

PART B

Ordoover Report

I Introduction

A. Qualifications

1. My name is Janusz A. Ordover. I am Professor of Economics and former Director of the Masters in Economics Program at New York University, where I have taught since 1973. During 1991-92, I served as Deputy Assistant Attorney General for Economics at the Antitrust Division of the United States Department of Justice. As the chief economist for the Antitrust Division, I was responsible for formulating and implementing the economic aspects of antitrust policy and enforcement of the United States, including co-drafting the 1992 U.S. DEPARTMENT OF JUSTICE AND THE FEDERAL TRADE COMMISSION *Horizontal Merger Guidelines*. I also had ultimate responsibility for all of the economic analyses conducted by the Department of Justice in connection with its antitrust investigations and litigation.

2. My areas of specialization include industrial organization, particularly antitrust and regulation economics. I serve on the Board of Editors of *Antitrust Report* and have served as an advisor on antitrust and regulatory issues to many organizations, including the American Bar Association, the World Bank, the Organization for Economic Cooperation and Development, the Inter-American Development Bank, and the governments of Poland, Hungary, Russia, the Czech Republic, Australia, and other countries. I have provided economic testimony in several policy hearings conducted by the Federal Trade Commission and Department of Justice on antitrust and intellectual property issues in high technology industries. I submitted declarations to the Competition Directorate in connection with various merger and other matters, including the GE/Honeywell merger, the AA/BA alliance, and the Carnival Cruise Line acquisition of Princess Cruise Lines. I have consulted on various economic and public policy issues in the entertainment industry, including video-on-demand, digital distribution of music, broadband, as well as on issues relating to the economics of royalties.

B. Assignment

3. I have been asked by counsel for Universal Music International Limited (“Universal”) to assess the competitive effects of certain terms and provisions in the “Standard Contract” between Bureau International des Sociétés Gérant les Droits d'Enregistrement et de Reproduction Mécanique (“BIEM”) and International Federation of the Phonographic Industry (“IFPI”) in light of current

marketplace conditions facing the music industry.¹ I have also been asked to consider whether competition, the overall efficiency of the music industry, and consumer welfare would benefit from certain changes to the existing agreement. Finally, I have been asked to evaluate, from an economic perspective, the arguments put forth by BIEM in its reply report.

4. At the outset, I should highlight an important predicate underlying my assessment of the contractual relationship between composers and record companies as reflected in the Standard Contract. This contract is not a reflection of unimpeded, market-driven negotiations between individual record companies and composers. Rather, for a variety of reasons, the Standard Contract and its terms are the result of bilateral negotiations between the organizations representing *all* composers and record companies. As such, by its very nature, this contract simply cannot reflect all of the considerations that could be (and would be) factored into more individuated contracts. One such consideration, discussed at length in this paper, is the possible imbalance in the risks and expected returns on investment characterizing the respective contributions of composers and record companies to the production and distribution of music recordings. Under a market-driven negotiation regime, the record companies would undertake steps to reduce their risks and to increase their expected returns (*i.e.*, to mitigate or eliminate any asymmetry between the parties), for example by seeking to lower their input costs, including mechanical royalties.

5. The remainder of my report elaborates on this theme and offers some suggestions for modifications to the Standard Contract that would, in my view, better align it with market-based outcomes.²

C. Summary of Conclusions

6. The mechanical rate stipulated in the Standard Contract is the highest in the world. As a result, a composer earns greater compensation per-CD (as a percentage of PPD) in the pertinent BIEM countries relative to all other countries. There is no economic or other reason why this should be so, and notably, BIEM has failed to provide any justification for either the higher rate, or for why a composer should receive greater compensation (as a percentage of PPD) just because a CD containing his composition is sold in one of the relevant BIEM countries as opposed to elsewhere in the world. In my view, BIEM's higher rate, and the resulting effect on composers' compensation

¹ BIEM represents the national societies that collect and distribute mechanical royalties to composers and publishers. IFPI represents the recording companies such as Universal Music, Sony Music, EMI, etc. As will be made clear, my focus here is on the record companies and on composers as composers and also as performers.

² The need to revise the Standard Contract is rendered all the more critical by current developments that are affecting the level and volatility of demand for recorded music. In Appendix 7, I briefly describe the factors contributing to recent declines in CD retail sales, and argue that these developments may disproportionately impact the record companies.

in the pertinent BIEM countries, suggest that the mechanical royalty rate is out of line with other jurisdictions and thus warrants serious economic scrutiny.

7. My assessment of industry economics, and simple economic logic, suggest that a relative imbalance, in composers' favor, may exist with regards to the parties' risk-adjusted expected returns. In light of these circumstances, an adjustment to the level of the current mechanical royalty rate may realign the parties' incentives to invest efficiently under current marketplace conditions.

8. Recording companies likely face greater risk as compared to composers, for the following reasons:

- a) Recording companies make substantial sunk investments in the production and distribution of musical works, especially relative to those undertaken by composers. As a result, record companies' returns on investment are likely to be affected to a disproportionate extent by market forces.
- b) The fact that many composers are also singer/songwriters offers some guaranteed source of demand for their compositions, which cushions the risks associated with composing.
- c) Composers can earn revenue streams from multiple channels - including other artists' performances in various media. Recent evidence suggests these revenues streams have suffered less than mechanical revenues from declining CD sales.
- d) Finally, a theoretical examination of the variances of the parties' incomes suggests that the record companies' risk is large relative to that of composers.

9. Based on calculations using representative industry data, I conclude that composers, on average, likely enjoy considerable "rents," earning returns above those necessary to induce composers to generate the current flow of new compositions. As such, a reduction in the royalty payments flowing to composers need not substantially reduce the supply of new compositions.

10. Certain current terms and provisions of the Standard Contract are inefficient in the sense that their modification would benefit not only record companies but also composers and consumers. As a result, specific changes of the Standard Contract may enhance the incentives for the parties to invest efficiently and to implement strategies that benefit not only the industry but also music consumers:

- a) The terms of the Standard Contract are arrived at via a collective bargaining process, as opposed to a decentralized market-driven arrangement that would better reflect the changing economic realities of the music industry. As I note below, collective bargaining in this setting is not without its justifications. Nevertheless, economic efficiency would be enhanced by moving towards a

more flexible framework (*i.e.*, market-driven). The current mechanical royalty regime partially insulates composers from market forces and thus distorts business decisions and efficient resource allocation. Moreover, the need to inject greater flexibility into the Standard Contract is made all the more urgent by the rapid growth in piracy, increasing consolidation among retailers, and other marketplace developments that weaken demand for musical recordings sold at retail and squeeze the margins earned by record companies. (*See Appendix 7*).

- b) There is no sound economic basis for linking composers' income to "notional" revenues that reflect CD sales evaluated solely at record companies' published price to dealers (PPD). Average realized price per CD is much below PPD and only few retailers purchase CDs at the PPD.³ Therefore, the average actual realized price is a better metric for the industry's economic condition and the value consumers place on recorded music, while the PPD is, at worst, completely unhinged from market conditions or, at best, reflects those conditions with a significant lag. By linking mechanical royalty income to the PPD, the current regime preserves composers' per-CD compensation even as the record companies are forced to respond to changing market conditions with costly measures (*e.g.*, aggressive discounting, increased marketing expenditures).
- c) The "fixed discount allowance" provision of the Standard Contract is substantially below the level of discounts offered by record companies to retailers, and is unresponsive to changes (or responsive only with a long lag) in discounting practices. As such, it weakens record companies' ability and incentives to offer discounts that could stimulate sales and lead to lower prices for consumers.⁴ A more flexible royalty mechanism that either links the discount allowance to the actual discounts extended by the record companies to retailers, or alternatively, applies the standard royalty rate to average actual realized prices, should enhance these incentives and benefit consumers by means of lower prices.⁵
- d) The "minimum royalty provision" of the Standard Contract weakens the ability and incentive of record companies to price CDs at low price points or even to issue budget CDs in the first place. Consumers suffer as a result of prices that are higher than they otherwise might be and a reduction in the diversity of available music. Moreover, inasmuch as budget CDs contain works of lesser-known composers and performers, the provision may reduce the supply of CDs that contain music by these composers and performers.
- e) The "maximum track provision" leads to an inefficient restriction on the number of CDs that have a large number of tracks (*i.e.*, tracks in excess of the trigger-points specified in the maximum track provision). As with the minimum discount provision, lesser-known artists are disproportionately affected, since reductions in the number of songs on compilation CDs are likely to apply to

³ In the remainder of this paper, I will use the term "CDs" as shorthand for musical recordings, since today most all recordings are sold in the CD format.

⁴ This is so for the simple reason that more aggressive discounting undertaken by the record companies to respond to such pressures has no effect on the discount allowance used to determine the mechanical royalty rate.

⁵ Under the current regime, the mechanical royalty rate is fixed at 9.009% of PPD. According to data provided by Universal, the average actual realized price is [] of PPD, *i.e.*, average retailer discounts are []. Thus, composers receive a royalty of close to 10.8% of average actual realized price, which is a much better gauge of the payments to the composers.

works by lesser-known or “fringe” artists. Similarly, consumers also suffer because of a decrease in music output, which takes two forms: compilations that are released with fewer tracks, and compilations that are not released at all.

11. Finally, in its report filed in response to the initial filing from Universal,⁶ BIEM defends the existing Standard Contract and its provisions. As I show below, BIEM’s arguments are not based on sound economics and have weak empirical support.

D. Overview of the Standard Contract

12. Universal and other record companies pay negotiated royalties as a fee for reproduction of music copyrights (*i.e.*, musical compositions and lyrics) on musical recordings. In Continental Europe, these mechanical reproduction rights are collected from Universal and other record companies by the collecting society members of BIEM pursuant to the Standard Contract. Historically, the terms of the Standard Contract are established through collective bargaining between BIEM and IFPI.

13. Under the Standard Contract, the effective royalty rate is calculated as a discount off of the *baseline* (or headline) rate. The current baseline rate is 11% applied to the record companies’ published price to dealers (“PPD”), *i.e.*, the wholesale list price before discounts. This rate was derived from the baseline rate that, at the time of the revision in 1985, was fixed at 8% of the recommended *retail price*.⁷ The 8% retail price-based royalty rate was converted to a wholesale price-based figure of 11% based upon an average European retailer mark-up of 37.5%.⁸ In the most recently expired version of the Standard Contract,⁹ the headline rate is subject to two deductions: (i) a flat rate of 9% (on the base of 11%) representing an allowance for discounts granted by the record companies to retailers, and (ii) a deduction for packaging costs set at a flat rate of 10%. These deductions yield a net rate of 9.009% of PPD, or approximately 10.8% of average actual realized price.

14. Certain provisions in the Standard Contract, when triggered, cause the royalty rate actually paid to increase from the standard rate of 9.009%. First, the Standard Contract establishes a minimum royalty of 67% of the standard royalty on the prices most generally practiced for each

⁶ Reply of BIEM in Case COMP/C2/38.440 Universal v. BIEM, September 6, 2002 (“BIEM Reply”).

⁷ BIEM Reply at par. 56.

⁸ The 37.5% figure was calculated from the results of annual surveys of IFPI national groups. (See Schedule 1 to Universal’s Response at par. 32.)

⁹ The latest version of the agreement between BIEM and IFPI expired at the end of June 2000. Since that time, IFPI members have continued to pay royalties based upon the terms of the expired agreement.

recording format by IFPI members in the relevant country.¹⁰ This requirement has the effect of increasing the royalty above 9.009% on recordings that are sold at less than 67% of their most generally practiced price.¹¹ Second, the Standard Contract sets a rate above the standard royalty for those recordings that exceed a defined maximum number of tracks or playing time.¹² When a CD exceeds the maximum track or playing time threshold, the standard royalty is increased in direct proportion to the percentage by which the number of tracks or playing time exceeds the specified maximum. The practical effect of the minimum royalty and maximum track provisions is to increase the standard rate to 9.2% of PPD.¹³

II Bargaining that Reflects Market Forces Conduces to Economic Efficiency

A. Trade-offs between Market-Based and Collective Bargaining

15 Economic theory does not provide a neat prescription as to the level of royalties that should accrue to composers of recorded music. In a workably competitive market, these royalties would reflect (and respond to) standard market forces such as the demand for new compositions, the “contribution” of the composition to the success of the CD, the responsiveness (elasticity) of supply of new compositions to expected income from composing, the anticipated “longevity” of a composition, and the extent to which composers derive other sources of revenue and non-pecuniary satisfaction from composing. It is clear that mechanical royalties are not set in a manner that reflects the unimpeded operation of market forces. There are several reasons for that, as I shall elaborate below. Instead, the royalties are set either by legislative fiat or, as in the instant setting, by means of bilateral negotiations between the representatives of the recording companies and the representatives of the composers and music publishers. While such a royalty-setting *process* may be the best one can hope for, it does not mean that the actual *outcome* of that process cannot be improved upon.

¹⁰ Stated differently, the minimum royalty provision requires that no less than two-thirds of the royalty on the full price product be paid on the sale of a CD, even if the CD is sold at less than two-thirds of the price most generally practiced by recording companies.

¹¹ The minimum royalty is applied at a reduced level for recordings that are re-released at budget price. Specifically, in the case of CDs which have been re-released not less than one year after the original release and which are priced at 35% or more below the original price, the minimum royalty is set at 57% of the normal minimum royalty (*i.e.*, 67% of the standard royalty).

¹² The track and playing time thresholds are defined for each format, *e.g.*, CD or LP, and sub-format, *e.g.*, CD Single or Normal CD.

¹³ Complaint by Universal Music International Limited to the European Commission Concerning the Licensing of Mechanical Reproduction Rights, May 31, 2002, (“Universal Complaint”) at p. 11

16. Economic analysis can shed light on two aspects of the Standard Contract. First, whether certain general provisions in the contract ought to be modified so as to improve the economic performance of the sector. Second, whether the actual levels of royalties may have to be adjusted in light of the economics of the music industry and the parties' respective activities and contributions. As I shall argue below, the answer to the first point is an unambiguous "Yes." The answer to the second question is more complicated. As I already explained, economic analysis cannot pinpoint the proper level of the royalty.¹⁴ However, my analysis does suggest that the relative values of the pertinent economic variables appear to be against the recording companies. In particular, the aggressive discounts from PPD currently offered by record companies, as well as the risks associated with production and marketing of recordings, suggest that the actual royalty levels may be out of line with industry realities.

17. I want to emphasize that, to me, the relevant inquiry into the features of the Standard Contract is not whether there are alternative royalty arrangements that Universal (or any other recording company) alone would find more attractive. Rather, the relevant inquiry is whether certain changes to the Standard Contract, if implemented, would, on the whole inure to the benefit of music consumers.¹⁵ Such modifications, by changing the economic incentives and resulting behavior of composers and recording companies likely would have the predicted effect of stimulating competition in the provision of sound recordings, enhancing output of CDs and of new compositions, and would thereby inure to the benefit of the consuming public.

18. To understand why such changes may be possible, it is important to begin with the obvious premise: the current institutional arrangement for negotiating mechanical rates deviates in significant respects from the standard competitive mechanism for allocating economic resources. The current bargaining regime entails negotiations between BIEM and IFPI. This arrangement suppresses the market mechanism in favor of a "grand bargaining" solution.¹⁶ This assuredly does.

¹⁴ The familiar approaches designed to gauge whether any particular price is above some "competitive" benchmark cannot be applied here, for the simple reason that the agreed-upon royalty level is not a result of competitive interactions in the marketplace.

¹⁵ In what follows I do not discuss the interests of performing artists. Artists negotiate one-on-one with the record companies and thus reach contract terms that are fully market-driven and that can be finely tailored to reflect the parties' assessments of the individual risks and benefits. Economics suggests that, in principle, the bargains struck in such arms-length negotiations should be (*ex ante*) efficient. Of course, after the fact (*i.e.*, after the contract is signed) either party may be unhappy with the bargain that was struck.

¹⁶ Of course, the bargaining strength of the parties at the table need not be equally balanced. Economic theory teaches that bargaining strength is related to the party's fall back position in the event that the bargain falls apart. From that perspective we note that record companies derive all but a small fraction of their revenues from CD sales, of which compositions (and the underlying mechanical rights) are a necessary input. On the other hand, mechanical revenues collected by BIEM member societies comprise, on average, 24% of composers' income.

not mean that “market” considerations have no bearing on the outcome of the bargain. What it does mean is that these considerations may be poorly reflected in the Contract, may result in contractual provisions that are out of step with market conditions, and may not conduce to overall economic efficiency, especially when market conditions are changing.

19. In a fully market-based system, composers would bargain individually with record companies, leading to variegated contract terms that best reflect the parties’ assessment of the pertinent market conditions. Indeed, in other industries such as book publishing, competition authorities would likely take a dim view of a process whereby all authors negotiated with a given book publisher, or if all book publishers negotiated royalty rates with a potential author. It is necessary, therefore, to identify and examine the shortcomings of the extant royalty regime that relies on a bilateral bargain between “all” composers and “all” record companies, as compared to a more market-driven bargaining mechanism.

20. The key inefficiency of the current royalty-setting regime is that it cannot capture the types of economic considerations that would inform a “one-on-one” bargain. When composers and record companies bargain one-on-one over the appropriate compensation formula, a negotiated royalty rate can be fine-tuned to reflect such relevant variables as the composer’s past accomplishments, incentives to include particular compositions on a given CD, “discounts” based on sales volume, and so on. The Standard Contract, as currently structured, is a rather blunt instrument for allocating revenues in the music sector between composers and record companies. It does not assure proper incentives for composing new music or issuing and marketing new CDs (or even reissuing old CDs and compilation CDs).

21. The Standard Contract, therefore, likely differs in significant respects from the outcome that would emerge from a market-driven bargaining regime. On the other hand, it must be acknowledged that there are potentially serious inefficiencies from an arrangement whereby an individual composer (unlike an individual performing artist) negotiates for a royalty with a single recording company. In fact, the latter arrangement would result in substantial transactions costs that could outweigh the inevitable inefficiencies resulting from a “grand bargain.”

22. In particular, the transactions costs associated with individual negotiations with multiple copyright owners that may be required to produce a single CD are likely to be high.¹⁷ At the same

¹⁷ There is at least one other type of transactions cost that can impede the operation of a market for mechanical reproduction rights: the high costs to an individual copyright owner of enforcing a copyright and monitoring usage for each of his/her many compositions relative to the revenues earned from the license. I believe, however, that the presence of even substantial costs of monitoring sales/usage might not, by itself, be sufficient to justify collective bargaining for royalties.

time, the *ex ante* value of any particular composition on a CD may be sufficiently low, which justifies a relatively less efficient mechanism (such as pre-determined royalty) that implements a licensing arrangement between the composer and record company. Moreover, the value of an individual track (unlike of a book, say) on a multiple-track CD is rather difficult to establish thereby making individual negotiations prone to hold up and also inefficient allocation of risks among various composers.

23 . In sum, while individual negotiations over royalties do have desirable features they also impose substantial transactions costs. It is imperative, therefore, that the “collective bargaining” solution, which at this time appears to be the only plausible broad-based alternative, does not create contract inefficiencies that could be avoided with more flexible (i.e., responsive to market forces) terms.¹⁸ Stated another way, it is essential that the current regime replicate to the extent possible the outcomes that would obtain if market forces were free to prevail. This means that royalty rates established *via* a grand bargaining mechanism should be responsive to the market forces operating on the recording industry, and flexible enough to provide incentives necessary to achieve economic efficiency. Moreover, the structure and level of the royalties should conduce to the profitable production of new recordings as well as an adequate supply of new compositions.

B. A Note on the General Inefficiency of Non-Profit Organizations

24. BIEM is organized as a non-profit society, which potentially raises additional concerns regarding the relative inefficiency of the current collective bargaining regime.¹⁹ In particular, while the mitigation of transactions costs made possible by collective bargaining may outweigh the foregone benefits of an unimpeded market outcome, BIEM’s non-profit status may create additional inefficiencies that must be taken into account in assessing the overall merit of the

¹⁸ There may also be a public policy concern that competition among composers might lead to inefficiently low royalties (and hence inefficient production of new music), especially for those many compositions that are reasonably good substitutes for each other. However, the fact that competition among composers may be too intense by itself does not justify endowing them with monopoly power for the purposes of setting royalties. Indeed, the current “market” already responds to this concern independent of the collecting societies. Many performing artists write their own music and thus are in a position to “internalize” a portion of the benefits from their work through other sources of income (such as recording deals with the record companies).

¹⁹ I would also note that each national collecting society has a membership roster of composers numbering in the tens of thousands. It is highly unlikely, irrespective of how inefficient BIEM is, that a sufficient number of composers would ever organize and take action to disband the society. In other words, the society’s members cannot be expected to discipline the society from an efficiency standpoint.

current system.²⁰ If it is concluded that BIEM's operations can be streamlined, the resulting savings could be passed on to both composers and record companies.

25. The structure of control within the organization itself also bears on the question of whether its operations create allocative inefficiencies. I abstract from the extreme possibility that the organization will be run for the personal benefit of those who manage it and signal the concern with the problem of "capture."²¹ In the instant case, because of the wide diversity of composers, there is no assurance that the collecting society will best serve the interests of all the composers, or even a "representative" composer. For example, the organization may negotiate a royalty regime that is biased in favor of the interests of its more successful members. I have not examined whether the current mechanical royalty regime on balance favors any particular group of composers. I would suggest, however, that some of the features of the regime could favor the more established and the more successful composers. In any case, I think it is a reasonable conclusion that the current royalty regime's rigidity compromises its ability to meet the needs of the highly variegated composer community.

III. The Relevance of Risks and Returns in Assessing the Current Royalty Regime

A. Introduction

26. In this section, I focus on issues related to the level of the mechanical royalty rate as opposed to the base to which the rate ought to be applied (which I address in Section IV). I identify one possible economic factor that (in a more market-driven licensing regime) would affect the division of revenues from CD sales between record companies and the publishing community.²² This

²⁰ For example, inefficient behavior can translate into costs that are too high (because of over-compensation) relative to the quality of the service that is performed, or in service quality that is too high (because managers and other employees obtain "non-pecuniary" benefits from working in a high-quality establishment) relative to the quality of services that would best match the overall willingness to pay for quality. See, e.g., S. Rose-Ackerman, "Altruism, Nonprofits, and Economic Theory," *Journal of Economic Literature*, Volume 34, Issue 2, June 1996 at 7 15-16.

²¹ This problem is familiar in the literature on economic regulation where it has been shown that regulators entrusted with protecting the social welfare have been "captured" by the industry (or a subset of the industry) they are assigned to regulate. See, e.g., R. Noll, "Economic Perspectives on the Politics of Regulation," *Handbook of Industrial Organization*, Vol. 2, 1989.

²² "publishing community" I mean those parties involved in the creation and publication of music as well as those involved in the collection of royalties derived from music reproduction.

consideration relates to the potential asymmetry in the risk-adjusted expected returns flowing to composers and record companies.²³

27. Record companies and composers make investments in the creation, production, and distribution of musical recordings.²⁴ The levels of such investments reflect the parties' estimates of each investment's expected return, appropriately adjusted for its level of risk. Market forces impinge differently on each party's risk and return. In a market-driven environment, the nature of competition in the industry would be reflected in the contract terms established between the parties. Here, however, contract terms are fairly rigid, and thus ill-suited to readily account for market forces affecting the parties' risks and expected returns. From the perspective of this proceeding, the key question, therefore, is whether the balance of risks and returns favors composers to a sufficient extent to warrant a review of the current royalty regime, including the discount allowance off the headline mechanical royalty rate.²⁵ The evidence and economic logic suggest that an asymmetry biased in favor of the publishing community may exist as it pertains to the risk-adjusted expected return. As I demonstrate below, an adjustment in the manner in which the mechanical royalty rate is calculated can offset any imbalance of the parties' risks and returns and better align their incentives to invest under current market conditions.

28. One factor that indicates that there may be a component of "rent" in the composers' royalty is the not uncommon practice of composers (or the publishers who own the copyright) to share in the mechanical royalties with the performing artists.²⁶ When rents are present, a reduction in compensation should not have an effect on the flow of supply. In my view, the extent to which

²³ Investments are generally assessed along two dimensions, which are risk and reward. The expected return on the investment measures the reward, and the variance in expected returns reflects the investment's risk. The variance measures the disparity between potential outcomes and the expected outcome (return). Investors, if given a choice between two otherwise identical investments will select the one with a lower risk (variance). *See, e.g.*, A. Damodaran, Investment Valuation, John Wiley & Sons, Inc. (1996), at pp. 20-21.

The foregoing is greatly simplified inasmuch as it assumes an investor contemplating the creation of an investment portfolio containing only a single asset. In practice, of course, most investors hold a diversified portfolio of investment assets. Similarly, Universal invests in a wide range of music recordings, artists, etc., and by doing so eliminates some portion of each investment asset's unique risk, i.e., risk that is idiosyncratic to that investment. Importantly, Universal is not able to eliminate all such risk, nor is it able to eliminate any of the "market" risk, by which I mean the risk engendered by those market factors that affect the economic climate of the music industry. This sensitivity to market risk is known as beta. *See, e.g.*, R. A. Brealey and S. C. Myers, Principles of Corporate Finance, McGraw-Hill (1996), 5th ed., at pp. 165-66.

²⁴ Composers make both financial investments, such as buying equipment needed for composing, as well as the investment of time investment (which has the usual opportunity costs associated with it).

²⁵ *See, e.g.*, J. T. Lang, "Media, Multimedia and European Community Antitrust Law," Fordham Corporate Law Institute, New York City, October 17, 1999, at pp. 54-55. He writes: "A ...royalty rate may be excessive if it represents a high rate of return for an activity which involves little or no risk, especially when other companies or individuals in the same industry, or sharing in the receipts of the same section of the industry, receive lower rates of profits or remuneration and are exposed to greater risks."

²⁶ Here, by "rents" I mean earnings that are above those required to induce (at least some) composers to generate the current flow of new compositions.

composers earn “rents” over a long-haul is likely to be concentrated among the small elite of composers.²⁷ On the other hand, at the lower end of the income distribution, the supply is likely to be perfectly elastic, suggesting that there are no pecuniary “rents” accruing but potentially high “non-pecuniary” (i.e., non-monetary) benefits.

29. A second factor, and one that I elaborate on in the next section, is the Standard Contract’s failure to fully account for the levels of discounts offered by the record companies to retailers. Specifically, record companies may be artificially restrained from taking efficient actions as actual discounts exceed the fixed allowance stipulated in the Standard Contract.²⁸ As a result, record companies’ incentives and ability to invest in new recordings and new talent will be potentially diminished. This pull-back in investments would have negative consequences for the publishing community as well as for consumers. A re-basing (or a reduction) of the mechanical rate would materially improve the balance of risks and rewards, and thereby create enhanced incentives for investment in new recordings and marketing.²⁹

B. An Assessment of Risk in the Production of Musical Recordings and Compositions

30. The record industry has some common features with industries such as the pharmaceutical industry, where there are very few winning products and many products that never come close to recovering their up-front costs. Drug companies invest billions of dollars in many R&D projects, but in the end, only a small number of successful drugs result. It is these successful drugs that permit the recoupment of invested amounts. Similarly, the number of artists in which record companies invest substantially exceeds the few who ultimately prove successful. It is the sale of these successful recordings that must recover all the costs and generate a return on the total

²⁷ I understand that many top performers write their own music and lyrics. For these singer/songwriters, the sensitivity of the supply of compositions to their mechanical royalty compensation is lessened by virtue of the fact that these composers look to the overall expected revenue from composing and performing when making their economic decisions. Composers who do not perform bear the risk that the composition may never be recorded and performed and thus will yield no income. I also acknowledge that certain composers may write music under contract for a performer. These composers also have a smaller risk of earning no revenue from a composition.

²⁸ As I explain later in my report, the minimum royalty and maximum track provisions of the Standard Contract have similar detrimental effects on record companies’ incentives to efficiently invest.

²⁹ Of course, many firms and many industries have declined over the years in response to reduced demand for their products and services. However, if such decline is a result of inefficient allocation of rewards from the activity, social losses ensue. For example, in the United States, railroads experienced a severe squeeze in their profit margins and responded by curtailing their investments not only because of decreased demand for ferrying goods by train, but also because railroad prices were inefficiently restricted by regulation.

investment that is sufficiently high to attract fresh capital into the industry.³⁰ Thus, there are compelling reasons to believe that a record company's operation is characterized by substantial risk.

31. Obviously, composers bear risks also.³¹ A composer may spend many hours creating new content, none of which may ever be recorded, for example. At the other extreme, an established composer who writes new music for an established artist whose CD is bound to sell at least reasonably well and generate substantial income (inclusive of performance royalties) is likely to experience attenuated risk, in the sense that the chances of recoupment of the fixed costs of the investment are very high.³² Given that both composers and record companies bear risk, it is important to offer some insight into the differences and sources of risk borne by each of them.

32. First, both composers and record companies incur sunk costs. These sunk costs differ in certain ways that are pertinent for the assessment of the relative risks. For a composer, the main source of "sunk costs" comes from the need to expend time composing *ahead* of any assurance that the composition will be recorded. Thus, for a composer it is the opportunity cost of time³³ spent composing that is the main source of sunk costs and the attendant risk.³⁴ Importantly, even though the variance of the gross return from composing can potentially be high, the expected rate of return could also be high if the opportunity cost associated with composing is low.

33. Like composers, a record company has to incur sunk costs in the form of physical and other assets prior to the release of the CD (and without knowing whether a musical recording will achieve success). However, there are some differences worth noting. The magnitude of the record

³⁰ In fact, only 1 in 10 releases actually achieve commercial success. The UK Monopolies and Mergers Commission recognized the riskiness of record companies' operations in its report on the supply of recorded music. It concluded (at point paragraph 1.13 of the report) that "the record industry is a high risk business. The great majority of recordings do not sell enough copies to recoup their initial investment." Paragraph 2.7 makes the related point that "The initial outlays (of a record company or a new artist) comprise a major source of risk for the company."

³¹ A composer's work only achieves success when the recording of that work achieves success. However, because composers also have other sources of income from the composition, it is the overall success of the composition that matters to the composer. Still, there is no question that the fortunes of composers and record companies both depend upon CD sales, although record company revenues are derived almost entirely from CD sales while composers, on average, receive roughly a quarter of their total revenues in the form of mechanical royalties.

³² Such a composer may also anticipate income from future re-recordings of a hit song by other recording artists. For example, there are many recordings of Chuck Berry's "Sweet Little Sixteen" or "Johnny B. Goode".

³³ To illustrate, assume that a composer has to spend 10 hrs to write a composition and that the "opportunity cost of time" is \$25. Hence the total opportunity cost is \$250. This is the amount that is at risk, so to speak. If the chance that the composition will be recorded is 0.10, and assuming mechanical royalties are the only source of composer income, then for this investment to make sense to a (risk-neutral) composer, the expected net present value from a composition that is recorded has to be \$2,500.

³⁴ There is no evidence that composing requires a large investment in sunk physical assets. Nor is there evidence that (unlike perhaps in classical music) a composer who writes popular compositions must invest in years of schooling in order to master the craft of composition.

company's investments certainly dwarfs the opportunity costs of the composer's time. As such, a record company is potentially exposed to far greater losses when a recording fails in the marketplace. Moreover, unlike a composer whose opportunities are (to a large extent) idiosyncratic, the record company's investments must generate (in expected value sense) rates of return that are commensurate with what the financial markets demand for that degree of risk. That is, record companies must meet the strictures of the financial markets if they expect to raise enough capital to finance their operations on a going forward basis. There are no such strictures on the "investment" decisions made by composers (or performers).

34. Second, as noted earlier, many composers are singer/songwriters.³⁵ Hence, their "composing" activities are most accurately viewed as an input into their "talent" activities, *i.e.*, recording and performing their compositions. In these situations, the risks associated with composing are substantially attenuated since the composer has a guaranteed source of demand for his compositions (however minimal that might be) and also has the prospect of earning revenues from additional sources.³⁶ Besides, a composer may obtain some non-pecuniary return even from a composition that has not been recorded. For example, the composer can derive a substantial amount of satisfaction from the act of composing itself and performing his or her songs.³⁷ Of course, composers whose compositions are recorded and performed by others likewise derive revenues from multiple channels, including performances of their works in various media.³⁸ As shown in Table 1, in the EU countries at issue, the fraction of publishing revenues derived from mechanical royalties ranges from 14% to 40%.

³⁵ According to data compiled by Universal, of the top 25 selling albums in the UK in 2002, roughly 60% of the repertoire was produced by singer/songwriters.

³⁶ Composers derive income from mechanical reproduction; radio, TV, and live performances; audiovisual synchronization; sale of printed music, as well as other more minor channels. *See*, NMPA International Survey of Music Publishing Revenues, 11th Edition ("NMPA International Survey").

³⁷ This suggests that the elasticity of supply of compositions may be very high.

³⁸ Alternatively, performing artists can also commission compositions for their recordings (rather than compose their own material). Up-front payments for compositions shift some of the risk from the composer to the performer.

Table 1 - Mechanical Royalty Incomes as a Percentage of Total Music Publishing Income, Year 2000

Country	Mechanical Royalty Income (\$ Millions)	Total Music Publishing Income (\$ Millions)	% Total Income
Austria	8.31	28.53	29%
Belgium	25.67	89.41	29%
Denmark	18.45	61.6	30%
Estonia	n/a	n/a	n/a
Finland	7.38	40.87	18%
France	105.78	601.22	18%
Germany	258.67	834.01	31%
Greece	6.16	28.74	21%
Iceland	0.61	2.35	26%
Italy	51.96	358.37	14%
Latvia	n/a	n/a	n/a
Lithuania	0.04	0.88	5%
Luxembourg	n/a	n/a	n/a
Netherlands	39.76	180.71	22%
Norway	12.3	33.4	37%
Portugal	11.14	27.51	40%
Spain	55.63	207.16	27%
Sweden	22.75	81.41	28%

Source: NMPA International Survey of Music Publishing Revenues, 11th Edition

35. Third, composers can reduce their sunk costs on forward-looking basis more readily than can record companies. This is because the sunk costs associated with the recording side of the business are longer-lasting and thus cannot be depreciated readily. On the other hand, a composer faced with reduced market demand for recordings in general (or the music in a particular genre) can readily cut back on the investment in creating new music and thus may be better positioned to cushion the adverse effects of the downturn in demand by redeploying his main productive factor (time).³⁹

36. The foregoing assessment of the respective risks borne by each party does not, of course, quantify those risks. However, it tends to suggest that the risks associated with composing may be smaller relative to those borne by record companies. In order to gain some further insight into the

³⁹ To continue from my example in footnote 33, assume that the probability of getting a composition recorded falls so that there is now only an 8% chance of success. Assume also that it still takes 10 hrs at \$25/hr in opportunity costs to compose a song (on average). Then, under the new market conditions, the composer will not compose, and the probability of getting a composition recorded will have to be restored (since there will be fewer compositions) to the point at which the expected net present value from a composition that is recorded is again equal to \$2500. As a result, “on the margin”, the expenditure of sunk costs will be avoided on a forward-looking basis rather quickly because the assets (here time) can be redeployed rather quickly. Similarly, if the expected income were to fall, then the risk has to adjust downward as well since the “next best” alternative in this example remains unaffected.

parties relative risks, several avenues of inquiry, while all possible, are rendered difficult by a lack of industry data, especially as it pertains to the activities of composers.

37. Absent the necessary data, one plausible approach is to undertake a theoretical examination of the variance of the incomes of record companies and of composers. If the variance of record companies' incomes relative to that of composers is large, then one can argue that, at least as an initial matter, the composing activity is less risky relative to the activities of record companies.⁴⁰ In Appendix 1. I exploit the fact that the variable portions of the incomes of composers and record companies are partially linked.⁴¹ As is shown in the appendix, under some plausible conditions, economic theory suggests that the variance of the record companies' income is greater than that for composers.

C. An Assessment of Expected Returns in the Production of a Musical Recording

38. In this subsection, I examine the factors that determine composers' expected returns.

⁴²Specifically, I perform a series of straightforward numerical calculations using, where available, representative industry figures to assess whether the composers' expected returns are consistent with efficiency considerations and common sense.

39. In Appendix 2, I compare, from a static perspective, composers' average gross mechanical revenues with their (calibrated) opportunity costs to assess the implied profits of composers.⁴³ In particular, I estimate the number of hours that an average composer would have to work in an alternative occupation in order to earn as much as the mechanical revenues associated with the music composed for an average CD. This exercise abstracts from any analysis of risk by simply gauging whether the expected value of the uncertain variable (*i.e.*, the number of CDs sold) will be sufficient to pay back the investment measured in terms of opportunity costs.

⁴⁰ Indeed, since composers can readily adjust the amount of time and effort they put into the activity, if their expected incomes fall in the aggregate due to market conditions, the variance of their aggregate income has to fall as well. This tends to quickly re-establish the equality between the opportunity cost of time devoted to composing and the expected returns.

⁴¹ The variable income of the record company is given by $R = (P-C)*Q - r*PPD*Q$, while that of composers is $Y - r*PPD*Q$, where P is the wholesale price, C is the marginal cost, Q is the number of CDs sold, and r is the royalty rate. Notice that $r*PPD*Q$ is a component of both recording companies' and composers' incomes. This formulation abstracts from the fact that composers also have other sources of income.

⁴² However, I will argue that these considerations are also informative regarding the parties' relative risks. I focus here on risk as measuring the likelihood that the representative composer or record company will recover its respective fixed costs (which are also sunk). In essence, the argument is that the smaller the chance of recovery of the costs, the higher is the underlying risk of the activity.

⁴³ I assume that composers' opportunity costs can be approximated by average wages in the relevant countries. In particular, I estimate that composers' opportunity costs range between \$11 and \$23 per hour, based on average hourly compensation figures for European workers in manufacturing industries. In the examples that follow, I use the higher figure as it is biased in favor of composers. This figure is the average hourly compensation in Norway. (Source: Foreign Labor Statistics, Bureau of Labor Statistics, U.S. Government, 2001.)

40. My analysis shows that the average number of CDs sold by a record company like Universal has to be large relative to the number of CDs that would be required to recover a composer's fixed costs, as measured by the opportunity cost of time devoted to composing. In particular, if sales of an average CD reach [] units over its lifetime, a figure that) conservatively estimate from Universal's sales data, a composer (or a group of composers) could spend 1,145 hours composing (under the assumption that the average CD contains 12 songs and that the opportunity cost of time is \$23 per hour) and still "recover" the value of time devoted to writing the music for the CD. It is implausible such a high figure is a reasonable amount of time that would be needed to create the music on an average CD. Hence, sales of [] CDs should be more than adequate to compensate the composers for their investment of time, calculated at the opportunity cost of the average hourly wage.

41. The calculation above is, admittedly, imprecise inasmuch as it assumes that composers' output is certain to be recorded and the only random variable is the number of CDs sold. Of course, not every composition is recorded and there is likely a substantial oversupply of compositions. Consequently, from the standpoint of the composer community as a whole, the assumption that a composition will be, in fact, recorded is not tenable. Hence, in Appendix 3, I remove this assumption and calculate the breakeven probability that any given composition is "successful" such that if an average composition has that chance of being recorded then a "representative" composer will be able to cover his/her opportunity costs. Specifically, I show that for reasonable measures of a composer's opportunity costs, a composer concerned only with monetary outcomes would be willing to devote 10 hrs to composing a song if the probability that the composition will end up on an average CD (which sells [] copies over its lifetime) is as low as 10.5%. If this break-even percentage is below an average composer's probability of success, there could be some rents in the expected returns on investment from composing. On the other hand, since supply of compositions is highly elastic, these rents are likely to accrue to the more successful composers.

42. Reinforcing the conclusions from the numerical examples presented above is the relative degree to which composers and record companies rely upon CD sales to recoup their respective investments. The effect of a reduction in composers' mechanical royalty income on the overall expected income earned by composers is significantly attenuated by revenues earned from

alternative sources. In fact, as mechanical income declines, composers will seek other sources of income to lessen the impact.⁴⁴ Importantly, at this time record companies do not enjoy such a cushion. Record companies rely almost exclusively on CD sales to recoup all of their expenses associated with production, marketing and distribution of CDs. These same expenditures also stimulate demand for performances, radio airplay, and syndication, all of which represent sources of income for composers.

D. Conclusion

43 . One relevant issue in this proceeding is whether there exists an imbalance in the risks and expected returns of record companies relative to those characterizing the activities of the publishing community. The simple examples presented in this section, along with economic logic, suggest that an inference of asymmetry is plausible. As such, an adjustment to the current mechanical rate could alleviate the possible imbalance and potentially engender more efficient investment decisions on the part of record companies.

IV. Economic Analysis of the Standard Contract

A. Introduction

44. The terms and provisions of the Standard Contract affect economic efficiency, both from the narrow standpoint of net returns to recording companies and composers, as well as from the broader standpoint of net benefits accruing to consumers. The terms and provisions of the Standard Contract influence the parties' incentives to undertake investments in the creation of music (by composers) and in its production and distribution (by recording companies).⁴⁵ Since composers and record companies incur (monetary and opportunity) costs and assume risks to create and distribute musical recordings, their incentives to make the required investments depend upon the returns they expect to receive (taking into account the risks associated with those anticipated returns). Thus, the allocation of a recording's overall income flow among the various contributors affects critically their incentives to invest and, in turn, economic efficiency. Thus, in order to

⁴⁴ For example, Spanish authors' society SGAE's unaudited 2002 results show a 2.3% year-over-year increase in music-related collections, despite "a dramatic fall" in mechanical revenues. The decline in mechanical collections was more than offset by increases in performance-related royalty collections. (Music & Copyright, February 19, 2003.) As another example, in Germany, total income distributed by the German collecting society GEMA in 2001 increased 1.2% over year 2000 results, despite a near 3.5% decline in mechanical collections. Weaker mechanical collections were offset by, among other revenue sources, performing and broadcasting rights. (GEMA Annual Report 2001, at pp. 9 and 15.)

⁴⁵ My discussion does not explicitly deal with the economics of performing artists. Performers can and do negotiate individual contracts with recording companies and rely on recording companies to distribute back to them their royalties from the sale of CDs. As mentioned before, performing artists frequently compose their own musical works. Performers can also contract with composers to create the music the performer interprets.

properly evaluate the effects of changes in the existing terms of the Standard Contract, it is important to examine the effects of these changes on all parties to the Contract, as opposed to only one of them. As an initial matter, I focus on adjustments in contract terms that can possibly benefit one party and do not harm the other party. This type of analysis obviates the need to balance positive and negative incentives, since their magnitude may be difficult to determine from the data.

45. Similarly, the analysis of incentives must reflect the parties' economic objectives. Universal, like any private enterprise, seeks to maximize its profits. The economic objectives of BIEM are far less clear. One possible objective of BIEM could be to maximize the total (expected) royalty income from the sales of CDs. This objective ignores the effects of higher royalty rates on the supply of content and on the chances that any particular composition will be recorded.⁴⁶ Composers and collecting societies may also care about the risk of "unemployment" (*i.e.*, the likelihood of getting a composition recorded commercially). They may also care about earnings per track.⁴⁷ Most likely, BIEM will try to balance these various considerations in formulating its bargaining position. It is plausible to argue that the more concerned is BIEM with maximizing the total income flowing to successful compositions (*i.e.*, those that actually are recorded) the higher will be the royalty rate and the less likely it will be that lesser-known composers will find their output recorded.

46. Importantly, economic analysis plainly suggests that recording companies have no interest in squeezing the royalty rate to the bare minimum. The effect of such myopic policy could be to reduce the supply of content from stand-alone composers (*i.e.*, composers who are not also recording artists) and thus reduce the number of successful CDs. Thus, record companies have a strong interest in generating a steady flow of compositions. Similarly, collecting societies have no incentive to demand royalty rates that would render the recording business unprofitable over a long-haul (*i.e.*, on forward-looking basis), for without a rich output of new CDs, mechanical royalty income would fall as well. There is, thus, a potentially wide range of royalty rates and payment arrangements (*i.e.*, the basis on which royalties are paid) that in broad terms meets the objectives of both collecting societies and record companies.

⁴⁶ While the focus of this paper is on the royalty rate established under the Standard Contract, it is important to recognize that composers are actually concerned not with the royalty rate, but rather with the royalty income they receive through BIEM, *i.e.*, the royalty rate multiplied by the value of recordings sold, where sales are measured at PPD. Since changes to the royalty rate should in principle impact the quantity sold of a CD, composers are not necessarily better off (*i.e.*, enjoy an increased royalty income) when the royalty rate increases. (See below.)

⁴⁷ A comparison to the multiple objectives of a trade union may clarify matters here. A trade union may try to maximize the total earnings of its members, or alternatively, it may try to maximize the wage per hour. At some point, a higher hourly wage will benefit those workers who are gainfully employed but will lower the overall income of union members and create unemployment.

47. It is a standard task of economics to explore how the different parties' market behavior is affected by changes in contract terms, or other pertinent economic conditions. Here, the use of such tools would allow us to examine the effects of certain changes in the relevant provisions in the Standard Contract on key variables, such as CD prices, the supply of new CDs and musical compositions, the overall income received by composers, the probability of a composition reaching the marketplace, etc. To estimate *quantitatively* the effects of changes in contract provisions on these key variables would require large quantities of data or independent information about pertinent economic variables (such as various elasticities of demand and supply).⁴⁸ Since such data and information are unavailable, I focus on directional (“qualitative”) effects. Where possible, I build-in various assumptions regarding elasticities in order to sharpen the results.

48. In the next section I examine in greater detail whether economic analysis compels an adjustment in certain provisions in the Standard Contract. I argue that the evidence and economic reasoning suggest that the adjustments discussed below would be consistent both with the broad principles of the Standard Contract as well as with the precepts of economic efficiency. In particular, I first examine the “fixed discount allowance,” or the basis on which the royalty is paid. I then analyze the economics of the “minimum royalty provision” and the “maximum track provision.” With respect to all of these contract terms, I conclude that their effect is to harm economic efficiency.

B. The Headline Rate and the Fixed Discount Allowance

49. The starting point for all the calculations of actual payments is the “headline rate,” which currently stands at 11% of the PPD. This PPD-based headline rate was initially calculated in 1985, based upon the average European retail mark-up of 37.5% obtained from annual surveys of IFPI national groups.⁴⁹ Thus, prior to 1985, royalties were paid based on the recommended retail prices for CDs. Basing royalties on retail price has some economic appeal since the retail price reflects the valuation that (marginal) consumers place on a given CD. Hence, a retail-price based royalty transfers to the publishing community some portion of that valuation. It also has the property that as prices fall, due to underlying discounts or enhanced competition at retail, for example, the payment to the publishing community will adjust as well. In fact, the per CD payments are very responsive under such a regime, and thus consistent with sound economics. Nevertheless, as the

⁴⁸ In economics, “elasticity” is a measure of responsiveness of one variable of interest with respect to changes in another variable of interest. Thus “elasticity of demand” of product X with respect to its price measures the *percentage* change in demand for X with respect to a (small) percentage change in its price.

⁴⁹ See Schedule I to Universal’s Response at 32.

EC opposed such a retail based system, the parties concluded that paying royalties based on list wholesale prices would be the next best alternative.

50. The next “price” below the retail price is the PPD. This price does not reflect anyone’s valuation of the CD! It is neither an average price paid by music retailers nor is it a price paid by consumers. Thus, basing royalties on PPD is really a matter of expediency (with the adverse results discussed in this submission) over sound economics.

51. Still, if one were to undertake the conversion from the 8% retail-based rate to a PPD-based rate using current retail margins, the constructed rate would be much lower than the constructed rate derived using the 1985 market conditions. In particular, Universal estimates that the current average retailer markup over PPD is 14.3%. Hence, using the same algorithm, had the 14.3% current markup existed in 1985, the PPD based headline royalty rate would be only 9.14% instead of the 11% currently in place.

52. Of course, the current headline rate is not the rate that recording companies actually pay. The effective rate is lower as a result of a “fixed discount allowance” that the parties negotiated on three separate occasions.⁵⁰ This allowance reflects the fact that the record companies receive far less than the PPD per average CD. A discount off of the PPD headline rate is economically sound because, from the perspective of the “inputs” that went into making of the CD, at most the net wholesale price of the CD is what is available for “fair” division.

53. Here, I render no opinion on whether the fixed current allowance is too high or too low. Rather, I examine whether linking the royalties more directly to average actual realized wholesale prices (or, alternatively, to the actual discounts provided by the record companies to retailers) would conduce to economic efficiency.⁵¹

54. As currently structured, the Standard Contract fixes at 9% the allowance for retailer discounts that is deducted from the baseline rate. In its Complaint, Universal argues that the current level of retailer discounts substantially exceeds the fixed allowance and stands at %. Universal also argues the discount allowance should be “adjusted” as needed to reflect actual marketplace conditions. According to Universal, the disparity between the flat 9% allowance and the actual level of discounts paid by record companies discourages the record companies from offering

⁵⁰ A 4% allowance was introduced in 1985; it grew to 6% in 1992 and reached the current level of 9% in 1997.

⁵¹ Either actual transaction-level prices or average actual realized prices could be used as the baseline against which to apply the mechanical royalty rate. It is my understanding that an average realized price regime would be easier to administer, and thus the preferred methodology.

additional discounts. The net result is that the record companies have less potent incentives to offer additional discounts to stimulate sales. As a result, consumers likely pay higher prices relative to the case where mechanical royalties more closely reflect the prevailing competitive conditions, such as growing pressure on net wholesale prices and resulting lower gross margins on CD sales. Obviously, inasmuch as the record companies are more effective in stimulating demand for CDs, the publishing community is also better off. Hence, one would expect that composers should support policy adjustments that would permit record companies to more effectively respond to marketplace realities.

55. BIEM offers two justifications for the fixed discount allowance: (i) it is straightforward, cost effective, and easy to administer, and (ii) its removal in favor of a system based upon actual discounts (or actual prices) would expose composers' incomes to a factor that is not transparent and over which composers are unable to exercise any influence or control, *i.e.*, negotiations between record companies and retailers. According to BIEM, composers' income does not, at present, depend upon any such factors.⁵² These arguments are not persuasive. Regarding the first point, a royalty regime that is based on average actual realized prices need not entail significantly higher enforcement (monitoring) costs, especially if the relevant information is available in electronic form. In any case, BIEM has not offered any convincing evidence that such monitoring costs would greatly outweigh the potential efficiency benefits from a royalty regime that is more closely linked to actual prices.

56. Regarding the second point, BIEM's lapse in logic is glaring. BIEM has previously agreed to a royalty discount that reflected, however imperfectly, the discounts offered by record companies to retailers. Consequently, BIEM cannot consistently claim that while a linkage was appropriate in the past, it is somehow not appropriate to adjust the linkage now to better reflect record companies' actual discounting practices.

57. It is also incorrect for BIEM to argue that the publishing community's income is not influenced by discounting practices. In fact, the opposite is the case: record companies' discounting practices affect the volume of sales, which in turn directly impact the publishing community's income. In addition, discounting practices bear on the incentives and ability of record companies to issue new recordings, which also is relevant to the income of the publishing community.

⁵² BIEM Reply at par. 70.

58. The fact that the publishing community has no direct control over record company discounting practices is also not probative. Composers/publishers have no direct control over the PPDs, yet they have willingly tied their income to these baseline prices from CD sales. Moreover, assuming that there is something to be said for tying royalties to PPDs, it is worth noting that a more extensive use of discounts could also stabilize base prices (PPDs), which should unambiguously affect composers' per CD income. In particular, extensive reliance on discounts in response to changing market conditions enables the record companies to maintain more stable PPDs and to respond instead with targeted reductions to the various retailers. Hence, if discounting is less feasible, the brunt of adjustments may have to come via the PPDs.

59. All in all, basic economics suggests that market-driven contracts between composers/publishers and recording companies would generally reflect the competitive realities of the recording industry, as measured, for example, by gross margins (*i.e.*, the difference between the actual realized price and the costs directly attributable to a CD). Under a market-driven regime, how exactly a musical recording's overall return is split depends on many factors, including the relative bargaining power of the parties. It is clear from our standpoint, however, that using the PPD alone as the starting point for negotiations is not correct.

60. First, the PPD does not reflect a CD's marginal benefit to a consumer, which is given by the price *vis-à-vis* the "last" consumer that purchases the CD. Second, neither does the PPD reflect the per CD return that could be divided among the parties. The maximum amount that can be divided is the actual realized price. From that amount, however, direct payments must be made to those productive factors that do not directly share in the success of any CD, which include costs of manufacturing, labor, marketing, debt-holders, etc. The remaining amount can be allocated among the "creative" inputs (such as composers and performers) and the residual is the return to owners of equity. Consequently, royalty payments based on the PPD depart from an efficient division of surplus, unless some mechanism is used to make allowances for actual discounts off the PPD.

61. A related point to consider is that even if the royalties paid to collecting societies were based on realized wholesale prices, such arrangements would still fail to reflect the fact that recording companies also stimulate CD sales through expenditures other than price discounts. While the publishing community as a group benefits from stimulated sales, it is not required directly to shoulder any portion of the underlying change in these expenditures. Paradoxically, if higher marketing costs translate into (somewhat) higher PPDs and stimulated sales, the publishing community benefits on both accounts. Put another way, if the prevailing economic environment

mandates not only deeper discounts but also higher marketing expenditures per CD, these economic facts will not leave any direct trace in the returns per CD realized by composers.

62. In sum, inasmuch as aggressive discounts are a reflection of more intense competition, simple economics would predict that owners of inputs would also be compelled to lower the fees for their services.⁵³ This is the outcome one would expect in any industry in which market-based bargaining between individual buyers and sellers is the norm. In fact, even the outcome produced via collective bargaining would generally reflect the exigencies of the competitive situation in the relevant marketplace.⁵⁴ It appears that BIEM fails to acknowledge this fact in its responses to the Universal complaint. The current regime that ties royalty payments to PPD shifts disproportionately the burden of increased competition to the record companies and potentially discourages them from offering more aggressive discounts that likely would stimulate sales and lead to lower prices for consumers. It is my view that linking royalties to actual (average) realized prices (or to actual discounts) would better approximate the contract terms -- and thus the competitive outcomes -- one would observe under market-based negotiations.⁵⁵ Indeed, it is entirely possible that injecting additional flexibility into the mechanism by which composers are compensated could inure to the benefit of all parties involved. This point is developed below.

63. As a first step in examining whether economic efficiency could be enhanced by switching to a structure that reflects actual discounts offered by the record companies, I consider the effect of such a payment mechanism on the incentives of the record companies to discount the PPD.⁵⁶ Suppose that for whatever reason, a record company is compelled to offer a discount to a retailer. It can easily be shown that the proffered profit-maximizing discount will be larger under the flexible regime whereby the actual royalty (set at any given level) is tied to the net realized price.

⁵³ The *caveat* is that if composers are already at their expected reservation income, they cannot receive less than that. Consequently, if the income per CD falls, there will have to be a commensurate increase in the probability of having a track recorded and/or an increase in CD sales in order to keep in the market those composers who are just indifferent between composing and undertaking the next best alternative. On the other hand, some composers who presently enjoy rents could maintain their supply of compositions even if their compensation were reduced.

⁵⁴ Importantly, contractual arrangements between the record companies and performing artists enjoy such flexibility. Recording artists are in most every case paid a royalty that is computed as a percentage of the actual wholesale price charged by the record company to retailers and other customers, i.e., PPD less free goods and discounts.

⁵⁵ For example, labor unions in the airline industry have been willing to take cuts in compensation given the dire straits of the airline industry in the US.

⁵⁶ This analysis is complicated, but some insight can be gained from the following three simple approaches: a) one in which this period's discount allowance from the headline rate is determined by last period's actual discounts from PPD, b) one in which -- starting from a headline rate -- every percentage point discount off PPD would be shared in some negotiated proportion between the composers (BIEM) and the record companies, and c) one in which the royalty rate is paid on the average or actual realized price. We focus on the third approach in our analysis, although it is important to note that under any of the three approaches, composers' compensation would be more accurately tied to marketplace realities.

The reasoning is simple: the incentive to lower the price depends on the “marginal cost” of the CD. If the royalty is tied to PPD, and if the PPD is unchanged, then the recording company incurs a higher marginal cost from expanding output by a small amount relative to the case where a larger discount lowers the effective royalty payment (because it lowers the base on which the royalty is paid). It is basic economics that the lower the marginal cost, the stronger the incentive to cut price, when such a price cut makes economic sense. (See Appendix 4 for a mathematical demonstration of this result.)

64. As I noted earlier, while the benefits to consumers and to a record company from basing the payment on realized net price are easy to show, the impact on the publishing community, as measured by its aggregate income, is less easy to quantify. Plainly, as the base on which the royalty is paid declines, the publishing community’s income will fall *unless* demand is sufficiently stimulated. However, it can be demonstrated that there always exists a sharing rule such that a switch from a current PPD-based regime to a realized wholesale price regime benefits both the publishing community *and* record companies.⁵⁷ Here the logic is transparent: since pricing above marginal cost – which holds both for the composer (whose marginal cost is zero for a composition already accomplished and who incurs no additional cost if the composition is recorded on an incremental CD) and for the record company (which must price above marginal cost to recover its fixed costs) – sacrifices some economic efficiency, a movement closer to marginal cost generates overall gains to all the parties concerned. There is, therefore, a bargaining rule (sharing rule) that renders a regime switch feasible. In fact, in a market-driven bargaining model where contracts can be adjusted more readily to match market circumstances, we would expect the bargainers to search and implement such a rule. Unfortunately, the Standard Contract does not have this kind of flexibility.⁵⁸

65. Similarly, as discounting becomes aggressive in response to increased retailer buyer power, the publishing community is likely to be better off if the record company is able to boost (or maintain) sales through targeted price cuts as opposed to the more blunt method of an across-the-board reduction in PPDs. Targeted discounting can be used to fine-tune pricing so as to better account for each buyer’s demand elasticity, and thus leads to greater sales as compared to an adjustment to

⁵⁷ See, e.g. J.A. Ordover and J.C. Panzar, “On the Nonlinear Pricing of Inputs,” *International Economic Review*, Vol 23 (3), 1982, and R. D. Willig, “Pareto-Superior Nonlinear Outlay Schedules,” *Bell Journal of Economics*, Vol. 9, 1978.

⁵⁸ We can also remark that as demand for CDs becomes more elastic due to growing opportunities for CD piracy, for example, the arguments for a royalty regime that more closely tracks realized prices are increased. (See Appendix 5.)

the PPD that is, by definition, uniform across all buyers and fails to account for variations in price sensitivity.⁵⁹

C. Minimum Royalty Provision

66. I now examine the economic effects of the minimum royalty provision in the Standard Contract and consider whether a modification (or removal) of this provision would enhance incentives to offer CDs at attractive prices.⁶⁰

67. Universal argues that the provision lessens its incentives to price at low levels certain price-sensitive CDs, and may even deter Universal (and other record companies) from issuing some CD titles that can only be sold at very low prices. BIEM responds that the minimum royalty provision is designed to protect composers from “rock-bottom” pricing of CDs, since record companies apparently have an undue incentive to price CDs at such low levels unless they are discouraged from doing so.⁶¹

68. BIEM’s defense does not stand up to economic scrutiny. First of all, BIEM’s argument seems to equate a higher royalty payment per CD with a higher royalty income accruing to composers. BIEM appears to believe that if the provision were removed, record companies would simply pocket the savings and not pass any of them on to consumers (via lower prices). But this cannot be correct since competition among record companies ensures that some of the savings will be passed on either in the form of lower prices or in the form of CD titles that otherwise may not have been released

69. Second, BIEM seems to be focused on the effect of the removal of the provision on income accruing to composers from a given CD. Obviously, composers’ royalty income depends on the royalty payment per CD the quantity of CDs sold. Thus, the overall effect of the minimum royalty provision on composers’ aggregate income cannot be ascertained merely by calculating the per CD revenue from those CDs to which the minimum royalty provision currently applies. Put

⁵⁹ By adjusting only the PPD to boost sales, a firm faces a trade-off between charging customers who value the products highly as much as they are willing to pay and charging a low enough price that the firm doesn’t lose sales to more price-sensitive customers. Hence, if the purpose is to maximize sales, a blunt instrument such as the PPD would be too low for some customers and too high for others.

⁶⁰ Recall that the Standard Contract establishes a minimum royalty of 67% of the standard royalty on the prices most generally practiced for each recording format by IFPI members in the relevant country. Or stated differently, the minimum royalty provision requires that no less than two-thirds of the royalty on the full price product be paid on the sale of a CD, even if the CD is sold at less than two-thirds of the price most generally practiced by recording companies. The minimum royalty is applied at a reduced level for recordings that are re-released at budget price. Specifically, in the case of CDs which have been re-released not less than one year after the original release and which are priced at 35% or more below the original price, the minimum royalty is set at 57% of the normal minimum royalty (i.e., 67% of the standard royalty).

⁶¹ See BIEM Reply at par. 72.

another way, whether the composers' aggregate income increases or falls when the provision is removed depends on the trade-off between smaller revenues per CD sold against the higher volume of sales and *de novo* sales of CDs that otherwise may not have been released. Simple economics teaches that a removal of the provision should have the stimulative effect along the lines suggested above.

70. Third, BIEM's position seems to be internally inconsistent. In Section VIII of its Reply, BIEM asserts that royalties do not affect CD pricing. Yet elsewhere, it maintains that the minimum royalty provision makes it less desirable for record companies to offer CDs at "bargain basement" prices. Indeed, BIEM states that the minimum royalty provision shields composers from (i) "extremely low" PPDs, (ii) "extremely low" per-track income, and (iii) "possible mismanagement" on the part of record companies.⁶² With respect to point (i), its invalidity is obvious: a record company does not have any incentive to issue CDs at "extremely low" PPDs, unless such a plan increases total revenues relative to another plan with higher prices.⁶³ In other words, the minimum royalty provision is not needed to safeguard the interests of composers, since their interests are already aligned with those of the record companies.

71. Perhaps what BIEM has in mind is that a record company may use inexpensive albums in some way that is detrimental to composers. It is true that record companies issue "promotional" CDs at low-prices, but this is done quite infrequently and does not seem to justify a rigid minimum royalty provision. More to the point, such measures are designed to extend the life of certain repertoire and to stimulate sales possibly of other, more expensive CDs. As such, these promotional policies likely conduce to the overall benefit of composers. Although these promotional strategies can have some redistributive effects among the composers, the overall effect on composers' income should be positive, since no record company has an incentive to engage in marketing strategies that lower the company's overall profitability.⁶⁴

72. Incidentally, BIEM's reply to Universal's complaint fails to acknowledge that the minimum royalty provision tends to favor successful composers, to the potential detriment of those who are lesser-known and most in need of exposure and royalty income. This is due to the two effects

⁶² Id.

⁶³ In fact, holding a royalty payment constant, a record company has an incentive to overprice and not under-price a CD. This is statement follows from the fact that composers on a given CD would want to maximize revenue from that CD while the record company wishes to maximize profits from a CD. This difference in objectives generally results in a CD price that is "too high" from the vantage point of composers.

⁶⁴ Moreover, a recording company does not have an incentive to re-price an existing release to budget level any sooner than would be warranted by consumer demand.

noted above, namely that the provision (i) discourages record companies from pricing at budget level those CDs containing older repertoire or music by lesser-known talent, and (ii) in some cases, altogether eliminates the record companies' incentives to release such albums. Plainly, a record company ought to be more willing to produce the work of a lesser-known artist/composer, if it can more readily price the CD at a level consistent with its consumer appeal. While composers, in general, may not want to condone extremely low prices for CDs, there is inarguably a fair amount of music content that will not sell in significant quantities when priced at normal levels (or even be released by the record companies as a result of the constraints imposed by the minimum royalty provision).

73. Finally, I would note that the minimum royalty provision, when actually triggered, has the perverse effect of providing a higher effective royalty rate to composers of content that, as a group, potentially represent a relatively unattractive investment for the record companies, in terms of its expected return and its risk. Specifically, much of the content implicated by the minimum royalty is price-sensitive, lesser-known, or only of interest to a narrow niche of music consumers. In order to create stronger incentives for record companies to invest in these types of works, the royalty rate should be lower, not higher, than the standard rate, as it is in most artist agreements.

74. The above discussion suggests that even though the minimum royalty provision affects only a small share of Universal's output, there are likely efficiency gains to be realized from relaxing this constraint on pricing. The logic underlying such a claim is analogous to that formally explicated in Appendix.⁶⁵

D. Maximum Track Provision

75. The maximum track provision in the Standard Contract mandates an upward adjustment to the standard rate on CDs whose playing time and/or total number of tracks exceed a pre-specified limit.⁶⁶ Universal contends that the maximum track provision discourages the production of recordings that infringe its thresholds. Such recordings are typically compilation albums, and in particular multi-artist compilations, which have played an increasingly significant role in the

⁶⁵ Specifically, the optimal price chosen by the record company would be lower under a regime without a minimum royalty provision because a price decrease would have less impact on its margin. To the extent that demand is sufficiently elastic, all parties, including composers, would benefit from the incremental price reduction.

⁶⁶ More precisely, the maximum track provision contains limits for playing time and for the number of protected works (or fragments of such works). A normal CD will trigger the provision if its playing time is greater than 80 minutes or if it contains more than 20 works (or 40 fragments of such works). For compilation CDs, the track limit is 24. (See Universal Complaint, May 31, 2002 at pp. 48-49.) According to the Standard Contract, if the record company wishes to include additional tracks beyond the critical number, "the total royalty due for the disc in question shall be increased in the same proportion." See BIEM's Standard Contract, Article VI, (6).

marketplace over the past 10 to 15 years.⁶⁷ According to Universal, multi-artist compilations on average have lower margins than a single artist recording, because they are more heavily marketed and enjoy only relatively short shelf-life. The maximum track provision further reduces the already smaller margins earned on average from compilation recordings and further lessens the record companies' incentives to release such recordings.⁶⁸

76. Simple economics suggests that such a provision hampers the efficient selection of CD length (or number of tracks) and is likely to frustrate the economic interests of composers. First of all, it is a key precept of economics that (in most situations) the incremental value of an additional unit of input (here the additional track on a CD) declines with the number of units of the input already deployed. This basic law of diminishing marginal productivity applies to CD tracks as much as it applies to labor or physical capital. Stated simply, the additional appeal to the purchasing public from increasing the number of tracks on a given CD from 20 to 21 is likely higher than from boosting the track count from 28 to 29. Hence, basic economics would suggest that the composer of the 29th track should receive a smaller payment than the composer of the 21st track, for example.

77. Second, the restriction runs counter to the principles of optimal pricing when the marginal cost of the item being sold is zero (or low relative to the fixed costs).. In the case of compilations, there is plainly no incremental cost to the composing community associated with adding an already published track to the CD.⁶⁹ In particular, since multi-track CDs are generally compilations of existing (and, oftentimes, previously recorded) tracks, these compilations should be best regarded as a source of incremental income with which there is no associated incremental costs. It follows, therefore, that not only might one consider lower royalties overall on the lengthy compilation albums, but there surely is no reason to actively discourage by means of "penalties" compilation CDs that have a large number of tracks, given the fact that the marginal value of the additional track declines with the number of tracks and the marginal cost to the publishing community of a track is zero.

⁶⁷ See Universal Complaint, May31, 2002 at p. 48.

⁶⁸ In its reply, BIEM does not challenge Universal's contention that the maximum track provision discourages the production of compilations and other recordings that contain a large number of tracks and/or an extended playing time. Instead, BIEM's response takes issue with the factual accuracy of Universal's evidence and the legal support for its claims. Additionally, BIEM asserts without offering any supporting analysis, that the difficulties associated with profitably producing a compilation recording "may well stem from other factors than maximum track numbers." (See BIEM Reply at par. 85.)

⁶⁹ In fact, all costs incurred by a composer are first copy costs, since there is no additional costs associated with putting the track on one CD or on 10 different CDs. Economics prescribes "prices" (royalties) that fall with the number of copies of a given CD sold and with the number of different CDs on which the recording is placed.

78. Third, simple logic suggests that a record company does not have an undue incentive to cram excess tracks onto a CD (or to make it too long), relative to the interests of composers taken as a group. Indeed, a record company will add another track over and above a minimum when doing so stimulates additional sales and/or permits the record company to charge a higher net wholesale price, *i.e.*, increases the expected profitability of the CD. In either case, composers as a group gain.⁷⁰ In fact, simple economics suggests that, for any given royalty payment (based on PPD or an actual wholesale price) scheme, the interests of record companies and composers are aligned, since expanding the number of tracks ceases to increase a record company's profits before it reduces the *total* income flowing to composers from the CD sales. (See Appendix 6 for a mathematical demonstration of this proposition.)

79. It appears then that the rationale for the maximum track provision stems from the concern that absent such a *proviso*, composer's revenue per track will fall, as more tracks are packed onto CDs while the PPD does not increase in tandem. Yet, BIEM has never clearly articulated whether its objective is to maximize the royalty per recorded track, maximize income per CD (irrespective of the number of tracks), or maximize overall income for the composer community. In the absence of any clear expression of its objective, it is difficult to assess the degree to which the restriction runs counter to BIEM's own goals.

80. One may argue that the rationale for the provision is that its presence occasionally forces record companies to issue two-disc compilations containing more tracks than would otherwise be included on a single CD, thereby benefiting composers.⁷¹ However, BIEM offers no evidence that such an effect is likely or even plausible. Moreover, record companies, relative to collecting societies, have a better understanding of the measures required to increase overall sales and revenues, while, at the same time, record companies' incentives in this regard do not run counter to those of the composers.

81. To conclude, basic economics suggests that in a market-driven licensing regime, the current maximum track penalty likely would be replaced with a royalty reduction on compilations exceeding the threshold number of tracks. In my view, marginal composers, *e.g.*, those who are lesser-known, likely comprise the group most significantly harmed by the maximum track provision. A 30-track compilation will *per force* include some tracks that are less desirable from a

⁷⁰ Recall that income accruing to composers is $r \cdot \text{PPD} \cdot Q(w, t)$, where t is the number of tracks and w is the wholesale price. As t increases, so would $Q(w, t)$, the quantity of CDs sold.

⁷¹ Composers would benefit inasmuch as the record company's decision to issue a double CD leads to an incremental increase in the number of compositions that are produced.

consumer standpoint. These less desirable tracks are the ones most susceptible to deletion should the record company opt to produce a recording with fewer selections, and in the process, marginal composers would lose some (likely) badly needed exposure. In the same vein, less “famous” tracks by well-known composers are less likely to be included, but the net effect from the maximum track provision is likely to be biased against the lesser-known composers. This is not surprising, if one were to postulate that the collecting societies are “captured” (or influenced) by the more widely recognized composers.

E. Conclusions

82. As a final note, I would offer two related observations that might assuage some concerns triggered by my proposed adjustments to the current mechanical royalty regime. First, the changes proposed earlier in this section will provide the record companies with the necessary incentives to pursue their optimal pricing and marketing strategies, *i.e.*, to most effectively respond to economic conditions. Importantly, these strategies should benefit the publishing community as well as record companies, since they are designed to stimulate demand for CDs and thereby provide greater income opportunities for composers, including those who are lesser-known and have greater difficulty getting their works produced. Second, record company contracts with performing artists, which are formed *via* market-based negotiations, typically link artists’ compensation to the value consumers place on their underlying talent. For example, artists with more limited consumer appeal receive a lower royalty rate relative to established stars. The pertinent provisions of the Standard Contract have precisely the opposite effect, in that they artificially elevate the royalty rate received by lesser-known composers whose compositions are actually recorded.⁷²

V. Rebuttal to Arguments Advanced in BIEM’s Reply

A. The Mechanical Royalty Rate and CD Prices: BIEM’s Annexes 5 to 9

83. In its Reply, BIEM presents several analyses that purportedly demonstrate that the retail price of CDs is not affected by the mechanical royalty rate. Before critiquing BIEM’s presentation, I would simply note that its position amounts to a claim that the mechanical royalty rate, which is

⁷² Of course, this does not mean that lesser-known composers necessarily enjoy higher incomes. As I demonstrated in this section, the pertinent provisions weaken the incentives of record companies to release compositions created by marginal composers (or lesser compositions by even highly successful composers). A record company’s decision to not issue a CD, or to include fewer tracks on a compilation album, unambiguously reduces the income of those composers whose works fail to reach the marketplace. Moreover, these same provisions lessen the incentives of record companies to price at low levels musical recordings that are especially price-sensitive. For those price-sensitive CDs priced at higher levels, sales will be lower. Reduced CD sales have a downward effect on composers’ income, which is equal to the product of the royalty rate and the quantity of CDs sold.

clearly an input cost for the record companies, has no effect on the prices record companies charge to retailers (and thus on retail prices). BIEM itself contradicts this point when it argues that the minimum royalty provision makes it less desirable for record companies to offer CDs at “bargain basement” prices. BIEM has not explained how one provision of the Standard Contract can affect pricing decisions, but the mechanical royalty rate does not. Given BIEM’s apparently contradictory position, and the fact that BIEM’s assertion contradicts fundamental economic principles, it is clear that BIEM’s argument should not be given any credence.

Annex 5

84. Annex 5 to BIEM’s reply compares, over the period 1990 to 2001, the evolution of the BIEM royalty rate (net of all discounts) with the average retail price for CDs in 12 European countries. BIEM asserts that these data establish that there is “no empirical interrelation” between royalties and retail prices.⁷³ In particular, BIEM highlights the fact that even though the royalty rate in all 12 countries was identical over the entire period,⁷⁴ retail price trends varied, with prices increasing in some countries, e.g., Austria, Finland, Italy, Spain, Sweden, and the United Kingdom, and falling in others, e.g., Denmark, France, and the Netherlands.

85. The conclusion BIEM draws from Annex 5 is in no way supported by these data, and cannot withstand even the mildest scrutiny. The obvious fact is that CD prices in a given country are determined by a number of local factors, including the degree of retailer consolidation, consumers’ price sensitivity, consumer tastes, taxes, and record companies’ cost levels.⁷⁵ Because these factors vary from country to country, and over time, it is not surprising to find prices increasing in some countries and decreasing in others.

86. BIEM’s focus on average prices could also effectively disguise the true direction of the price trend. There exist multiple tiers of CD pricing, e.g., full-price, mid-price, budget. The average retail price could move over time because of shifts in the proportion of CDs sold at each price level. For example, if the percentage of total CD sales at the budget level increases over time, this

⁷³ See, BIEM Reply at par. 88. Economic theory, under plausible assumptions, suggests that CD prices increase as the rate increases.

⁷⁴ The rate stood at 9.504% in 1991, declined to 9.306% in 1994, and then to 9.009% in 1997.

⁷⁵ For example, in Germany in the early to mid-1990s, the development of MediaMarkt stores, with its concomitant increase in buyer power, has led to a decline in retail prices. The same trend can be observed in France with the growing influence of hypermarkets.

will have a downward effect on the average price for a CD. Under the right conditions, the average CD price could fall even if CD prices actually increased, and *vice versa*.⁷⁶

Annex 6

87. In Annex 6, BIEM compares the evolution of BMG's and Warner's PPDs in Germany with that of the mechanical royalty rate. BIEM observes that these firms' PPDs "have developed independently from the royalty under the Standard Agreement."⁷⁷ Indeed, the evidence shows that there is no obvious (in the aggregate) relationship between the rate and PPD prices. As argued above, CD prices are determined by a number of economic factors - including, but not limited to, composers' royalty payments - that generally change over time. Consequently, unless one controls for these other factors, the inference made by BIEM is without basis.

Annex 7

88. Annex 7 presents a "breakdown of CD pricing by component costs." BIEM concludes that because mechanical royalties comprise only between a 6% and 7.5%⁷⁸ share of the total price, such costs must not affect the record company's pricing decision.⁷⁹ I dismiss this proposition on the most fundamental economic grounds. It is a basic precept of economics that a profit-maximizing firm will set its price such that its marginal cost is equal to its marginal revenue. Since marginal cost is directly linked to the royalty rate, a lower rate, and thus a lower marginal cost, should translate into a lower price, *ceteris paribus*, since marginal revenue declines as price falls. It is also plausible that a record company may take some of the savings in costs and use them to fund additional marketing activities. This might be the case if the company prefers to use internal funds to external funds, for whatever reasons. But such additional marketing will stimulate sales and improve composers' earnings.

⁷⁶ Moreover, even if variation in the mechanical rate did not affect prices directly, it would certainly influence a CD's profitability and, hence, the likelihood that the record company will commercially distribute it. Thus, an increase in the royalty rate, for example, may lead to fewer CDs being deemed profitable for commercial release. Such an effect would negatively affect those consumers who otherwise would have benefited from the greater variety, as well as those composers whose compositions would have been included in the (now unprofitable) CDs.

⁷⁷ BIEM Reply at par. 88.

⁷⁸ According to the chart presented in BIEM's Annex 7, the mechanical royalty rate ranges between 4% and 7% of consumer price. I am not able to determine the cause of the discrepancy between the chart in Annex 7 and BIEM's discussion of the same in paragraph 89 of its Reply.

⁷⁹ BIEM Reply at par. 89.

Annex 8

89. BIEM's Annex 8 presents the results of a "shopping expedition" in which an individual purchased at the same store five different classical CDs – some carrying copyrighted music and some not – at the same retail price. Although BIEM offers no clear interpretation of the results from this experiment, its purpose is to presumably bolster the assertion that mechanical royalty rates have no effect on CD prices.⁸⁰ Annex 8 fails to support such a finding.

90. One cannot base a statistical analysis of the relationship between mechanical royalty rates and retail prices on a cherry-picked sample containing only a few observations. Moreover, BIEM fails to control for the many factors that affect wholesale and retail CD prices. A record company's per-unit costs vary across CDs, due to the payment or non-payment of mechanical royalties, and for many other reasons including differences in marketing costs, performers' royalties, etc. Of course, we don't see CDs selling at thousands of different prices at retail, so clearly not all variations in cost are reflected in each and every price charged by retailers. But that doesn't mean that price bears no relationship to input costs. Similarly, the fact that five CDs carry the same price at retail, despite differences in mechanical royalty rate payments, does not establish the absence of a relationship between mechanical royalty rates and retail prices. The mechanical royalty is one of many elements of cost that bear on the price of a CD. Moreover, CD prices at retail (but also at wholesale) are slotted into several price points that are associated with the various "types" of CDs.⁸¹ This means that at any given moment we may see less variation in prices than one would see if pricing were more flexible (as it is in industrial sector, for example). On the other hand, we likely would observe price adjustments over time that reflect the accumulated changes in costs between price adjustments.

Annex 9

91. Annex 9 lists the PPDs for 8 CDs during the third and fourth quarters of 1999 across 16 European countries. Consistent with its analyses in Annexes 5 through 8, BIEM asserts that the uniform mechanical royalty rate across countries, in conjunction with variations in each CD's PPD,

⁸⁰ BIEM asserts that "[A]s a result of the small share of royalties in CD pricing, consumer prices are the same for (1) records carrying copyrighted music and whose production, consequently, requires a copyright license and the payment of a royalty, and (2) records carrying music that is not copyrighted and whose production, consequently, does not require such payment." See BIEM Reply at par. 90.

⁸¹ I understand from Universal that the CDs in BIEM's sample were part of a series and therefore likely to be priced similarly for marketing reasons.

“makes it clear that consumer prices are determined by the majors, and do not depend on royalties.”⁸²

92. BIEM’s conclusion reveals a complete misunderstanding of basic principles of economics and econometrics. One cannot statistically measure the effect of royalty rates on prices if the royalty rate does not vary. Moreover, as I demonstrated earlier in my critique of Annex 5, the fact that prices may be different across countries does not establish that prices are not affected by royalty rates. In order to assess whether the level of royalty payments influences prices, one must be able to isolate the effect of royalties from all other influences on price, including most critically local market conditions. If, for example, record companies incurred higher costs in one country relative to another (e.g., higher marketing and promotional expenditures), this could lead to higher PPDs in that country, *ceteris paribus*. In any event, without any variation in the independent variable whose effect one would like to measure, any inference exercise becomes moot, even if one considers all other pertinent factors that influence a given country’s PPD. In consequence, BIEM lacks any basis upon which to conclude that prices are not affected by the mechanical royalty rate.

93. BIEM’s discussion is also wrong as a matter of economics. The “majors” operate in a highly competitive market environment that compels them to take costs into account when setting their CD prices (or when deciding upon their marketing budgets as well as contracts with performers). It is just plainly foolish to claim that profit-maximizing competitive firms would be unmindful of their costs.

B. Comparing Mechanical Rates across Countries

94. In paragraph 188, BIEM argues that Annex 3 of Universal’s Complaint is flawed because it endeavors to compare royalty rates across regions without controlling for differences in economic and other variables that likely affect the royalty rate. But BIEM’s rebuttal ends with this abbreviated critique, and conspicuously fails to offer any explanation for why the rates should be higher in the relevant BIEM countries. Similarly, BIEM does not advance any reason why a composer should earn greater per-CD compensation (as a percentage of PPD) in the pertinent BIEM countries relative to all other countries.⁸³ At a minimum, one would expect some arguments from BIEM, especially given the absence of any economic or other reason why a composer should

⁸² BIEM Reply at par. 91. That consumer prices do not depend on royalties is clearly false. It is also uninformative to say that consumer prices for CDs are determined by the majors. A record company, of course, sets PPDs for its CDs, and negotiates with retailers over the actual prices it will receive. However, many factors influence the prices paid by consumers at retail, including a significant number outside of the control of any one “major” and even all the “majors.”

⁸³ Or stated differently, BIEM declines to explain why all composers, regardless of their country of origin, earn greater compensation (as a percentage of PPD) when their CDs are sold in the relevant BIEM countries.

be compensated more generously (as a percentage of PPD) just because a CD containing his composition is sold in one of the relevant BIEM countries as opposed to elsewhere.

95. Of course, a sound assessment of rates across regions would properly account for pertinent variables such as national legislation, conditions of demand and supply, and so forth. However, the differences in rates between the BIEM countries and those prevailing in the other regions presented in Annex 3 are in many cases substantial. The Comparables table in Annex 3 simply suggests that the mechanical royalty rate itself, which is applicable in the relevant BIEM countries, is out of line with other jurisdictions and thus warrants serious economic scrutiny.

APPENDIX 1

In this appendix I explore, from a theoretical perspective, the relative risks of recording companies and composers. I demonstrate that, under plausible conditions, the risk facing the record companies, as measured by the variance of their income, is greater than that facing composers.

I define a record company's expected (variable) profit (net of mechanical royalty payments) from the sale of a CD as follows:

$$R = [(P - m) * Q - rPPD * Q] = [M - rPPD * Q],$$

where P is the realized (wholesale) price, m is the marginal cost excluding mechanical royalty payments, r is the royalty rate, and Q is the consumer demand at price P .⁸⁴ Of course, $M = (P - m)Q$, the record company's gross profits excluding payments to composers. I define the record company's realized margin, excluding mechanical royalty payments, as $w = (P - m)$.

The expected variable income for composers is $C = [rPPD * Q]$, where w is the average hourly wage rate offered in the composers' next best alternative occupation, and H is the total number of hours invested in the creation of the music sold in the CD.

In this formulation, I assume that all composers' costs are sunk (so that music must be written before it is recorded). Basic statistics teaches that the variance of the record companies' net income is given by $\text{var}(R) = \text{var}(M) + \text{var}(C) - 2\text{cov}(M, C)$, where $\text{cov}(M, C)$ is the covariance between M and C , and $\text{var}(\cdot)$ stands for the variance.

In order to model risk, I assume that there is volatility in the demand for CDs (that calls for corresponding adjustments in the actual realized (wholesale) price. For simplicity, I assume that there are two states of the world, "bad" and "good." In the good state of the world, $Q = Q_{h5}$ and in the bad state, $Q = Q_1 = bQ_{h5}$ with $0 < b < 1$. I also assume that record companies adjust discounts in such a way that the realized margin is W_h in the good state of the world and $w_1 = a * w_h$, where $0 < a < 1$, in the bad state. Without loss of generality, I assume that the probability of being in either state is 0.5.

With that framework in place, it is straightforward to calculate the variance of the record companies' gross profits:

⁸⁴ In this analysis, I assume that all composers' compositions are included in CDs, and that all of composers' revenues are derived from mechanical reproduction royalties.

$$\text{Var}(M) = [\frac{1}{2} * (w_h * Q_h * (1-ab))]^2.$$

The variance of the composers' income is as follows:

$$\text{Var}(C) = \frac{1}{2} * (rPPD)^2 * \text{Var}(Q) = \frac{1}{4} * [rPPP * Q_h * (1-b)]^2.$$

Finally, the covariance between M and C is given by,

$$\text{Cov}(M,C) = \frac{1}{2} * w_h * (Q_h^2) * rPPD * (1-a-b) * (1-b).$$

The question of interest is whether the variance of the recording companies' net profits $\text{var}(R)$ is greater than the variance of the composers' income $\text{var}(C)$.

I define $D(b) = \text{var}(R) - \text{var}(C)$ and note that,

$$D(b) = \frac{1}{4} * w_h * (Q_h^2) * (1-ab) [w_h * (1-ab) - 2 * rPPD * (1-b)].$$

Since, according to figures provided by Universal, w_h is greater than $2rPPD$, it is sufficient to show $D(b)$ is positive as $(1-ab) > (1-b)$.⁸⁵

Thus, following economic logic, the risks facing record companies are greater than those of composers.

⁸⁵ I define $w_h = (P - m)$, where P is the average actual realize price, and m are variable costs excluding mechanical royalties. According to data from Universal, for a top-price release, $w_h = [\quad]$, while $2rPPD = [\quad]$.

APPENDIX 2

In this appendix I consider how composers' average gross revenues from the sale of CDs compare with their opportunity costs to assess the profits of composers.

I consider the revenue dimension first. Based on figures provided by Universal, I conservatively estimate that an average CD sells roughly [] units worldwide over its lifetime.⁸⁶ In order to compute the mechanical revenues flowing to composers from the sale of an average CD, I employ the following four steps. First, I assume that these [] units are distributed geographically in accordance with each country's share of total industry unit sales. Germany, for example, would account for around [] of the [] units sold worldwide, based upon its 7% share of worldwide unit sales in 2001.⁸⁷ Second, I calculate the mechanical royalty income attributable to CD sales in a particular country by taking the product of that country's estimated per release unit sales, its royalty rate, and its weighted average PPD.⁸⁸ Continuing with the example of Germany, the revenues flowing to composers from the estimated [] units sold in that country would amount to just over [] ($= [] * 0.09009 * []$).⁹⁰ Third, I add across all countries to obtain worldwide gross mechanical revenues for an average CD of roughly [].⁹² Finally, I adjust for the fact that

⁸⁶ I estimate this figure by dividing Universal's total global album sales in 2002 by its total new releases in that same year. If I assume a constant number of new releases every year and a constant lifecycle pattern for CDs over time, then the ratio just described generates the average number of worldwide units sold over a CD's lifetime. The total new release figure only includes full-length CD albums (i.e., CD-singles are excluded). I also exclude compilations and three-fourths of classical releases. I adjusted the classical release figure to reflect Universal's estimate of the portion of classical material in the public domain, i.e., 75%. I excluded compilations because they generally contain repertoire that has been previously released. To be consistent, all categories excluded from the tabulation of new releases are also removed from the total global album sales data. Unfortunately, the sales data were aggregated across recording formats, and I was unable to parse out LP and cassette sales from the total. Nevertheless, given that CDs account for over 90% of volume in the industrialized countries, and in turn industrialized countries account for the vast majority of worldwide volume, this aggregation of formats does not substantially bias my results. Moreover, this bias is offset by the fact that my estimate of worldwide revenues only captures 34 countries comprising 85% of worldwide totals. (See below)

⁸⁷ See IFPI: The Recording Industry in Numbers, 2002 for each country's unit sales share.

⁸⁸ The average PPD is weighted based on the unit sales in the top, mid, and budget price categories. See IFPI: The Recording Industry in Numbers, 2002.

⁹⁰ I estimate that the weighted average PPD for a CD in Germany is []. This is based on a top price of [], a mid price of [], and a budget price of [], and unit shares of 56%, 16%, and 28%, respectively. (PPD figures were provided by Universal. Unit shares were obtained from IFPI: The Recording Industry in Numbers, 2002)

⁹² This analysis underestimates the average worldwide revenues for a release as I do not include all countries. Specifically, I consider 34 countries, accounting for approximately 85% of total industry unit volume. The remaining countries were omitted because I was unable to obtain the required data on PPDs, royalty rates, or both.

composers receive approximately 70% of the total mechanical revenues flowing to collecting societies. This adjustment produces a worldwide mechanical revenue figure for the average CD of approximately [].

Now I turn to composers' opportunity costs. Assuming that the opportunity cost of time for an average composer ranges between \$11 and \$23 per hour (which equals \$22,000 to \$46,000 in annual opportunity cost income), the average composer will choose composing over an alternative career so long as the total composing time needed for all the tracks on an average CD does not exceed 1,145 to 2,394 hours.⁹³ It is implausible that such a range of hours is a reasonable amount of time needed to create the music on an average CD. Hence, an average CD's unit sales of [], or more specifically the mechanical royalty income derived there from, should be sufficient to compensate the composers for their investment of time, calculated at the opportunity cost of the average hourly wage.

⁹³ Vacation time and holidays are factored into the calculation of the hourly wage figures. These figures reflect total hourly compensation - including hourly direct pay, employer social insurance expenditures, and other labor taxes - for production workers in manufacturing. M alternative would be to use only hourly direct pay, which ranges from \$8 to \$20. The lower hourly wages would increase the breakeven number of hours at which a composer's opportunity costs equal the expected gross revenues from composing. (Source: Foreign Labor Statistics, Bureau of Labor Statistics, U.S. Government.)

APPENDIX 3

In this appendix I remove the assumption that a composition will be, in fact, recorded and released on a CD. Specifically, I calculate the breakeven probability that any given composition is “successful” such that the composer is able to recoup her opportunity costs. As before, I rely upon sales data from Universal, according to which an average CD sells approximately [] copies worldwide over its lifetime. I assume further that an average CD has 12 tracks in order to calculate composer income of approximately [] per track based on the mechanical revenue figure from Appendix 2 of []. At \$11-\$23 per hour in opportunity costs, this would mean that a composer who cared only about monetary outcomes would be willing to devote 10 hours to composing a song if the probability of success were as little as 5.0% to 10.5%.⁹⁵

⁹⁵ Based on figures from NMPA, mechanical revenues represent approximately one-fourth of all revenues flowing to collecting societies. (See, e.g., NMPA International Survey.) If all revenue sources were included in the analysis, and assuming that composers receive 70% of the total revenues flowing to collecting societies, then the already low range of breakeven probabilities presented above would be substantially lower - 1.3% to 2.6%.

APPENDIX 4

In this Appendix, I demonstrate that a record company will have heightened incentives to offer discounts to retailers under a flexible discount regime, i.e., where the mechanical royalty rate is computed using actual discounts as opposed to a fixed discount allowance.

To illustrate this point, assume that for some retailer the record company wishes to offer a discount off PPD. Perhaps the reason for such a discount is that the retailer's demand is more elastic than that of an average retailer, due to its "buyer power." Assume that the retailer's demand is given by $Q = A - Bp$, where $A, B > 0$ are some constants, and p is the price. We assume that parameters of the demand function are such that p^* (the profit maximizing price) is less than the PPD. Let us assume also that the marginal cost of a CD (excluding the mechanical royalty) is some constant c and that the current royalty rate is r . Hence, if the royalty is paid on the basis of PPD, the company's profits are:

$$V = pQ - cQ - [r(\text{PPD})Q]$$

A simple calculation reveals that the optimum price is:

$$p^* = [A + cB + (r(\text{PPD})B)] / 2B$$

Now consider the situation where the same royalty, r , is paid on the actual realized price. The company's profit function becomes:

$$V^{\wedge} = pQ - cQ - rpQ = pQ - cQ - r(\text{PPD})Q + rQ(\text{PPD} - p)$$

Differentiating this expression with respect to p and evaluating it around p^* (where $dV/dp = 0$), shows that:

$$(dV^{\wedge}/dp)_{p=p^*} = 0 + r(\text{PPD} - p^*)(dQ/dp) - rQ$$

Since the last term is negative and the profit function is concave in p , this means that the value of the price that maximizes the modified profit expression, V^{\wedge} , is lower than the price that maximizes the standard profit expression. This implies that the wholesale price is lower and thus that consumers benefit, as long as the retailer charges a lower retail price and thereby sells the additional volume demanded (a reasonable supposition). Clearly, producers are also better off as a result of the regime switch. This follows from the obvious fact that under the new regime, the manufacturer could also set the price at p^* which would lead to sales of $Q(p^*)$ but since $p^* < \text{PPD}$ then the producer is better off paying royalties on $p^*Q(p^*)$ than on $(\text{PPD})Q(p^*)$.

It remains to examine the effect on the composers. It is plain that the effect is ambiguous (as we already noted). Since p^{**} - the price that maximizes V^{\wedge} - is lower than p^* and also lower than PPD, the only source of benefit to composers comes from demand stimulation. Composers are better off as a group in terms of income if:

$$Y = p^{**} * Q(p^{**}) - (PPD)Q(p^*) > 0$$

It is easy to see that for this expression to be positive, a regime change must lead to substantial stimulation in sales. Manipulation of the above expression shows that composers are better off if:

$$[(p^{**} - PPD) / PPD] + [Q(p^{**}) - Q(p^*)] / Q(p^{**})$$

Since the first term is negative, measuring as it does the percentage discount from PPD, it can only be outweighed if the second term is large (since it is positive). Put another way, if demand is highly elastic, a regime change can benefit all parties.

APPENDIX 5

In this appendix I examine a market scenario that will provide insight into the inefficiencies of a rigid discount allowance that does not permit the standard rate to respond to actual marketplace conditions. Assume that demand by a particular retailer or in a given geographic location becomes more elastic, prompting a profit-maximizing record company to lower the price to that retailer (or in that market). To make the analysis tractable, I assume that the change in elasticity is such that at the given price, the total demand does not change.⁹⁶ In particular, consider an iso-elastic demand curve, e.g., $Q = Ap^{-e}$, where symbol “^” means “to the power of”, and where e denotes the demand elasticity. Hence, we postulate that as e changes so does A according to the relationship $dA = A \ln(p) de$:

Now consider the fact that the record company sets a profit maximizing price where $[p - (c + rPPD)]/p = 1/e$. It is not difficult to show using simple comparative statics that, $dp/de = [p - (c + rPPD)] / (1 - e) < 0$, since $e > 1$. Now consider the effect of a change in the elasticity on sales Q . Since we assumed that there is a compensating adjustment in A such that at any given price sales do not change when e changes, the effect on sales is purely due to the change in p . Formally, $d \ln(Q) = -e * [d \ln(p) / dp] * (dp/de) de$. From this expression, it is evident that output increases as demand becomes more elastic.

We now evaluate how the increase in the demand elasticity affects the welfare of the various parties. First, using the envelope theorem we can see that the record company's profits do not change since we stabilized the volume of sales at the initial price. Second, the revenues of the composers increase since the volume of sales expands. Finally, consumers' welfare also improves as they now face a lower price and increased output. Hence, the postulated increase in elasticity that leads to an optimal price reduction increases the welfare of consumers and composers, while leaving that of the record companies intact.

It follows, therefore, that there is a reduction in the royalty rate (in response to deeper discounts) that would benefit consumers even further, would generate some additional profit for the producers, and would also leave composers better off than they were before the elasticity (hence discounts) increased. Put another way, in response to an increase in the price elasticity of demand, all parties can be made better off than they were before such increase, if royalties adjust.

⁹⁶ This assumption merely postulates that the demand curve must rotate around a fixed point (Q, P) for any Q and P . Note that I am NOT saying that the quantity sold will not change. In fact, as the elasticity increases, the firm will want to lower its price. It is the lowering of the price that will bring more consumers to the store and expand sales. The assumption, therefore, is made for simplicity only. In that manner, one gets to isolate the volume effect of a reduced price from that of the increase in the elasticity.

APPENDIX 6

In this appendix I demonstrate that for any per CD royalty payment –based on PPD or on an actual wholesale price –expanding the number of tracks ceases to increase a record company’ s profits before it reduces the total income flowing to composers.

Consider the expression for a record company’s profits,

$$V = pQ(p,t) - C(t) - r(\text{PPD})Q(p,t),$$

where p is the wholesale price, Q is the demand for CDs, C is the total cost of producing a CD, r is the royalty rate, and t is the number of tracks in the CD. I assume that $Q(p,t)$ is concave in t . Concavity implies that incremental tracks expand sales proportionately less.

The company’s optimization problem requires that $dV(t^*)/dt = 0$, where t^* is the optimal number of tracks. That is,

$$dV/dt = [p - r(\text{PPD})]dQ(p,t^*)/dt - dC(t^*)/dt = 0.$$

This expression can be rewritten as,

$$dQ(p,t^*)/dt = dC(t^*)/dt / [p - r(\text{PPD})] > 0, \text{ as long as } dC(t^*)/dt > 0.$$

It seems reasonable to assume that the total costs of producing a CD, excluding royalty payments, would increase with the number of tracks in the CD.

Now consider composers’ optimization problem. Their income is given by,

$$Y = r(\text{PPD})Q(p,t).$$

The optimal t^{**} must satisfy the condition, $dY/dt = 0$. Thus,

$$dY/dt = r(\text{PPD})dQ(p,t^{**})/dt = 0, \text{ and } dQ(p, t^{**})/dt = 0.$$

Given that Q is concave in t , it must be that t^* In other words, while the record company ceases to expand its profits at t^* , composers will continue to benefit until $t^{**} > t^*$.

APPENDIX 7

In this appendix I briefly describe recent and ongoing developments in the music industry that have contributed to increasing weakness in the demand for musical recordings. I find that record companies, relative to composers, likely bear disproportionately the adverse consequences arising from such developments. To the extent there is already an imbalance in the risks and expected returns characterizing the parties' respective activities, these recent developments render urgent the adoption of the changes to the Standard Contract that I herein advance.⁹⁷

The record industry is in the midst of a significant downtrend in sales. The value of worldwide sales of recorded music has declined in five out of the last six years, including a 5% drop in 2001, and a 9.2% decline over the first six months of 2002.⁹⁸ Industry analysts at W Morgan forecast that this trend will continue over the next few years, with industry revenues (excluding digital music revenues) experiencing a 2% compound annual rate of decline between 2002 and 2007.⁹⁹ The most often cited developments behind the downturn in the industry's fortunes are more pervasive piracy in all forms (commercial, CD burning, and peer-to-peer file-swapping), sharpened competition from other forms of entertainment, and consolidation among music retailers.¹⁰⁰

Using IFPI figures, I estimate that the number of illegal CDs distributed worldwide, as a fraction of total legitimate CDs sold, reached roughly 40% in 2001.¹⁰¹ European countries are not immune from such illegal copying as Italy, Spain, and Greece are all among the most prolific distributors of

⁹⁷ I do not want to suggest an impression that this downturn in music industry sales had only a negative impact on recording companies. Composers and performers also suffer reduced incomes as a result of piracy and the slowdown in sales. However, as I more fully describe in Section III of my report, the business economics of composing are characterized by fewer sunk costs, multiple sources of revenues, and substantial "economic rents" that accrue to the more successful composers and artists. As a result, record companies shoulder a disproportionate share of the adverse effects arising from deterioration in the music industry's economic climate.

⁹⁸ See, Media Markets, 3F Morgan H&Q, August 19, 2002, at 258; "Global sales of recorded music down 9.2% in the first half of 2002," IPFI Press Release, October 10, 2002. Nielsen Sounds can has already reported a 10.7% full-year 2002 decline in the U.S. Market (MIDEM Points, January 2003).

⁹⁹ See, Media Markets, 3F Morgan H&Q, August 19, 2002, at 257. Notably, these same analysts project a 1.3% compound annual rate of growth in worldwide music publishing revenues for the same period. Despite the negative impact on mechanical royalty income created by a decline in recorded music sales, overall publishing revenues can nevertheless expand as a result of growth in the publishing community's other revenue streams (e.g., radio, TV and live performance). See, also, Music & Copyright, February 19, 2003. (Spanish authors' society SGAE's unaudited 2002 results show a 2.3% year-over-year increase in music-related collections, despite "a dramatic fall" in mechanical revenues caused by an 11% decline in the sales of musical recordings. The decline in mechanical collections was more than offset by increases in performance-related royalty collections.)

¹⁰⁰ See, e.g., NMPA International Survey; IFPI website; "DVD takes bite out of music sales," DSN Retailing Today, Apr. 8, 2002; "Commercial Strategy & Pricing," UM! Commercial Affairs, January 2003.

¹⁰¹ Fighting Piracy and Growing a Legal Online Music Business," IFPI Fact Sheet, www.ifpi.org.

pirated recordings.¹⁰² In these three countries, estimates of the number of illegal CDs distributed as a fraction of total CDs sold ranged from 25% in Italy to 50% in Greece.¹⁰³

Increasing affordability of CD burners and recordable CDs has enabled the rapid growth of home copying.¹⁰⁴ In Germany, for example, GfK, a consumer research institute, found that 133 million recordable CDs were sold between March 2000 and April 2001, a 129% jump over the same period in the previous year.¹⁰⁵ The same institute estimates that 5.9 million people burned CDs in 1999 and that in 2000 the figure more than doubled to 13.7 million.¹⁰⁶ Furthermore, GfK researchers estimate that 26% of German households owned a CD-burner in 2001,¹⁰⁷ compared to 3% in 1998.¹⁰⁸ These figures will likely continue to increase as consumers replace their current PCs with new models that are equipped with CD burners.

The development of the Internet, the MP3 music file format, and peer-to-peer networks has also radically altered the nature of music consumption.¹⁰⁹ Despite Napster's demise, the growth in peer-to-peer file sharing continues unimpeded. New file-sharing websites have emerged to replace Napster, including Morpheus, KaZaA, Grokster, and Aimster. The latest statistics suggest that KaZaA currently has 60 million registered users worldwide,¹¹⁰ a unique monthly audience of more than 14 million users,¹¹¹ and more than 3 million active users at any given time.¹¹² Across peer-to-

¹⁰² See Media Markets, 3F Morgan H&Q, August 19, 2002, Table 154, at 270.

¹⁰³ *Id.* See, also, Keynote Speech by Jay Berman, Chairman and CEO of IFPI, delivered at the opening of Midem 2003. Mr. Berman states that in Spain, pirated CDs as a fraction of legitimate recordings increased in one year from single digits to 30%.

¹⁰⁴ Music files can be written to and read from both a CD-R and a CD-RW. Music is digitally recorded onto these media with a CD burner. Of course, there are other uses for these blank recordable CDs. However, the huge increase in sales does reflect a growing incidence of commercial piracy. For example, an SGAE survey found that 77% of CD-Rs sold in Spain in 2001 were used to copy music. (Music & Copyright, February 19, 2003.) Similarly, IFPI estimates that 55% of blank CDs sold in Germany and France are used to record music. What makes piracy of digitally recorded music more desirable as compared to cassette recordings is the CD's digital quality sound and faster recording (burning) time.

¹⁰⁵ See, NMPA International Survey at 48.

¹⁰⁶ See "CD Writers and the Internet are Proving a Threat to the Music Industry," Frankfurter Allgemeine Zeitung, July 17, 2001 as cited in GfK's website, www.gflc.com.

¹⁰⁷ *Id.*

¹⁰⁸ See "Professionals and Schoolkids Make CD-R Piracy a Real Threat," Music and Copyright, April 21, 1999.

¹⁰⁹ Peer-to-peer is a popular type of application that allows users to share music files.

¹¹⁰ See, T. Woody, "The Race to Kill Kazaa," Wired, February 2003.

¹¹¹ R. Greenspan, "Users do more than surf," December 31, 2002, <http://www.internet.com>.

¹¹² "Kazaa and the Law: A Tangled, Worldwide Web," Washington Post, January 6, 2003. KaZaA's active user count is twice the number enjoyed by Napster at its peak.

peer networks worldwide there are approximately 5 million users at any given time, with access to some 900 million files.¹¹³

Increasing competition from other forms of entertainment have also weakened demand for musical recordings. Computer games, multimedia mobile phones, DVDs, and pay-TV all now vie along with music for a consumer's attention.¹¹⁴ Competition from these new technologies is especially potent with respect to consumers under the age of 24, a group that comprises the single most important segment of music consumers.¹¹⁵

Finally, increased consolidation among music retailers has served to enhance their buyer power, and thus their negotiating leverage vis-à-vis the record companies. Examples of this trend can be observed in numerous European countries. For example, the top five retailers in Germany accounted for 40% of music sales in 1999 and 46% in 2002; in France, the like figures were 67% in 1999 and 70% in 2002.¹¹⁶

¹¹³ "Fighting Piracy and Growing a Legal Online Music Business," IFPI Fact Sheet, www.ifpi.org.

¹¹⁴ See, e.g. Media - Global, ABN AMRO UK, January 24, 2002 at 371; "Piracy Blamed for Sharp Fall in Record Sales," Financial Times, October 11, 2002.

¹¹⁵ See, "Music Industry: Can Majors Control Online Growth? In-depth Report", Merrill Lynch, November 9, 2001, Table 41 at 48.

¹¹⁶ These percentages were obtained from data provided by Universal.