the making, distribution and promotion of a sound recording that are not easily replicated. Likewise, record companies make far more significant investments in new methods of distribution and new types of products then do publishers.

The relative risks encountered by publishers and record companies have also changed. The 1981 CRT decision concluded that record companies faced "limited risk."[8] Since then, digital distribution, piracy, more limited retail and promotional availability -- all of which have affected the level and volatility of the record companies' revenues more than the publishers'

[8] 46 Fed. Reg. 10466, at 10480.

revenues -- have increased risk, required additional investments and lowered returns for the record companies.

The final 801(b) factor -- minimizing disruptive impact on industry structure or prevailing practices -- also requires a different calculus than circumstances warranted twenty-five years ago. In 1981, the CRT adopted a 45% increase in the rate but concluded that the change would not be disruptive because the overall revenues of the record companies would not suffer greatly compared to the benefit to the songwriters. Today, record companies are facing significant disruption to their business in a way that has led to an unprecedented downsizing, reduced investment, and an uncertain future. Changes in technology and mass piracy of sound recordings have already forced record companies to restructure their operations and redesign their business model for a new digital marketplace. Record companies' sales and revenues are down; CD prices have dropped. Maintaining the current statutory cents-per-tune rate would exacerbate these disruptive effects, making it more difficult for record companies to respond to the changing circumstances they confront. In the meantime, publishers have enjoyed high profit rates and high revenue growth in overall royalties which were made possible by the sound recordings created by the recording industry. Whereas the 1981 CRT decision concluded that a 45% increase could be absorbed by the record companies without disruption, in my opinion, a major decrease is now appropriate.

3. Rates recommendation.

The 801(b) objectives and economic theory tell us that the rate structure should be a percentage of wholesale revenues and that the rate itself should significantly decrease and should capture a relatively small part of the sound recording revenue. The 1981 CRT decision, and application of the Section 801(b) objectives, provides a reasonable basis on which to calculate an

implied rate for today's market. That calculation indicates that a rate of 7.8 percent or less of wholesale revenues is appropriate. This result is supported by other analyses, including the difference between the industry's economic position at the beginning of the growth of piracy and today.

II. THE ECONOMIC THEORY OF VALUING INNOVATION AND CREATIVE ACTIVITY

The Copyright Royalty Judges' obligation to set a "reasonable royalty," even as developed by the Section 801(b) objectives, calls for an understanding of the relative contributions of record companies and songwriters to a sound recording. There has been a significant amount of work on this type of valuation issue in the field of economics that I believe is relevant to the Judges' task and that confirms the judgment of the 1981 CRT and Congress before them that it is appropriate that the songwriters receive a relatively small portion of the revenue derived from a sound recording.

Economic theory explains that merely because a particular invention, innovation, or creative work is an essential ingredient to a product or service does not mean that the producers of that necessary ingredient will receive a substantial part of the revenue generated by the resulting product or service. In a commercial context, the innovator's share of revenue will often be a relatively small proportion of the wholesale price if (as is frequently the case) valuable assets not controlled by the innovator are required to transform the innovator's creation into a marketable product. This result occurs because the owners of these equally necessary complementary assets must be compensated from the profits of the product to induce them to invest in and provide access to complementary assets. Some complementary assets have other uses and opportunity costs which can establish their market value; others may be unique to an

industry. In either case, returns must be sufficient to draw forth investment in the complementary assets. If the returns are not sufficient, the provider of the invention or creative work will have to provide the complementary assets or suffer the consequences of inadequate investment by others.

Over the past 20 years, I have developed two economic theory/strategic management paradigms - "Profiting From Innovation" (PFI)[9] and "Dynamic Capabilities[10]" (DC) - that explain the allocation of financial returns amongst the asset classes such as creative assets, artistic and business related complementary assets including the artist & repertoire ("A&R") staff, advertising, promotion, marketing, legal and so forth. The same analytic framework can be applied here to help determine whether compensation received by music publishers and songwriters for their contribution to music-based products[11] are appropriate.

The essence of the PFI framework is that, in a market economy, firms that have capabilities and assets that the innovator requires to convert the innovation into a successful product are likely to garner a greater share of the financial returns than is the innovator when the innovator is simply licensing its intellectual property ("IP") to others.[12] The PFI framework is useful for explaining the share of profits accruing to the innovators through licensing compared

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[9] David J. Teece, "Profiting from technological innovation: Implications for integration, collaboration, licensing, and public policy" *Research Policy,* 15, (1986) 285-305 (Exhibit O-101-DP).

[10] David J. Teece, Gary Pisano, and Amy Shuen, "Dynamic Capabilities and Strategic Management," *Strategic Management Journal*, Vol. 18, No. 7 (1997) 509-33 (Exhibit O-102-DP).

[11] While the framework is general, it can be applied to compensation for recorded performances. See, e.g., Joeri M. Mol, Nachoem M. Wijnberg and Charles Carroll, "Value Chain Envy: Explaining New Entry and Vertical Integration in Popular Music" Journal of Management Studies, Vol. 42, No. 2 (March 2005) at 251-76 (Exhibit O-103-DP).

[12] As I said in a recent paper, ""PFI endeavors to explicate how managerial choices, the nature of knowledge, intellectual property protection, and the asset structure of the firm impact the business enterprise's ability to capture value from innovation. It is both a predictive and a normative theory of strategy, with testable hypotheses. It not only provides a contingency theory with respect to a key element of strategy --- but it also predicts how the profits from innovation are likely to be distributed as between customer, innovator, imitator, suppliers, and the owner's of complementary assets." David J. Teece "Reflections on 'Profiting From Innovation'" *Research Policy,* forthcoming, December 2006 (Exhibit O-104-DP).

to those accruing to its followers, suppliers, and inter-firm collaborators. Two key concepts from the PFI framework are: (1) complementary and co-specialized assets, and (2) appropriability or revenue capture. Complementary assets are those assets that are required to take an innovation or creative act from the notebook or prototype to a product that the consumer buys. In a market economy, the PFI framework predicts that profits will flow to the scarce non-imitable and non-substitutable inputs, complementary or otherwise.

From a public policy perspective, the appropriate sharing of risks and rewards implies that each contribution to a product that requires many contributions receives approximately its proportionate share of the value created and paid for by consumers.[13] Value created can be measured by the difference between market revenues and input costs, adjusted for the risks associated with making the investments. Value distributed must recognize scarcity and substitutability. As I noted in my 1986 paper, there is an important distinction between the value of an innovation or creative act and how that value is captured. If there are competing providers for any of the assets, financial returns are adjusted downward and vice versa.

Assets used in production, creation, manufacture, marketing, sales and distribution are complementary assets. Such assets, along with other creative inputs and what Professor Richard Caves refers to as "humdrum" assets may be necessary to turn an innovation into a saleable product.[14] (Humdrum assets, according to Caves, are the routine but essential business functions

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[13] That contributions take many different forms complicates but does not preclude quantitative analysis. For an example of such an analysis applied to the music industry see Mol, et al., *supra*, note 11.

[14] Richard E. Caves, *Creative Industries*, Contracts Between Art and Commerce, Harvard University Press, (2000), (hereinafter "Caves"). Caves notes, page 5. "Some creative outputs need only a single creative worker:. . . Many, however, require diverse skilled and specialized workers each bringing personal tastes with regard to the quality or configuration of the product. The creative workers also frequently need to be combined with those who do not consider their contributions to be creative. These are the so-called humdrum assets. Caves also notes (page 8). "The performing arts and creative activities involving complex teams - - the *motley crew* property - - obviously require close temporal coordination of their activities." This need to organize a complex set of assets and talents is the basis for my dynamic capabilities (DC) framework, and the considerable literature on creative virtuoso teams

such as accounting and physical distribution.)[15] These complementary assets may be owned by the innovator or they may be accessed through licensing or partnering. Appropriability involves the ability to profit from the innovation, that is, to capture a portion of the profit. In a market economy, firms that possess difficult-to-replicate complementary assets are able to take for themselves a greater proportion of the value of the innovation than firms that do not.

Furthermore, if there are good substitutes for a particular "input" in the value chain, then that "input" will not, in a market environment, command significant returns. It is only the scarce non-substitutable and non-imitable "inputs" that will generate strong returns. Thus, if there is an ample supply of comparable songs, then the song itself should not be thought of as commanding great value. Likewise, if it were the case that the creative and organizational contributions of the record companies were ubiquitously available, then those "inputs" shouldn't command special value either.

This theoretical understanding explains why, in part, an innovative firm may fail despite being the originator of the idea that is the basis for what ultimately becomes a profitable product. If the innovative firm is unable or unwilling to risk the capital needed to develop the co-specialized assets needed in order to take a competitive product to market, the innovative firm can expect to receive little or no profit from the innovation. For example, many of the innovative firms in the personal computer business ultimately failed, including Xerox, despite the massive contribution that Xerox PARC made to the technological development and pioneering of the personal computer industry.

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that followed. Bill Fischer and Andy Boynton, "Virtuoso Teams," Harvard Business Review, July-August 2005, 116-23.

[15] Caves at page 4. Caves defines humdrum assets as those that have uses in many, if not all, businesses and have an established market price.

The second theoretical paradigm I have developed that is relevant here is the dynamic capabilities framework. The essence of this economic theory is that firms which can "maintain competitiveness through enhancing, combining, protecting, and when necessary reconfiguring the business enterprise's intangible and tangible assets . . ."[16] will achieve greater long-term success in competitive and changing markets, such as the situation currently facing the recording industry. In the context of this testimony, I draw on the dynamic capabilities framework to discuss the importance of organizing . . . and indeed "orchestrating" . . . creative and other assets employed by the record companies particularly in their management of "virtuoso" creative teams, to create sound recordings. Successful firms also assemble complex multi-disciplinary teams to confront and hopefully surmount emerging challenges.[17] In the context of the recording industry, such challenges include piracy, transitioning to the new digital marketplace, and the reduced margins that result from the onset of technological changes. Digital distribution permits the purchase of individual songs, rather than albums, which generates much lower revenues from the same recordings than do album sales. These challenges, along with those of other newly emerging technologies and changing tastes, are profoundly disruptive of traditional industry practices.

The possession of dynamic capabilities is especially relevant to enterprise performance in business environments exposed to the opportunities and threats associated with rapid technological change. These businesses are often in industries in which multiple inventions or creative inputs must be combined to create products or services. Enterprise success in these industries depends on systemic innovation, building protection against imitation, and meeting untapped customer demand.

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[16] Id.

[17] See Fischer and Boynton, *supra* note 14.

As I will discuss in some detail, the economic theory emphasized in my framework, as applied to the songwriting and recording industries, leads to a conclusion that there are powerful economic reasons why, in a market economy without a statutory rate, the songwriters' and music publishers' share of benefits from the sale of recorded music in any of its forms is likely to be relatively modest. The songwriter/publisher has extremely limited standalone ability to extract value from their creative work, absent a recording of it. The scarce resource in the system isn't songs; rather it is finding a record company willing to put their heft behind the song. This reality would favor the record companies if there was arms-length bargaining between the groups. Songwriters generally rely on the record companies to orchestrate much of the creative work (e.g., including the selection of performers and arrangement of the song) that leads to the sound recording, for the production of the sound recording itself, and for manufacturing, distribution, promotion, and sales of the recorded songs. To carry out their work, record companies must involve and bear the cost of a large number of creative contributors, bear the cost of capital for both creative and "humdrum" assets, and assume considerable risk.

The economic reasons that lead me to believe that the music publishers' share of the benefits would be relatively modest in a market economy without a statutory rate also lead me to believe that the CRB, following the Section 801(b) objectives, should determine that a lower rate is now warranted for the 2008 to 2012 period at issue in this proceeding, and that rate should be based on a percentage of wholesale revenue. As discussed at length elsewhere, the Section 801(b) objectives are generally based on increasing the availability of music to the public and on finding an appropriate balance between of financial rewards for songwriters and record companies. These are the same factors that are emphasized in my framework.

III. THE MUSIC INDUSTRY: 1970 TO THE PRESENT

There are important trends in the music business that must be evaluated in determining a reasonable royalty according to the Section 801(b) objectives.

A. The Recording Industry's Performance Has Declined

My analyses of the available evidence show that the recording industry has suffered a significant decline in unit sales and revenues since the beginning of the 1998 through 2006 mechanical royalty rate period. In this section, I present certain key conclusions from my analyses.

1. Record Companies' Revenues Have Dropped

I have examined measures of wholesale revenue on both an industry-wide and major label only basis. While there are some differences -- the major labels have shown larger improvements the last two years than has the industry overall -- wholesale revenues by either measure have shrunk since 1999. Linda McLaughlin presents the major label data in her testimony.[18] Exhibit 1 shows PricewaterhouseCoopers industry-wide wholesale revenue estimate. As the Exhibit makes clear, revenues peaked in 1999 and have not returned to those levels since.[19]

[18] Linda McLaughlin works with NERA (National Economic Research Associates) and I have cited her data as a source accordingly. RIAA has employed PricewaterhouseCoopers to estimate industry-wide revenue data for many years. I cite to RIAA when I use that data.

[19] A comparison of the NERA major label and PwC industry wide wholesale revenue estimates is set forth in Appendix ___.

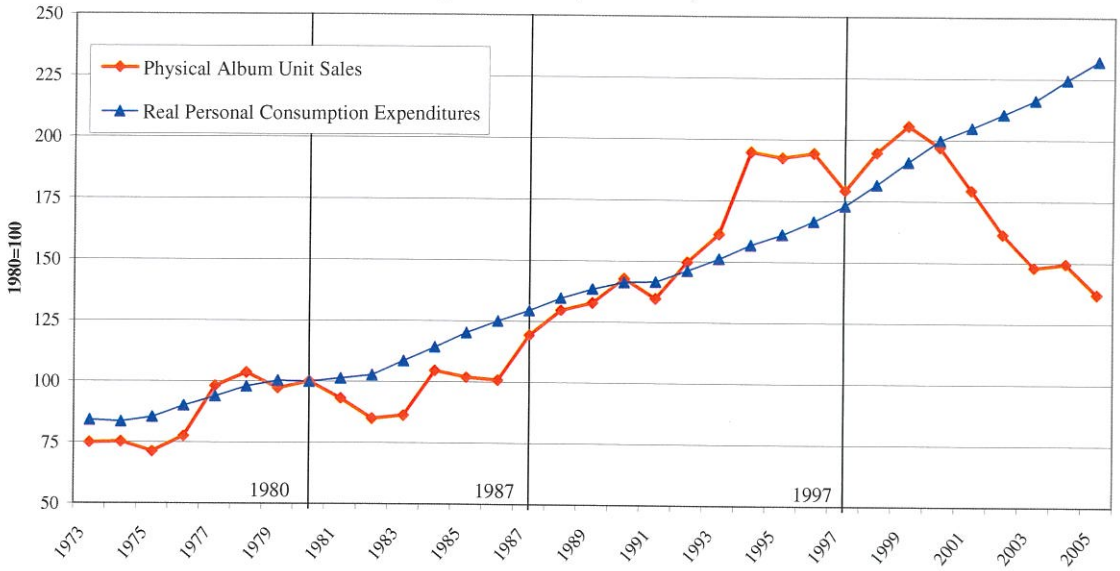
Exhibit 1
Recording Company Labels Wholesale Revenue for
All Audio and Video Sales: 1987-2005
(Millions of Dollars)

[redacted]

2. Unit Shipments of Albums and Spending on Music at Retail List Prices

Revenue has declined because sales and prices have declined. Exhibits 2, 3, and 4 compare the shipments and spending performance of the recording industry to total consumer purchases during the 1973 through 2005 period. Consumer purchases provide a benchmark for recording industry shipments and spending performance. Had industry shipments and spending risen at the same rate as consumer spending, the two lines on the graph would coincide. Exhibit 2 presents a comparison of unit shipments of physical albums to real personal consumption expenditures, both expressed as indexes that equal to 100 in 1980. Note the precipitous decline in record company unit shipments of physical albums from 1999 to 2006.

Exhibit 2
Physical Album Units Shipped Versus Real Personal Consumption Expenditures (1980=100)

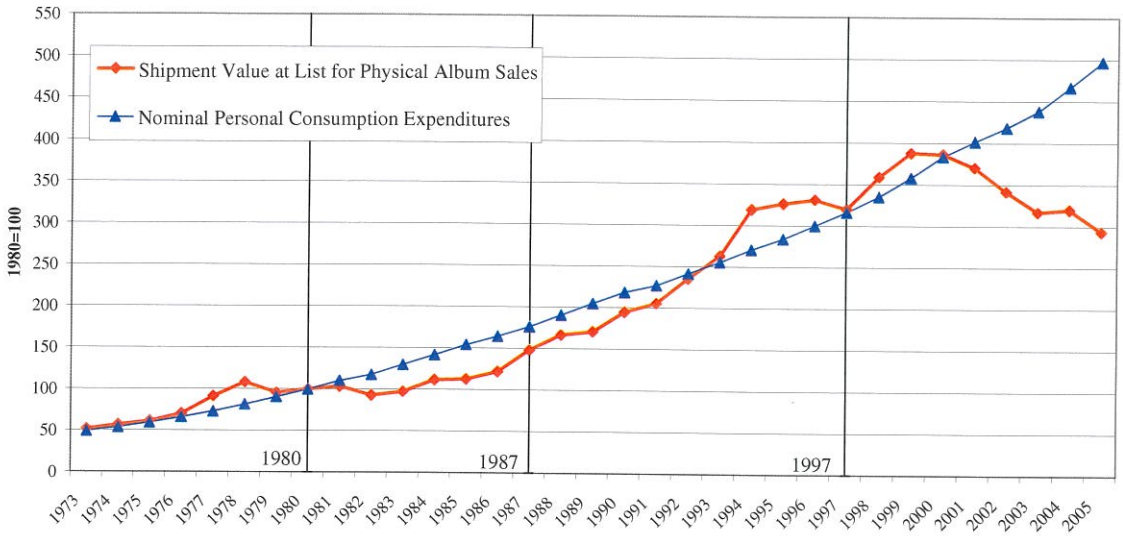


Note: Physical Albums are CDs, Cassettes, 8-Track and Other Tapes, LPs, DVD Audio, Dual Disks, and SACDs.
Sources: Unit Sales: RIAA; Real Personal Consumption Expenditures: U.S. Department of Commerce, Bureau of Economic Analysis.

Exhibit 3 presents a comparison of spending at retail list price for physical album sales to nominal personal consumption expenditures, both expressed as indexes that equal 100 in 1980.[20] As was the case for unit shipments of albums after 1999, the decline in spending at retail list price from album shipments is dramatic. Finally, Exhibit 4 presents a comparison of spending retail list price from all recorded music shipments to nominal personal consumption expenditures, both expressed as indexes that equal 100 in 1980.

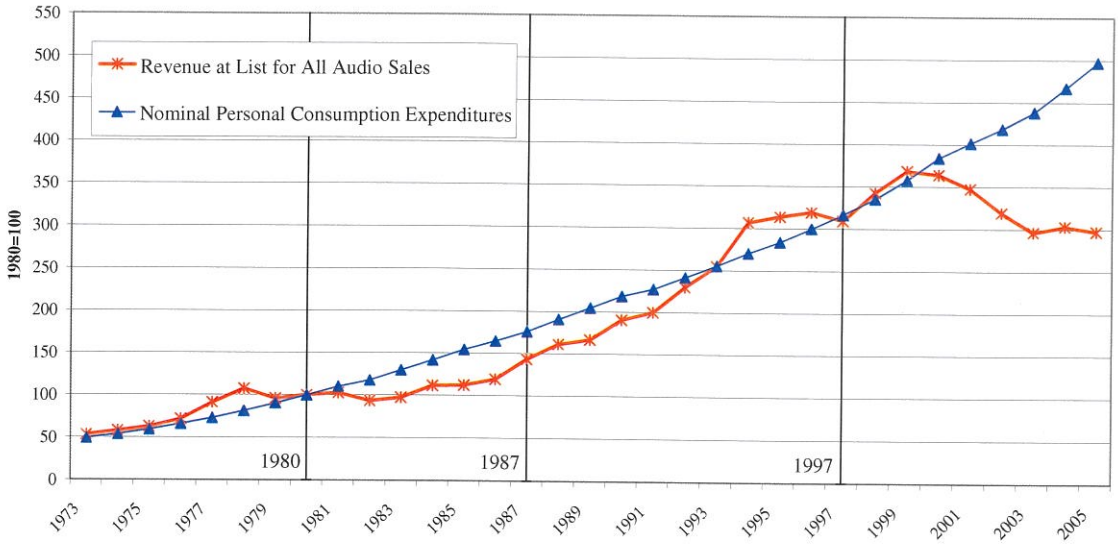
[20] Movements in the suggested retail list prices do not precisely correspond to movements in the actual retail and wholesale prices, although, as set forth in Appendix D, it is a reasonable proxy. However, I note that actual retail and wholesale prices have fallen somewhat more rapidly than have retail list prices since 1999.

Exhibit 3
Spending at Retail List for Physical Albums Versus Nominal Personal Consumption Expenditures (1980=100)



Note: Physical Albums are CDs, Cassettes, 8-Track and Other Tapes, LPs, DVD Audio, Dual Disks, and SACDs.
Sources: Revenue at List: RIAA; Personal Consumption Expenditures: U.S. Department of Commerce, Bureau of Economic Analysis.

Exhibit 4
Spending at Retail List for All Audio Sales Versus Nominal Personal Consumption Expenditures (1980=100)



Note: All audio is total physicals and digitals excluding music videos, wallpaper, and subscriptions.
Sources: Revenue at List: RIAA; Personal Consumption Expenditures: U.S. Department of Commerce, Bureau of Economic Analysis.

Exhibits 2, 3, and 4 all have vertical lines drawn at 1980, 1987, and 1997, which are the years when the mechanical royalty rates were either set by the CRT (1980) or by settlement (1987 and 1997).[21] Exhibit 4 differs appreciably from Exhibit 3 starting in 2005 when spending on digital products increased noticeably. In comparing Exhibits 3 and 4, keep in mind that they show indexes and not dollars. For example, the levels in 2003-2005 are the spending in those years relative to 1980. The two spending at retail list price indexes tell a similar story. Exhibit 4 shows a smaller decline in spending from 2004 to 2005 than does Exhibit 3 because of the noticeable increase in digital spending during the 2004-05 period. Exhibits 2, 3, and 4 show that, during the 1993 through 2005 period, the movements are very similar for unit shipments of albums, spending at retail list prices for album sales, and spending at retail list prices for all audio products.

The recording industry has suffered reversals and growth slowdowns in the past, but the downturn in unit sales and shipment value at retail list prices after 2000 is unprecedented in recent history.[22] Sales declined in 1979 but by 1984 were back above historical levels. A downturn in 1997 was reversed in 1998. The post-1999 downturn has been deeper and prospects for the future are uncertain.

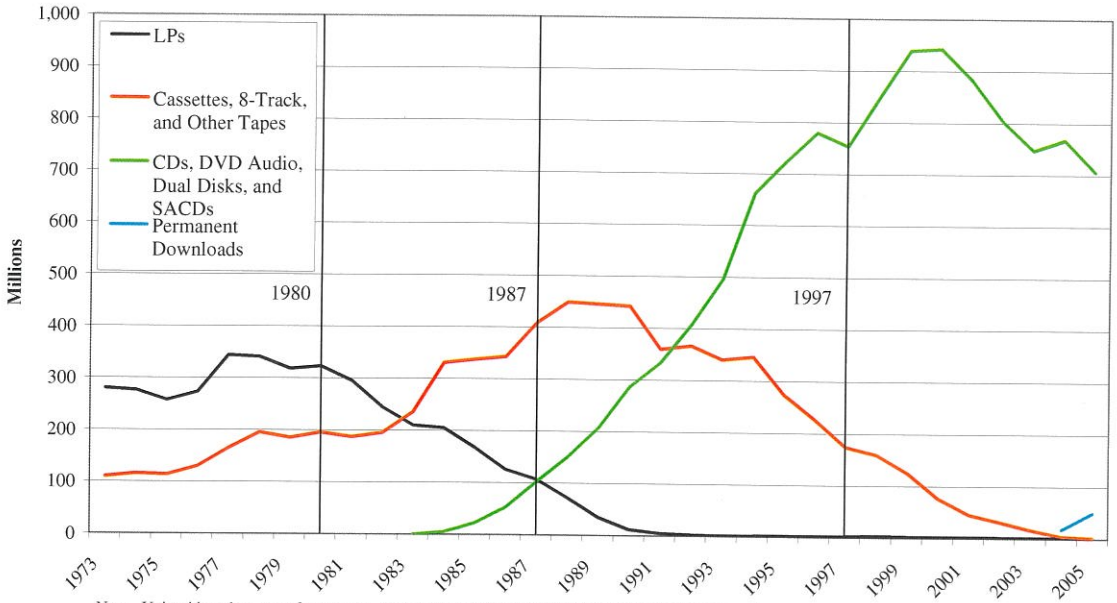
3. Unit Shipments of Recorded Music By Delivery Format

The unit shipments of albums as LPs, cassette tapes, CDs (including enhanced CDs and audio DVDs), and by digital download from 1973 through 2005 are shown in Exhibit 5.[23] There were several changes in the format prior to 1999, but the transition from one physical format to another proceeded relatively smoothly with, at most, slowdowns or relatively small reductions in

[21] The CRT issued its decision on February 3, 1981, but the analyses were prepared by the parties and the hearings were held during 1980 (i.e., the CRT's decision was made based on information available in 1980).
[22] During the Depression, record sales fell precipitously from the level achieved in the late 1920s.
[23] Individual song digital download units are converted to album equivalent units by dividing by 10.

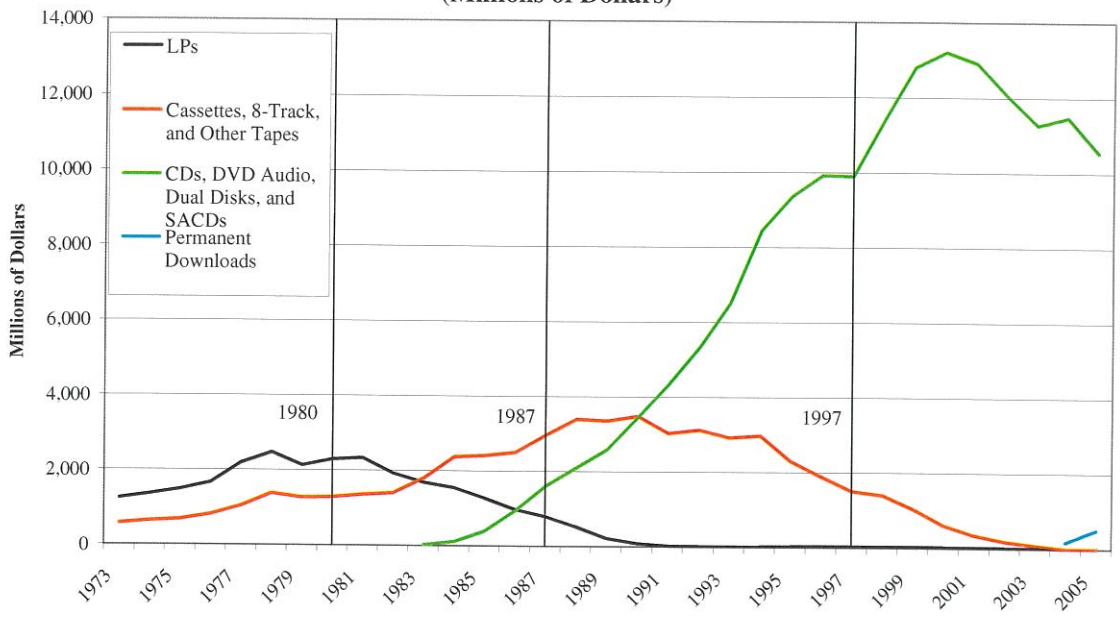
revenue during the transition periods. See Exhibit 3 above. While the formats changed, each format was a physical product: they all moved through the same distribution channels, were supported by the same record companies' infrastructure, and were sold by the same retail stores. Also, from 1973 through 1999, the shipment value of the new physical formats was substantial and generally growing when the shipment value of the older physical format began declining. The transition from the cassette tape to the CD occurred during a period of strongly increasing recording industry shipment value (e.g., shipment value of cassette sales remained strong for a substantial period of time after the shipment value of CD sales climbed substantially above that from cassette sales, as shown in Exhibit 6).

Exhibit 5
Album Units Shipped: 1973-2005
(Millions)



Note: Units shipped are net after returns. Ten permanent downloads of singles are treated as an album.
Source: RIAA.

Exhibit 6
Spending at Retail List on Albums: 1973-2005
(Millions of Dollars)



Source: RIAA.

The declines beginning in 1999, however, show different and more troubling characteristics than prior format changes. First, although the chart shows all digital as one product, there are in fact an increasing profusion of digital products, in many cases being sold by different online retailers, each requiring separate agreements, different delivery formats and different types of record company support. Second, as the chart implies, the increase in spending at retail list for these digital products (and downloads are the chief format) is not offsetting the decline in spending at retail list for CDs.

As I will discuss, there are many important reasons for this fundamental change.

4. Sales of the "Hits" Have Dropped Dramatically Since the Late 1990s

It is widely recognized that most sound recordings are not profitable (in the sense that the revenues from the album fail to cover the costs of recording, releasing, distributing and

marketing the album and an allocated portion of overhead), and that the profits from "hits" are needed in order to offset the losses on the unprofitable recordings.

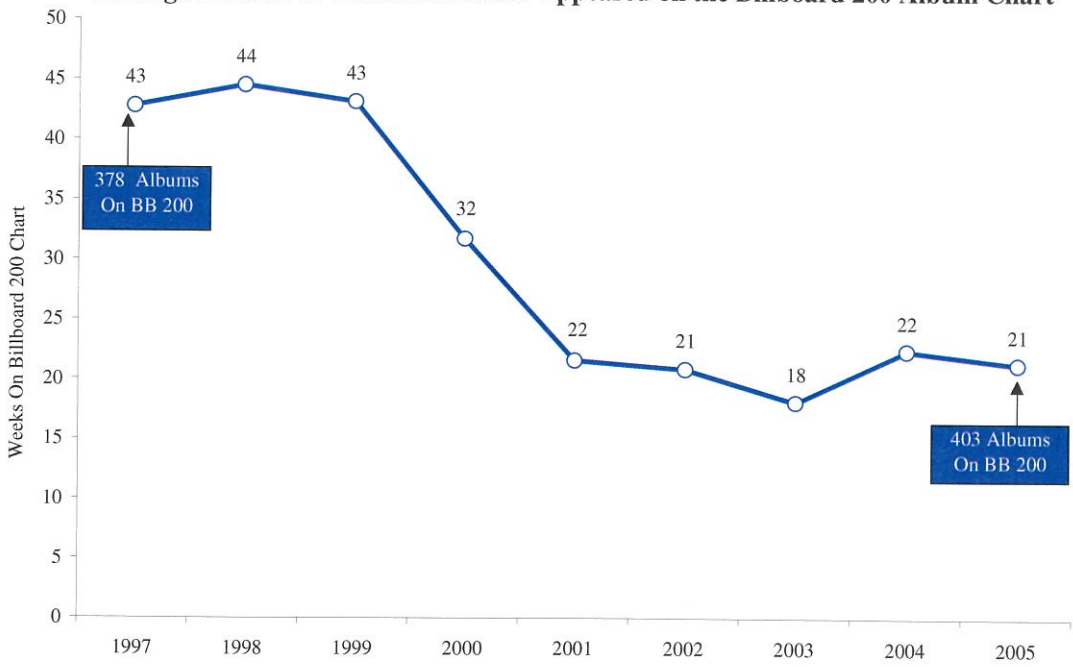
My review of the data indicates that, since 2000, the sound recordings upon which the record companies' profitability depends -- the "hits" -- are not selling at the levels necessary to fund as many recordings that fail to break even as was the case earlier. The annual unit sales for the top selling albums has fallen dramatically since the period immediately following the 1997 Settlement. As shown in Exhibit 7, the unit sales of the high selling albums during the three-year period following the 1997 Settlement (1998-2000) are much greater than has been the case during the most recent three-year period (2003-2005). This drop in the unit sales of high-selling albums sharply reduces the amount of money that the recording industry has to invest in new recordings and to develop new recording artists. The high selling albums, particularly those with unit sales above 2 million, are a critical source of revenue for the recording industry. These high selling albums generate the revenues and profits necessary to make up for the overwhelming majority of albums whose sales revenues do not cover their costs and also provide the funds needed for creating new recordings and for developing new artists. The number of albums attaining an annual unit sales rate of 2 million or more dropped by [redacted] percent between 1998-2000 and 2003-2005.

Exhibit 7
Comparison of the Number of High Selling Albums:
1998-2000 Versus 2003-2005

[redacted]

Not only are there fewer "hits" in absolute terms as reflected in Exhibit 7, but, not surprisingly, the lifespan of any single album as a "hit" has been shortened. As shown in Exhibit 8, during the 1997 through 1999 period, on average, an album that made the Billboard 200 remained on the charts for 43 to 44 weeks. During the 2003 through 2005 period, the average was only for 18 to 22 weeks.

Exhibit 8
Average Number of Weeks An Album Appeared on the Billboard 200 Album Chart



Source: wwhttp://www.billboard.biz/bb/biz/archivesearch/album_results.jsp

Since 1999 or 2000, it is clear that record companies are much less able than they previously were to depend on occasional blockbuster albums to cover their overhead and the losses generated by more common commercial failures. The data on these trends are dramatic, and indeed may be permanent; in any event, there is no indication that the situation will change over the course of the next five year rate period.

B. The Mechanical Royalty Rate

Against this backdrop of recording industry decline, the statutory mechanical royalty rate has steadily climbed since 1981, the last time it was adjudicated.

1. Statutory Rate History

Exhibit 9 presents a complete history of the cents per tune mechanical royalty rate from 1909 through 2007.

Exhibit 9

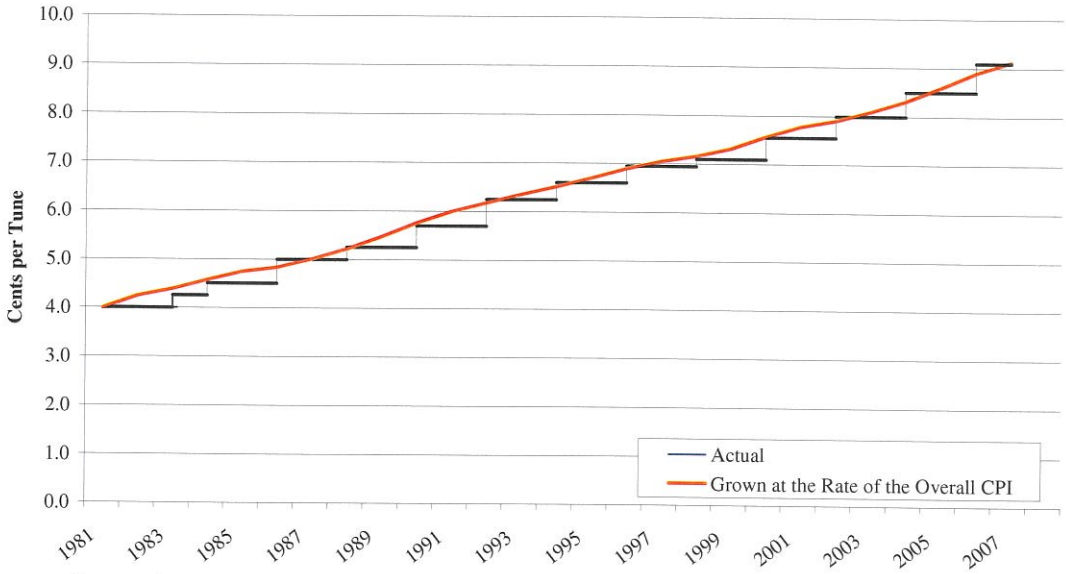
History of Mechanical Royalty Rates

Period	Cents Per Tune Rate	Notes
Prior to the 1980/81 CRT Decision		
1909 – 1977	2.00¢	The Copyright Act of 1976 mandated an increase as of January 1, 1978 and that a CRT Proceeding be held.
1978 – 1980	2.75¢	
The 1980/81 CRT Decision and the D.C. Circuit Ruling		
1981 – 1982	4.00¢	The CRT set the rate to 4 cents per tune as of July 1, 1981 and planned to adjust it annually on the basis of the increase in the list prices of albums. The D.C. Circuit ruled that such a process was not permissible. The CRT then specified the increases shown in this table.
1983	4.25¢	
1984 – 1985	4.50¢	
1986 – 1987	5.00¢	
The 1987 Settlement		
1988 – 1989	5.25¢	Under the settlement, the rate was set to 5.25 cents per tune as of January 1, 1988. The rate was adjusted every two years thereafter on the basis of the percentage change in the CPI over the two-year period ending in the September prior to the rate adjustment. For example, the rate as of January 1, 1990 was set equal to the rate as of January 1, 1988 (5.25) changed by the percentage change in the CPI between September 1987 and September 1989.
1990 – 1991	5.70¢	
1992 – 1993	6.25¢	
1994 – 1995	6.60¢	
1996 – 1997	6.95¢	
The 1997 Settlement		
1998 – 1999	7.10¢	Under the settlement, the rate was set to 7.10 cents per tune as of January 1, 1998. The subsequent rate increases were specified in the settlement.
2000 – 2001	7.55¢	
2002 – 2003	8.00¢	
2004 – 2005	8.50¢	
2006 – 2007	9.10¢	

Sources:
(1) U.S. Copyright Office – Mechanical Royalty Rates, http://www.copyright.gov/carp/m200a.html;
(2) Copyright Act of 1976, Pub. L. No. 94-553 (Oct. 19, 1976); and
(3) 1981 CRT Decision.
  a. Copyright Royalty Tribunal, 46 FR 891-2, January 5, 1981.
  b. Copyright Royalty Tribunal, Docket No. 80-2, 46 FR 10466-87, February 3, 1981.
  c. Recording Industry Association of America v. Copyright Royalty Tribunal, 662 F.2d 1, Opinion Aug 27, 1981.
  d. Copyright Royalty Tribunal, Docket No. 81-3, 46 FR 55276-7, November 9, 1981.
  e. Copyright Royalty Tribunal, 46 FR 62267-8, December 23, 1981.

As shown in Exhibit 10, the statutory mechanical royalty rate has increased at essentially the same rate as the CPI from 1981 through 2005 and this relationship is expected to continue through 2007.

Exhibit 10
Statutory Mechanical Rate:
Actual and Grown at the Rate of the Overall CPI Since 1981



Sources: Actual: 17 U.S.C. §115(c)(2); 37 CFR 255.3; Overall CPI: 1980-2005: U.S. Department of Labor, Bureau of Labor Statistics; 2006 and 2007: Macroeconomic Advisors Long-Term Forecast, September 25. 2006.

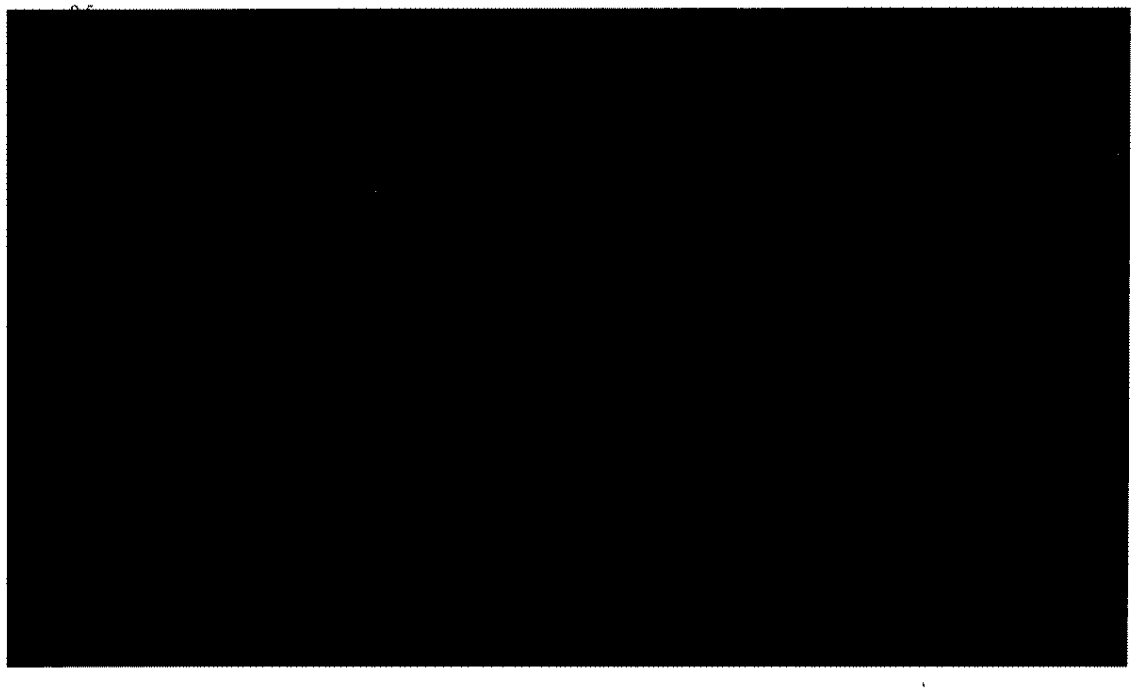
2. Since 1997, the Mechanical Royalty Rate Has Risen Substantially While Wholesale CD Prices Have Fallen Substantially

As shown in Exhibit 11, wholesale CD prices have not kept pace with mechanical royalty rate increases since 1998. The wholesale price projections through 2008 are from the LECG forecast as discussed in Section III.E. In the 1980/81 CRT decision, the CRT concluded that the mechanical royalty rate should increase at the same rate as the retail list price of an album.[24] However, the wholesale price of an album is the appropriate measure of changes in the prices

[24] 46 Fed. Reg. at 10485-86.

received by the record companies for albums.[25] It is clear that the statutory mechanical royalty rate has increased rapidly relative to the wholesale price movements of CDs since 1998. Had the cents-per-tune mechanical royalty rate been adjusted by the rate of change in the wholesale CD price between 1998 and 2008, the mechanical royalty rate would be 6.4 cents per tune as of 2008, which is about 30 percent below the 2006-2007 rate of 9.1 cents.

Exhibit 11
Comparison of the Actual Statutory Mechanical Rate and the 1998 Mechanical Rate Changed by the Percentage Change in Wholesale CD Prices



[25] As of 1980, the annual percentage changes in the retail list price of an album may have been a reasonable proxy for the annual percentage changes in the actual retail and wholesale prices of an album. The emergence of the big box stores (e.g., Wal-Mart and Best Buy) as the major retailers of CDs has reduced actual retail and wholesale prices relative to list prices. NPD Music, "Year in Review", April 4, 2005, pp. 6-7 (Exhibit O-105-DP).

3. The "Effective" Mechanical Royalty Rate Has Likewise Risen, Taking an Increasing Percentage of Recording Industry Revenue

The percentage of industry revenue being used to pay mechanical royalties has risen significantly as Exhibits 12 and 13 show. The industry spends more of its income on mechanical royalties than ever before and the trend is escalating.

Exhibit 12
Annual Mechanical Royalties As A Percentage of Recording Industry's Wholesale Revenues: 1993 Through 2007

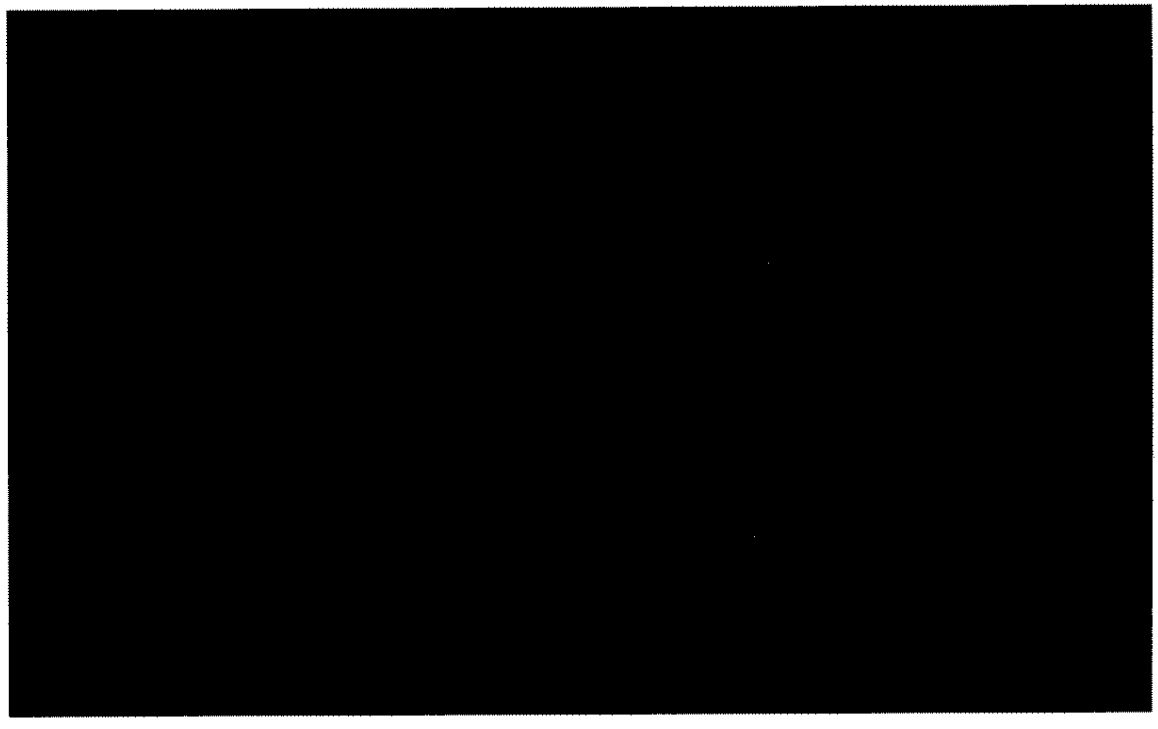


Exhibit 13
Mechanical Royalties As A Percentage of
Recording Industry's Wholesale Revenues: 1994-2007

[redacted]

This comparison of mechanical payments to industry revenue shows, what is referred to in the recording industry as the "effective rate." The data are useful for showing the significant change in the mechanical royalty burden. Not every mechanical license requires payment of royalties at the full statutory rate. Sometimes, in the course of negotiating a recording contract, artists who are also songwriters will agree to a lower fee royalty for a mechanical license, (Such a contractual provision is generally referred to as a "controlled composition clause."). Economic theory suggest that artist-songwriter would agree to do so only in exchange for other financial benefits, such as a higher "advance" payment or a higher artist royalty rate. In addition, as Andrea Finkelstein testifies, record companies sometimes obtain mechanical licenses from music publishers at rates lower than the statutory rate. These typically are at rates reflecting a percentage discount from the statutory rate, and are most common for "budget" products. As a

result of these provisions, the total mechanical royalty payments made by a record company may be below the expected statutory payment for those rights.

The effective rates do not show the true economic cost to record companies of the mechanical licenses they acquire. This is because the consideration that the record companies give up to get a discounted rate under a controlled composition clause is not reflected. If those costs could be incorporated into the effective royalty costs, I would expect the effective rate would be higher. In addition, Congress has required, with respect to DPDs ("digital downloads"), that record companies pay the full statutory rate, regardless of whether they were able to negotiate a different rate with an artist-songwriter. Over the next few years, one would expect that an increasing percentage of sound recordings will be distributed as DPDs, so the effective rate will continue to increase toward the statutory rate.

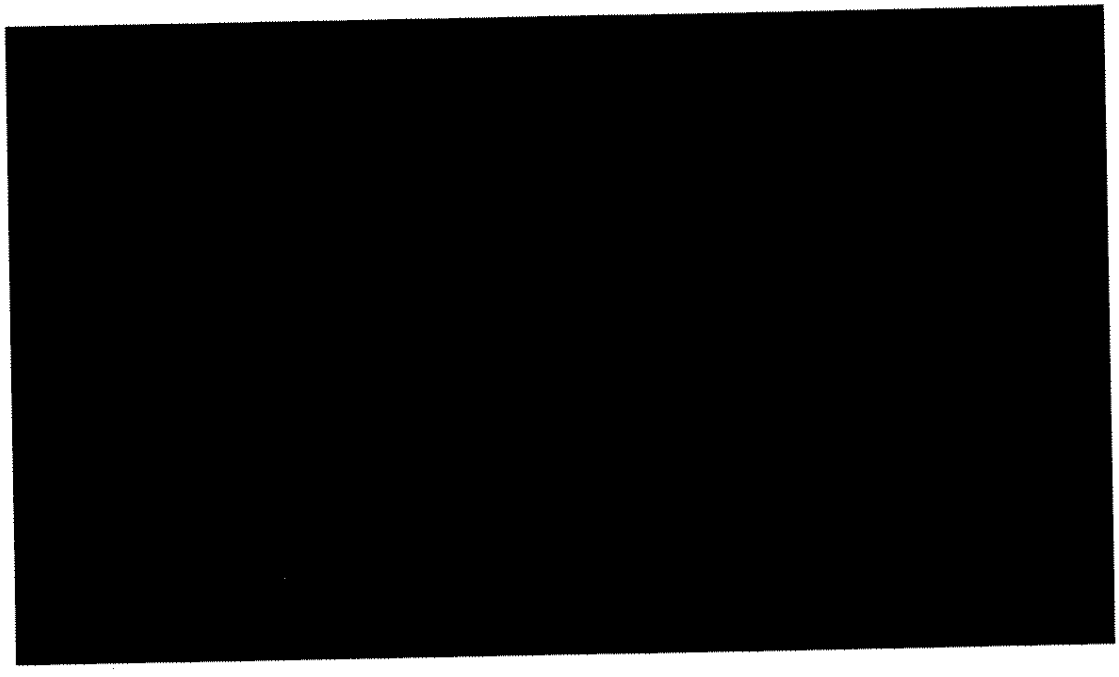
For 1998 through 2007, Exhibit 14 shows the convergence of the effective and statutory rates by comparing the statutory mechanical rate on physical albums, digital downloads of individual tracks and albums, and ringtones.[26] The median number of tunes on an album in 2005 of 13 tunes, determined based on the Billboard 200, was used to calculate the statutory mechanical rate for albums.[27] While the statutory rate as a percent of wholesale revenues has grown from [redacted] percent in 1998 to a projected [redacted] percent in 2007, the actual percentage of wholesale revenue paid in for mechanical licenses has grown even faster, from [redacted] percent in 1998 to a projected [redacted] percent in 2007. This convergence, as I have explained above, is the

[26] Actual full-year data from the RIAA are used for 1998 through 2005. The full-year estimated data for 2006 are calculated by multiplying the first-half of 2006 data by the ratio of full-year 2005 data to first-half of 2005 data. The estimated data for 2007, and in some cases 2008, are calculated on the basis of the LECG forecast projected growth rate.

[27] See Appendix E for a discussion of the determination of the median number of tunes for the Billboard 200 in 2005.

result of lower wholesale prices for CDs and the inapplicability of controlled composition clauses to the rising number of DPDs.

Exhibit 14
Effective Mechanical Royalty Rate and the Statutory Mechanical Rate: 1998-2007



The effective royalty rate paid by the record companies has been increasing steadily relative to the statutory rate since 2001, which coincides with the time when the wholesale price of CDs began to fall. See Exhibit 15. In 2001, the effective rate was [redacted] percent of the statutory rate, which is [redacted] percentage points above its 1998 value of [redacted] percent. By 2005, the effective rate had risen to [redacted] percent of the statutory rate. In 2007, the effective rate is expected to be [redacted] percent of the statutory rate.

Exhibit 15
Effective Mechanical Royalty Rate As A
Percentage of the Statutory Mechanical Rate: 1998-2007

[redacted]

Measurements of the effective rate are important to show the direct relationship between the increasing statutory rate and significant change in the balance of the mechanical royalty rate as between the record companies and the publishers. It is clear that significant adjustment is necessary to bring the royalty rate payment back to the historic level.

C. Causes of Industry Business Declines

The data I have presented above reflect some of the very hard long-term business circumstances the recording industry faces and show how the mechanical rate has drifted upward. I turn now to the major reasons for these very difficult long-term business circumstances.

1. Piracy is a Primary Cause of the Drop in Record Company Revenues Since 1999

a. Music Piracy Explodes in 1999

I use the term "piracy" to refer primarily to the unauthorized duplication of copyrighted sound recordings. Historically, piracy primarily took the form of "counterfeit" (and also "bootleg") products (LPs or cassettes) manufactured and sold primarily by commercial for-profit enterprises. While such piracy is still a significant problem for record companies, songwriters and music publishers (none of whom is paid for such unauthorized copying), it has been joined in recent years by two other forms: unauthorized "burning" of digital copies of CDs using CD burners, and unauthorized "sharing" of digital music files with others, generally over the Internet, and facilitated by peer-to-peer ("P2P") services and software such as (the original) Napster, Grokster, KaZaA and others. The testimony of Victoria Bassetti describes these phenomena in greater detail.

The recording industry was concerned about piracy, or, more specifically, counterfeiting, during the 1981 CRT hearings.[28] In 1980, the RIAA established a formal anti-piracy program that continues in a much larger form today.[29] During the 1980s, the advent of high-speed duplication of cassettes was the chief concern. Although CDs were introduced in 1982, the cost of manufacturing CDs was substantial and there were only a small number of CD manufacturing plants. As the number of CD manufacturing plants increased and recordable blank CDs ("CD-

[28] 1980/81 CRT Decision at 10472-3.

[29] RIAA. This effort initially was led by Kenny Giel who had been with the FBI prior to joining the RIAA. Mr. Giel works with the RIAA's anti-piracy group (hereinafter Giel of RIAA). See also the Testimony of Victoria Bassetti.

Rs") became available during the 1990s, counterfeit CDs began to become a more serious problem. By 1997, there was a flourishing illegal counterfeit market for CDs.[30]

In the late 1990s, inexpensive computer hardware that could extract digital music from a CD ("rip") and create ("burn") a new CD copy became more widely available as did CD-Rs. The emerging problem was signaled when, in the first half of 1999, the RIAA confiscated 165,981 unauthorized CD-Rs compared to only 87 in the first half of 1997.[31] At about the same time, Internet computer services designed to allow users to share music illegally began operation. The most renowned of these was Napster, which began operations in 1999. Illegal P2P file sharing quickly became a major problem.[32] Napster was followed by KaZaA, Grokster, Morpheus, LimeWire, BearShare, and numerous others, and the problem continues today. After 2000, the combination of illegal CD copying and illegal P2P file sharing combined to cause substantial declines in unit CD sales and revenues.

U.S. consumers with Internet access did not pay for 51% of the music they acquired in 2005.[33] That same year, illegal "burned" CDs are claimed to account for about 29 percent of all music acquired with online file sharing networks as the source of about 22 percent of all music acquired. These statistics indicate that less than half of the music acquired by consumers in 2005 was being purchased from the record companies.[34] Therefore, through P2P file sharing has

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[30] Giel of RIAA. RIAA, Press Release, "Recording Industry Releases 1996 Anti-Piracy Report", March 12, 1997, available at http://www.riaa.com/newsletter/press1997/031297.asp (Exhibit O-106-DP).
[31] Testimony of Victoria Bassetti.
[32] RIAA, Press Release, "Recording Industry Sues Napster for Copyright Infringement," December 7, 1999. http://www.riaa.com/news/newsletter/press1999/120799.asp (Exhibit O-108-DP). IFPI, "Music Piracy Report 2000," June 2000, pp. 1-3. http://www.ifpi.org/content/library/Piracy200.pdf (Exhibit O-109-DP).
[33] Ed Christman, "New Life for CDs?," Billboard, April 1, 2006 (Exhibit O-110-DP).
[34] NPD Group, "NARM Consumer Research Institute Phase One: Consumer Profiles & Return Experience," March 2006, p. 12 (Exhibit O-111-DP). See also Testimony of Ron Wilcox.

received more media attention and is a very serious problem for the music industry, illegal copying/counterfeiting of CDs is estimated to be a serious problem as well.

Music piracy also is an international problem. Some countries, such as China, largely ignore or fail to enforce copyright laws.[35] Entrepreneurs in such countries openly produce and sell counterfeit U.S. CDs and sell unauthorized digital downloads (i.e., they pay nothing to record companies or publishers). Exports of these counterfeit CDs has been increasing. There are a significant number of counterfeit CDs being imported into the U.S.[36]

b. Economic Effects of Piracy

The academic literature on illegal file sharing, with one largely discredited exception, has concluded that file sharing of music causes harm to the copyright owners.[37] As an economist, I know that piracy, which causes a breakdown in the normal functions of the market, distorts the record companies' ability to compete, and it hurts legitimate businesses. For example, because record companies' products must compete with illegal copies available for free, record companies will be constrained in their ability to price their products at normal competitive levels. Being forced to price at below-competitive levels to help combat piracy reduces margins. The introduction of illegal "free" competitive products will also reduce sales. Finally, piracy means that the fixed costs of the recording industry have to be supported by these lower sales, resulting in lower margins.

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[35] IFPI, "The Recording Industry 2006 Piracy Report." http://www.ifpi.org/content/library/piracy-report2006.pdf (Exhibit O-112-DP).

[36] Giel of RIAA.

[37] For a recent survey of this theoretical and empirical literature, see Stan J. Liebowitz, "File Sharing: Creative Destruction or Just Plain Destruction?", *Journal of Law and Economics*, Vol. XLIX, April 2006, (hereinafter "Liebowitz"), p. 3 (Exhibit O-113-DP). The one study that concluded that illegal file sharing did not negatively affect CD sales was: Felix Oberholzer-Gee and Koleman Strumpf, "The Effect of File Sharing on Record Sales: An Empirical Analysis," Working Paper, June 2005 (hereinafter "Oberholzer-Gee and Stumpf"). There are serious conceptual and empirical problems with the paper by Oberholzer-Gee and Strumpf. For a discussion of these problems, see Rafael Rob and Joel Waldfogel, "Piracy on the High C's: Music Downloading, Sales Displacement

In addition, I would expect, and the data we have confirms, that piracy has its biggest effects on the very products which represent the recording industry's economic lifeblood -- its hit records. Records for which there is high consumer demand are more likely to be pirated. In the recording industry, piracy takes a business that already has significant risk associated with each sound recording and further reduces the likelihood of commercial success. Sales data show this to be the case.

Exhibit 16 shows average weekly unit sales for the top selling 200 albums for week 2 through 45 expressed as a percentage of week 1 average unit sales for 1998-2000 and 2003-5. This Exhibit illustrates the sharp decline in unit sales after the first week during 2003-5 relative to the rate of decline after the first week during 1998-2000. During 1998-2000, week 2 average unit sales were [redacted] percent of week 1 average unit sales, while, during 2003-2005, week 2 average unit sales are only [redacted] percent of week 1 average unit sales. In the 11th week after release during 1998-2000, average unit sales were [redacted] percent of week 1 average unit sales, while, during 2003-2005, average unit sales in week 11 were only [redacted] percent of week 1 average unit sales.

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and Social Welfare in a Sample of College Students," *Journal of Law and Economics*, Vol. XLIX, April 2006 (hereinafter "Rob and Woldfogel"), p. 35 (Exhibit O-114-DP).

Exhibit 16
Weekly Sales During Weeks 2 through 15 as a Percentage of Week 1 Sales for the Top Selling 200 Albums in 1998-2000 and 2003-2005

[redacted]

Exhibit 17 presents the data for weeks 2 through 11 from Exhibit 16. In week 5 for the 1998-2000 data, average unit sales were still [redacted] percent of their week 1 level, but, for the 2003-2005 data, week 5 average unit sales were only [redacted] percent of week 1 levels. Exhibit 17 illustrates how much more rapidly average unit sales during weeks 2 through 11 fell relative to week 1 average unit sales during 2003-2005 versus the much slower decline during 1998-2000.

Exhibit 17
Weekly Sales as a Percentage of Week 1 Sales During Weeks 2 through Week 11
for the Top Selling 200 Albums in 1998-2000 & 2003-2005

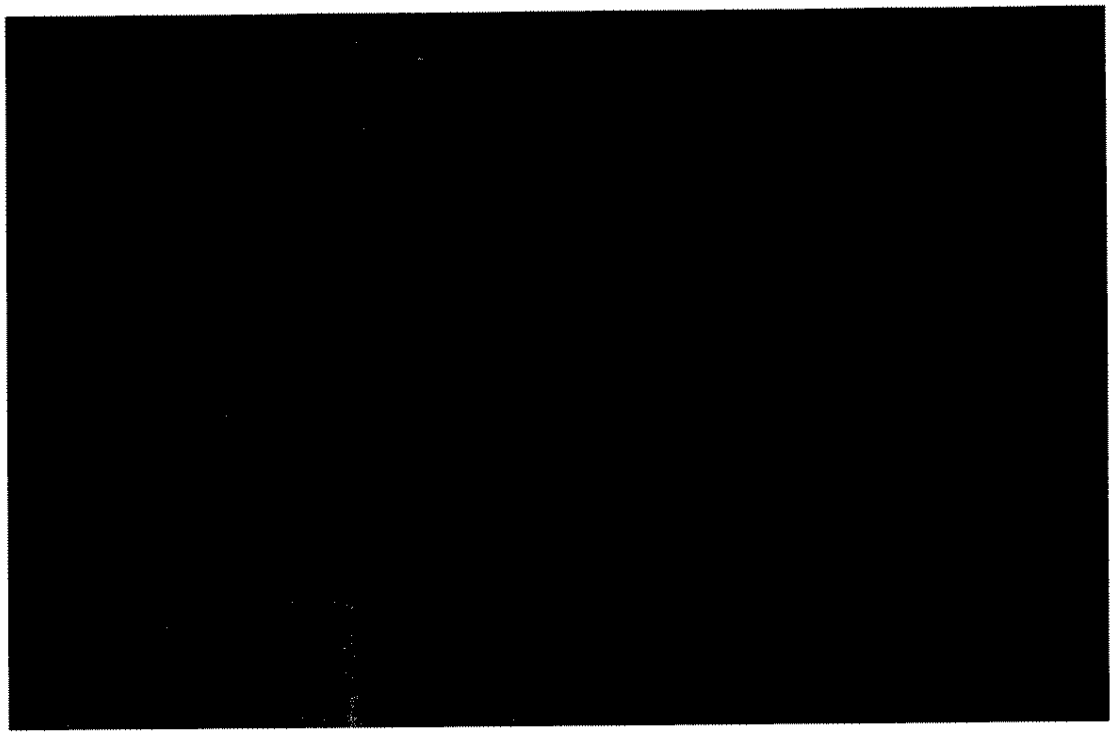

Exhibit 18 shows the average annual sales during the 1998-2000 period and during the 2003-5 period for the top 10, 25, 50, and 200 selling albums. The average annual unit sales of the top 10 selling albums fell by [redacted] percent between the 1998-2000 period and the 2003-2005 period. The percentage drops in average annual sales between the 1998-2000 and 2003-2005 periods for the top 25, 50, and 200 selling albums are smaller than for the top 10 selling albums. For the top 200 selling albums, the average annual unit sales during 2003-2005 are [redacted] percent below the average annual unit sales during 1998-2000. The percentage drop for the top 25 is larger than for the top 50 which, in turn, is larger than for the top 200. This result indicates that the negative effects of piracy on sales may be greater for the most popular albums, which is not surprising. Based on this analysis, it appears that about [redacted] percent of the Top 200's unit sales have been lost since 1998-2000. The losses for the top 10, 25, and 50 are larger. Given that the

highest sellers provide most of the profit for the recording industry, these losses have a substantial effect on overall recording industry profits.

Exhibit 19 compares the cumulative sales during 2003-2005 as a percentage of cumulative sales during 1998-2000 for the top 200 and the top 10 sellers for weeks 5, 10, 20, 30, and 45 after release. After 5 weeks, cumulative sales during 2003-2005 of the top 10 sellers as a percentage of cumulative sales during 1998-2000 are [redacted] percent versus [redacted] percent for the top 200 sellers. By week 45, the 2003-5 cumulative sales of the top 10 sellers are only [redacted] percent of the 1998-2000 cumulative sales versus [redacted] percent for the top 200 sellers. The unit sales of the top 10 sellers are much more seriously impacted by piracy than are the unit sales of the top 200 sellers.

Exhibit 19
2003-2005 Top 200 and Top 10 Cumulative Sales as a Percentage of the Corresponding 1998-2000 Cumulative Sales by Week After Release

[redacted]

Exhibit 17 compares the cumulative sales during 2003-2005 as a percentage of cumulative sales during 1998-2000 for the top 200 and the top 10 sellers for weeks 5, 10, 20, 30, and 45 after release. After 5 weeks, cumulative sales during 2003-2005 of the top 10 sellers as a percentage of cumulative sales during 1998-2000 are [redacted] percent versus [redacted] percent for the top 200 sellers. By week 45, the 2003-2005 cumulative sales of the top 10 sellers are only [redacted] percent of the 1998-2000 cumulative sales versus [redacted] percent for the top 200 sellers. The unit sales of the top 10 sellers are much more seriously impacted by piracy than are the unit sales of the top 200 sellers.

2. Record Company Business Partners

At the same time that the illegal copying, counterfeiting, and downloading of digital music was hurting the record companies, these and other circumstances likewise affected other businesses in the music industry, making the overall business environment that much harder.

Retail Stores. Over the last six years, there have been more bankruptcies and consolidations among retail music stores. Even as I file this testimony, Tower Records, a large music store chain known for carrying a broad catalog of music, is in the process of liquidation. Physical retailing of music is moving from the music-only specialty store, which would typically carry a wide selection of CDs including both older catalog material and many new artists, to mass merchandisers which typically carry a much more narrow selection of music and can command deep discounts from the record companies.[38]

Limited Online Retailers. The decline in the number of "bricks-and-mortar" retail outlets has been substantial, and it has only to some extent been offset by the growth of Internet retailers of physical CDs, such as Amazon.com. Though the number of retailers buying from the record companies has consolidated over time in the physical world, even higher concentration may exist in the online world. Apple's iTunes has a high share of online non-pirated music downloads. Given this high share, it is no surprise that the record companies have limited ability to raise prices or improve margins.[39]

Radio. There have also been numerous rounds of consolidation in the radio business during roughly the same time period. As control of radio stations becomes more concentrated, it becomes harder and harder for artists who have not already achieved a great deal of success to get the sort of intensive and repetitive radio airplay coordinated with record company marketing

[38] Testimony of Ron Wilcox.
[39] Id.

programs in a local area that can help drive consumer demand for the sound recording. The reduction in opportunities for radio airplay decreases the chances that the public will be exposed to their recordings..[40]

D. Industry Responses To the Post-1999 Business Challenges

Record company unit sales have fallen since 1999, and revenues have fallen since 1999 in both nominal and real terms. As a consequence, record companies have reduced costs by consolidating operations, reducing employment, and reducing the number of artists on their rosters.[41] In addition, the record companies have attempted to create a cost structure that has a greater share of variable costs relative to fixed costs by, for example, outsourcing functions such as CD manufacturing.[42] By reducing costs and converting fixed costs to variable costs, the record companies have been able to re-establish modest profitability levels, in spite of the decline in revenues.[43]

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[40] Interviews with record company executives.

[41] Credit Suisse, "Global Music Industry. 'Just the Two of Us', June 19, 2006, p. 29 (Exhibit O-115-DP). Eric Nicoli, Chairman, EMI Group, Presentation at the London Business School, undated document, presented February, 2006, unnumbered pp. 22 and 24 (Exhibit O-116-DP). Warner Music Group, Earnings Conference Call, Second fiscal quarter ending March 31, 2005, FD (Fair Disclosure) Wire, June 13, 2005 (Exhibit O-117-DP). EMI Group, Press Release, "EMI Announces Steps to Further Strengthen Its Business", March 31, 2004 (Exhibit O-118-DP).

[42] EMI Group, Press Release, "EMI Announces Steps to Further Strengthen Its Business", March 31, 2004. Warner Music Group, Presentation at Credit Suisse First Boston Media Week, FD (Fair Disclosure) Wire, December 6, 2005 (Exhibit O-120-DP). Eric Nicoli, Chairman, EMI Group, Presentation at the London Business School, dated document, Presented February 2006, unnumbered pp. 22 and 24. Warner Music Group, Presentation at USB 33rd Annual Media Conference, FD (Fair Disclosure) Wire, December 5, 2005 (Exhibit O-119-DP). Universal Music Group, Press Release, "Universal Music Group to Sell CD/DVD Manufacturers and Physical Distribution Facilities to Glenayre Technologies," May 9, 2005 (Exhibit O-121-DP). Cinram, Press Release, "Cinram to Acquire DVD and CD Manufactures, Physical Distribution and Related Businesses from AOL Time Warner", July 18, 2003 (Exhibit O-122-DP).

[43] See Testimony of Linda McLaughlin.

Royalties for artists and producers are typically paid on a percentage of revenue basis after advances are repaid to the record company.[44] Songwriters, by contrast, are now compensated at a fixed cents per tune rate for each unit distributed regardless of whether the sales revenues of that song covers the costs associated with converting the song into an economic product (*e.g.*, recording, marketing, and distributing the song). Moreover, the fact that mechanical royalties are currently paid on a cents-per-tune basis does not allow the industry to adjust its costs to reflect the prices that it charges.

1. Reduction in New Releases and New Artists

It appears that at least some record company labels have relied increasingly on their catalog to produce "new" releases during the last several years.[45] These "new" releases from the catalog are remasters, remixes, an old album with added previously unreleased tracks, or compilations.[46] Exhibit 20 shows the average number of new recordings and of first recordings by new artists by SonyBMG labels during the 1998-2000 period and the 2004-6 period. The number of new recordings dropped by [redacted] percent between the 1998-2000 period and the 2004-

[44] See Steven S. Wildman, *An Economic Analysis of Recording Contracts* (July 22, 2002) (Exhibit O-123-DP).
[45] Interviews with major record company A&R and business executives and data from SonyBMG.
[46] Interviews with record company A&R and business executives.

2006 period. During this same period, the number of first recordings by new artists fell by [redacted] percent.

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Exhibit 20
Sony BMG Label Releases of New Recordings and First Recordings by New Artists: Average 1998-2000 and Average 2004-2006

[redacted]

These data indicate that fewer new recordings are currently being made and, even more importantly, fewer new artists are currently being recorded. The new artists create the "new sounds" that attract new generations of music listeners and recording industry customers. The fact that the recording industry has been forced, by its loss of revenues, to reduce the amount of new product produced does not bode well for the industry's prospects or that of the larger music industry. But, more importantly, the longer-term economic and financial health of the recording industry is being jeopardized by the sharp reduction in first recordings of new artists.

2. Industry Response to Piracy

The RIAA and the individual record companies have devoted substantial resources to the fight against piracy. As Victoria Bassetti testifies, RIAA has made a huge investment in antipiracy efforts – [redacted] of RIAA's total budget – and additional international efforts are coordinated through IFPI. These efforts include litigation against pirate networks and individuals who use pirate networks for unauthorized distribution of copyrighted recordings, working with law enforcement agencies and prosecutors on physical product enforcement, civil enforcement against retailers of pirate goods, educational programs and technology development. Additional efforts are undertaken at the individual company level. For example, Ms. Bassetti described EMI's pre-release security program and other antipiracy activities.

These efforts have had some success, but no end to the problem is in sight. Even as some piratical P2P file sharing networks are shut down or agree to become legal retailers of digital music, new pirate networks emerge.[47] RIAA's efforts to investigate CD counterfeiting and to work with local, state, and federal law enforcement agencies have produced arrests of major counterfeiters as well as some of the individuals who distribute and sell these counterfeit CDs.[48] However, these arrests have, at best, slightly slowed the counterfeiting of CDs, in part, because counterfeiters do not need to make a significant investment to make counterfeit CDs. In addition, there is some evidence that counterfeiting may increase in scale and sophistication.[49] To the extent counterfeiting does get more sophisticated, it is likely to result in a lower average

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[47] RIAA Press Release, "Kazaa Settles with Recording Industry and Goes Legitimate," July 27, 2006, available at http://www.riaa.com/news/newsletter/072706.asp (Exhibit O-124-DP).

[48] RIAA "Nationwide Anti-Piracy Enforcement Bulletin," September, October, November and December 2005, and January, February, March, April, May, June, July, August, and September 2006 (Exhibits O-125-DP through O-135-DP).

[49] RIAA, Press Release, "RIAA's Annual Commercial Piracy Report Shows Trafficking in Pirated Music Increasingly Sophisticated, Closer Ties to Criminal Syndicates," July 13, 2005. http://www.riaa.com/News/newsletter/071305.asp (Exhibit O-136-DP).

street price for counterfeit CDs (i.e., supply increases and price falls).[50] Small-scale piracy -- illegal CD copying by individuals (e.g., copying a CD and giving the copy to a friend) -- remains virtually impossible to police.

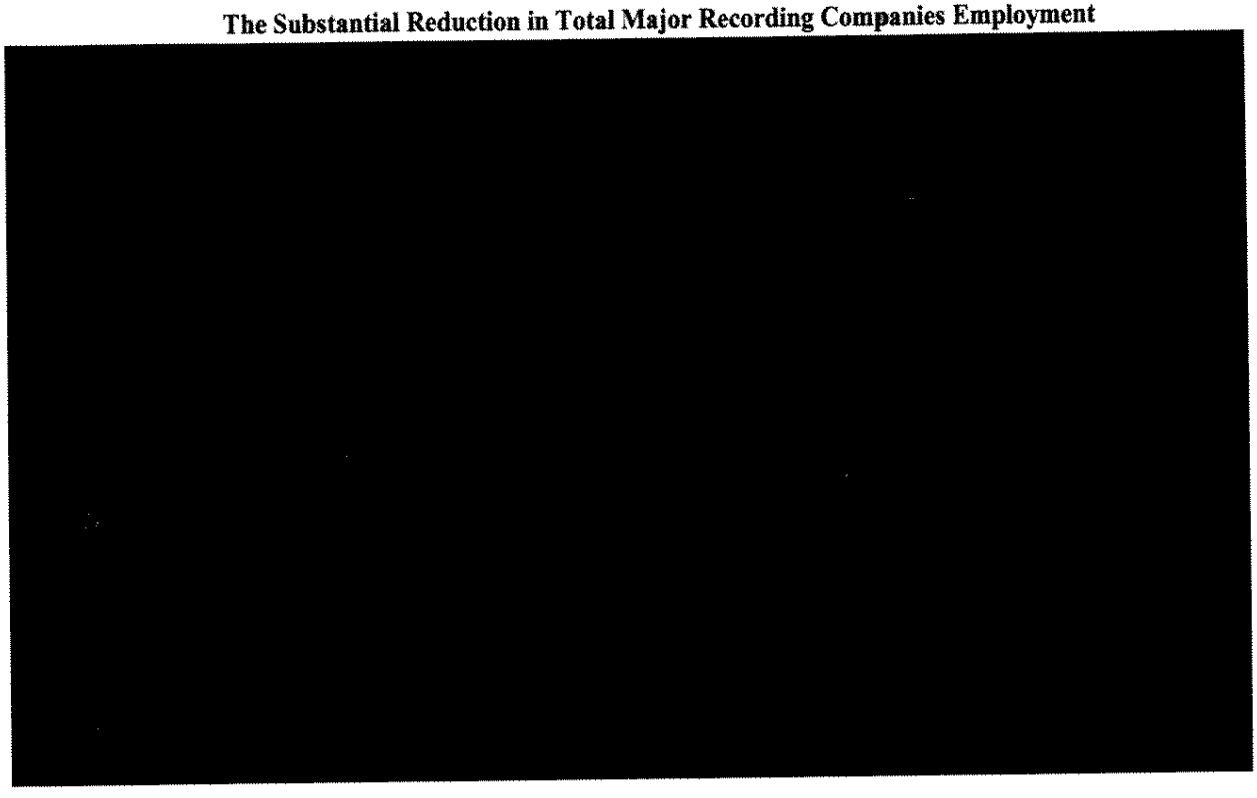
a. Record Company Staffing Reductions: 1999 Through 2005

Exhibit 21 illustrates the substantial reduction in employment by the major record companies between 2001 and 2005.[51] In 2001, the number of people employed by the current four major record companies was [redacted]. By 2005, the major companies had reduced their staffing to [redacted], which is [redacted] percent below 2001 levels. On the basis of my interviews with the record companies' A&R and business executives, these staff cuts occurred throughout the companies, including major staff reductions in the A&R and other creative areas. Further, an executive at one of the companies indicated that further job cuts were anticipated.

[50] RIAA, Press Release, "RIAA's Annual Commercial Piracy Report Shows Trafficking In Pirated Music Increasingly Sophisticated, Closer Ties to Criminal Syndicates," July 13, 2005. http://www.riaa.com/News/newsletter/071305.asp.

[51] These employment reductions do not include the employment reductions associated with the sale of any of the companies' manufacturing or distribution facilities.

Exhibit 21
The Substantial Reduction in Total Major Recording Companies Employment



b. Publicly Available EMI Data on Employment and Costs

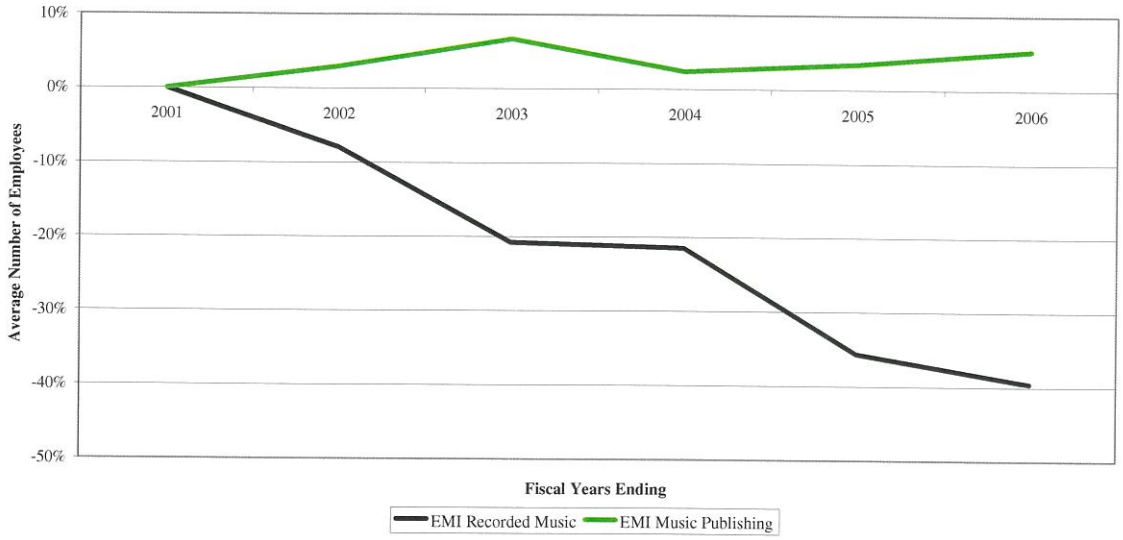
EMI Group PLC's ("EMI") public financial filings (which cover EMI's worldwide operations) show that employment has declined in the past 5 years as EMI has cut costs to remain profitable.[52] The reduction in employment at EMI in the Recorded Music segment appear to have been accomplished primarily by scaling back and outsourcing.

Between the fiscal years ending March 2001 and March 2006, the average number of worldwide employees for EMI decreased by 37 percent with EMI's recorded music segment experiencing an employment decrease of 40 percent. By contrast, its Music Publishing segment experienced an employment increase of 5 percent (See Exhibit 22). In terms of the number of

[52] EMI is the only company that has disclosed significant detailed information on its recording and music publishing activities in its annual reports over time. The other major record companies are, or until recently were, parts of larger organizations, and did not publicly report the record company information.

worldwide employees over the same time period, the total employment at EMI decreased from 9,996 to 6,312 with Recorded Music experiencing a decrease in employment from 9,388 to 5,672 and Music Publishing experiencing an increase in employment of 608 to 640. In terms of North American employment over the same time period, the average number of employees for the combination of Recorded Music and Music Publishing decreased by 35 percent from 3,138 to 2,034.[53]

Exhibit 22
EMI Group PLC
Change Since 2001 in the Average Number of Worldwide Employees
for Recorded Music and Music Publishing
For the Fiscal Years Ending in March from 2001 to 2006



Source: EMI Group, Annual Reports for the fiscal years ending in March 2002, p. 40; 2003, p.66; 2004, p.50; 2005, p.76; 2006,

EMI disclosed in its annual report for the fiscal year ending March 31, 2004 that staff would be reduced in the Recorded Music segment by 600 people and that 290 artists would be released.[54] EMI states, in the press release, that its global artist roster would be reduced by 20

[53] EMI Group, PLC, Annual Reports, for the fiscal years ending March 31, 2006, p. 66 (Exhibit O-137-DP); 2005, p. 76(Exhibit O-138-DP); 2004, p. 50 (Exhibit O-139-DP); 2003, p. 66 (Exhibit O-140-DP); 2002, p.40 (Exhibit O-141-DP).

[54] EMI Group, PLC, Annual Report, for the fiscal year ending March 31, 2004, p. 14.

percent and that the reduction would affect mainly niche artists and underperforming artists. EMI states, in the press release, that the artist roster restructuring was done "to focus resources and efforts more effectively on the artists who have the greatest potential on both a global and local level."[55]

In addition, EMI disclosed in its annual report for the fiscal year ending March 2002 that the EMI roster of artists had been reduced by about 25 percent.[56] It appears that EMI has been reducing the roster of artists that it is marketing and developing. While some of these artists may have signed with other record labels and remained in the recorded music industry; others may no longer be part of the industry.[57] Despite the decrease in employment at EMI, EMI claims that it is continuing to invest significantly in A&R, marketing, and infrastructure.[58]

c. Publicly-Available EMI Data on the Outlays By Its Music Publisher and Record Company Segments

Exhibit 23 compares the disposition of the revenues received by a music publisher and a record company. The data shown are for EMI's global operations for fiscal 2006. EMI Music Publishing is one of the largest music publishers in the world. Based on the data from EMI, for every dollar of music publisher revenue, 25 cents goes to the bottom line as profit, while only 9 cents of every dollar of record company revenue goes to the bottom line. The only other common category of outlay is administrative and miscellaneous costs which absorbs 20 cents of

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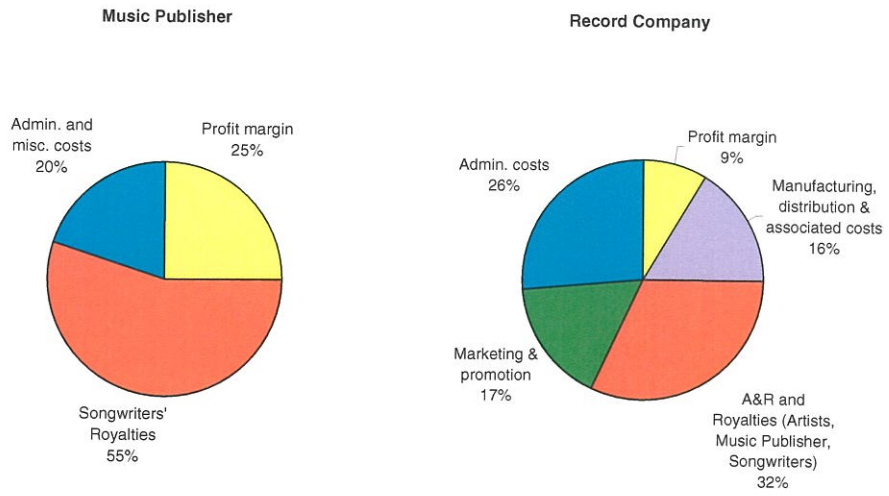
[55] EMI Group, PLC, Company Press Release, "£50 Million in Annualized Savings Expected From: -Outsourcing Manufacturing in Europe and the United States, - Additional Restructuring of Its Labels and Artist Roster, Particularly in Continental Europe," March 31, 2004.

[56] EMI Group, PLC, Annual Report, for the fiscal year ending March 31, 2003, p. 6-3 (3rd page of the page 6 section).

[57] Artists who have sold a large number of albums in the past can go to independent labels or start their own labels. An independent record company needs to sell fewer albums than a major record company to make a profit. An established artist who is not profitable for a major record company may be profitable for an independent record company. For example, see Jennifer Ordonez, "Courting the Aging Rocker - Independent Labels Offer Acts Creative Freedom, Hope Fans Will Bring in Steady Profits," Wall Street Journal, April 23, 2002, p. B1 (Exhibit O-142-DP). Ashling O'Connor, "Record Labels Shed Big Name Sales Risks," Financial Times (FT.COM), December 24, 2001 (Exhibit O-143-DP).

every revenue dollar for the music publisher and 26 cents of every revenue dollar for the record company. The music publisher only has one other outlay category. This category is the payment to the songwriters of their share of the music publisher/songwriter royalties which account for 55 cents of every revenue dollar for the music publisher. As Professor Caves stated, the music publisher appears to be performing primarily an administrative function for which it receives a profit of 25 cents of every dollar of music publisher/songwriter royalty revenue as profit.

Exhibit 23
Disposition of EMI's Music Publisher and Record Company Segment Revenues
(EMI Global Data For Fiscal 2006)



Source: EMI Group Presentation, Preliminary results 2005/06, slide 17.

On the other hand, 65 cents out of every revenue dollar of the record company goes to pay mechanical royalties to music publishers/songwriters and to support its A&R efforts, the record producers, the recording artists and their managers, the marketing and promotion efforts, the manufacturing of the products including digital products, and the distribution of physical and

[58] EMI Group, PLC, Annual Report, fiscal year ending March 31, 2006, p. 22.

digital products. The cost of whatever marketing and promotion is done by the music publishers must be included in the 20 cents of every dollar that cover the administrative and miscellaneous costs of the music publisher.

d. Publicly Available Information from Warner

Warner Music Group was spun out as a separate company and went public in May 2005, and now is disclosing substantial information, but it has been a public company for only a short time (i.e., it went public in May 2005 and there is only one annual report). On June 13, 2005, during Warner Music Group's earnings conference call, WMG's Chairman and CEO, Edgar Bronfman, Jr. stated that Warner Music Group's restructuring involved consolidation of labels, consolidation of overhead, and reducing the artist roster. The restructuring eliminated more than 1,000 positions, and resulted in less profitable artists being dropped from the artist roster. As a result, more of the A&R budget is being spent in marketing per artist and per album release.[59]

E. The Outlook for the Recording Industry's Sales and Revenues

The CRT will be setting mechanical royalty rates that will be applicable during the 2008-2012 period. In my opinion, it is important for the CRT to consider both the current and expected future economic circumstances of the recording industry and of the music publishers. There is a great deal of disparity in the views of the various analysts who have expressed their opinions regarding what the future will bring for the recording industry. This uncertainty also was apparent in my interviews with the A&R and business executives of the record companies. One of the business executives stated that revenues for digital products were the recording industry's only hope of recovery, but that executive and others indicated that the recording

[59] Warner Music Group, Earnings Conference Call, Second fiscal quarter ending March 31, 2005, FD (Fair Disclosure) Wire, June 13, 2005.

industry would have to find new digital revenue streams from new products for that recovery to be realized.

The executives I interviewed also indicated that digital piracy has severely limited the recording industry's ability to realize the revenue potential of digital delivery. For example, the price per legal download is held down by the availability of free illegal downloads.[60] Also, record companies have been forced to cannibalize their CD album sales both by releasing the full album digitally at a lower price than the CD album, and by making all of the songs on their albums available digitally for single track downloads, because the pirates will make all the tracks available digitally for free in any case.[61] These constraints exacerbate the substantial risk and uncertainty faced by the recording industry. Finally, even optimistic views regarding the recording industry do not anticipate strong revenue growth. The lack of a plausible strong recovery scenario for the recording industry's revenue serves to discourage new investment in the recording industry.

The industry analysts whose views I have seen agree that unit sales and revenues from CDs will continue to decline. However, there are significant differences regarding the rate of decline. Recent experience points in the direction of a relatively rapid decline (e.g., spending at retail list price from sales of all physical media fell by 15% in the first half of 2006 relative to 2005 level, but total spending at list price fell by 6 percent due to a very strong increase in digital sales).[62]

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[60] On the basis of interviews with record company A&R and business executives, I have learned that the pricing of ringtones does not appear to have been significantly constrained by legal or illegal free goods and, as a result, the price of a clip from a song sells for twice as much (or more) as a legal download of the complete song.. However, there are on-line providers of "free" ringtones that allow users to make ringtones from copyrighted recordings. See Matt Mitchell, "Phonezoo Offers Free, Extensive Ringtone Download Service," VentureBeat, November 14, 2006, http://venturebeat.com/2006/11/14/phonezoo-offers-free-extensive-ringtone-download-service/

[61] *Id.*

[62] RIAA, *Net Shipments Worksheets*, For the Six Months Ending June 30, 2006.

I have considered three recent long-term projections for the recording industry.[63] These forecasts are: (1) a June 2006 projection by PriceWaterhouseCoopers ("PwC"); (2) a September 2006 projection by Veronis Suhler Stevenson ("VSS"); and (3) a record company consensus outlook assembled by LECG in early 2006 (which I will refer to as the "LECG Forecast" or "LECG").[64] Because the PwC and VSS projections are based on spending at list price data made public by the RIAA, I use that as the basis for Exhibit 24, which shows total music spending at retail list prices for the recording industry in 2006 dollars for 1996 through 2005 and the three projections thereafter through 2012.[65]

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[63] A fourth projection by Informa was considered, but it was over one year old (i.e., it was outdated and unrealistic given recent events). I also attempted to obtain Jupiter Research's forecast ("Jupiter's"), which was supposed released to its clients by the end of October. It is now scheduled for release sometime in December.

[64] The process used by LECG to produce the LECG projection was to solicit assumptions from the individual companies regarding unit sales and prices for all the physical and digital products. LECG averaged these assumptions and shared the implied unit sales and revenue implications with each of the companies separately. Each company provided comments and suggested revisions to some of the average assumptions. LECG again averaged the changes, including no change as a zero value, and produced the final results presented here.

[65] The nominal spending at list is converted to constant 2006 dollars on the basis of the CPI. The published PwC and VSS projections went through 2010. I extended these projections through 2012 by increasing the amounts in 2011 and 2012 by the average year-to-year change between 2006 and 2010. The average year-to-year change was determined using a linear regression model. None of the three forecasts incorporated the actual data on revenues for the first half of 2006. I annualized the data for the first half of 2006 to produce a common estimate of 2006 revenues. The revenues for the first half of 2006 were multiplied by the ratio of annual 2005 revenues to first half of 2005 revenues. Then I scaled the three revenue forecasts to align (calibrate) them with the 2006 revenue estimate.

Exhibit 24
Expected Total Music Spending at Retail List: 2006-2012
(Millions of 2006 Dollars)

[redacted]

The PwC projection of total spending at retail list prices (in 2006 dollars) is the most optimistic projection, but even it doesn't climb above the depressed 2005 levels until 2011, and remains far below pre-piracy revenue levels throughout. The LECG and VSS projections of total spending at retail list remain below the 2006 spending level through 2012. The LECG projection fluctuates within the [redacted] billion range during the 2008 through 2012 period versus 2006 total spending of [redacted]. The VSS projection of total spending at retail list declines steadily from [redacted] in 2006 to [redacted] in 2008 and to [redacted] in 2012. The average of the projections declines [redacted] in 2006 to [redacted] in 2008 to [redacted] in 2012.

Exhibits 25 and 26 show the projections for spending at retail list prices in 2006 dollars from physical and digital product shipments, respectively. As shown in Exhibit 25, all three forecasts project a continuing decline in spending at retail list on the shipment of physical products. PwC projects the slowest decline, and the LECG and VSS projections show greater

and very similar declines. Spending on physical product in 2006 is estimated to be [redacted]. By 2012, PwC projects spending at retail list of [redacted], VSS projects [redacted], and LECG projects [redacted]. These projections for 2012 are, respectively, [redacted] below 2006 levels. The average of the three projections in 2012 is [redacted], which is [redacted] below 2006 spending at retail list for physical products.

Exhibit 25
Expected Physical Music Spending at Retail List: 2006-2012
(Millions of 2006 Dollars)

[redacted]

Exhibit 26
Expected Digital Music Spending at Retail List: 2006-2012
(Millions of 2006 Dollars)

[redacted]

Exhibit 26 shows projected digital music spending at retail list (in 2006 dollars) from 2006 through 2012. The VSS projection is the most pessimistic, but it still shows strong growth in digital spending. The PwC and LECG projections are more optimistic and quite similar. Given the substantial uncertainty about the longer-term growth in digital spending, all three projections are plausible and none can be characterized as overly pessimistic. Digital spending at retail list prices in 2006 is [redacted]. By 2008, the projected digital spending levels range from [redacted], which are, respectively, [redacted] increases over two years. By 2012, the projected values for digital spending at retail list range from [redacted], which are, respectively, [redacted] above 2006 levels.

Exhibit 27 summarizes the three projections of total recording industry spending at retail list prices for 2008 and 2012 expressed as a percentage of 2006 spending. Only PwC anticipates higher than 2006 total recording industry spending during the 2008 through 2012 period. The other two projections, and the average projection, all show lower than 2006 spending in 2008 and 2012.

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[redacted]

There is widespread skepticism among independent industry analysts regarding whether spending on digital products will be able to make up for the lower spending on CDs. The VSS projections discussed above clearly incorporate the view that the increase in spending on digital products will not make up for the lower spending on CDs. The LECG forecast does not anticipate that spending on digital products will make up for the revenues lost due to lower

spending on CDs. While the PwC forecasts are somewhat more optimistic, even the PwC forecasts project only modest growth.[66]

F. The Music Publishers Have Prospered

As the record companies have paid a growing percentage of their shrinking revenues for mechanical licenses, the evidence that I have been able to gather indicates that the music publishers have been thriving.[67]

1. Music Publishers' Royalty Revenue Has Grown Significantly While the Recording Industry's Revenue Has Declined

The data show that music publishers have been much less affected by the significant record industry disruptions than have the record companies. As I have shown above, record industry unit sales have been trending steeply downward since 1999. See Exhibit 2. Wholesale revenues for the record companies have also trended down. See Exhibit 31. Yet over the same

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[66] I have reviewed a number of statements by recording industry executives claiming that the worst was behind them and touting the savings that they have realized through consolidation of labels and other reorganizations. For example "Too Many Acts Over The Last Three Years Are One-Hit Wonders," Billboard, Jan. 17, 2004, p. 62. An Interview in Billboard Magazine of Alain Levy, Chairman/CEO of EMI Music Worldwide and David Munns, Chairman/CEO EMI Music North America. Warner Music Group, Earnings Conference Call, for the second fiscal quarter ending, March 31, 2005, FD (Fair Disclosure) Wire, June 13, 2005. Profit margins have been reestablished through reorganization, and to some extent, by the successful pursuit of new revenue sources, including legal digital downloads. Despite efforts to bolster revenues, revenues remain at substantially reduced levels due to continuing erosion of record sales and earnings caused, in large part, by piracy. As a consequence, recording industry revenues are far below their historical peak.

The A&R and business executives that I interviewed were cautiously optimistic about the recording industry's attempts to generate more revenue from existing revenue sources and also from new sources. All believed there would be substantial revenue growth from new forms of digital distribution. However, all recognized that these new revenues might never be sufficient to fully offset the erosion of revenues from CD sales. The fact that very strong digital sales growth in the first half of 2006 were not sufficient to offset the sharp drop in revenues from CD sales was of concern to the executives.

[67] Until 2002, the NMPA gathered and published information about publishers' income. They ceased reporting that information in 2002. I understand that discovery is ongoing, and that the publishers have not yet produced such information. Consequently, I have had to estimate publishers' income over the 2002-2005 period using a number of sources. The details of the methodology and the data sources that I used are set out in Appendix A hereto.

time period, music publisher's royalty income has gone up. Other than for 2000, mechanical royalty payments to the publishers in 2005 were at an all-time high. As Exhibit 28 shows, publishers' royalty income has increased by [redacted] since 1998; during the same period, record company income has declined by just under [redacted]. These data illustrate how mechanical rate increases have overcome the decline in unit sales so that music publisher's mechanical has increased since 2001.

Exhibit 28
Total U.S. Royalty Income of Music Publishers
(Millions of Dollars)

[redacted]

As illustrated in Exhibit 29, the royalty revenue of the music publishers is coming increasingly from sources other than mechanical royalties (primarily from performance and synchronization royalties). These other royalty revenues are made possible by the songs being recorded by the record companies. Exhibit 29 shows that the share of music publishers' royalty

revenue generated by mechanical royalties has decreased significantly since 2000. In 2000, mechanical royalties accounted for 35.0 percent of total music publisher royalty revenue. By 2005, this share had dropped to [redacted] percent. The dollar value of the mechanical royalties in 2000 was $691 million. In 2005, the mechanical royalties were [redacted], which is less than [redacted] percent below its all-time high 2000 level. The fall in the mechanical royalty share of total music publishers' royalties is clearly due primarily to the increases in performance and synchronization royalties, which have increased from $809 million in 1998 to [redacted] in 2005.

Exhibit 29
Music Publishers Royalty Income: 1993-2005

[redacted]

As shown in Exhibit 30, the wholesale revenue of the recording industry fell by just under [redacted] from 2000 to 2005, and by nearly [redacted] when compared to 1998. In percentage terms, publisher royalty income increased by [redacted] percent from 1998 to 2005. During the same period, recording industry wholesale revenue declined by over [redacted] percent. Recording

industry revenue has declined by [redacted] percent from its 1999 peak. In contrast, the music publishers achieved new revenue records in 2003, 2004 and in 2005. At the same time, the music publishers' share of total music industry revenues has increased rapidly. Because of the rapid increase in music publishers' royalties and the significant decline in the record industry's revenue, the compound growth rate for publishers' share of total music industry revenues has been [redacted] percent, which is a strong growth rate.

[redacted]

Exhibit 31 presents the percentage changes since 1998 in the music publishers' royalty revenue and in the recording industry's wholesale revenue for the 1998 through 2005 period. In 2005, the music publishers' royalty revenue is [redacted] percent above its 1998 level, while the recording industry's wholesale revenue is [redacted] percent lower than its 1998 level.

Exhibit 31
Music Publishers' Royalty Income and Recording Industry's Wholesale Revenue Percentage Change Since 1998: 1998-2005

[redacted]

As a result of the very substantial increase in the non-mechanical royalty revenue streams, even a significant reduction in the level of mechanical royalty royalties from record companies for recordings, digital downloads and ringtones would have only a very modest effect on the revenue of the music publishers.

2. Music Publisher Profitability Significantly Exceeds That Of Record Companies

Another indication that a rebalancing of royalties in favor of the record companies would be appropriate is that the music publishers enjoy substantially higher operating revenue margins than do the record companies.[68] For example, EMI reported that for the fiscal year ending March 31, 2006 that the EMI music publishing segment had revenue of £419.6 million and group profit of £105.4 million for a profit rate of 25.1 percent. In contrast, EMI's record company segment revenue was £1.66 billion and that group's profit from operations before exceptional items and amortization was £145.1 million implying an operating margin of 8.7 percent. Thus, the publishing operating margin is nearly 3 times that for the record business. If amortization of music copyrights and intangibles of £46.3 million is deducted, the operating margin is still 14.1 percent of sales, which is over 60 percent higher than the rate for the record business.

Publishing has higher operating margins than record operations for both EMI and Warner Music for all of the years for which we have data.

3. Music Publishing Is A Low Risk, High Margin Business

According to the Warner Music Group's 2005 Annual Report:

> The music publishing market has proven to be more resilient than the recorded music market in recent years as performance, synchronization and other revenue streams are largely unaffected by piracy, and are benefiting from additional sources of income from digital exploitation of music in downloads and mobile phone ringtones. Trends in music publishing vary by royalty source:

[68] This is on the basis of an analysis of the global operations of the two publicly listed companies in the industry that have significant record and music publishing operations.

- Mechanical: Although the decline in the recorded music market has begun to have an impact on mechanical royalties, this decline has been partly offset by the regular and predictable statutory increases in the mechanical royalty rate in the U.S. (including an increase from 8 cents to 8.5 cents per song in January 2004, and a further increase from 8.5 cents to 9.1 cents per song to occur in January 2006), the increasing efficiency of local collection societies worldwide and the growth of new revenue sources such as mobile phone ringtones and legitimate Internet and wireless downloads.
- Performance: According to an April 2004 report from Enders Analysis, performance royalties experienced steady growth from 1999 to 2001. Continued growth is expected, largely driven by television, live performance and online radio streaming and advertising royalties.
- Synchronization: We believe synchronization revenues have experienced strong growth in recent years and will continue to do so, benefiting from the proliferation of media channels, a recovery in advertising, robust videogames sales and growing DVD film sales/rentals.
- Other: According to Enders Analysis, print revenues grew steadily from 1999 to 2001. Continued growth I this category is expected as well, as more people can afford musical instruments and lessons and online sheet music sales drive incremental revenues.[69]

I have located two slides from presentations made by Universal Music Group ("UMG") and by EMI that assess the risk and return from the music publishing business. See Exhibits 32

[69] Warner Music Group, 2005 Annual Report, pp 20-21 (Exhibit O-145-DP).

and 33. These two slides were part of presentations made at conferences sponsored by Merrill Lynch and by JP Morgan, respectively. The UMG chart explains how UMG assessed BMG's music publishing business, which UMG has now purchased. The EMI presentation discusses the strengths of its music publishing business. Both presentations conclude that music publishing is a low risk, high margin business.

Exhibit 32
Universal Music Group's Assessment of BMG's Music Publishing Business

Acquisition of BMG Music Publishing

- Consideration: €1,630 million in Enterprise value
- Why Music Publishing?
  - Attractive low risk, high margin business
  - Stable, low-volatility, annuity-like cash flows
  - Highly scaleable business
  - Uniquely positioned to benefit from explosion in new media
  - Lower capital requirements vs. recorded music
  - Multiple and diverse revenue streams means less vulnerability to piracy

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Source: Universal Music Group, Presentation at the Merrill Lynch Media & Entertainment Conference, September 2006, p. 35.

http://www.vivendi.com/ir/download/pdf/UMG_MLConf_120906.pdf

Exhibit 33
EMI's Assessment of Its Music Publishing Business

Music Publishing – credit strengths

- Stable revenues from a broadening set of sources
- Consistent, high margins
- Low overheads, high economy of scale
- Strong and consistent cash generation
- Significant growth prospects
- Low risk

EMI

Source: EMI Group, Presentation by Duncan Bratchell, SVP Tax & Treasury at the JPMorgan High Yield Conference, February 5, 2006, unnumbered p. 15.

The empirical basis for this conclusion is provided in Exhibit 28. Exhibit 28 shows that music publisher revenues have increased substantially despite the challenges of digital delivery, piracy, and counterfeiting. Music publishers have been largely insulated from these challenges for three reasons.

First, because music publishers have multiple revenue streams, they benefit from music performances on TV and radio (which are not revenue sources for the recording industry) as well as from the growing number of music outlets such as the Internet, satellite radio, etc., and from increased numbers of performances. Comparing 2005 to the 1998, music publishers have experienced substantial gains in all royalty categories for which we have data or well founded estimates, including mechanical royalties, performance royalties, and royalties on sheet music sales. Their total revenues grew at annual rates above [redacted] percent in [redacted] years, between [redacted] percent for [redacted] years, below [redacted] percent in one year and declined in one year by less than [redacted] percent. Total revenue grew from $1.573 billion in 1998 to [redacted] in 2005; this means that the compound annual rate of growth was [redacted] percent per annum.

Second, music publishers have experienced a substantial gain in mechanical royalties from $530 million in 1998 to $673 million in 2005. Mechanical royalties peaked in 2000 at $691 million. Since 2001, escalating cents per tune rates resulted in 2005 mechanical royalties being within 3 percent of their all time peak compared to major record company revenues that are off by 18.5 percent from their peak. Third, performance royalties, which in our data includes synchronization royalties, have increased every year since 1998 when they were $809 million; in 2005 they were [redacted]. Fourth, sheet music royalties have increased from $234 million in 1998 to [redacted] in 2005 with every year higher than the year before.

The multi-year (fiscal years 1999 through 2006) profit margin information I have been able to obtain for EMI show significantly higher profits for EMI's publishing segment than for its recording segment. EMI has provided profit margin data on a world-wide basis for the publishing and recording segments of its businesses. Profits as a percentage of revenues for publishing are over three times those for the recording segment; 26.1 percent for publishing compared to 8.3 percent for recording.

Revenue volatility[70], which in financial theory directly equates to risk, is also much lower for the music publishing industry. The standard deviation of the profit margin percentage, over the eight fiscal years for EMI's recorded music, was 1.8 percent on an 8.3 percent average profit margin rate. These statistics yield a coefficient of variation of 21.9 percent for EMI's recorded music segment. For music publishing, EMI's profit margin rate had a standard deviation of 1.0 percent on a 26.1 percent profit margin, which yield a coefficient of variation of 3.7 percent. The coefficient of variation is a measure of volatility and risk, and this statistic demonstrates the low volatility and risk of music publishing relative to music recording.

The Financial Times of Tuesday, November 28, 2006 contains an article reporting on discussions between EMI, Kolberg, Kravis Roberts, and Goldman Sachs regarding a potential private equity acquisition of EMI. The story reports that analysts at Citigroup estimated last month that EMI Music Publishing could be worth £1.65 billion with a possible £1.36 billion valuation for EMI Music.[71] In fiscal year 2006, operating profit for EMI's music publishing segment was £105 million, while EMI's recorded music segment had operating profits of £145 million.[72] The valuation of EMI's music publishing segment was 15.7 times its fiscal year 2006 operating profits, while the valuation of EMI's recorded music segment was only 9.4 times its

[70] Volatility is one commonly-used measure of the riskiness of cash flows.
[71] "EMI in Talks with KKR and Goldman", Financial Times, Tuesday, November 28, 2006, page 21.

fiscal year 2006 operating profits. These valuations drive home the very different economic circumstances of these two music industry components.

IV. ANALYSIS AND RATE RECOMMENDATION

To determine my rate recommendation, I now turn to applying the Section 801(b) objectives and the economic theory I have discussed to my assessment of the current state of the music industry. As I explain in more detail below, I have reached conclusions and recommendations about the rate structure and the particular rates that the Copyright Royalty Judges should enact. First, the rate structure should be changed from its current cents-per-tune formulation to one that is based on a percentage of the licensee's revenues (wholesale revenues in the case of the recording industry). Second, I recommend that the Board adopt a statutory rate of 7.8 percent or less of wholesale revenue.[73]

A. The Rate Structure Should Be Changed To a Percentage

1. Percentage Structure

Mechanical royalty rates have historically been expressed on a cents-per-tune-per-copy basis, with rates adjusted upward over time on a preset schedule reflecting either actual inflation as measured by the CPI or an estimate of projected future inflation.

I am aware that the vast majority of countries around the world with mechanical royalties systems calculate the royalty on a percentage of revenue basis.[74] This includes the United Kingdom and Japan, which are the two largest music markets after the U.S.[75]

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[72] EMI Group, Annual Report, fiscal year ending March 31, 2006, p.66.
[73] This rate would cover physical products, downloads, ringtones and any product not yet introduced.
[74] Testimony of Geoffrey Taylor and exhibits thereto.
[75] Testimony of Geoffrey Taylor.

I have been asked to render an opinion whether, from an *economic* perspective, royalty rates should be set on a fixed cents-per-tune basis or whether they should be set on a percentage basis. If the latter, I have been asked to render an opinion on what the appropriate royalty base should be (e.g., retail *vs.* wholesale, list price *vs.* actual).

From an economic perspective, there are a number of reasons why the use of a percentage-based royalty rate is superior to a fixed cents-per-tune-per-copy rate. First, a percentage-based rate automatically adjusts for changes in selling prices in a way that a fixed rate does not. If inflation causes the selling prices of sound recordings (e.g., CDs or digital downloads) to increase, then a percentage-based royalty would automatically increase as well. I note that, the CRT, in its 1981 decision, set the mechanical royalty rate on a cents-per-tune basis but with reference to the percentage of retail list price for an album, that it thought was appropriate, and announced an annual review to maintain the percentage relationship between the retail list price of an album and the mechanical royalty rate. After the Court of Appeals rejected the CRT's proposal to hold annual hearings to determine such an adjustment, the CRT instead projected rates with an eye toward accomplishing the same thing.[76] It also appears that in their 1987 settlement agreement, and again in 1997, the parties agreed to adjust the mechanical royalty rate over time in accordance with actual or anticipated changes in the CPI.[77]

With a percentage-based royalty, we don't need to accurately forecast the future as the fortunes of all will ride with the market. Hence a percentage royalty not only provides more

[76] 46 Fed. Reg. 55276, at 55277.
[77] Testimony of Michael Pollock.

pricing flexibility; amounts paid automatically adapt to changing industry circumstances and product pricing changes that occur in response to market condition changes.[78]

Second, a percentage-based rate more closely aligns the economic incentives of the parties. From an economic perspective, one would anticipate that record companies would set the prices for the products that they sell intending to maximize profits. If the record companies believed that higher prices would increase industry profits (despite the fact that higher prices will, other things being equal, result in lower unit sales because demand curves are downward-sloping), they would choose to increase prices. Conversely, if the record companies believed that lower prices would increase profits (presumably because they believed that the increase in volume due to lower prices will more than offset the lower price-per-unit), they will choose to lower prices. In other words, acting in their own self-interest, record companies have an incentive to choose the level of prices that they believe will maximize their profitability.

If mechanical royalties are set on a percentage basis, then the economic interests of songwriters/publishers, on the one hand, and record companies, on the other, are *aligned* with one another to a significant degree.[79] The same pricing decisions that serve the interests of the record companies also tend to serve the interests of the songwriter/publishers. By contrast, a

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[78] In his testimony submitted on behalf of RIAA, Michael Pollack explains the difficulties the record companies faced -- and the errors they made -- in predicting future demand for their products as part of the 1987 and 1997 settlement agreements.

[79] I acknowledge that their interests are not *perfectly* aligned. Technically, songwriters/publishers are interested in maximizing their *own* profits. To the extent that the costs of songwriters/publishers are largely *sunk* at the time that the song is recorded, they are interested in having the record companies maximize the *volume* of *sales* under a cents-per-tune regime and maximize total revenues under a percentage royalty regime. Record companies are interested in maximizing their *profits*. Profit maximization by the record companies does not imply revenue maximization (which is what the publishers would want under a percentage royalty scheme) or unit sales maximization (which is what the publishers would want under a cents-per-tune regime). But, in the case of the record companies, profit maximization, under a percentage of wholesale revenue royalty scheme, should result in higher revenues and unit sales than would be the case under a cents-per-tune regime, because of the relatively high fixed costs associated with creating and releasing a recording relative to the marginal cost of delivering additional unit sales. A cents-per-tune regime would tend to curtail efforts to generate incremental sales and revenues at low price points that would be profitable under a percentage royalty scheme.

fixed cents-per-tune-per-copy mechanical royalty rate does *not* tend to align the incentives of the songwriter/publishers and the record companies.

In many instances, under a fixed cents-per-tune regime, the record companies may be foreclosed from introducing low price point products that would benefit the record companies and the songwriters/music publishers. Such products could be pursued under a percentage royalty regime. Furthermore, a percentage-based royalty allows the songwriters/music publishers to *share* in any upside price increases for sound recordings (e.g., CDs). If the record companies increase the prices they charge, under a percentage-based royalty, that will translate into a higher per-unit royalty to the songwriters/music publishers. By contrast, with a fixed cents-per-tune royalty, the songwriter/music publishers do *not* share in any of the benefits of an increase in the price of sound recordings (CDs or downloads).[80]

Of course, the converse is also true. A percentage-based royalty likewise implies that the songwriter/music publishers will share in any *reduction* in prices for CDs. But presumably, the reason that the record companies would *reduce* prices is that they believe that doing so would be more profitable than maintaining them at a high level, because the lower prices would lead to sufficiently higher unit sales to result in higher profit. If these higher unit sales are sufficient to increase profits, revenues also would be higher and the songwriters/music publishers also would receive their share.

This leads to the third reason why a percentage-based royalty makes economic sense. Firms need the flexibility to adjust the prices that they charge so as to reflect changing market circumstances. We know that, over the last several years, the record industry has faced significant changes in its product mix with the advent of new formats (*e.g.*, digital downloads

[80] To the contrary, a higher price for CDs will (other things equal) reduce the demand for CDs, thereby reducing the royalty base (of unit sales) on which songwriter/publishers will be paid cents-per-song-per-unit royalties.

and ringtones), as well as a severely challenging economic environment with the growth of piracy, a challenging retail environment, replacement of physical album sales with a digital marketplace having different economics, and so forth. We cannot know for certain what the future will hold, but it is reasonable to predict that we are likely to see further significant changes over the next several years.

From an economic perspective, a percentage-based royalty gives the record companies greater pricing *flexibility* to *respond* to such changes than would be the case under a fixed cents-per-tune royalty. In particular, record companies are trying to determine how best to price digital downloads and other forms of music distribution in order to combat piracy. A percentage-based approach would provide them with the greatest flexibility to price as needed in order to address those concerns.

In addition, the record companies are working to develop new products and open new markets for sound recordings, something that the decline of physical album sales and revenues has made essential for the entire industry.[81] Here, too, pricing flexibility is critical. The investment necessary to enter new markets may not be possible under a cents-per-tune rate structure. Thus, without change to a percentage rate, record companies may be deterred from entering new markets that otherwise would have benefited both the record companies and the songwriters in terms of generating more revenue and diversifying their revenue streams.

For example, some of the new options might involve new ways of getting value from sound recordings other than by selling them. One obvious possibility is an advertising-supported business model.[82] A percentage-based mechanical royalty could readily be applied to such

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[81] Testimony of Ron Wilcox.

[82] For example, I have seen news stories to the effect that, in late August 2006, Universal entered into a deal with a company called SpiralFrog under which SpiralFrog would make Universal sound recordings available without charge to consumers who would agree to watch an advertisement, with the service supported by paid advertising.

revenues, whereas a fixed-cents-per-song mechanical royalty might make such approaches infeasible, even though such approaches might otherwise represent a "win-win" situation for both the recording industry and the songwriters/music publishers.

2. The Appropriate Royalty Base

The question then becomes whether the percentage-based royalties should be calculated as a percentage of *retail* revenues or as a percentage of *wholesale* revenues. Obviously, retail prices and revenues are higher than wholesale prices and revenues, but that is not a significant concern, for the following reason.

From an economic perspective, when calculating royalties, any royalty *rate* must be applied to a *corresponding* royalty *base*. It makes no economic sense to set the rate independently of the base. The same *dollar* amount of royalties can be generated with a *higher* royalty rate on a *smaller* base, or a *lower* royalty rate on a *larger* base. To give a simple numerical example, suppose that wholesale revenues were $80, and retail price were $100, so that wholesale revenues were 80% of retail price. A 4% royalty on retail price would generate $4 in royalties (4% of $100). That would be economically equivalent to a 5% royalty on wholesale revenues: 5% of $80 equals the same $4.

In my opinion, the percentage should be set as a basis of the wholesale revenues attributable to the sound recording. Record companies can provide a suggested retail *list* price of CDs, but they have no control over the actual retail prices at which CDs are sold at retail, nor do they know what those prices are in most instances. By contrast, in the ordinary course of their

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See http://www.spiralfrog.com/press_release.aspx#aug29 (visited 28 November 2006). I have also seen a SpiralFrog press release to the effect that, in early September 2006, SpiralFrog entered into a deal with EMI Publishing. See http://www.spiralfrog.com/press_release.aspx#sept06 (visited 28 November 2006). I do not know the details of the SpiralFrog-Universal or SpiralFrog-EMI Publishing deals beyond what was reported in the news. But assuming that the news stories are correct, these deals would be examples of an innovative way to capture value from both songs and sound recordings.

business, record companies keep records of the revenues that *they* do receive.[83] As Andrea Finkelstein explains in her testimony, even under the current cents-per-tune regime there are significant complications and logistical concerns associated with ensuring that the proper royalties are paid. Adding a requirement that record companies obtain actual retail sales data -- if this were even possible -- and pay royalties on that basis would make the system significantly more costly to administer, more prone to error, and provide no economic value.

Over the years, I have reviewed many licensing agreements, primarily patent licenses. The vast majority of the licenses that call for percentage-based royalties also call for royalties based on the Net Selling Price that the licensee receives from selling the licensed product. The "Net Selling Price" is typically defined as wholesale revenue, less returns and certain other deductions (e.g., freight costs). Put another way, I cannot recall an instance in which the licensee is asked to pay royalties based on some royalty base (such as "retail" revenues that the licensee does not receive, or on "retail" list price) that the licensee does not receive and cannot control.

Because record companies do not control the price the consumer pays at the point of purchase and because there is an increasingly-large gap between what some label "retail list" prices and actual retail transaction prices (due to the increasing importance of "big box" retailers like WalMart and BestBuy), I believe that the most economically-appropriate approach is to use record company *actual* revenues as the appropriate base for percentage-based mechanical royalties.

For all of these reasons, I conclude that the CRB should use a percentage-of-revenues based approach, rather than a fixed cents-per-tune-per-copy approach, in setting mechanical royalty rates on a going-forward basis.

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[83] For CDs, record companies are paid wholesale prices. For digital downloads by other entities (e.g., iTunes), they receive a (wholesale) amount. For digital downloads directly from the record companies, they receive a (retail)

B. 1981 CRT Decision and Changed Circumstances Show the Rate Should Be 7.8% Or Less.

I turn now to the question of what, the percentage rate should be. The best place to begin this analysis, in my judgment, is with the decision of the Copyright Royalty Tribunal in 1981, which has served as the basis for the mechanical royalty rates over the last twenty-five years. In my opinion, using that decision as a starting point and adjusting for changes in the industry over the interim period provides a well-grounded basis for setting rates in this proceeding.

1. 1981 CRT Decision -- The Last Mechanical Rate Proceeding

In 1981, the CRT concluded that "there should be an immediate substantial increase in the mechanical royalty rate . . ." changed the rate from 2.75 cents per song to 4 cents per song, a 45% increase, and ordered that the rate be adjusted annually thereafter to "reflect increases in record prices."[84] The CRT explained that it had reached this result for a number of reasons, including:

- Inflation had eroded the value of the fixed cents-per-tune rate;[85]
- Average list prices of records had steadily increased over the prior decade;[86]
- The number of songs sold increased during the five year period before the proceeding;[87]
- Mechanical expenses were not burdensome to record companies;[88]

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amount.

[84] 46 Fed. Reg at 10485; Id. at 10481 (between 1973 and 1979, record sales almost doubled). From 1909 through 1977 the mechanical rate was set at 2 cents per tune. The Copyright Act of 1976 changed the rate to 2.75 cents per tune as of January 1, 1978, and required the 1980 CRT proceeding. However, as the CRT noted in its decision, Congress did not intend that the CRT be in any way constrained by the rate Congress set beginning in 1978. CRT Decision at 10478-9.

[85] Id. at 10483.

[86] Id. at 10485

[87] Id..

[88] Id.

- Evidence of international rates suggested that U.S. mechanical rates were too low;[89] and,
- Despite an "astounding growth in market demand for music" the "return afforded copyright owners, as a proportion of record sales, has steadily declined."[90]

The CRT acknowledged that there had been a general economic recession in 1979-1980 that had affected record sales, but concluded that "[i]t is our opinion and we so find that the evidence also demonstrates that the adverse consequences of the 1979-80 recession were temporary and most of them have already been overcome."[91]

The CRT summarized the basis of its 45 percent increase in rates as: "based on the evidence in this proceeding, the fortunes of the record companies, the copyright users, have been enhanced in the last decade. The evidence shows that at the same time, the fortunes of songwriters and music publishers, the copyright owners - subject to a price-fixed mechanical royalty in a period of great inflation - have dwindled."[92] As discussed at length earlier, the evidence I have reviewed shows that the opposite is true today.[93]

The CRT chose the 4 cent rate, in particular, apparently to restore the relationship between the mechanical royalty rate and the retail list price of a record album that prevailed in 1965, when the mechanical royalty rate was 5 percent of the retail list price of a record album.[94] There was one dissenting CRT Commissioner, Mary Lou Burg, who weighed application of the Section 801(b) objectives more in favor of the record companies and would have set "the

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[89] Id. at 10483.
[90] Id. at 10481.
[91] Id. at 10482.
[92] Id. at 10483.
[93] See Section III.
[94] The 4 cents per tune rate, assuming 10 tunes per album, amounted to 5 percent of the retail list price of an album. See CRT Decision at 10481.

mechanical rate to 3.25 cents per tune effective January 1, 1982 . . . [one year later than when the majority rate was implemented.]"[95]

Further, the CRT decided to maintain this parity on a going forward basis by indexing the cents per tune mechanical royalty rate by the annual change in the retail list price of albums.[96] This indexing was to be done by annual surveys of the retail list prices of albums to determine the annual percentage change in these prices.[97] The CRT planned to announce any change in the mechanical royalty rate on December 1st of each year beginning in 1981.[98] On appeal, the U.S. Court of Appeals for the District of Columbia ruled that "the Tribunal impermissibly awarded itself discretion to reevaluate economic conditions in the recording industry as a part of its rate adjustment mechanism."[99] The court remanded the matter "to Tribunal for further proceedings to allow the Tribunal, if so desired, to adopt an alternative scheme of interim rate adjustments that did not require annual exercise of discretion."[100]

In place of its proposed annual survey, the CRT ordered a specific sequence of mechanical royalty rates for the 1981 through 1987 period shown in Exhibit 9 above, beginning with 4.0 cents per tune in January 1981 and rising to 5.0 cents per tune in January 1986.[101] The CRT explained that the adjustments to the mechanical royalty rate were determined on the basis of "recent trends in record prices" that were contained "[i]n the record of the 1980 mechanical royalty proceeding."[102]

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[95] Id at 10487.
[96] See CRT Decision at 10485-6.
[97] CRT Decision at 10486.
[98] CRT Decision at 10486.
[99] 662 F.2d 1, Recording Industry Association of America, Petitioner vs. Copyright Royalty Tribunal, August 27, 1981.
[100] *Id.*
[101] 37 CFR Part 307, Federal Register, Vol. 46, No. 216, Monday, November 9, 1981.
[102] *Id.*

2. 1981 CRT Decision Implies a Current Rate of 7.8 Percent Or Less of Wholesale Revenues

As I have investigated and researched the state of the recording industry on the one hand, and reviewed the 1981 CRT decision and its reasoning on the other, I am struck again by the fundamental shift in circumstances from 1981 to the state of the record company business today.

Almost every financial indicator of the record companies' financial position has worsened from that described by the 1981 CRT. The record now shows:

- Record prices, rather than rising as they had been leading into the 1981 proceeding, have been falling;
- Unlike the "astounding growth" in demand for music observed by the 1981 CRT, unit sales have dropped significantly over the last five years (See Exhibit 5);
- Mechanical rates, though once a small cost to an industry with growing revenues, are now a growing share of shrinking record company revenues and thus a growing burden;
- Whereas in 1981 the CRT concluded that return to copyright owners as a proportion of revenue from record sales was decreasing, the data now show a fifteen year trend in the opposite direction. (See Exhibit 29); and
- The "market position" of the songwriter is no longer "much weaker than his colleague abroad."[103]

In addition, as I have discussed in detail above (see Section III), the recording industry now confronts significant and sustained business challenges that are different in kind from the challenges highlighted by the CRT in 1981. First, digital distribution uses a totally new format for sound recordings and has different distribution channels to the consumer. These new

channels require significant parallel business structures (and the attendant capital and risk), as record companies must support both the old physical and the new digital distribution. By contrast, as I've shown in Exhibit 5, around 1981, as the record industry sales of LP albums were slowing, they were being replaced by sales of cassettes, which was a slow transition between one physical format and another.

Second, the industry now is faced with an epidemic of piracy, in which it appears that only half of the music consumers obtain is through legal means. The record companies' principal revenue stream is the income they generate through the sale of physical sound recordings (i.e., CDs). Piracy has robbed the record companies of a large share of this revenue and has decreased the price of a CD and, thereby, the margins on CD sales. (See Section III).

With these changes in mind, I have considered how the 1981 CRT's analysis would apply today and what it tells us about an appropriate rate. I have applied the 5 percent of retail list price mechanical royalty rate, implied by the 1981 CRT's 4.0 cents per tune mechanical rate, to the current sales, pricing and revenue data to determine what the comparable percentage mechanical royalty rate under the 1981 CRT's approach would be today.

The 1981 CRT treated retail "list price" ($7.98 in 1981) as the functional equivalent of actual retail price in its assessment of the relationship between price and the mechanical royalty rate. That was a reasonable judgment at the time, because (as I understand) most LPs were sold by record stores at prices at or near the list price. Today, list price does not have the same close relationship with actual retail price.

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[103] 46 Fed. Reg. at 10484.

In 2005, the actual average retail price for a CD was [redacted].[104] To determine what rate is implied today by the 1981 CRT's analysis, I apply the CRT's 5 percent rate to the average actual retail CD price of [redacted]. This yields a royalty per CD album sold of [redacted]. The average wholesale price for a CD album in 2005 was [redacted].[105] The [redacted] per CD album mechanical royalty implies a percentage mechanical royalty rate to be applied to recording industry wholesale revenues of 7.8 percent.[106] This is the rate that I adopt.

The analysis of the 1981 CRT decision produces a rate today of 7.8 percent. But as I discuss in the next section where I analyze the Section 801(b) objectives, changed circumstances over the past 25 years have put the recording industry in a much worse position relative to the publishers than it was in 1981. Accordingly, the Copyright Royalty Judges should consider 7.8 percent of wholesale revenues a ceiling and should adjust down from there in accordance with the Section 801(b) objectives.

3. The Section 801(b) Objectives and Changed Circumstances

While the Section 801(b) objectives are descriptive, and do not lead to a particular rate, they all confirm the conclusion of my specific rate recommendation, based on the 1981 CRT decision, that the rate should be significantly lower and that it should be based on a percentage of wholesale revenue.

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[104] RIAA, Net Shipments, Direct & Special Markets and Digital Distribution, For Year Ending December 31, 2005, April 4, 2006, p.12. NPD Group.

[105] RIAA, Net Shipments, Direct & Special Markets and Digital Distribution, For Year Ending December 31, 2005, April 4, 2006, p.12.

[106] Commissioner Burg dissented from the 1981 CRT decision. She wrote that the appropriate rate was 3.25 cent per tune, because she believed that the 4 cent per tune rate did not satisfy the statutory criteria "to afford the copyright users a fair income under existing economic conditions," but at the same time she wrote that she would have been willing as a compromise to set the rate at 3.6 cents per tune. In light of the fundamental changes for the worse in the record industry today, I believe Commissioner Burg's views on the application of the Section 801(b) objectives would be more likely to apply. The proposed 3.25 cents per tune and 3.6 cents per tune mechanical rates correspond to 4.1 percent and 4.5 percent of the retail list price of an LP. Applying these percentage rates to the 2005 average actual retail price for a CD produces royalty amounts of [redacted] and [redacted] per CD album. These royalty amounts per CD album imply percentage royalty rates for wholesale recording industry revenues of [redacted] percent and [redacted] percent, respectively.

a. Objective One: Maximize the availability of creative works to the public.

The first Section 801(b)(1) objective is to "maximize the availability of creative works to the public."[107] While the CRT in 1981 sought to apply this objective "to encourage the creation and dissemination of musical compositions,"[108] that objective will not be achieved without recognizing record companies' critical contributions to making a song into a successful commercial product which, in the end, enables the dissemination of music to the public.

(1) Economics of Maximizing Availability

From my standpoint as an economist, the question of whether a song is "available" to the public depends almost entirely on whether it has been recorded. In order to be "available" to the public, in my judgment, a song must be recorded, marketed, and distributed. Recording a song transforms it from the notepad or sheet music of the composer (or an unreleased "demo" version) into a form that the public can consume. Distributing that sound recording gets it from the recording studio to the physical or online retail outlets where consumers can purchase it. Finally, the marketing and promotion done by the record companies seeks to make potential customers aware of the newly-released album and help ensure that there is sufficient information in the market that members of the public can find the recording.

To be successful, the songwriter and publisher need the services as well as the continued investment of the recording industry. If the mechanical rate is set too high, the record companies will not have an appropriate incentive to deploy their specialized assets to turn the song into a sound recording that consumers want (and will not thereby generate revenue for publishers). In other words, where the rate is too high, the record companies seek other, more rewarding ways to deploy their assets. If this happens, the public will be exposed to fewer songs, payments to

[107] 17 U.S.C. § 801(b)(1)(A).

songwriters will fall, not only because they will receive lower mechanical payments, but also because they will receive lower performance and synchronization royalties.[109]

(2) Trends in Availability of Creative Works Today

With the foregoing in mind, the evidence points to a decreasing availability of new sound recordings and therefore a decreasing availability to the public of songs.

First, there is evidence that record companies are releasing both fewer new recordings overall (as opposed to re-mixes, re-releases and compilations of already available recordings), and fewer new recordings by new artists as the economic position of the recording industry declines.[110] In addition, for albums that are being recorded, some companies are reducing the number of songs on the album to control costs.[111] As a result of all of these decisions, there are a significant number of songs that would have been recorded that are not, and new artists who would have recorded new songs five or ten years ago who are not recording and having their records released today.[112] This trend is bad for the publishers and songwriters whose songs are now not being made available to the public, but it is also bad for the record companies who must rely more heavily on their catalog of past releases by established stars as the creation and release of new sound recordings slows.

Second, even for those lucky artists and songwriters who are recorded and released, there are significant additional hurdles to becoming "available" in the market, in the sense that the

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[108] 46 Fed. Reg. 10466, at 10479.

[109] Moreover, sound recordings are creative works too (and enjoy copyright protection separate from the song) whose availability should also be sought.

[110] See page ___.

[111] See Testimony of Glen Barros; Testimony of Ron Wilcox.

[112] A&R executives I interviewed noted that the continuing decline in record company revenues has forced them to focus on trying to develop "blockbuster" hits, while foregoing potential high-risk, high-return projects (e.g. someone like Bruce Springsteen, who must release a number of albums before developing a commercial following). Budgets have been cut reducing investment in artists that are signed and decreasing the likelihood of a release being successful. I was told by an A&R executive that increasingly the record labels consider again whether to release a record even after it has been recorded and a certain amount of money invested. Interviews with A&R executives.

public will be exposed to and be made aware of their work. As Ron Wilcox discusses in his testimony, the decline of retail music specialty stores and the shift toward big box stores such as Wal-Mart and Target limits availability. These big box stores carry a very limited range of products (mostly limited to top sellers and well-known established artists) with a thin inventory. At the same time, these retailers demand deep discounts for access to their limited shelf space. (Glenn Barros explains in his testimony that this problem is particularly acute for independent labels who lack the marketing power to break into big box stores.) Similarly, consolidation in the radio broadcasting industry has made it harder to find airplay for new, un-established artists. (See Section III.D; Testimony of Ron Wilcox).

By contrast, the supply of songs appears to be robust -- certainly sufficient to meet the needs of the recording industry and the public. The Harry Fox Agency, which is a subsidiary of the National Music Publishers Association, reports that it represents 30,000 music publishers and over 160,000 songwriters.[113] BMI and ASCAP, which collect royalties for songwriters and musicians for the performances of their music, claim to represent considerably more.[114] This would seem to indicate that there is little danger that there will be too few songwriters or too few songs. Of course, only a small percentage of those represented can be deemed to be professional songwriters, in the sense that they make a living from songwriting alone or as a primary occupation. No A&R executive with whom I spoke was aware of any difficultly in finding an appropriate song when one was needed.

I believe the evidence shows that this Section 801(b) objective points toward a reduction in the rate. A lower rate would allow record companies to record and release more new music,

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[113] Harry Fox.com and Testimony of Irwin Z. Robinson, President NPMA, before the Senate Judiciary Committee Subcommittee on Intellectual Property, July 12, 2005, page 1 (Exhibit O-107-DP). The Fox agency is a subsidiary of NMPA and is estimated to represent at least 65 percent of songwriters.

[114] Citations with claimed numbers from 2005 Congressional hearings.

which would mean more new songs would have a chance to be heard by the public. That, in turn, would generate mechanical royalty payments -- as well as the possibility of performance, synchronization and other royalty income streams -- for those songwriters who otherwise would receive none. Of course, a lower mechanical rate will not solve the problems faced by the recording industry at big box retailers or on the radio, but it will give them more financial room to innovate around these problems by developing new markets and products, new ways of marketing, etc.

This objective also clearly illustrates the advantages that flow from the percentage rate. As I discuss above, a percentage rate would allow the record companies the flexibility necessary to develop new products, markets, pricing strategies and the like which in turn would allow them a chance to sell more recorded music (thereby benefiting the songwriters). In the hopeful event that the record companies are successful in their efforts, a percentage rate would ensure that the songwriters share in the gains.

b. Objective Two: Afford the copyright owner a fair return and the copyright user fair income under existing economic conditions.

The second Section 801(b)(1) objective is "[t]o afford the copyright owner a fair return for his creative work and the copyright user a fair income under existing economic conditions."[115] In 1981, the CRT found that this factor weighed in favor of increasing the rate. It appears that the CRT's decision was based on its perception that album prices and "record company gross revenues had increased substantially,"[116] while the statutory rate had not kept

[115] 17 U.S.C. § 801(b)(1)(B).
[116] 46 Fed. Reg. 10466, at 10481.

pace. Finding that "the impact of mechanical royalties on both the industry and consumers is trivial,"[117] the CRT minimized the significance of an increase.

As I will discuss, the evidence that I have seen shows that the situation facts are substantially different now.

(1) Economics of Comparative Returns

As an economist, I understand "fair return" and "fair income" to mean an approximation of how the market would attribute value to the (i) copyright owner and (2) the firm that uses the copyrighted material as an input to a consumer product. Creating a return or income that is different from that which would be determined by an efficient market presumably will be "unfair" to the extent it artificially shifts costs or inflates income of one party at the expense of another. Because the recording industry is a for profit industry, it cannot be expected to make investments unless it can see the opportunity for a competitive return. In a context where commitments to create recordings are made almost every day, a mechanical royalty burden which absorbs too much revenue will not just be inefficient and arguably unfair, it will also reduce the funds needed to create more new recordings.

Risk is also an important element in considering return and income. Economic theory indicates that the returns of a high risk business are expected to be greater, and of a low risk business smaller. Were the opposite true, investment capital would gravitate toward the lower risk business with the higher return. Here, the mechanical royalty rate should be calibrated so that the returns generated by licensors and licensees are proportional to the risk they bear. If they are not, investment capital will migrate away from the business with the lower ratio of return to risk – either to the business with the higher ratio of return to risk, or to alternative investments outside the music industry with more competitive returns.

[117] 46 Fed. Reg. 10466, at 10482.

In my view, it is critical in addressing this objective that the Copyright Royalty Judges do not assume that returns to the copyright owner and income to the copyright user are necessarily inversely related. In other words, because the incomes of the songwriters and publishers are driven by the creation of sound recordings of their songs and the success of those sound recordings in the market, I would expect, all else equal, the highest returns to the copyright owner to occur where the copyright users (the record company) are also earning a "fair income."

As a result of a song being recorded, promoted, and sold, the music publishers and songwriters obtain substantial other royalties (e.g., performance and synchronization royalty revenues). The performance and synchronization royalty revenues of the music publishers and songwriters have grown substantially and continuously despite the downturn in the recording industry's sales and revenues. These other royalty revenues would not occur (or would occur only rarely and at low levels) without the sound recording having been created by the record companies (i.e., almost all the total royalty revenue of the music publishers and songwriters occurs as a result of a song having been recorded). Therefore, all the royalty revenues of the music publishers and songwriters are appropriately considered part of the compensation of the music publishers and songwriters for their contributions to the total value that results from creating, marketing, and distributing a sound recording and should be taken into account in determining the appropriate mechanical royalty rate.

An optimum rate would be one that permits record companies to earn a competitive return in view of their risk, creating an incentive for them to invest in the creation of new sound recordings, which would generate total royalties for writers and publishers. A rate that is higher than that level would discourage investment in the creation of new recordings.

(2) The Current Balance of Return to Copyright Owners and Income to Copyright Users

The CRT's decision was predicated upon significantly increasing record company gross revenues through most of the 1970s, and a statutory mechanical royalty rate that had not kept pace. The opposite situation is presented today. Steady increases in the statutory mechanical royalty cents rate – at essentially the rate of inflation since 1981 (see Exhibit 10) – have far outpaced record company wholesale revenues, sending mechanical royalties, expressed as a percentage of revenues, sharply higher over time, particularly after 2001 (see Exhibits 12, 13, and 14).

As discussed above and indicated in Exhibit 30, from 1998 to 2005, the recording industry's U.S. wholesale revenues *declined* at a compound annual rate of [redacted]. The projections described above (Section III.E) indicate that the record companies' unit sales and revenues will continue to decline, or at least not exceed 2005 levels until late in the next rate period (see Exhibit 24). Average projections suggest that real (2006 dollar) recording industry revenues will remain below 2006 levels for the entire rate period (see Exhibit 27).

Despite these conditions, record companies have been able to re-establish modest profit levels. However, that has happened only through dramatic contraction and restructuring. As part of this restructuring, the record companies also have converted fixed costs to variable costs, by outsourcing manufacturing and distribution. As discussed above (Section III.D), record companies also have cut costs to manage their businesses down – such as by consolidating operations and reducing employment (as depicted in Exhibits 12 and 22).

The situation of the music publishers is very different. As discussed above and indicated in Exhibits 30 and 31, from 1998 to 2005, music publishers' total royalty income *increased* at a compound annual growth rate of [redacted] while the recording industry's revenues *declined*. As

described above (Section III.F), mechanical royalty income increased significantly over the entire period 1998 to 2005. At the same time, non-mechanical royalty income has increased even more significantly, more than offsetting a [redacted] percent decline in mechanical royalties after 2000 (see Exhibit 28). This increasing total royalty income is generated as a consequence of the investment that the record companies make, and so all are appropriately considered in connection with this Section 801(b)(1) objective.

As discussed above, music publishing is a low risk, high margin business. As one industry analyst put it,

> "Music publishing is a beautiful way to make money because the record company ordinarily does the marketing and promotion of the song – the hardest part of selling music. The costs of music publishing are dwarfed by the massive manufacturing and promotion costs of selling music to the public. That is why publishing catalogs are valuable and currently [2001] sell for 8 to 20 times their average annual income (calculated on an average, weighted basis of the preceding few years."[118]

Music publishers have margins that are a multiple of those of the record companies. As a result, investment dollars are migrating from production of recordings to the purchase of music publisher catalogs, just as economic theory would suggest would occur if mechanical royalty rates are too high. As discussed above (Section III.F), Universal Music Group is in the process of acquiring BMG Music Publishing.[119] It is not alone. Glen Barros testified concerning favorable investor views of music publishing, pointing to an influx of private equity, and sales of

[118] Neville Johnson, "Music Publishing," in Halloran (ed.), *The Musician's Business and Legal Guide* (3rd Ed., 2001), p. 130 (Exhibit O-150-DP).
[119] Universal Music Group, Presentation at the Merrill Lynch Media & Entertainment Conference, September 2006, p. 35.

small to mid-size stable music publishing companies at much higher multiples of operating income than is the case for acquisitions of record companies.

At an investor conference, Universal explained that it was making its purchase of BMG Music Publishing because music publishing is an "[a]ttractive low risk, high margin business" and "[s]table, low-volatility, annuity-like cash flows."[120] EMI Group likewise has described music publishing as having "[s]table revenues" and "[c]onsistent, high margins."[121] These statements are corroborated by my calculation of the relative revenue volatility of music publishers and record companies. As discussed above (Section III.F), I calculated coefficients of variation (a measure of volatility and risk), and these statistics demonstrate the low level of volatility and risk of music publishing relative to music recording.

I also note that, in 1981, the CRT found the impact of mechanical royalties to be "trivial."[122] Mechanical royalty rates no longer can be characterized as such. As shown in Exhibit 14, by 2007, the statutory rate is expected to increase to [redacted] of wholesale revenues, and the effective mechanical rate to [redacted] of wholesale revenues, each a much bigger portion of wholesale revenues than the record company's profit. Mechanical royalties are a large and rapidly growing category of expense for record companies. Further, as Glen Barros and Ron Wilcox testify, the mechanical royalty rate burden affects decisions about how many tracks record companies can afford to record and include on an album (thereby denying revenues to the writers and publishers of tracks that go unrecorded or unreleased).

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[120] Universal Music Group, Presentation at the Merrill Lynch Media & Entertainment Conference, September 2006, p. 35.
[121] EMI Group, Presentation by Duncan Bratchell, SVP Tax & Treasury at the JPMorgan High Yield Conference, February 5, 2006, unnumbered p. 15 (Exhibit O-144-DP).
[122] 46 Fed. Reg. 10466, at 10482.

In view of these facts, I believe that the balance of return and income has reversed since 1981. Just as the CRT in 1981 found that a substantial increase in the mechanical royalty rate was required to restore balance from an earlier time, today I believe that a substantial cut in the mechanical royalty is required to restore that balance to what it previously had been.

As I described above, an optimum rate would be one that permits record companies to earn a competitive return in view of their risk, creating an incentive for them to invest in the creation of new sound recordings, which would generate total royalties for writers and publishers that would also allow them to earn a competitive return in view of their risk. In my opinion, the current high mechanical royalty rate is part of a business climate that limits record company investment. Record companies are retrenching and cutting their artist rosters. Investments are not being made in the production of sound recordings but in the purchase of music publisher catalogs, because music catalogs are at present low-risk, high-return investments. This is an unhealthy condition, one that could ultimately lead to lower returns for publishers as well as record companies.

c. Objective Three: Reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk, and contribution to opening new markets for creative expression and media for their communication.

The third Section 801(b)(1) objective is "[t]o reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk, and contribution to the opening of new markets for creative expression and media for their communication."[123]

[123] 17 U.S.C. § 801(b)(1)(C).

Evaluating this objective today, the contributions, investments, costs and risks of record companies are much greater than those of publishers and songwriters. Importantly, the record companies' relative contributions, investments, costs and risks also have become much greater over time, and are today much greater than described in the CRT decision. During the same period, the music publishers' contributions have decreased in relative terms, and possibly in absolute terms.

(1) Economics of Relative Roles

My PFI and DC economic theory paradigms explain the relationship between relative contributions to a marketable product and the share of financial returns appropriate to reflect those contributions. To share risks and rewards appropriately, each party that makes a contribution to a product that requires many contributions should receive approximately its proportionate share of the value created.

PFI tells us that the fact that an innovation may be the beginning of a process to create, market and distribute a product or even the fact that the innovation is a necessary input to that product, is not necessarily indicative of appropriate compensation. A song is an essential input into a recorded music product, but there are many other essential inputs. Thus, the question is not whether the innovation (here a song, or an idea for a song) is essential, but what capabilities and assets are required to convert the innovation into a successful product, and what are the relative values of the raw innovation and the co-specialized assets necessary to turn it into a product. At the simplest level, the relative values, in a market economy, depend upon relative scarcity. If innovations are relatively plentiful, but firms with the capability to marshall virtuoso teams to engage in creative research, development, marketing, distribution and other activities necessary to make a successful product are relatively scarce, the contributors of the necessary

additional capabilities and assets are likely to garner a greater share of the financial returns than to the innovator.

More specifically, PFI tells us that to measure contributions to value, we must focus on the substitutability or imitability of what the songwriter, publisher and record company do.

(2) Current Balance of Creative, Technical, Financial Contributions, Risk and Efforts to Develop New Markets

(a) Record Company Contributions

There are four major record companies (as well as dozens of independent record companies), each of which is able to deploy a collection of unique assets necessary to the creation of a hit record. Some of these key contributions are as follows.

The A&R Function

Both my research and the literature in this area suggest that the A&R function at a record company handles an important part of the work in turning a song into a successful sound recording. There is a great deal more detail on this function in the Testimony of Tom Mackay and Michael Kushner, but I outline it briefly here. The A&R department of a record company is responsible for bringing new talent in the door and works with that talent as long as they remain under contract with the record company. An A&R executive:

a. Identifies new talent;

b. Helps the artist/band understand their strengths and weaknesses in all aspects of their performance including, for example, name, dress and lifestyle;

c. Works on improving their songs, playing/vocal abilities;

d. Provides the artist/band the opportunity to focus on their music by providing financial advances, which may enable them to quit their day jobs;

e. Interviews and hires producers to work with the artist;

f. Arranges for session musicians;

g. In many cases finds songs for the artist to record;

h. Guides the decision on which songs will be released;

i. Helps develop a budget for recording and other costs associated with the artist;

j. Arranges appropriate technical help for recording and mixing;

k. Anticipates and arranges for additional material (songs, performances, videos, etc.) that may be used in connection with marketing the recording or the artist;

l. Works with marketing, promotion and sales professionals to ensure that the recording gets distributed as widely and promoted as effectively as possible;

m. Pushes the artist/band into new areas of creativity. For example, taking the piano away from a band that normally composed songs using a piano and forcing the band to compose using a guitar.

n. In general, inspire and act as a muse for the artist/band.[124]

Each step in this list involves unique skills and typically involves a team of people internal and external to the record company, all supported by investment from the record company. The A&R executives who lead these teams are a key resource.

As noted above, one of the main insights of the PFI framework is that, in competitive markets, the returns from innovation flow to those who have key inputs into the production process (broadly understood) that have few substitutes and are difficult to replicate. Conversely, suppliers of inputs for which there are ready substitutes are not likely to receive a significant return.

[124] Interview with Luke Wood.

The evidence that I have seen indicates that the major record companies are in such a position. The major labels account for only a relatively small fraction of recordings released every year. There are thousands if not tens of thousands of independent recordings released each year, whether by individuals/groups recording and releasing their own material, or by small "independent" labels. The advent of inexpensive digital recording equipment capable of making high-quality recordings, the growth of "home studios" using such equipment, the ability to press CDs in small quantities via CD pressing houses, and the advent of Internet-based promotion and distribution (e.g., via websites like CDBaby) have all come together to make it feasible for recording artists to "bypass" the major labels and get their music to the public.

Yet many recording artists seek to get "major label" deals, and are willing to sign away a significant fraction of the revenue generated by album sales in order to land such a deal. Why is that?

From an economic perspective, the most obvious reason is that it is extremely difficult for independently-produced albums to *succeed* in the marketplace. One estimate that I have seen suggests: "Of the approximately thirty-two thousand new CDs released each year, only 250 sell more than ten thousand copies, and fewer than thirty go platinum (one million units sold, in the U.S.). That's 1/10 of 1 percent of the new releases …"[125] The same authors estimate: "over three thousand new CDs enter the market every month, and only 3 percent of those ever sell more than five thousand copies."[126]

With tens of thousands of new releases each year, consumers need *some* mechanism to "separate the wheat from the chaff," to decide what to listen to and what to spend their money

[125] David Kusek and Gerd Leonhard, *The Future of Music* (2005), p. 108 (Exhibit O-146-DP).
[126] *Id.*, p. 53.

on. One major role of the major record companies is to perform just such a "gatekeeper" role.[127] The fact that a major label has signed an artist, and devoted the resources necessary to record the artist and release the artist's recordings, sends a *signal* to the marketplace that the record company believes that the artist is worthy of consideration – a signal backed up by significant marketing and promotional efforts.[128] Record reviewers, radio station personnel in charge of deciding what to play, and concert promoters all rely to a significant extent on that signal and those efforts in deciding what to do, which in turn affects what consumers see.

In order to achieve significant market success, one needs more than just a sound recording. One needs a successful promotional and marketing plan, widespread distribution, and access to radio and video (MTV, etc.) airplay in order to "break through" to consumers. That in turn means that, for the great majority of recorded music, one needs to rely on the activities of major label record companies.[129]

While the success rate for major-label recordings is clearly higher than that for self-produced albums, the success rate is still very low. As noted in Section III.A, most major-label releases fail to cover their costs, and the profits from the infrequent "hits" are needed in order to cover the losses for the great majority of "flops."

Songwriters and publishers can make substantial money only if their material is included in commercially successful sound recordings. Consequently, the major record companies, with

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[127] For a discussion of the "gatekeeper" role and its economic significance in the creative arts industries, see Richard Caves, *Creative Industries* (2000), pp. 21, 61, 310.

[128] For a discussion of the role of marketing and promotion in the music industry, see Tad Lathrop, *This Business of Music Marketing and Promotion* (Rev. and Updated Ed., 2003), esp. Chs. 1-3 (Exhibit O-149-DP).

[129] This is less true in "niche" musical genres (*e.g.*, jazz, folk, classical, world music), where smaller independent labels play a much greater role. That said, with rare exceptions (*e.g.*, the soundtrack to the movie "Oh Brother, Where Art Thou?" which involved Americana roots music, ordinarily a very small "niche" genre, but which sold over 5 million copies), songwriters and publishers tend not to earn significant income from such "niche" material.

their access to such markets generated by their activities, perform a key role in creating value not only for themselves but also for the songwriters/publishers.

The dynamic capabilities framework that I developed has given rise to studies of how firms acquire and assimilate external knowledge and external intellectual property, and transform such inputs into products that consumers want.[130] Such acquisition and assimilation skills can be of major importance for the success of product design and redesign efforts, and in the development of artistic projects such as movies, operas, TV series, and recorded music. The teams that are formed (by the senior A&R executives of the record companies) – bringing together both internal and external talents – are a quintessential example of the type of creative integrative teams that are needed to turn an invention or a song into a valuable commercial product. In the main, the recording industry provides the necessary skills.

The A&R-record producer-performer teams that are assembled for high profile and highly promising performers are examples of the virtuoso teams that are discussed in the academic literature.[131] The management of such teams requires extremely talented and confident managers. The A&R executives in charge of these teams make disproportionate contributions to the projects that they coordinate.

While the advent of digital technology, and the attendant piracy, have forced many of these changes on the industry, the A&R and business executives I interviewed all stressed for the need to identify and further exploit new and existing revenues sources and to find ways to be as cost effective as possible. Creating new products that incorporate music, finding new ways to motivate consumers to buy music (such as bonus songs, related DVDs, special internet access to

[130] See Oana Branzei and Ilan Vertinsky, "Strategic Pathways to Product Innovation: Capabilities in SMEs," *Journal of Business Venturing*, Vol. 21, 2006, pages 75-105.
[131] See, e.g., Fisher and Boynton, supra.

artist-related content, etc.) are now part of the job of A&R executives as they must bring this business creativity to bear in response to the changing business environment the industry faces.

Marketing and Promotion

From my discussions with record company executives it appears that marketing and promotion are primary contributors to the success of a recorded music product, and hence a song. There are many good songs in the world, but a good sound recording of a good song, unpromoted, will not sell many copies; it may not sell any. Only record companies, and particularly the four major record companies, have the unique capabilities to conduct coordinated, large-scale, national (or even worldwide) promotional campaigns to breathe commercial life into songs and achieve commercial success at the Gold record (500,000 unit sales) or higher level. For the purposes of my analytical framework, marketing and promotion of recordings are essential inputs to the finished product that should be valued highly because of the scarcity of companies with the capability to do what record companies, and particularly major record companies, do.

Michael Kushner testified at length about marketing and promotion. He explained that:

- A large part of a record company's work and cost of releasing an album is in promoting it.
- Even when a talented artist creates an impressive recording, attracting the public's attention to it is difficult and requires efforts through many channels.
- Promotion is more necessary and difficult today because music is so ubiquitous.
- To promote recordings, record companies mobilize staff in numerous departments and invest considerable financial resources to create market positioning and "branding" of an artist. The record companies support tours, make sure the artist's

story is told in media outlets, arrange television appearances, develop retail marketing strategies and merchandising material, promote in-store play and appearances, create exclusive content for major retail account advertising, produce videos and advocate to get them exposure on outlets such as MTV, advocate for intense radio airplay as part of the larger promotional program, creating artist and fan websites and "e-mail blasts," ensure that artists and their music are represented on Internet portals and blogs, and set up live Internet concerts.

Other witnesses gave similar testimony about the nature, importance and cost of record company promotional efforts. For example, Glen Barros testified that even great songs and great recordings don't make money for their creators unless they connect with an audience. Designing creative marketing programs to connect his independent record company's recordings with an audience is a key creative contribution of the company, and typically its largest category of investment.

Ron Wilcox testified that because the music marketplace has been transformed by current marketplace conditions, record companies need to do and invest more than ever to generate sales revenues. His company, Sony BMG, markets and promotes its products through traditional channels such as television advertisements, product placements, store displays and providing support for artist tours. In addition, it now makes additional efforts and investments in a wide variety of online promotions.

Record companies today muster all of the co-specific assets necessary to create recordings, and record company staff is involved in every aspect of the creative process. They truly make recording possible by advancing risk capital in the form of advances to artists and payment of recording costs. Also, the nature of the record company's involvement has increased

due to today's changed circumstances. Mr. Mackay and Mr. Kushner both described the need for the record company to produce various kinds of related and ancillary content for new digital formats and to bolster flagging physical sales. As described above, the unique package of complementary assets that record companies bring to the creation of recordings is relatively scarce, and so should be given considerable weight when considering the relative contributions of writer, publisher and record company.

(b) Record Company and Publisher Risk

The balance of risks has also clearly shifted since 1981. While publisher revenues have been steadily increasing, record companies are in a period of transition with shrinking sales and a changing business model forced by the digital distribution of music. Record companies have relatively few successful albums (many executives estimated that only one in ten records made money).[132] Now, they must regularly innovate new products, both physical and digital, and new ways of delivering music if they are to offset their fading core business -- the sales of CDs. Whereas product diversity was narrow in 1981 and constrained to physical distribution systems, now it is wide with deep infrastructure investments required and many products and formats perform with lackluster results after significant investment (*e.g.*, Dual Disc). Publishers do not confront these challenges.

As I have discussed earlier, piracy is another critical component in the risk that record companies face. First, piracy reduces revenues by constraining the ability of record companies to receive competitive prices for their products. It also robs them of sales they used to get in the weeks after a hit album was released. Second, piracy increases costs by requiring investment

[132] See Steven Wildman, *An Economic Analysis of Recording Contracts*, July 22, 2002. Wildman did a study of artists signed by all of the major record companies from 1994-1996 and tracked their careers for seven years. Though most of this time was before piracy began diminishing sales of hit records, he found that "for every 100

and management attention if it is to be held in check. Because record companies rely on sales of sound recordings as effectively their only revenue stream, the sales taken away by piracy have a direct effect on their revenues. Publishers are affected by piracy as well to the extent that they lose a mechanical payment, but publishers have other revenue streams that are derived from the sound recording, but are less affected by piracy (such as performance royalties).

By contrast, the publishing business has stable, high-margin returns that are "annuity-like." Mr. Barros confirms that the risk profile of music publishing is very different from that of record companies. Acquiring songs is a relatively safe investment, due to the predictability of revenue generated by an established catalog. Mr. Barros explains that the capital markets view the music publishing business as a more attractive business than the recorded music business.

(c) Record Company Efforts to Develop New Markets

Other witnesses have testified that under current marketplace conditions, particularly given the extent of piracy, it is necessary for record companies to innovate and to work with digital music service providers and other technology companies to develop new kinds of product and service offerings that consumers will pay for despite having the option of stealing the music. Some relatively recent types of services, like download retailers and subscription services, are available in the market and are generating substantial revenues today. Other new kinds of offerings are still more nascent, but the innovations and contributions necessary to make them possible seem to be an important and unique contribution of record companies.

Again, these contributions fit perfectly into my PFI and DCI frameworks. Many diverse contributions are required to devise and launch the new products and services that provide the vehicle for making creative works available to the public. The major record companies uniquely

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artists newly signed by labels in a particular year, the labels could expect to see 10 gold or platinum albums over the

possess the co-specialized assets of staff in diverse business areas and the technological capabilities, infrastructure, rights clearance and accounting capabilities that are necessary to transform songs into products that will be marketable in an environment in which it is necessary to compete with free recorded music. Because of the scarcity of these resources, their contributions have a high value.

David Munns described the range of efforts required to develop multiple streams of income from a variety of new and evolving products, formats and distribution platforms:

- Producing, managing and distributing a large number of separate products in different formats for distribution through different types of delivery vehicles in the fragmented market for digital distribution.
- Creating and maintaining a digital distribution chain and account relationships distinct from the traditional physical product distribution chain.
- The very expensive process of developing multiple electronic systems required to support digital products and their distribution to various platforms, including systems for accounting to publishers for mechanical royalties in a fragmented marketplace.

Ron Wilcox described the significant contributions necessary to make creative works available to the public through new kinds of offerings – the initial effort to develop and introduce new types of products; development of basic technology, digital content and content management and distribution infrastructure to make those products possible; and administrative efforts and infrastructure to clear and aggregate rights and account for payments:

- Sony BMG invests significantly in developing new formats specifically, and over the last five years has incurred enormous costs in transitioning to the digital age. These

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next five to seven years).

include costs of digitizing audio and video content to meet distributor specifications, developing infrastructure to deliver and manage digital content, and transforming its business operations to implement new business arrangements and comply with clearance, licensing and accounting requirements.

- Even once a new format has been launched, the increase in the number of formats available today is also increasing recurring costs of producing and distributing products.
- Music publishers do not make similar investments. Indeed, as Mr. Wilcox testifies, the difficulties that record companies face in negotiating agreements with music publishers have impeded efforts to launch new products and services.

Mr. Wilcox also described the contributions that record companies make to the emerging digital marketplace by aggregating musical work and sound recording rights, so that a service does not need to obtain individual mechanical licenses from thousands of publishers to make recorded music available.

Andrea Finkelstein elaborated on the unique business processes and systems that record companies have implemented, and the staff resources that record companies commit, to achieve that benefit, and more generally to be able to account for new types of products and services.

David Hughes emphasized the technological contributions that make new products and services possible:

- Every major record company devotes substantial staff resources to developing new technologies, products, and services, typically in partnership with technology companies, including digital music service providers; developing the technology

platforms and business processes necessary to implement them; and supporting the labels within the record company to produce content in the proper format.

- The major record companies have hundreds of people responsible for developing new digital products and services, and devote other staff resources from existing administrative and operational departments to developing the infrastructure needed to service the new digital music industry.
- The recording industry has also made substantial contributions to many of the technologies that underlie specific product and service offerings. These contributions include (i) the codecs used to compress digital files, (ii) developing the DualDisc format, (iii) working to ensure that digital rights management ("DRM") systems effectively protect content and enable the business models record companies are pursuing, (iv) taking a leading role in standard setting activities, and (v) early efforts to implement and consumer test a technology architecture and business model for downloading.
- Music publishers do not make similar investments in development of new types of product and service offerings.

All of these kinds of efforts to develop and make available new products in a dynamic marketplace are precisely the kinds of capabilities that the PFI and DCI frameworks indicate should garner a significantly greater share of financial returns to the record companies than do the songwriter and publisher.

(d) The Music Publisher's Contribution

When the recording industry was in its infancy, the music publishers published sheet music which was produced primarily by songwriters they hired. They also were "song pluggers" who convinced recording artists or record companies to record their songs. For-hire songwriting ended and the "song plugger" role for music publishers have diminished over time, with the exception of Nashville which is discussed below.[133] The emergence of singer-songwriters (including rock groups that write most or all of the material they record) over the last several decades has reduced the need to find songs for singers.[134] For the recording artists who don't write their own songs (e.g. many in the pop, R&B, and country genres), the role of finding songs to record is performed primarily by the A&R staff, managers and record producers who are working with the recording artists, albeit with input from publishers.[135]

According to Professor Richard Caves, the current role of the music publisher is "mainly a collector of rents."[136] Professor Caves explains that "[o]ver the twentieth century the publisher's contribution to a song's success has greatly diminished."[137] Professor Caves further

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[133] Tom Mackay testified that during the entire A&R process music publishers are rarely, if ever, involved. Michael Kushner agreed that publishers have little or no involvement in the creative process. Andrea Finkelstein testified that publishers typically do not know of the existence of a new song when the record company approaches them in the clearance process. Glen Barros agreed that music publishers seldom promote songs to record companies. Richard E. Caves, Creative Industries: Contracts Between Art and Commerce, Harvard University Press, 2002, pp. 287-8, and 310. Geoffrey P. Hull, The Recording Industry, 2nd ed., Routledge, 2004, pp. 73-79 (Exhibit O-147-DP).

[134] In interviews with A&R executives, Richard F. Caves, Creative Industries: Contracts Between Art and Commerce, Harvard University Press, 2002, p. 210.

[135] Interviews with A&R executives.

[136] Richard E. Caves, *Creative Industries: Contracts Between Art and Commerce*, Harvard University Press, 2002 (hereinafter "Caves"), p. 299 (Exhibit O-148-DP).

[137] Caves, p. 310. My staff and I have reviewed a number of books on songwriting and publishing. In addition to their role in collecting and disbursing royalties and other administrative roles (e.g., applying for copyright registration), I am aware that, in some instances, publishers perform other roles, including the "talent scout" role of screening submitted songs, finding songwriters and signing songwriters to contracts (whether single-song, multiple-song, or longer-term); providing songwriters with advances against future royalties; providing creative feedback to songwriters; helping songwriters find collaborators; financing "demo" recordings of songs; "pitching" songs to A&R personnel, producers, managers, and artists; marketing their back catalog of songs for "synchronization" uses in movies and TV; and publishing sheet music versions of commercially-successful songs. See, e.g., Braheny, The Craft and Business of Songwriting (3rd Ed., 2006), Ch. 10-12; Hull, The Recording Industry (2nd Ed. 2004), Ch. 4; Blume, This Business of Songwriting (2006), Chs. 1, 4.

states that "[i]n fact the publisher's role has contracted to the point where anybody can be a music publisher. The only essential task is the administration of the copyright, and that can be subcontracted to other firms."[138] The authors of a recent article (J. M. Mol and others) describe the current role of music publishers as having been "reduced to just the administration and collection of copyright royalties."[139] Further, Mol et al. conclude that "the value created at the stage of music publishing has diminished steadily over the course of the 20th century, while the value captured remained high.[140] As the PFI framework indicates, this is not what would happen in a competitive market.

The music publishers do some marketing of a musical recording for synchronization, but the A&R executives that I interviewed indicated that the music publishers typically let the record companies take the lead in marketing the recording for synchronization.[141] Further, the music publishers sometimes will market the song from a popular recording and not the recording itself (i.e., they will suggest that movie or television program producer make a cover), which does not generate any revenue for the record company.[142]

I understand that the role of songwriters and publishers is somewhat different with respect to country music. Fewer country musicians write their own material than is the case in some other genres, which makes non-performing songwriters more important. For any given

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That said, I understand from discussions with record industry personnel that, while such behavior is relatively common in Nashville / country music, it is very uncommon in other musical genres. I discuss the difference between the situation in Nashville and in other areas in Section NNN above/below.

I further understand that it is increasingly common for songwriters to self-publish or co-publish their own material. See, e.g., Braheny, op. cit., Ch. 11; Blume, op. cit., Chs. 5-6. I also understand that some self-published songwriters enter into "administration" arrangements with other publishers who will administer the copyright and collect royalties, in exchange for a percentage of revenues. See, e.g., Blume, op. cit., Ch. 8. In either case, the songwriter would receive a larger fraction of total revenues, and the publisher would receive a smaller fraction.

[138] *Id.*

[139] Joeri M. Mol, Nachoem M. Wijnberg and Charles Carroll, "Value Chain Envy: Explaining New Entry and Vertical Integration in Popular Music", Journal of Management Studies, Vol. 42, No. 2 March, 2005 (hereinafter "Mol et. al."), p. 262.

[140] See Mol, et al. p. 272.

[141] Interviews with A&R executives. This was true for Nashville as well as for New York and Los Angeles.

level of record album demand, it appears that the demand for songwriters is far greater in country music than in other genres. The higher demand for songwriter services, in combination with the large and sustained amount of performance royalty revenue that is generated by a country hit, makes it financially attractive for the Nashville music publishers to invest in songwriters (to gain and retain these songwriters as clients) and to work to get the songs written by the publishers' songwriters recorded by existing and emerging country stars.[143] SonyBMG's Nashville A&R executives with whom I spoke explained that the music publishers in Nashville continue to play the historic song-plugger role for country music that appears unique to this genre of music. A&R staff in Nashville do rely on the music publishers to help find songs for country recording artists. A&R staff in New York and Los Angeles do not. The Nashville A&R people and record producers also work directly with songwriters to find or create songs for specific country artists.[144] In addition, the Nashville record company executives report that music publishers sometimes help in their artist development efforts.[145]

The Nashville music publishers are compensated for their larger role in the creation of a country genre musical recording by the large and sustained performance royalties that are generated by a "hit" country song.[146] Performance revenues are reported to be much more important sources of revenue for country (Nashville) recorded music than is the case for the other genres produced primarily in New York and Los Angeles.[147] The CD sales volumes for country "hits" is smaller than for rock or pop "hits" which results in smaller mechanical royalties for country "hits."[148] The terrestrial radio performances of "hit" country songs, however, is very

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[142] Interview with A&R executives.
[143] *Id.*
[144] Interview with A&R executives.
[145] *Id.*
[146] *Id.*
[147] *Id.*
[148] *Id.*

large. For example, as of October 2006, there were 2,049 country radio stations.[149] To put this number in perspective, there were only 510 Top 40 ratio stations.[150] In addition, "hit" country songs tend to remain popular on country radio stations for a long time (e.g., years for country versus weeks or months for pop).[151] According to the A&R executives I interviewed, one reason for the longevity of a "hit" country song is that the country music format is "boxed in" (i.e., has remained largely the same over time while other genres have experienced major format changes). Another reason given by the A&R executives I interviewed for the long-term popularity of "hit" country songs is the strong fan loyalty and large fan bases for the country stars who record the country hits.

Therefore, there appears to be no need to make an upward adjustment to the mechanical royalty rate, paid by record companies for all genres, to reflect the greater contribution of the Nashville music publishers; their greater contribution already earns higher performance royalties.

d. Objective Four: Minimize any disruptive impact on the structure of the industries involved and on generally prevailing industry practices.

The final Section 801(b)(1) objective is "[t]o minimize any disruptive impact on the structure of the industries involved and on generally prevailing industry practices."[152] In 1981, the CRT found that an immediate 45% increase in the statutory rate would not be "disruptive" because the rate increase "would be substantially less than other cost increases which the record industry has been able to absorb, or pass on . . . ."[153] Moreover the fact that mechanical royalties are currently paid on a cents-per-tune basis does not allow the industry to adjust its costs to reflect the prices that it charges.

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[149] Inside Radio, Format Counts (http://www.insideradio.com/formatcounts.asp).
[150] *Id.*
[151] Interviews with A&R and business executives.
[152] 17 U.S.C. § 801(b)(1)(D).

As I have explained at some length, the recording industry is in the midst of significant and sustained disruption of its "structure" and "industry practices," principally as a result of the need to respond to the growth in digital distribution of music, the decline of physical sales and the sustained large negative effects of piracy. As record companies struggle to deal with these issues, they also confront: a challenging retail environment with narrower and lower inventories of their products, declining sales and revenues, the loss of physical album sales that are replaced with single-song digital downloads at much lower revenue and margin, and increased competition with other forms of entertainment. I have discussed these issues in some detail above. (See Section III.D). While this disruption is occurring, the industry has devoted an increasing percentage of its shrinking revenue to mechanical royalties.

The publishers have not been so disrupted, but rather have continued to achieve reasonably steadily increasing royalty revenues. Reducing the mechanical rate to 7.8 percent or less of the wholesale revenue will reduce overall disruption in the industry while returning some balance to the relative positions of the publishers and the recording companies.

In my opinion, my proposed statutory rate of 7.8 percent may be thought by some to be so large a reduction from current rates that it must necessarily be disruptive for the music publishers. To assess that concern, I analyzed what the effect on total publisher royalties received would have been, had the proposed rate been put in place for calendar year 2005, which is the last full year for which we have data.

In 2005, mechanical royalties totaled $673 million. (see Exhibit 28 above). To get to the royalties that would have been paid under my proposal, requires multiplying 2005 wholesale record company revenue of $6.616 billion by the proposed statutory rate, and then multiplying that sum by the ratio of effective rate to the statutory rate. Had the proposed statutory rate been

[153] 46 Fed. Reg. 10466, at 10481.

paid on all revenues, mechanical royalties would have totaled $516 million in 2005. Taking the 2005 effective rate to statutory rate ratio into account would further reduce paid mechanical royalties to $399 million. The difference between $673 million and $399 million is $274 million.

Publishers received royalty income of $2.081 billion in 2003, $2.231 billion in 2004, and $2.417 in 2005. Had 2005 music publisher royalty income been reduced by the $274 million the total is $2.143 billion which is higher than 2003 revenues by $62 million. Thus my proposal reduced publisher revenues by less than the revenue increase the publishers enjoyed during the two prior years.

e. Conclusion: The 801(b) Objectives Support a Percentage Rate and a Substantial Decrease in the Rate.

Analysis of the Section 801(b) objectives confirm the conclusions that I have reached based on economic theory and my application of the 1981 CRT decision to the current recording industry situation. That is to say, the current rate is too high and should be significantly reduced and the structure should be changed to a percentage royalty rate applied to a wholesale revenue base. Analysis of each objective shows that it is best met by changing the rate structure to a percentage of wholesale revenue and by adopting a significantly reduced rate.

C. Other Benchmarks

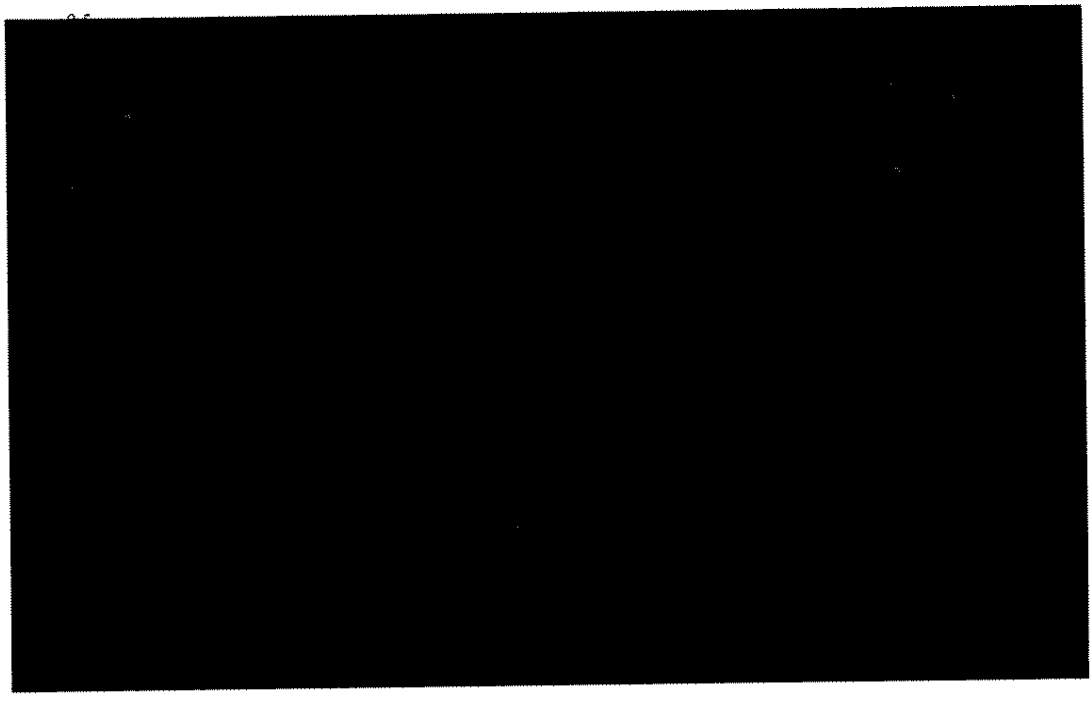
I have considered two other reference points as part of my analysis of the specific rate that should be applied. These are the rate implied by the changed circumstances since the last rate setting in 1997, and the rates that apply in the United Kingdom.[154]

1. Implications of the 1997 Settlement and Its Aftermath

Rates were last set, albeit by agreement, in 1997. That was, roughly speaking, just before the effects of large-scale piracy and the shift to digital distribution began to emerge. As I have discussed earlier, if we look back at the period from 1997 to the present, unit album sales and revenue have fallen while the mechanical royalty rate has steadily increased, and the average wholesale price of CDs has declined. The relationship between the statutory royalty rate and the wholesale CD price is shown on Exhibit 11, which, for convenience, I have reprinted below.

[154] Although I have not relied on it as a benchmark, I note that the most comprehensive collection of technology patent royalty rates is provided by the Licensing Economics Review ("LER"). Based on LER's December 2005 analysis of 2,408 reported royalty agreements in fifteen industries, for which sales were the basis for the royalty, the median royalty was [redacted] percent and the average royalty was [redacted] percent.

Exhibit 11
Comparison of the Actual Statutory Mechanical Rate and the 1998 Mechanical Rate Changed by the Percentage Change in Wholesale CD Prices



As Exhibit 11 shows, had the cents-per-tune mechanical royalty rate been adjusted by the rate of change in the wholesale CD price between 1998 and 2005 and forecast prices to 2008 as the 1981 CRT stated should be done, the implied mechanical royalty rate would be [redacted] cents-per-tune in 2007 and [redacted] cents-per-tune as of 2008. The 2008 cents-per-tune rate implied by changes in the wholesale CD price since 1998 is almost [redacted] percent below the actual 2006-2007 rate of 9.1 cents-per-tune.[155]

Put another way, the drop in wholesale CD prices alone would justify almost a [redacted] percent reduction in the mechanical royalty rate from its 2006-2007 levels. But, even this very substantial reduction would not be sufficient to restore the recording industry to its 1998 economic position. In other words, if the Copyright Royalty Judges were to set a mechanical

[155] The 2007 royalty rate implied by changes in the wholesale CD price since 1998 is over [redacted] percent below the 2006-2007 rate of 9.1 cents-per-tune.

royalty rate as of January 1, 2008 that was equivalent to [redacted] cents-per-tune, the effective royalty rate being paid by the record companies would still be substantially higher than the effective rate in 1998. (See Exhibit 12.) When considering the changed circumstances of the recording industry, it is the effective rate that is most important. The effective rate represents the revenue share that the recording industry is actually paying for mechanical royalties. To the extent that the effective rate has increased more rapidly than the statutory rate, the costs to the recording industry have increased beyond the levels that were anticipated and retained earnings of the recording industry have diminished. As a consequence, the ability of the recording industry to invest in new artists and in new formats has been adversely affected.

As discussed above, to adjust the current statutory mechanical royalty rates to reflect the drop in wholesale CD prices since 1998, the current 9.1 cent per tune rate would have to be reduced to [redacted] cents per tune as of January 1, 2008 (i.e., the 9.1 cent per tune rate would be reduced by [redacted] percent or the 9.1 cent per tune rate would be multiplied by [redacted]). Then, to adjust for the increase in the effective royalty rate relative to the statutory rate between 1998 and 2007, the statutory mechanical royalty rate would have to be further reduced by [redacted] percent (i.e., multiplied by [redacted]). The resulting cents per tune rate as of January 1, 2008 would be [redacted] cents per tune (i.e., [redacted] equals 9.1 <u>times</u> [redacted] <u>times</u> [redacted]). In 2008, the expected wholesale price for a CD is [redacted].[156] Assuming 13 tunes per CD, which is the median number for the Billboard 200 albums in 2005, the statutory royalty for a CD would be [redacted] ([redacted] <u>times</u> 13). The implied percentage statutory royalty rate for a CD as of January 1, 2008 is [redacted] percent ([redacted] is [redacted] percent of [redacted]).[157] This is consistent with the percentage royalty rate determined on the basis of the1981 CRT decision.

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[156] Figure is based on a LECG forecast.
[157] Figure is based on a LECG forecast.

2. Mechanical Royalty Rates in the U.K..

The United Kingdom has a copyright regime similar to Section 115 in which there is a mechanism in place to set reasonable mechanical royalty rates when parties cannot agree on the rate.[158] Although I understand that there are differences between the United States and the U.K. in terms of the legal framework for mechanical licensing, the standards by which the rate is set, and the characteristics of the recorded music market, the U.K. rates can serve as a check on the analysis I've presented here. I have read the analysis supplied by Geoffrey Taylor and Richard Boulton in their testimony regarding the similarities between the U.S. and U.K. music industries and agree with them that the U.K. market is a useful comparison though there are significant differences between the U.S. and U.K. industries and markets.[159]

a. The U.K. Uses a Percentage-Based System

First, I note that the U.K., like all but five countries of the 51 addressed in IFPI's mechanical royalty rate surveys, determines mechanical royalty payments using a percentage-based rate structure. (Surveys of international mechanical royalty rate schemes for the physical and online markets accompany the testimony of Geoffrey Taylor.) Unlike the current U.S. cents-per-tune royalty rate, the U.K. physical rate is generally a percentage of the wholesale list price

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[158] That said, it is my understanding that there is no U.K. analogue of the compulsory license that exists under U.S. law.

[159] Mechanical royalty rates in many European countries are set by negotiations between a confederation known as BIEM (Bureau International des Sociétés Gérants des Droits d'Enregeistrement et de Reproduction Mécanique) and IFPI, the worldwide record industry trade association. It is my understanding that rates in some European countries are somewhat higher than the rates in the U.K. [See Krasilovsky and Shemel, This Business of Music (9th Ed. 2003), p. 209; Blume, This Business of Songwriting (2006), pp. 143-144.]

It is my understanding that a comparison between rates in Europe and rates in the U.S. is complicated by a number of differences across countries, as discussed in the Testimony of Geoffrey Taylor.

From an economic perspective, another complicating factor is the fact that most European markets are significantly smaller than the U.S. or the U.K., and that songs written in a European language (e.g., French or German) have a more limited international appeal than songs written in English. These two factors imply that, holding other factors (such as the local "chart success" of the song) constant, the royalty income that European songwriters earn tends to be lower than that of U.S. or British songwriters.

I am trying to gather additional information about the situation in European countries other than the U.K., and reserve the right to supplement my testimony should additional information become available.

(or a percentage of retail if there is no wholesale list price). The download rates are a percentage of the retail price excluding the value added tax. As I have discussed in some detail, I urge the Board to adopt a percentage rate structure, and in particular to express whatever rate it determines in terms of a percentage of wholesale revenue.

b. The UK Mechanical Royalty Rate for Physical Products

In addition to its structure, the U.K. provides a useful check in terms of the relative rate levels. As Mr. Taylor describes, for physical products (e.g., CDs), the U.K. rate has been set at 8.5% of the "published price to dealer" or "PPD" (essentially a wholesale list price (excluding VAT) before any discounts are applied) since 1991. Before 1991, the U.K. mechanicals rate was 6.25% of retail. According to the 1991 Copyright Tribunal decision accompanying Mr. Taylor's testimony, the 6.25% of retail rate was set in 1928. I understand from Mr. Taylor's testimony that in 1991, 8.5% of PPD was approximately equivalent to 6.5% of retail, so the U.K. Copyright Tribunal initiated a slight increase in the rate (0.25 percent, or four percent of the earlier rate) in 1991. In other words, the U.K. mechanical royalty percentage rate for physical products has risen only 4% over 78 years. (Of course, mechanical royalty *payments* increased by application of the percentage rate to increasing prices.)

In 1981, when the CRT last determined the U.S. mechanical royalty rate, it set the rate at approximately 5% of the retail list price. According to the 1991 Copyright Tribunal decision accompanying Mr. Taylor's testimony, it appears that until 1982 (when the parties reached a different agreement concerning calculation of the retail royalty base), the 6.25% U.K. royalty was taken on the retail list price. Thus, the 1981 CRT decision of a U.S. rate at 5% of the retail list price was 20% percent below the equivalent U.K. rate.

Over time, as the U.S. cents-per-tune rate has increased, it has gone from being well below the U.K. rate to being well above. For 2006, I estimate that the U.S. statutory rate is equivalent to [redacted] percent of wholesale revenues, which is greater than the U.K. rate of 8.5% of PPD. I do not presently have data concerning the relationship between U.S. PPD and actual wholesale prices. However, by way of illustration, if actual U.S. wholesale prices were 10% less than U.S. PPD, then a U.S. mechanical royalty rate of 6.8% of PPD (i.e., 20% less than the U.K. rate of 8.5% of PPD) would be equivalent to a U.S. mechanical royalty rate of 7.6% of actual wholesale revenues.

c. Current U.K. Mechanical Rates for On-line Products

In the U.K., mechanical royalty rates for online uses are part of a different licensing framework. Recently, the MCPS-PRS Alliance (the combination of U.K. collective licensing organizations that represents publishers and writers in licensing mechanical and performance rights) and most of the U.K. online music retailers reached an agreement for licensing various forms of online music delivery. The agreement is described in the testimony of both Geoffrey Taylor and Richard Boulton. Mr. Boulton has undertaken the analysis and translation necessary to be able to compare the download royalty rate applicable under that agreement to the circumstances of the U.S. marketplace.

Mr. Boulton concludes that the agreement's 8% of retail rate for both mechanical rights and performance rights for downloads is equivalent to a mechanical royalty rate of 7.7% of wholesale revenues in a transaction such as those typical in the U.S. marketplace - where the wholesaler (record company) acquires the mechanical licenses and pays the mechanical royalties. That is, of course, similar to my recommendation of 7.8% of wholesale revenues or less.

D. Rate Recommendation

On the basis of my analyses, as set forth above, I have concluded that a reasonable royalty is 7.8 percent or less of wholesale revenue that is attributable to the distribution of the licensed song. I conclude that such a rate would be a "reasonable" rate as Section 801(b) requires and would advance the objectives set forth in that Section.[160]

[160] My analysis of the Section 801(b) objectives does not vary by any of the products of which I am aware the record companies distribute, including physicals, such as CDs, digital downloads and ringtones. I have seen the Testimony of Cary Sherman with respect to the RIAA rate request for streaming. Here too, I do not expect that my analysis of the relative contributions of record companies and publishers under Section 801(b) would differ. However, to the extent that a rate must weigh the value of any performance right and mechanical right, I have not seen data that would allow me to make a judgment on that issue. In the absence of such data, adopting the rate structure applied in the analogous context of the Section 112(e) does not seem inappropriate.

I declare, under penalty of perjury, that the foregoing testimony is true and correct to the best of my knowledge.

David J. Teece

David J. Teece

Date: 11/30/06

APPENDIX A

Resume of Professor
David J. Teece

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David J. Teece, Chairman, LECG

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Education

PhD (Economics)	University of Pennsylvania, 1975
MA	University of Pennsylvania, 1973
MComm (Honors I)	University of Canterbury, 1971
BA	University of Canterbury, 1970

Present Employment

Professor of Business Administration, Walter A. Haas School of Business, University of California at Berkeley, 1982 - Holder, Mitsubishi Bank Chair in International Business and Finance, 1989 - (partial time appointment)

Director, Center for Research in Management (CRM), University of California, Berkeley, 1983-1994

Director, Institute of Management, Innovation and Organization (IMIO), University of California, Berkeley, 1994-

Previous Positions

Visiting Fellow, St. Catherine's College, Oxford University, and Oxford Institute for Energy Studies, Spring 1989

Associate Professor of Business Economics, Graduate School of Business, Stanford University, 1978-1982; Assistant Professor of Business Economics, Graduate School of Business, Stanford University, 1975-1978

Visiting Associate Professor of Economics, Department of Economics, University of Pennsylvania, 1978-1979

Assistant Lecturer in Economics, University of Canterbury, 1971

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Honorary Doctorates

2000	St. Petersburg State University, Russia
2004	Copenhagen Business School, Denmark
2004	Lappeenranta University of Technology, Finland

Professional Awards, Recognition, And Prizes

1973-1974	Penfield Traveling Fellowship in Diplomacy, International Affairs, and Belles-Lettres
1978	Mellon Foundation Junior Faculty Fellowship
June 1982	Esmee Fairbairn Senior Research Fellow, University of Reading, England
1989	Enterprise Oil Fellowship in Energy Economics, St. Catherine's College, Oxford University
1992	Distinguished Visitor, Policy Studies Group, Tokyo
1995	Elected Fellow, International Academy of Management
1998	Clarendon Lectures in Management Studies, University of Oxford
1999	Andersen Consulting Award for Best Paper in *California Management Review*
2002	Top 50 Living Business Intellectuals (Accenture Institute for Strategic Change)
2003	Viipuri International Prize in Strategic (Technology) Management and Business Economics, Lappeenranta University of Technology, Finland
2003	*Strategic Management Journal* Best Paper Award
2003 -	ISI Highly Cited Researchers, Economics/Business
2005	*Science Watch* Top 10 Author Worldwide in Economics and Business for the decade 1995 – 2005 based on citation counts (Thomson Scientific Essential Science Indicators)
2005	Most cited paper (Dynamic Capabilities and Strategic Management, 1997) in the *Science Watch* index of Scientific Research in Economics and Business, 1995 – 2005 (Thomson Scientific Essential Science Indicators)

External Grants

1971	William Georgetti Fellowship Award
1978-1981	National Science Foundation Grant (Consortium on Competitions)

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1984-1987	National Science Foundation Grant (Consortium on Competitions)
1986-1992	Lynde and Harry Bradley Foundation Grant
1987-1988	Sloan Foundation Grant (Consortium on Competitions)
1987-1988	Japan-U.S. Friendship Commission Grant
1988-1991	Pew Foundation Grant
1989-1991	Smith Richardson Foundation Grant
1989-1992	Sasakawa Peace Foundation Grant
1990-1995	Sloan Foundation Grant (Consortium on Competitions)
1992-	U.S.-Japan Industry Technology Management Training Program Grant, U.S. Department of Defense/Air Force Office of Scientific Research (DOD/AFOSR)
1994-	Ameritech Foundation Grant - Consortium for Research on Telecommunications Policy
1994-	United States Information Agency Grant
1994-	Eurasia Foundation Grant
2001	CommerceNet Next Generation Internet Applications Center Grant
2004	Sloan Foundation Grant (Impact of Outsourcing on R&D) (with Henry Chesbrough)

Professional Affiliations

Prior

Editorial Board, *California Management Review*

Editorial Board, *Strategic Management Journal*

Editorial Board, *Human Relations*

Co-founder, Management of Technology Program, University of California at Berkeley

Founder, Consortium on Competitiveness and Cooperation

Co-director, Nomura School of Advanced Management, Nomura-Berkeley Strategic Management of Innovation Program

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Present

Co-editor and co-founder, *Industrial and Corporate Change* (Oxford University Press), 1999-

Co-editor and co-founder, *Russian Management Journal*, 2003-

Editorial Board, *Long Range Planning* (Sage Publications), 2000-

Editorial Board, *International Journal of Strategic Change Management* (Inderscience Publishers), 2006-

Member, American Economic Association, 1975-

Associate Member, American Bar Association

Member, Licensing Executives Society

Member, Council on Foreign Relations

Member, Pacific Council on International Policy

Member, International Joseph A. Schumpeter Society

Member, The Benjamin Franklin Society

Advisory Board, Endeavor - i-cap partners limited

Advisory Board, United States – New Zealand Council

Co-founder and Board Member – KEA, 2001-

Fellow, International Academy of Management

Member, Board of Trustees, Eaglebrook School, Deerfield, Massachusetts, 2005 -

Member, Board of Trustees, Bentley School, Oakland, California, 2005 –

Member, Board of Advisors, The Independent Institute Center on Global Prosperity, Oakland, CA, 2005 –

Business and Not-For-Profit Affiliations

Chairman, Board of Directors, Law and Economics Consulting Group, Inc., 1988-1998

Chairman, Board of Advisors, Law and Economics Consulting Group, Inc., 1998-2000

Chairman, Board of Directors, LECG LLC, 2000-2003

Chairman, Board of Directors, LECG Corporation, 2003-

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Member, Board of Directors, The Atlas Funds, 1989-

Member, Board of Trustees, Atlas Insurance Trust, 1997-

Member, Board of Directors, IQUANTIC Inc., 2000-2001

Chairman, Board of Directors, i-cap partners, 2000-2003

Chairman, Board of Directors, Canterbury International, 2001-2002

Member, Board of Directors, Canterbury International, 2002-

Chairman, Board of Directors, Optimal Markets, 2003 –

Vice Chairman, Board of Directors, New Zealand Australia Private Equity Fund, 2004-

Publications

Articles

(1) "The Determination of Residential Land Prices in Some South New Zealand Cities" (with R. E. Falvey), New Zealand Economic Papers, 1972.

(2) "Time-Cost Tradeoffs: Elasticity Estimates and Determinants for International Technology Transfer Projects," Management Science, 23:8 (April 1977), 830-837. Reprinted in Strategy, Technology and Public Policy: The Selected Papers of David J. Teece, Volume II (Cheltenham, UK and Northampton, MA: Edward Elgar, 1998).

(3) "Technology Transfer by Multinational Firms: The Resource Cost of Transferring Technological Know-how," The Economic Journal, 87 (June 1977), 242-261. Reprinted in E. Mansfield and E. Mansfield (eds.), The Economics of Technical Change (London: Edward Elgar, 1993). Reprinted in M. Casson (ed.), Multinational Corporations, The International Library of Critical Writings in Economics 1 (England: Edward Elgar Publishing, 1990), 185-204. Reprinted in Strategy, Technology and Public Policy: The Selected Papers of David J. Teece, Volume II (Cheltenham, UK and Northampton, MA: Edward Elgar, 1998). Reprinted in John Cantwell (ed.), Foreign Direct Investment and Technological Change (Cheltenham: Edward Elgar, 1999), Volume 1. Reprinted in Sanjaya Lall (ed.), The Economics of Technology Transfer (Cheltenham: Edward Elgar, 2001). Reprinted in Essays in Technology Management and Policy: Selected Papers of David J. Teece (World Scientific, 2003).

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APPENDIX B
Discussion of Materials Considered in Preparing This Report

I have long been aware of the academic literature on creative industries, and I have reviewed published articles and several books that address the recording industry and other creative industries in preparing this report.[1] In the context of preparing this report, I interviewed senior A&R and business executives from three of the major record companies, and I also have reviewed the public statements made by recording industry executives.[2] I have reviewed financial data from the record companies. I have read the testimony of company witnesses and of other experts. In addition, I have reviewed research reports compiled for the record companies and for the RIAA by third parties. My staff has analyzed industry data collected by market research companies, and also data from the RIAA which was collected by PriceWaterhouseCoopers ("PwC") on unit sales, wholesale revenues, and retail spending measured at suggested retail list prices for the various physical and digital delivery formats (e.g., CDs and downloads).

The purpose of my interviews of recording industry executives and my review of published materials on the recording industry has been to gain a more complete understanding of the industry in terms of its operations, the impact of piracy on its unit sales and revenues, its responses to this piracy, its economic and financial condition, its initiatives to cut costs and

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[1] I will cite the published statements, articles, and books where relevant. However, I have found two books helpful in providing an understanding of creative enterprises, in general, and of the recording industry, in particular. These books are, respectively: (1) Richard E. Caves, *Creative Industries: Contracts Between Art and Commerce*, Harvard University Press; 2002 (hereinafter "Caves"); and (2) Geoffrey P. Hull, *The Recording Industry*, 2nd Edition, Routledge, London, 2004 (hereinafter "Hull").

[2] These public statements have been made primarily by executives from EMI and the Warner Music Group. These two publicly-traded companies are largely or exclusively engaged in the music business as both record companies and music publishers.

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enhance revenues, and the roles of the record companies and of the music publishers in the creation of musical recordings.

I am continuing to review information as it becomes available to me and will supplement my report as appropriate pursuant to the Copyright Royalty Board's rules.

APPENDIX C
Methodology Used to Estimate the Music Publishers' Royalty Revenues for 2002 Through 2005

The National Music Publishers Association's ("NMPA's") *International Survey of Music Publishing Revenue* was an annual publication which reported performance-based royalty income (radio, TV/cable/satellite, and live and recorded performances), reproduction-based royalty income (mechanical, synchronization, and private copy), and distribution-based royalty income (sale of printed music). There is also interest/investment and miscellaneous income which are not included in the analysis in the testimony. Income is reported for the United States and other countries by type of income. The NMPA report was published annually from 1993 through 2002. The 2002 edition contained data for 2001.

Unfortunately, the NMPA ceased publishing its survey in 2002, and I am not aware of any comparable publicly-available source of information. Consequently, I have had to estimate publisher revenue for the 2002-2005 period using other data sources, most notably information from the major performing rights organizations and industry trade sources, using the methodology described below.

I believe that my estimates are reasonable and reliable. Should the NMPA provide additional information during the course of these proceedings, I expect to review that information and, if appropriate, revisit my analyses and conclusions.

Steps in estimating music publishers' royalty income for 2002 through 2005:

(1) Estimate mechanical royalties: The average ratio of mechanical royalties as reported by NMPA to the mechanical royalties as reported by the Major Labels (NERA) is calculated for 1991 through 2001. This ratio shows no trend over 1991-2001. The average ratio of 122.4% is

multiplied by the 2002-2005 Major Label mechanical royalties to estimate NMPA mechanical royalties.

(2) Estimate performance and non-mechanical reproduction income

This income is collected by performing rights organizations. There are three major performing rights organizations: ASCAP, BMI, and SESAC. ASCAP's Performance Royalties Press Releases report non-mechanical revenue for 2002 through 2005. BMI Performance Royalties Press Releases report revenue for 2001/2002 through 2005/2006 for July 1 through June 30 fiscal years. SESAC does not report revenues. ASCAP's 2001 revenue is estimated by applying the ratio of ASCAP to BMI revenue in 2002 of 100.8% to the 2001 BMI revenue to produce a 2001 estimate of ASCAP revenue. The ratio of ASCAP to BMI revenue has been falling since 2002, so using the 2002 ratio is appropriate.

The ratio of NMPA performance and non-mechanical reproduction income excluding distribution, interest, and miscellaneous income to ASCAP and BMI revenue for 2001 is calculated. 2001 is the only year where there is both NMPA income and ASCAP and BMI revenue. The 2001 ratio is 88.2%. The 88.2% ratio is applied to combined ASCAP and BMI revenue for 2002 through 2005 to estimate NMPA non-mechanical revenues for 2002 through 2005.

(3) Estimate income from sale of printed music

The Music Trades magazine (http://www.musictrades.com/index.html) estimates retail shipments of printed music from wholesale shipments plus an average margin. The April 2006 edition of *The Music Trades* reports retail sales of printed music from 1999 through 2005. NAMM (International Music Products Association, formerly National Association of Music Merchants), *2005 Music USA* (http://namm.com/musicusa/) reports the same retail shipments of

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printed music back to 1993. The ratio of NMPA printed music income to *The Music Trades*/NAMM retail shipments has been rising over time from 27-28% in the 1990s to almost 70% in 2001, the last year for which there is NMPA data. The 2001 ratio of 69.9% is applied to the retail shipments of printed music to estimate NMPA printed music income for 2002 through 2005.

(4) Estimate music publishers' total royalty income

Music publishers' total royalty income is the sum of mechanical, performance and non-mechanical reproduction income, and distribution income. Music publishers' interest/investment and miscellaneous income are not included in this total. Music publishers' total royalty income for 1993 through 2001 is as reported by the NMPA. Music publishers' total royalty income after 2001 is estimated as described above.

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PUBLIC

APPENDIX D

Comparison of Wholesale Revenue to Retail Spending At List Prices

While suggested retail list prices are only a proxy for actual retail prices, I have determined that the suggested retail list prices quite accurately depict the movement in market prices over time. PricewaterhouseCoopers ("PwC") collects actual wholesale price data from the major record companies. These wholesale price data have been collected by PwC for the RIAA since 1987. Exhibit D.1 compares the movements in the actual wholesale prices of albums to the movements in the suggested retail prices of albums for 1987 through 2005, where both price series are indexed to equal 100 in 1987. While there are some relatively small divergences, the two price series obviously exhibit very similar movements over time (i.e., the movements in retail list prices as collected by PwC provide an accurate indication of the movements in the actual wholesale prices received by the recording industry over time).

Exhibit D.1
Comparison of the Movements in Actual Wholesale Prices and Suggested Retail List Prices for Physical Albums
(Index 1987=100)

[redacted]

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In Exhibit D.2, I compare the movements in the recording industry's actual wholesale revenues for physical albums to the movements in spending at suggested retail list prices for physical albums and to the movements in nominal personal consumption expenditures for the 1988 through 2005 period when all three measures are indexed to equal 100 in 1998 (i.e., the period following the 1997 royalty rate settlement). Both the actual wholesale revenues and spending at suggested retail list prices for physical albums are substantially below their 1998 levels by 2005 ([redacted] percent lower than in 1998 for actual wholesale revenues and 17.9 percent lower than in 1998 for spending at suggested retail list prices). Conversely, nominal personal consumption expenditures in 2005 are 48.7 percent above 1998 levels.

Exhibit D.2
Wholesale Revenue and Spending at Retail List
for Physical Albums and Nominal Personal Consumption Expenditures
(Index 1998=100)

[redacted]

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In Exhibit D.3, I show the ratio of the recording industry's actual wholesale revenues from the sale of physical albums to its spending at suggested retail list prices from the sale of physical albums for the 1998 through 2005 period. In 1998, actual wholesale revenues were [redacted] percent of spending at suggested retail list prices. This percentage declines steadily from 1998 through 2005, which indicates that actual wholesale prices declined relative to suggested retail list prices during this period. By 2005, the ratio of actual wholesale revenues to revenues at suggested retail list prices has fallen to 57.4 percent.

Exhibit D.3
Comparison of Acutal Retail Prices to Suggested Retail Prices for Physical Albums: 1998-2005

[redacted]

NPD began conducting a survey that collected actual retail price data beginning in 2002 continuing through 2005. These actual retail prices have been consistently less than the average annual suggested retail price data collected by PwC for the RIAA as shown in Exhibit D.4. In 2002, the actual retail prices were 92.2 percent of suggested retail list prices. Actual retail prices

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have trended downward relative to suggested retail list prices since 2002. In 2005, actual retail prices were 89.3 percent of suggested retail list prices. The greater retail market share of the large-box stores appears to have exerted a downward pressure on actual retail prices.

Exhibit D.4
Average Actual Retail Price As A Percentage of Average Suggested List Price: 2002-2005

[redacted]

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Appendix E

Determination of the Median Number of Tunes for the Billboard Top 200 Albums in 2005

The median number of tracks on an album in 2005 was determined using data from Billboard and All Music Guide.

The Billboard list of Top 200 Albums for 2005 was obtained on-line (see http://www.billboard.biz/bb/biz/yearendcharts/2005/tlptitl.jsp). For each top 200 album, the number of tracks and the time of each track were obtained from the All Music Guide (www.allmusic.com). A search on the album name provided a list of tracks and track times for that album.

Double albums were eliminated from the list. Double albums were identified by a running time of 4,800 seconds (80 minutes) or more. Albums which did not have allmusic.com data were eliminated from the list.

The median number of tracks was determined from the number of tracks on the albums which were not double albums and had allmusic.com data. In 2005, 187 of the top 200 albums (93.5 percent of the top 200) were not double albums and had allmusic.com data. The median number of tracks on these albums was 13. The table below shows the Billboard Top 200 Albums and the number of tracks and run time for each. The notes column explains why particular albums were eliminated from the calculation.

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Billboard Top 200 Albums for 2005					
Rank	**Title**	**Artist**	**Number of Tracks**	**Run Time (secs)**	**Notes**
1	THE MASSACRE	50 Cent	22	4642	
2	ENCORE	Eminem			Album length >= 4800.
3	AMERICAN IDIOT	Green Day	13	3582	
4	THE EMANCIPATION OF MIMI	Mariah Carey	14	3000	
5	BREAKAWAY	Kelly Clarkson	12	2682	
6	LOVE. ANGEL. MUSIC. BABY.	Gwen Stefani	12	2898	
7	DESTINY FULFILLED	Destiny's Child	11	3022	
8	HOW TO DISMANTLE AN ATOMIC BOMB	U2	11	2943	
9	GREATEST HITS	Shania Twain	21	4628	
10	FEELS LIKE TODAY	Rascal Flatts	11	2903	
11	CONFESSIONS	Usher	17	3630	
12	GREATEST HITS 2	Toby Keith	14	3041	
13	NOW 17	Various Artists	20	4533	
14	X&Y	Coldplay	13	3750	
15	CRUNK JUICE	Lil Jon & The East Side Boyz	20	4494	
16	THE DOCUMENTARY	The Game	18	4197	
17	HOT FUSS	The Killers	11	2733	
18	MONKEY BUSINESS	The Black Eyed Peas	15	3963	
19	GOODIES	Ciara	13	3010	
20	GENIUS LOVES COMPANY	Ray Charles	12	3243	
21	LATE REGISTRATION	Kanye West	21	4225	
22	THE RED LIGHT DISTRICT	Ludacris	16	3922	
23	HERE FOR THE PARTY	Gretchen Wilson	10	2256	
24	NOW 19	Various Artists	20	4541	
25	LIVE LIKE YOU WERE DYING	Tim McGraw	16	3881	
26	MTV ULTIMATE MASH-UPS PRESENTS: COLLISION COURSE	Jay-Z/Linkin Park	6	1427	
27	FREE YOURSELF	Fantasia	13	3060	
28	R&G (RHYTHM & GANGSTA): THE MASTERPIECE	Snoop Dogg	20	4661	
29	IN BETWEEN DREAMS	Jack Johnson	14	2452	
30	BE HERE	Keith Urban	13	3337	
31	50 NUMBER ONES	George Strait			Album length >= 4800.
32	MEZMERIZE	System Of A Down	11	2166	
33	SUIT	Nelly	11	2923	
34	GET LIFTED	John Legend	14	3148	
35	NOW 18	Various Artists	20	4333	
36	STAND UP	Dave Matthews Band	14	3536	
37	HONKYTONK UNIVERSITY	Toby Keith	12	2482	
38	SONGS ABOUT JANE	Maroon5	12	2756	
39	URBAN LEGEND	T.I.	17	4295	
40	WHO IS MIKE JONES?	Mike Jones	15	3250	
41	DEMON DAYS	Gorillaz	15	3043	

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Billboard Top 200 Albums for 2005					
Rank	**Title**	**Artist**	**Number of Tracks**	**Run Time (secs)**	**Notes**
42	HORSE OF A DIFFERENT COLOR	Big & Rich	13	3406	
43	RAY (SOUNDTRACK)	Ray Charles	17	3267	
44	SEVENTEEN DAYS	3 Doors Down	12	2651	
45	TURNING POINT	Mario	13	3118	
46	...SOMETHING TO BE	Rob Thomas	12	3004	
47	GREATEST HITS (Guns N' Roses)	Guns N' Roses	14	4750	
48	STILL NOT GETTING ANY...	Simple Plan	11	2278	
49	TP.3 RELOADED	R. Kelly	19	4521	
50	TWICE THE SPEED OF LIFE	Sugarland	11	2500	
51	LOYAL TO THE GAME	2Pac	17	3896	
52	MERRY CHRISTMAS WITH LOVE	Clay Aiken	12	2338	
53	FROM UNDER THE CORK TREE	Fall Out Boy	13	2573	
54	IN YOUR HONOR	Foo Fighters			Album length >= 4800.
55	LET'S GET IT: THUG MOTIVATION 101	Young Jeezy	19	4609	
56	BE AS YOU ARE: SONGS FROM AN OLD BLUE CHAIR	Kenny Chesney	13	3307	
57	WHEN THE SUN GOES DOWN	Kenny Chesney	11	2713	
58	THREE CHEERS FOR SWEET REVENGE	My Chemical Romance	13	2376	
59	BEAUTIFUL SOUL	Jesse McCartney	13	2945	
60	FIREFLIES	Faith Hill	14	3421	
61	IT'S TIME	Michael Buble	13	2950	
62	SPEAK	Lindsay Lohan	11	2436	
63	ALL THE RIGHT REASONS	Nickelback	11	2493	
64	IL DIVO	Il Divo	13	3232	
65	HILARY DUFF	Hilary Duff	17	3682	
66	TROUBLE	Akon	13	2997	
67	STARDUST... THE GREAT AMERICAN SONGBOOK VOL. III	Rod Stewart	14	3014	
68	UNDER MY SKIN	Avril Lavigne	12	2450	
69	OUT OF EXILE	Audioslave	12	3218	
70	GREATEST HITS (Creed)	Creed	13	3772	
71	MAKE BELIEVE	Weezer	12	2860	
72	THE PHANTOM OF THE OPERA	Soundtrack	14	3808	
73	MIND BODY & SOUL	Joss Stone	15	4312	
74	GREATEST HITS: MY PREROGATIVE	Britney Spears	17	3612	
75	U.S.A.: UNITED STATE OF ATLANTA	Ying Yang Twins	23	4607	
76	CONCRETE ROSE	Ashanti	17	3288	
77	GETTING AWAY WITH MURDER	Papa Roach	12	2432	
78	CLOSER	Josh Groban	13	3544	
79	CROSSFADE	Crossfade	10	2059	
80	WITH TEETH	Nine Inch Nails	13	3359	
81	THE ONE	Frankie J	14	3289	
82	BARRIO FINO	Daddy Yankee	21	3984	
83	HEAVIER THINGS	John Mayer	10	2777	
84	THE DIARY OF ALICIA KEYS	Alicia Keys	15	3465	
85	LOS LONELY BOYS	Los Lonely Boys	12	3319	
86	MOST WANTED	Hilary Duff	13	3090	

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Billboard Top 200 Albums for 2005					
Rank	**Title**	**Artist**	**Number of Tracks**	**Run Time (secs)**	**Notes**
87	FIJACION ORAL VOL. 1	Shakira	12	2610	
88	GUERO	Beck	13	2990	
89	GARDEN STATE	Soundtrack	13	3175	
90	BE	Common	11	2553	
91	LYFE 268-192	Lyfe Jennings	15	3399	
92	AUTOBIOGRAPHY	Ashlee Simpson	12	2634	
93	WANTED	Bow Wow	11	2830	
94	THE BEAUTIFUL LETDOWN	Switchfoot	11	2660	
95	REBIRTH	Jennifer Lopez	12	2893	
96	O	Omarion	13	3342	
97	STREET'S DISCIPLE	Nas			Album length >= 4800.
98	NEVER GONE	Backstreet Boys	12	3012	
99	LIFEHOUSE	Lifehouse	12	3018	
100	MUD ON THE TIRES	Brad Paisley	17	3792	
101	TOTALLY COUNTRY VOL. 4	Various Artists	17	4067	
102	SOMEWHERE DOWN IN TEXAS	George Strait	11	2384	
103	LOST AND FOUND (Will Smith)	Will Smith	15	3359	
104	BLUESTARS	Pretty Ricky	14	3570	
105	ANDREA	Andrea Bocelli	13	3302	
106	LONELY RUNS BOTH WAYS	Alison Krauss + Union Station	15	2858	
107	NUMBER ONES	Bee Gees	19	4371	
108	NOW 20	Various Artists	20	4592	
109	DISTURBING THA PEACE PRESENTS BOBBY VALENTINO	Bobby Valentino	17	3782	
110	GET BEHIND ME SATAN	The White Stripes	13	2647	
111	CONTRABAND	Velvet Revolver	13	3559	
112	ALBUM II	Kem	11	3044	
113	TEN THOUSAND FISTS	Disturbed	14	3382	
114	CHRISTMAS CELEBRATION	Mannheim Steamroller	18	3896	
115	ELEPHUNK	The Black Eyed Peas	13	3569	
116	ALL JACKED UP	Gretchen Wilson	12	2510	
117	THE CHRONICLES OF LIFE AND DEATH	Good Charlotte	15	3604	
118	THUG MATRIMONY: MARRIED TO THE STREETS	Trick Daddy	17	3852	
119	WE ARE NOT ALONE	Breaking Benjamin	11	2519	
120	THE COOKBOOK	Missy Elliott	16	3944	
121	GREATEST HITS VOL. I	Korn	19	4553	
122	CHAPTER V	Staind	12	3035	
123	WOW HITS 2005	Various Artists			Album length >= 4800 secs.
124	THE RIGHT TO BARE ARMS	Larry The Cable Guy	17	3370	
125	POWERBALLIN'	Chingy	19	4261	
126	FEELS LIKE HOME	Norah Jones	13	2786	
127	DEVILS & DUST	Bruce Springsteen	12	3046	

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Billboard Top 200 Albums for 2005					
Rank	Title	Artist	Number of Tracks	Run Time (secs)	Notes
128	REJOYCE: THE CHRISTMAS ALBUM	Jessica Simpson	11	2333	
129	LOST AND FOUND	Mudvayne	12	3203	
130	TIME WELL WASTED	Brad Paisley	21	3941	
131	HOPES AND FEARS	Keane	11	2701	
132	JOJO	JoJo	14	3128	
133	ALL THE BEST	Tina Turner			Album length >= 4800 secs.
134	THIS WOMAN	LeAnn Rimes	12	2642	
135	HAVE A NICE DAY	Bon Jovi	13	3225	
136	GRAMMY NOMINEES 2005	Various Artists	21	4781	
137	CHARIOT - STRIPPED	Gavin DeGraw			Album length >= 4800 secs.
138	THE ROAD AND THE RADIO	Kenny Chesney	11	2789	
139	THE WAY IT IS	Keyshia Cole	12	2931	
140	SWEAT	Nelly	13	3473	
141	THE SILENCE IN BLACK AND WHITE	Hawthorne Heights	11	2575	
142	KARMA AND EFFECT	Seether	14	3649	
143	BLAKE SHELTON'S BARN & GRILL	Blake Shelton	11	2175	
144	MOVE ALONG	The All-American Rejects	12	2409	
145	LIVE AT THE GREEK	Josh Groban	8	2376	
146	MODERN DAY DRIFTER	Dierks Bentley	11	2717	
147	THE PEOPLES CHAMP	Paul Wall	18	4747	
148	WRECK OF THE DAY	Anna Nalick	11	2504	
149	WILDFLOWER	Sheryl Crow	11	2801	
150	R.U.L.E.	Ja Rule	18	4290	
151	MIRACLE	Celine Dion	13	3144	
152	THOUGHTS OF A PREDICATE FELON	Tony Yayo	17	3641	
153	TAKE IT ALL AWAY	Ryan Cabrera	12	2760	
154	THE GREATEST HITS COLLECTION II	Brooks & Dunn	17	3784	
155	PLEASURE & PAIN	112	17	3743	
156	THE LOST CHRISTMAS EVE	Trans-Siberian Orchestra	23	4470	
157	SONGS ABOUT ME	Trace Adkins	11	2443	
158	THE FIRST LADY	Faith Evans	13	3127	
159	MMHMM	Relient K	14	3173	
160	REARVIEWMIRROR: GREATEST HITS 1991-2003	Pearl Jam			Album length >= 4800 secs.
161	NOW 16	Various Artists	20	4372	
162	KIDZ BOP 7	Kidz Bop Kids	18	4013	
163	UNPLUGGED	Alicia Keys	16	4493	
164	MARTINA	Martina McBride	12	2726	
165	PURPLE HAZE	Cam'Ron	24	4667	
166	WHEN I FALL IN LOVE	Chris Botti	13	3521	
167	THANKS FOR THE MEMORY... THE GREAT AMERICAN SONGBOOK VOL. IV	Rod Stewart	13	2585	
168	TIMELESS	Martina McBride	18	3272	
169	YOU DO YOUR THING	Montgomery Gentry	12	2889	

Billboard Top 200 Albums for 2005					
Rank	Title	Artist	Number of Tracks	Run Time (secs)	Notes
170	PCD	The Pussycat Dolls	12	2656	
171	I AM ME	Ashlee Simpson	11	2385	
172	I NEED AN ANGEL	Ruben Studdard	12	3086	
173	FRANCES THE MUTE	The Mars Volta	12	4609	
174	THE BEST OF THE ROLLING STONES: JUMP BACK '71-'93	The Rolling Stones	18	4459	
175	AT LAST... THE DUETS ALBUM	Kenny G	13	3285	
176	THE COLLEGE DROPOUT	Kanye West	21	4573	
177	RETALIATION	Dane Cook			Album length >= 4800 secs.
178	RED, WHITE & CRUE	Motley Crue			Album length >= 4800 secs.
179	CASTING CROWNS	Casting Crowns	10	2615	
180	WITH THE LIGHTS OUT	Nirvana			Album length >= 4800 secs.
181	STOP ALL THE WORLD NOW	Howie Day	11	3151	
182	MOST KNOWN UNKNOWN	Three 6 Mafia	21	4390	
183	DISNEYMANIA 3: MUSIC STARS SING DISNEY ...THEIR WAY!	Various Artists	15	3061	
184	GOOD NEWS FOR PEOPLE WHO LOVE BAD NEWS	Modest Mouse	16	2922	
185	A HANGOVER YOU DON'T DESERVE	Bowling For Soup	44	4357	
186	GREATEST HITS (Neil Young)	Neil Young			Album length >= 4800 secs.
187	THE DANA OWENS ALBUM	Queen Latifah	12	2747	
188	A BIGGER BANG	The Rolling Stones	16	3851	
189	THE B. COMING	Beanie Sigel	15	4095	
190	ALREADY PLATINUM	Slim Thug	16	3745	
191	VOL. 3: (THE SUBLIMINAL VERSES)	Slipknot	14	3760	
192	TOUCH	Amerie	13	2984	
193	THE VERY BEST OF THE BEACH BOYS: SOUNDS OF SUMMER	The Beach Boys	30	4541	
194	THE LONGEST YARD	Soundtrack	13	3181	
195	DANGEROUSLY IN LOVE	Beyonce	15	3684	
196	GREATEST HITS	The Offspring	15	3188	
197	ROCK OF AGES: THE DEFINITIVE COLLECTION	Def Leppard			Album length >= 4800 secs.
198	DELICIOUS SURPRISE	Jo Dee Messina	12	2638	
199	METEORA	Linkin Park	13	2203	
200	FUTURES	Jimmy Eat World	11	3120	

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Appendix F

Comparison of Industry and Major Label Wholesale Revenue Data

Linda McLaughlin of NERA collected net sales revenue data for the major labels. Net sales revenue is record label income from U.S. sales, including digital sales, after accounting for returns.[163] PricewaterhouseCoopers (PwC), for RIAA, collects similar revenue data, but for the entire recording industry. RIAA/PwC's revenue data is wholesale revenue for the entire recording industry including direct sales and sales through record clubs and after accounting for returns.[164] Exhibit F.1 compares the major label revenue, as collected by NERA, to the industry wholesale revenue from RIAA/PwC. The shaded area in the Exhibit shows the major labels' revenue as a percentage of industry revenue. The major labels' share of industry wholesale revenues has been increasing since 2001.

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[163] See Testimony of Linda McLaughlin, p. 19.
[164] See RIAA, *Net Shipments Worksheets* for Year Ending December 31, 2005 for an example.

Exhibit F.1
Major Labels Net Domestic Sales Revenue and
Industry Wholesale Revenue: 1991-2005

[redacted]

Exhibits Sponsored by David Teece (Public)

Exhibit Number	Description
O-101-DP	David J. Teece, "Profiting from technological innovation: Implications for integration, collaboration, licensing, and public policy" *Research Policy,* 15, (1986).
O-102-DP	David J. Teece, Gary Pisano, and Amy Shuen, "Dynamic Capabilities and Strategic Management," *Strategic Management Journal*, Vol. 18, No. 7 (1997).
O-103-DP	Joeri M. Mol, Nachoem M. Wijnberg and Charles Carroll, "Value Chain Envy: Explaining New Entry and Vertical Integration in Popular Music" Journal of Management Studies, Vol. 42, No. 2 (March 2005).
O-104-DP	David J. Teece "Reflections on 'Profiting From Innovation'" *Research Policy,* forthcoming, December 2006.
O-105-DP	NPD Music, "Year in Review", April 4, 2005.
O-106-DP	Giel of RIAA. RIAA, Press Release, "Recording Industry Releases 1996 Anti-Piracy Report", March 12, 1997, available at http://www.riaa.com/newsletter/press1997/031297.asp.
O-107-DP	Harry Fox.com and Testimony of Irwin Z. Robinson, President NPMA, before the Senate Judiciary Committee Subcommittee on Intellectual Property, July 12, 2005.
O-108-DP	RIAA, Press Release, "Recording Industry Sues Napster for Copyright Infringement," December 7, 1999. http://www.riaa.com/news/newsletter/press1999/120799.asp.
O-109-DP	IFPI, "Music Piracy Report 2000," June 2000, http://www.ifpi.org/content/library/Piracy200.pdf.

Exhibit Number	Description
O-110-DP	Ed Christman, "New Life for CDs?," Billboard, April 1, 2006.
O-111-DP	NPD Group, "NARM Consumer Research Institute Phase One: Consumer Profiles & Return Experience," March 2006.
O-112-DP	IFPI, "The Recording Industry 2006 Piracy Report." http://www.ifpi.org/content/library/piracy-report2006.pdf.
O-113-DP	Stan J. Liebowitz, "File Sharing: Creative Destruction or Just Plain Destruction?", *Journal of Law and Economics*, Vol. XLIX, April 2006.
O-114-DP	Rafael Rob and Joel Waldfogel, "Piracy on the High C's: Music Downloading, Sales Displacement and Social Welfare in a Sample of College Students," *Journal of Law and Economics*, Vol. XLIX, April 2006.
O-115-DP	Credit Suisse, "Global Music Industry. 'Just the Two of Us', June 19, 2006.
O-116-DP	Eric Nicoli, Chairman, EMI Group, Presentation at the London Business School, undated document, presented February, 2006.
O-117-DP	Warner Music Group, Earnings Conference Call, Second fiscal quarter ending March 31, 2005, FD (Fair Disclosure) Wire, June 13, 2005.
O-118-DP	EMI Group, Press Release, "EMI Announces Steps to Further Strengthen Its Business", March 31, 2004.
O-119-DP	Warner Music Group, Presentation at USB 33rd Annual Media Conference, FD (Fair Disclosure) Wire, December 5, 2005.
O-120-DP	Warner Music Group, Presentation at Credit Suisse First Boston Media Week, FD (Fair Disclosure) Wire, December 6, 2005.
O-121-DP	Universal Music Group, Press Release, "Universal Music Group to Sell CD/DVD Manufacturers and Physical Distribution Facilities to Glenayre Technologies," May 9, 2005.

Exhibit Number	Description
O-122-DP	Cinram, Press Release, "Cinram to Acquire DVD and CD Manufactures, Physical Distribution and Related Businesses from AOL Time Warner", July 18, 2003.
O-123-DP	Steven S. Wildman, *An Economic Analysis of Recording Contracts* (July 22, 2002). .
O-124-DP	RIAA Press Release, "Kazaa Settles with Recording Industry and Goes Legitimate," July 27, 2006, available at http://www.riaa.com/news/newsletter/072706.asp.
O-125-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," September 2005.
O-126-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," October2005.
O-127-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," November 2005.
O-128-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," January 2006.
O-129-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," February 2006.
O-130-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," March 2006.
O-131-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," April 2006.
O-132-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," May 2006.
O-133-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," June 2006.
O-134-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," July 2006.
O-135-DP	RIAA "Nationwide Anti-Piracy Enforcement Bulletin," September 2006.
O-136-DP	RIAA, Press Release, "RIAA's Annual Commercial Piracy Report Shows

Exhibit Number	Description
	Trafficking in Pirated Music Increasingly Sophisticated, Closer Ties to Criminal Syndicates," July 13, 2005. http://www.riaa.com/News/newsletter/071305.asp.
O-137-DP	EMI Group, PLC, Annual Reports, for the fiscal years ending March 31, 2006.
O-138-DP	EMI Group, PLC, Annual Reports, for the fiscal years ending March 31, 2005.
O-139-DP	EMI Group, PLC, Annual Reports, for the fiscal years ending March 31, 2004.
O-140-DP	EMI Group, PLC, Annual Reports, for the fiscal years ending March 31, 2003.
O-141-DP	EMI Group, PLC, Annual Reports, for the fiscal years ending March 31, 2002.
O-142-DP	Jennifer Ordonez, "Courting the Aging Rocker - Independent Labels Offer Acts Creative Freedom, Hope Fans Will Bring in Steady Profits," Wall Street Journal, April 23, 2002.
O-143-DP	Ashling O'Connor, "Record Labels Shed Big Name Sales Risks," Financial Times (FT.COM), December 24, 2001.
O-144-DP	EMI Group, Presentation by Duncan Bratchell, SVP Tax & Treasury at the JPMorgan High Yield Conference, February 5, 2006.
O-145-DP	Warner Music Group, 2005 Annual Report.
O-146-DP	David Kusek and Gerd Leonhard, *The Future of Music* (2005).
O-147-DP	Geoffrey P. Hull, The Recording Industry, 2nd ed., Routledge, 2004.

Exhibit Number	Description
O-148-DP	Richard E. Caves, *Creative Industries: Contracts Between Art and Commerce*, Harvard University Press, 2002.
O-149-DP	Tad Lathrop, *This Business of Music Marketing and Promotion* (Rev. and Updated Ed., 2003).
O-150-DP	Neville Johnson, "Music Publishing," in Halloran (ed.), *The Musician's Business and Legal Guide* (3rd Ed., 2001).