

Valuing the use of recorded music



July 2008

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Glossary of Terms

Term	Explanation
AUD	Australian Dollar
CAD	Canadian Dollar
Collections	Revenue collected by performers and producers
Externality	Spill-over impacts on third parties
Economic profit / Excess returns	Returns which are above what could be considered a 'normal return' given the nature of the organisation/industry
Equitable remuneration	The term used in the international treaties and many national laws to refer to sound recording performance rights payments
GBP	British Pound
Hypothetical negotiation	A theoretical exercise to determine the factors and considerations that buyers and sellers would take into account when bidding up or down the price of a product.
Market penetration	Extent to which copyright law is enforced and the appropriate amount of remuneration is collected
Normal profit / Normal return	The opportunity cost of labour and capital invested in a business, which means the return that the labour and capital could earn in their next best use
PRO	Performance Rights Organisation
USD	United States Dollar

Executive Summary

The need for robust analysis in setting royalty rates (Chapter 1)

Copyright law gives record producers and performing artists the right to collect revenues from the use of their recordings. In most developed countries, broadcasters and businesses must pay a 'reasonable' royalty (or 'equitable remuneration') to the artists and the record companies whose sound recordings they play. The rate for the equitable remuneration is often times set by a third party in a judicial process involving courts or tribunals.

Judicial approaches to valuing music and setting rates are generally steeped in legal tradition, but unfortunately tend to be inconsistent and lack robustness. Courts and tribunals have often based their determinations using flawed reference points, which include:

- Outcomes of other (or previous) determinations that were also based on flawed approaches.
- Rates which are irrelevant to the specific rights in question. In particular, rights to sound recordings are commonly valued with reference to the royalties paid to composers of songs, with the assumption that the underlying work is more valuable than the recording. The royalty rate for sound recordings should be generally higher than that paid to authors, as:
 - the majority of consumer demand is related to a recording of a song by a particular artist instead of 'sound-alike' recordings, and
 - the costs and risks involved in the production and marketing of a recording are higher than that for the production and marketing of the underlying music.
- Administrative or production costs associated with recorded music, without consideration of the value generated by its use. While a cost-based approach can be valuable in some circumstances, it needs to be seen as a conservative estimate.

To address these problems, IFPI and eight recording industry copyright collecting societies have commissioned this report from PricewaterhouseCoopers to:

- provide an overview of economic analysis techniques that can be used to gain a more robust and reliable estimate of the value of recorded music;
- review specific legal rulings illustrating the importance of systematic analysis in the setting of rates; and
- provide an estimate of the potential global value of the use of recorded music. More sophisticated and robust valuation methods would contribute significantly towards realising the potential global value.

Economic analysis techniques (Chapters 2 to 5)

A more robust and reliable estimate of the value of recorded music can be determined through economic analysis. Generally speaking, if a well functioning market exists, then the prices that emerge in that market would be considered reasonable. For example, if a collecting society has negotiated an agreed rate with users without third party involvement, this would be considered an appropriate rate.

In practice, however, the nature of music means that such markets do not usually exist. Therefore the reasonable price should be estimated through construction of a hypothetical bargain as if the parties were negotiating in a well functioning market. The price range within which parties would negotiate can be estimated using the following methods.

Analysing the value of using music to businesses

- How businesses use music to drive revenues (“usage analysis”)
Commercial broadcasters choose the best mix of music and other elements (including talk, station promotion, etc) to maximise profit. Analysis of a broadcaster’s use of music and other on-air elements can show how much of advertising revenue is driven by the use of music. The royalty rate for music is too low if music contributes heavily to advertising revenue but do not account for a similar proportion of programming costs.
For example, a 2004 study on the Canadian commercial radio industry’s usage of music showed that recorded music accounts for the majority of program content (76% of airtime from 6am to midnight, excluding commercials). A conservative estimate of the contribution of music to advertising revenue, compared to news and other elements, was 62%. The research showed that music related royalties should therefore represent a similar share of commercial radio programming costs, at CAD 265 million (instead of the existing cost of CAD 109 million).
- The profitability of businesses that use recorded music (“financial analysis”)
Excess returns, i.e. profit above what can be earned by businesses in a competitive market, could be an indication that the prices of inputs to the business are too low. If an industry that makes substantial use of recorded music is consistently able to make excess returns, this would indicate that the price of recorded music is below its fair market value.
- The use of ‘substitute’ music by businesses (“substitute analysis”)
The prices of ‘substitute’ music (such as commissioned music, non-protected music and live music) and the extent to which they are used by businesses provide an indication of the lower bound of the appropriate price range for music used in public performance. It is unlikely that record producers and performers would be willing to accept a price lower than that of non-protected music.
- The revenue of businesses that use recorded music (“hedonic pricing based on business revenues”)

Businesses have different attributes including location, service, quality, price, etc that drive their ability to generate revenue. Statistical analysis of the effect of different business attributes on revenue can show the relationship between music being played by a business and the level of revenue that business is able to earn.

Analysing the impact of music on the behaviour and preferences of consumers

- How music attracts consumers to a business and can result in higher sales revenue (“field experiments”)

Businesses use music to attract customers, make customers feel comfortable and also influence customer perceptions about their products. The additional revenue that music generates for businesses can be determined through field experiments, analysis of sales patterns, etc.

For example, a 2002 UK study on restaurants found that playing certain types of background music led to customers spending an additional GBP 2.80 per head compared to when no music was played.¹ The value of music to restaurants would be even higher if the role of music in attracting patrons was included in the analysis.

- The value attributed to recorded music by end-consumers (“choice modelling”)

The end-consumer’s willingness to pay for music can indicate the value of music to businesses.

For example, research in Australia using survey techniques to measure the value of music to nightclub patrons showed the average nightclub patron was willing to pay AUD 6.97 for music. Adjusting for the contributions of other stakeholders, the Australian Copyright Tribunal determined the price of using protected music at nightclubs is AUD 1.05 per person, an increase of 1,400% on the previous rate.²

- The prices of products that involve the playing of recorded music (“hedonic pricing based on consumer prices”)

Statistical analysis of the effect of music on different product prices can indicate what businesses are willing to pay for the right to play recorded music.

The price of a marketed product (such as a drink at a bar) is driven by its characteristics (such as the size and quality of the drink, the

¹ North, A., Shilcock, A., Hargreaves, D., The Effect of Musical Style on Restaurant Customers’ Spending, *Environment and Behaviour*, Vol. 35, No.5, September 2003

² *Phonographic Performance Company of Australia Limited (ACN 000 680 704) under section 154(1) of the Copyright Act 1968 (Cth) [2007] ACopyT 1* (10 July 2007), available at <http://www.austlii.edu.au/au/cases/cth/ACopyT/2007/1.html>

location of the bar, the quality of the bartender's service, and the ambience of the bar including whether it plays music). Statistical analysis of the effect of different product attributes on its price can show the maximum willingness to pay for music by consumers. This can indicate the maximum that businesses are willing to pay for the right to play recorded music.

The methodologies described in this report are complementary and all have potential to be used in particular circumstances.

The potential global value of music in public performance or broadcasting (Chapter 6)

This report also attempts to derive a potential global value of sound recording performance rights based on the premise that:

- for a given level of wellbeing in a country's residents, countries should have the same relative value of sound recording performance rights;
- as the wellbeing of a country's residents improves, there is an increase in the average consumer's willingness to pay (and business users' ability to pay) for the right to listen to (or play) sound recordings; and
- as the wellbeing of a country's residents improves, the legal and law enforcement system of the country enables the rights holders to better monitor the use of protected music and enforce the collection of appropriate rates.

Based on the above assumptions, the estimated range for the potential global value³ of sound recording performance rights is between USD 1.9 billion (an increase of 56% over current collections) to USD 2.9 billion (an increase of 141% over current collections) annually.

Potentially, an even higher value could be achieved if those countries which currently do not have full performance rights in place reform their laws and grant such rights.

These estimates have been provided simply to illustrate the potential value that could emerge if a more systematic approach was adopted in valuing recorded music around the world. It would be necessary to develop a tailored approach for each market and to undertake country-specific valuation projects to produce estimates that would be suitable for use in a tribunal / court environment.

³ For a list of countries on which this value is calculated, please refer to Table 5.

Chapter 1

Looking beyond traditional approaches –
the role of economic analysis

This chapter provides an introduction to the challenges involved in determining the value of recorded music in public performance, and how economics can be used to provide a robust, credible estimate.

1.1 Background

Record producers and performers produce sound recordings which are used by a wide range of businesses. Music is consumed in a diverse number of ways by end-consumers, and its value extends far beyond just physical or digital sales of recorded music products.

In particular, the public performance and broadcast of recorded music is used to attract viewers/patrons, promote products and enhance the ambience for customers and staff. There are a wide variety of individuals and businesses that routinely play recorded music in public, including:

- radio and television programs and commercials;
- retail outlets;
- bars, restaurants and cafes;
- “on hold” music in telephone systems;
- nightclubs and commercial dance parties; and
- exhibitions, events, fairs and shows.

It is obvious that the use of recorded music is valued by individuals and businesses. However, recorded music has inherent characteristics which potentially erode its value:

- a recording of a song is not “used up” by one person listening to it;
- access to music by consumers is increasingly unlimited as a result of technology; and
- unauthorised use of recorded music is widespread and very costly to prevent.

In order to overcome these problems, governments around the world have created laws to counter the non-exclusive nature of music by prohibiting unauthorised performances of music recordings. International intellectual property treaties and copyright law give producers and performers rights in relation to the use of their recordings. Performance rights organisations (PROs), also called collecting societies, have evolved to assist record producers and performers in enforcing their rights and negotiating the value of licenses with users.

In most developed countries⁴, users must obtain a licence, and pay the associated licence fees, in order to broadcast or play recorded music.

While arrangements vary across countries in their detail, in general the payment rate can be determined in one of three ways:

- the value of the rights may be for an amount agreed between users and the record producers and performers;
- if the parties cannot agree on the rate, then there is a process that provides for a third party to determine the royalty rates; or
- in some countries, collecting societies have an obligation to submit their tariffs for review and approval by a third party before the tariffs can be applied.

It follows that it is very common that at least the economically important tariffs are set by a third party in a judicial process.

1.2 The need for more robust approaches

The rate setting decisions of courts and tribunals have widespread implications for consumers and creators of music. It is therefore important for courts and tribunals to apply robust methodologies in their approach to rate setting.

Unfortunately, judicial processes have historically involved approaches that, while steeped in legal tradition, have tended to lack rigour. The table below summarises some common reference points that have been given considerable weight in past determinations, and why they may not necessarily give rise to the correct value of recorded music.

Reference Points	Common Flaws with using the reference point
Previous determinations	<ul style="list-style-type: none">• There is often little evidence to suggest that the previous rates were determined by any sophisticated analysis.• Changing conditions between determinations may make the previous rate irrelevant.
Previous agreements or negotiations between parties	<ul style="list-style-type: none">• Direct negotiation between collecting societies (or record companies) and industry users rarely occur in practice due to high transaction costs.• There can be long periods between negotiations, and changing conditions may make the previous rate negotiations irrelevant.

⁴ Exceptions include the United States, Singapore and Japan, where producers and performers do not enjoy full performance rights.

Reference Points	Common Flaws with using the reference point
Rates in other jurisdictions	<ul style="list-style-type: none"> • This is a very common technique, but is limited in value because there is often little evidence to suggest that the overseas rates were determined by any sophisticated analysis. • In any case, a PRO may be challenged if international comparisons are relied upon when favourable to its case, but the comparisons are not referenced when they are unfavourable to its submission.
Rates set by other licensors – in many cases this refers to the rates negotiated by the musical authors' PROs	<ul style="list-style-type: none"> • There is often little evidence to suggest that the other rates were determined by any sophisticated analysis. • The bargaining position of licensors and users may differ between different types of rights.
Consideration of general public interest and the interest of consumers	<ul style="list-style-type: none"> • Public interest is generally considered best served by a well functioning market unless there are significant externalities (i.e. impacts on third parties). In the case of sound recordings there are few negative or positive externalities. Hence, the best approach to serving the public interest would be to concentrate on determining the optimal price that would emerge in a well functioning market.
Costs involved in the production of sound recordings	<ul style="list-style-type: none"> • The right to broadcast or provide a public performance of the sound recording should be distinguished from ownership of the music itself. Record producers and performers produce music (and incur the associated costs) for a number of reasons and expected rewards, not simply those associated with public performance of the recording. • Record producers and performers face very low marginal cost but very high fixed cost in production. For example, there is virtually no marginal cost involved in allowing the playback of a particular song, however the recording industry has had to make large investments in R&D (searching for and developing talent) and production and marketing of the album. Focusing on the marginal costs alone would result in an undervaluation of the recorded music.
Administrative costs of a licensing body	<ul style="list-style-type: none"> • The high fixed costs and very low variable costs involved in administering a licensing body means that focusing on costs alone would result in an undervaluation of the licenses. These costs should only mean that no PRO should (be forced to) accept royalty rates below their own operating costs.

While the above approaches are limited, it is important to note that with care they may be used as complementary analytical approaches. Past experience suggests, however, that such approaches have produced clearly supported explicit values, and this has left determinations too often to the discretion of (and misuse by) arbitrators.

1.3 The role of economic analysis

The setting of public performance rates has tended up until now to be based on legalistic approaches. By contrast, economics provides a powerful, and hitherto under-used, set of tools for analysing and setting rates. Economists (and economics) can contribute to judicial processes involved in determining royalty rates in three ways⁶:

- ‘Economists describe the paradigm’ — by setting out the logic, informed by the economic policy that underlies copyright, economics assists in providing a framework for analysis that can sometimes otherwise be lacking;
- ‘Economists act as a filter to identify relevant facts’ — while there is a tendency for ‘industry experts’ to suggest that every nuance must be understood and expressed to draw a conclusion, economists tend to have a defined set of issues and factors that are likely to be the key to any analysis; and
- ‘Economists challenge simplistic or intuitive judgements’ — by applying the framework and challenging preconceived assumptions, existing patterns of analysis are subject to credibility testing.

The concept of ‘equitable remuneration’

Public performance revenues are paid according to the key principle of “equitable remuneration”. How can economic analysis be used to determine the “equitable remuneration” for the right to use recorded music?

Given that the need for regulators to set a price for these rights arose out of the lack of a well functioning market, the appropriate price should be based on the hypothetical amount that would emerge if the users and producers of music were free to bargain in a competitive market. A well functioning market can be defined as one made up of willing (but not anxious) buyers and willing (but not anxious) sellers⁷.

⁶ Donald Robertson, "Expert Economic Evidence: Challenging the Paradigm," *Trade Practices Law Journal* 11, no. 2 (2003): 73

⁷ See, for example, s112 of the Copyright Act in the US, which requires the US Copyright Tribunal to establish rates “that would have been negotiated in the marketplace between a willing buyer and a willing seller”.

A former President of the Australian Copyright Tribunal described the process of determining a copyright licensing fee in these terms:

The Tribunal's task is one of evaluation or estimation. The starting point will be a search for a market. If there is a market, probably the market value will be the value which prevails. If there is no market, or if the object ... is not well sought after so that comparable sales are not easily found, the court will have to construct or endeavour to construct, a notional bargain between a willing but not anxious seller and a willing but not anxious buyer. This becomes a much more theoretical exercise. It involves a degree of subjective judgement and minds will often differ as to what the appropriate outcome is.⁸

In other words:

- if a well functioning market exists, then the prices that emerge in that market would be considered the optimal price; and
- in the absence of a well functioning market, the optimal price should be estimated through the construction of a 'hypothetical negotiation', which is further discussed below.

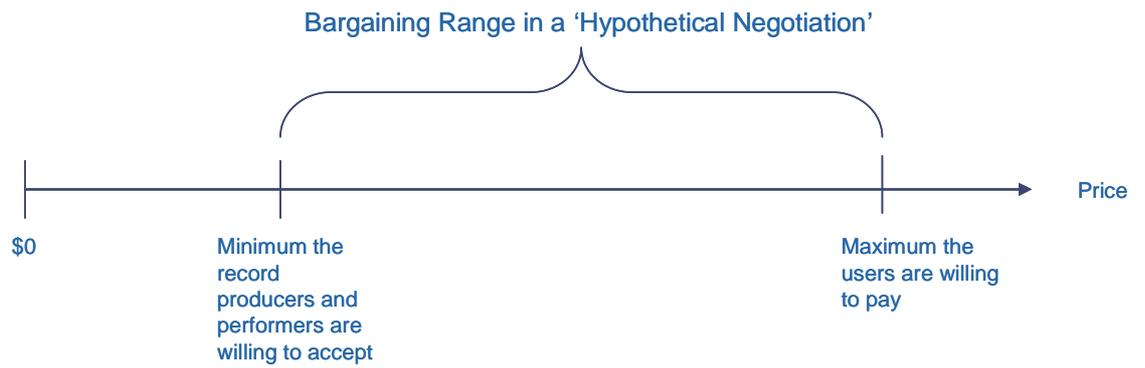
The concept of the 'hypothetical negotiation'

A tribunal or court is almost invariably faced with a heavily theoretical task, as it is unlikely that there will be an existing well functioning market for the particular rights involved.

The regulators have to construct, as best it can from the available material, the factors and considerations that music users and producers would take into account in bidding up or down the price.

In a hypothetical negotiation, the outcome of negotiations would lie somewhere between the lowest price that the record producer and performer is willing to accept and the highest price the user is willing to pay.

⁸ I F Shepherd, "Role of the Copyright Tribunal & Its Work to Date," *Copyright Reporter* 13, no. 2 (1995).



Economic analysis methods are used to determine the upper and lower bounds for a notional bargain.

The next step is to determine a position within this range that will emerge in the hypothetical negotiation. This is subject to analysis based on the unique circumstances of each determination.

Chapter 2

Analysing 'comparable' market outcomes

This chapter provides an overview of the approach to analysing 'benchmark' rates in determining the rate for a specific right.

2.1 'Comparable' market outcomes

Underlying theory

Royalty rates that are outcomes of negotiations between willing (but not anxious) buyers and sellers in a 'comparable' market should be considered an appropriate rate.

Required information

- Details of royalty rates from 'comparable' markets
- Evidence that the 'comparable' market is a well functioning market (i.e. willing buyers and sellers negotiate freely)
- Evidence that the 'comparable' market is relevant, i.e. it was composed of essentially the same
 - buyers (i.e. users)
 - sellers (i.e. record producers and performers)
 - type of rights

Methodology overview

Situations where there may already exist a 'comparable' market for the rights in question usually arise when rights are held on a non-exclusive basis by a collecting society, and the original rights holder(s) may separately conduct negotiations. The agreements between the original rights holder(s) and users may provide a market rate. However, the details regarding these copyright licences are often not publicly disclosed.

It is vital that the royalty rates considered as benchmarks here are truly 'comparable'. Relying on the price data from the sale of a single performance right would not yield a meaningful price for the 'blanket' licence to the entire repertoire offered by collecting societies. For example, the US Supreme Court has described the benefits of the blanket licence as:

The blanket license is composed of the individual compositions plus the aggregating service. Here, the whole is truly greater than the sum of its parts; it is, to some extent, a different product. The blanket license has certain unique characteristics: It allows the licensee immediate use of covered compositions, without the delay of prior individual negotiations and great flexibility in the choice of musical

material. Many consumers clearly prefer the characteristics and cost advantages of this marketable package.⁹

Caution must be used if complementary rights for the underlying works (authors' rights) have been nominated as 'comparable' outcomes, as there are significant differences between the two types of rights. In general, sound recording rights should attract a higher royalty rate than authors' rights as:

- Consumers typically prefer a specific performer's version of a song rather than 'sound-alike' recordings. This is demonstrated by the prominence of artists (and not the song writer) in advertising and marketing, as well as the dominance of sales of original artists.
- The costs and risks associated with producing and marketing a sound recording are significantly larger than comparable costs and risks associated with the production and marketing of the underlying musical work.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none">• The findings are based on real world outcomes instead of theoretical analysis• Analysis yields a specific rate (instead of a range)	<ul style="list-style-type: none">• Difficult to find existing outcomes that are sufficiently 'comparable'• Difficult to find existing outcomes that reflect an appropriate commercial bargain

Relevant uses

Reference to comparable licensing arrangements is an intuitively attractive approach, however it can only be used when there is a well functioning market for truly comparable rights.

Case Study: Satellite Digital Audio-Radio Services, United States, 2007

Context:

Sound Exchange (a US collection agency) and Satellite Digital Audio-Radio Services (SDARS) made submissions to the United States Copyright Royalty Judges Copyright Tribunal in a determination of a reasonable royalty rate for sound recordings used by SDARS.

⁹ US Supreme Court, *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 21-22 (1979)

Approaches used to determine rates:

The Tribunal firstly set out to establish a 'zone of reasonableness' (bargaining range) in which the final royalty rate would lie. To achieve this, the Tribunal sought to examine comparable markets that could act as a benchmark, or starting point, for determining a fair royalty. The tribunal received submissions and heard testimony from three expert economists, one from SDARS and two from Sound Exchange, who offered comparable markets as benchmarks along with economic justification as to the appropriateness of this comparative market.

The parties submitted a number of musical market comparison, however, the Tribunal was critical of the alternate markets put forward, and the economic arguments used to justify these markets, including:

- Cable TV rates – the Tribunal did not consider this a comparable market as cable TV provided audio-visual services whereas SDARS is a purely audio service;
- Musical works rates – the Tribunal held that while the buyer may be the same, the sellers are different and the rights are different;
- Pre-existing agreements between SDARS and other groups (such as the Recording Industry Association of America) – the Tribunal held that earlier agreements were based on earlier economic circumstances and hence not relevant;
- Satellite TV deals with non-music content providers – the Tribunal rejected this comparison as it addressed different consumer products and different buyers and sellers;

The Tribunal considered that a suitable benchmark could be the rates that apply to other distribution channels for digital music (such as interactive subscription services and polyphonic ringtones), since the markets have reasonably similar characteristics. The benchmark obtained from the interactive subscription services market was 13% of revenue.

The Tribunal adopted this benchmark rate as the upper bound of the bargaining range for the SDARS rate. The Tribunal noted that the lower bound of the bargaining range could not be less than or equal to the SDARS musical work rate of 2.35% of gross revenue at the time.

The Tribunal found no economic evidence which would result in the discounting or increasing of the initial benchmark within the bargaining range to determine a reasonable royalty rate. After taking into consideration the disruptive impact on SDARS from a sudden rise in royalty rates from between 2-2.5% of revenue to 13% of revenue, the Tribunal decided on a rate plan that gradually increased over time, starting from 6% in 2007.

Critique

This case illustrated the difficulties in determining an appropriate comparator to use as a benchmark. The fact that the Tribunal put so little weight upon the comparable markets suggested by the parties shows that the use of comparable markets as a benchmark for royalty determination can be problematic.

The Tribunal's rejection of the musical works rates (authors' rates) as a benchmark reaffirms the fact that there is no reason to assume these rates should be similar.

Chapter 3

Analysing the value music adds to businesses

This chapter provides an overview of the analysis techniques that rely on business data. The techniques include analysing how business operators use music to drive revenue, the profitability of businesses that use music substantially in their operations, and also the extent to which businesses use alternatives to protected music.

3.1 “Usage analysis” – how businesses use music to drive advertising revenue

This method attempts to determine the maximum that a business would be willing to pay for the use of music, through analysing the relative contribution of music towards the costs and revenues of the business.

Underlying theory

This approach is outlined below using an example drawn from an analysis of the royalty rates that should be paid by commercial radio stations in Canada.¹⁰ The analysis was presented as part of proceedings before the Copyright Board of Canada on the commercial radio tariff.

Business operators attempt to maximise profit through their business decisions. Profit maximising business operators would choose the optimal mix of business inputs until they each offer the same marginal value (i.e. that they each contribute an equal amount of net profit). Here, commercial radio operators attempt to generate advertising revenue using program content. The underlying assumption is that a commercial radio station will choose a mix of program content (‘talk’ and ‘music’) that maximises their profit.

That is, the additional profit generated by the last minute of music and last minute of talk time allocated by the radio station would be the same. Otherwise, the radio station could increase their profit simply by increasing the relative amount of time devoted to either talk or radio.

The marginal cost (i.e. cost to play one more minute) of talk and music are both essentially zero, as the cost of a sound recording broadcasting licence is typically set as a fixed percentage of revenues, and the payment for talk content is typically set on a contract basis. Therefore, the marginal contribution to revenue (i.e. advertising revenue generated by one more minute of play) for music and talk must be the same.

The payments for the different program contents (music and talk) should reflect the same proportions as their allocated minutes of airtime.

¹⁰ Audley, P., and Boyer, M., The Value of Music to Commercial Radio Stations, Society for Economic Research on Copyright Issues, Berlin, July 12-13, 2007

Required information

- Well informed data on the user's usage of recorded music (against other business inputs) to generate revenue
- Financial data on the users, including their total revenue as well as the cost associated with each business input (including recorded music)

Methodology overview

The application of this approach is outlined below, continuing the example of valuing music royalty rates for Canada's commercial radio industry.

- 1 Analyse the proportion of total advertising revenue that is generated by each part of the day.

Advertisers would generally pay more to the commercial radio operators for larger audience sizes, however revenue and audience size are not only affected by the program content (i.e. music or talk), but also by:

- the time of day; and
- the proportion of time the station plays commercials during that time of day.

Given these other factors, it is necessary to estimate the relative contribution of each part of the day to commercial revenue. The output of this step is summarised in the table below.

Table 1 Contribution of each part of day to commercial revenue, Commercial Radio in Canada, 2003-04

Part of Day	Contribution of the Part of Day to Advertising Revenue
6am to 9am	26%
9am to Midnight	74%
TOTAL	100%

Source: Audley, P., Boyer, M., The value of music to commercial radio stations, Society for Economic Research on Copyright Issues, Berlin, 2007

These figures are derived from the average commercial rates for different parts of the day as well as the amount of commercials that are broadcast in each part of the day.

- 2 Analyse the proportion of program content that is music.

The table below provides a summary of the output generated in this step.

Table 2 Program content in sample stations, Commercial Radio in Canada, 2003-04

Part of Day	Sound Recordings as a % of Program Content (excl. commercials)
6am to 9am	63.5%
9am to 3pm	77.8%
3pm to 7pm	78.8%
7pm to Midnight	79.2%
TOTAL	76.1%

Source: Audley, P., Boyer, M., The value of music to commercial radio stations, Society for Economic Research on Copyright Issues, Berlin, 2007

This data may be directly obtained from radio stations (by a court order if necessary). However if this is not possible then the information needs to be manually generated, through internal collection, or contracted to an independent market research company to increase the independence of the findings.

3 Analyse the link between revenue and program content.

It is conservative to assume that the importance of sound recordings is not solely determined by the percentage of airtime they account for. The competitive edge of a radio station would be based on a mix of its music format and on-air talent. Estimates can be made as to how much of the value associated with attracting and retaining listeners is driven by music.

In this example, researchers adopted a conservative estimate drawing on the actual proportion of program content that is sound recordings (see Table 2 above) as well as judgement on the importance of news and other talk content. During 6-9am, sound recordings are assumed to be equally important as news and other program content in drawing audience numbers, and are twice as important as talk content for the rest of the day.

The table below illustrates the output of this step.

Table 3 Value attributed to sound recordings by Part of Day, weighted estimates, Canada, 2003-04

Part of Day	Contribution of the part of day to advertising revenue	Conservative estimate of the contribution of sound recording	Weighted contribution of sound recording to advertising revenue
6am to 9am	26%	Half (50%)	13%
9am to Midnight	74%	Two-thirds (67%)	49%
TOTAL	100%		62%

Source: Audley, P., Boyer, M., The value of music to commercial radio stations, Society for Economic Research on Copyright Issues, Berlin, 2007

The above table can be interpreted as: 26% of a commercial radio station's advertising revenue is generated during the period 6am to 9am. During this part of the day, approximately half of the value generated can be attributed to the use of sound recordings. Therefore, during the period 6am to 9am, sound recordings contribute to around 13% of a radio station's commercial revenues.

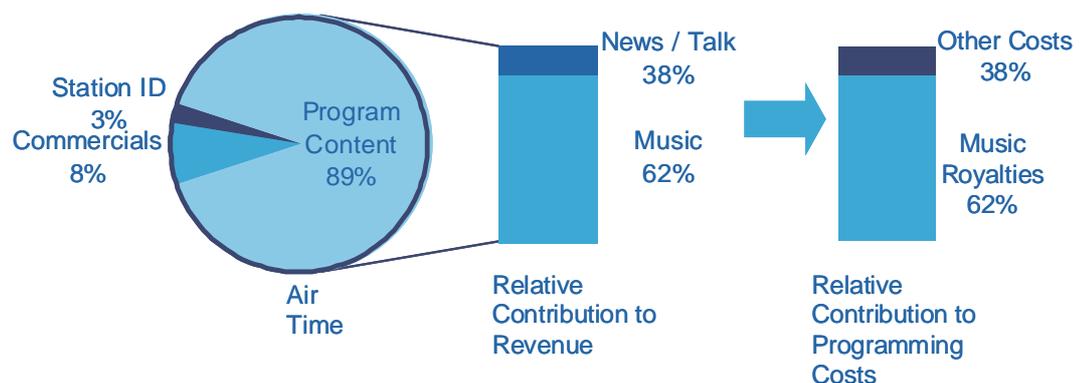
- 4 Apply financial data to determine the appropriate value of sound recordings.

The final step is to apply the data uncovered using the above model to the radio station's financial data. The level of expenditure on other forms of programming such as on-air talent (talk) and any syndicated programming need to be detailed along with total expenditure. Expenditure on music can be calculated by applying the current licensing system. Industry performance reports may also be a potential source of this information, or can be used to cross check the validity of individual stations' financial records.

In this example, since sound recordings contribute 62% of the station's total commercial revenue, they should also represent 62% of total programming costs. If the sound recording licence costs (together with the other royalties attached to the use of sound recordings for commercial radio) are less than 62%, the royalty rates for recorded music should be adjusted upwards.

Figure 1 below summarises the above concepts.

Figure 1 Usage analysis



In this example, the researchers showed that sound recording related expenses should cost commercial radio stations at least CAD 265 million compared to the existing cost of CAD 109 million.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none">• Based on real world data, and hence not subject to criticisms that apply to more theoretical techniques.• By incorporating the analysis of financial records from the industry, this methodology also uncovers the industries' ability to pay proposed royalty rates. This is a crucial factor that provides an economically justifiable position in the bargaining process.	<ul style="list-style-type: none">• Can only be used where recorded music is a key product characteristic that business operators would vary (i.e. not simply turn on / off) in an attempt to maximise revenue.• This method is heavily dependent on good data sources. There may be the need to manually collect or generate the required information, which can add cost.• If a significant factor affecting either supply or demand is neglected from the analysis, the results will fail to accurately reflect the true value of music.

Relevant uses

Usage analysis can be used in situations where business operators purposely vary their use of music in order to maximise revenue. This is generally suited to industries such as radio and television where music is one of the key program content inputs.

Case Study: Commercial Radio, Canada

Intro & context:

The Canadian Copyrights Boards determination of the 2003-2007 royalty rates for both the musical works rights and sound recordings rights for broadcasting on radio stations saw the Neighbouring Rights Collectives of Canada (NRCC) and Society of Composers and Music (SOCAN) use a number of economic techniques to argue their case.

Approaches adopted

The NRCC and SOCAN adopted an array of arguments to support their case. Their economic approaches included:

- Historical returns: a comparison of the cost of key inputs as a percentage of operating expenses and as a percentage of revenue for industries comparable with the radio industry, against comparable ratios of program expenses for commercial radio. This comparison found that program expenses for commercial radio were very low.

-
- Historical returns: a comparison of commercial radio revenue against advertising revenue of all other mass media. A proportion of this excess revenue is arguably due to the more efficient use of music (through using music to target a consistent set of consumers and generating higher advertising revenue).

The value derived from these methods was rejected by the Board as a starting point for the appropriate rate, as these methods were viewed as an attempt to 'regulate profitability'. However the Board conceded that profitability should be taken into account in determining the appropriate rate.

Usage analysis methods were also used by the NRCC and SOCAN, including an assessment of the value that music contributes to radio station revenues compared to other programming content, such as commentary, news etc. It was assumed that a minute of music brings in about half the revenues that a minute of spoken word content generates. However this application of the method was rejected by the Board due to:

- the highly volatile nature of its results (small changes in the share of revenues that music brings in leads to large variations in the rate); and
- the Board's view that on-air talent commands a significant premium (i.e. that a minute of spoken word content generates more than twice the revenues that a minute of music brings in).

In addition, a range of market research material was used to demonstrate the importance of music in attracting listeners and advertisers to a particular station, information on how radio stations use music, and the total volume of music used on radio stations.

The Canadian Association of Broadcasters (CAB) wished to use U.S. rates as a benchmark rate, however this was rejected by the Board due to differences between the two countries.

Critique:

Despite the Board's rejection of the economic valuations put forward by NRCC and SOCAN as the relevant starting point, the Board's final decision was based on three considerations which drew heavily on the economic evidence presented by NRCC and SOCAN:

- 5 The current rate undervalues music. This was based on the analysis using financial tools that showed royalties represent only a very small proportion of programming expenses.
- 6 Radio now uses more music than the previously. This drew on the usage analysis of radio, which analysed program content to illustrate the use of music compared to spoken word.
- 7 Radio now uses music more efficiently. This drew on the analysis of the profitability of commercial radio.

The economic rigour incorporated into these studies used by NRCC and SOCAN withstood expert critique presented by CAB. The Board's decision was appealed by CAB but a second hearing of the Board upheld the Board's earlier determination.

The Board ruled that rates would be lifted from 3.2% of advertising revenue to 4.2% of revenue for SOCAN, while the NRCC rate for sound recordings was to be half that of SOCAN, i.e. 2.1% of revenue. The Board determined that the NRCC and SOCAN rights should trigger the same remuneration, and the difference between the two rates reflect only differences in the repertoire represented by each part. Rejecting NRCC's proposal for royalties to be shared equally between authors, makers and performers before any repertoire adjustment, the Board maintained the one-to-one ratio between NRCC and SOCAN. The continued adoption of an equal sharing of music royalty revenue between the societies despite obvious differences between the two types of rights highlights the need for more robust analysis in this area.

3.2 “Financial analysis” – the profitability of businesses that use music

Underlying theory

In the long run, companies should not be able to achieve ‘excess’ return in a competitive market. ‘Excess’ return is profit that is above a ‘normal’ rate of return, which is equal to the opportunity cost of labour and capital (i.e. what the labour and capital invested in the company can earn in its next best use). In a competitive market, competitive forces mean that no company can consistently earn an excess return over a long period of time.

Financial analysis can be used in situations where businesses make substantial use of music, but the price of music is not determined by market forces (i.e. it is instead set through a judicial process). If these businesses are consistently able to earn excess return, this indicates that the existing royalty rates are too low.

There are two methods to apply financial analysis.

Financial Analysis Method 1: Analysis of historical returns

This method attempts to determine the maximum that a user would be willing to pay in royalties for the use of music, through analysing the historical level of profitability of the industry.

Required information

- Financial accounting information for the relevant businesses over a sufficiently long past period, including:
 - profit before interest and tax (this measure is selected because it is more reflective of underlying business performance);
 - total assets (used to calculate the rate of return); and
 - royalty rates.
 - Information to estimate the ‘normal’ rate of return for the industry, using either:
 - Some measure of the rate of return on a relatively risk free asset, for example the 10 year government bond rate;
 - Some measure of a risk premium, i.e. the level of return that investors require in order to invest in businesses rather than government bonds;
- OR
- The weighted average cost of capital (WACC), which is derived through weighting the average costs of equity and debt, the two ways a company can finance its assets. The WACC shows the financing cost of a company.

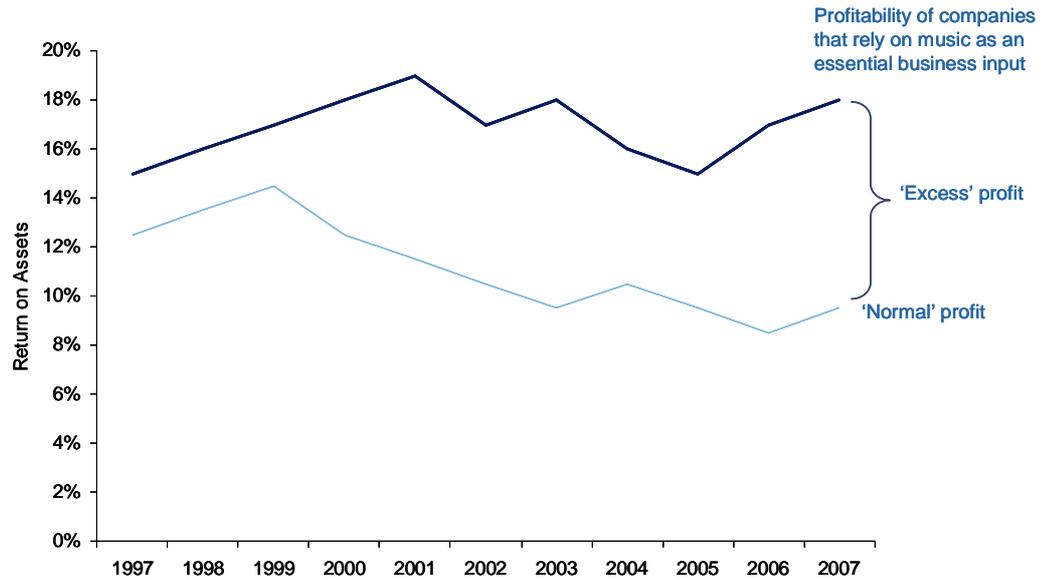
Methodology overview

This method is based on analysis of the historical financial performance of the relevant businesses that make substantial use of recorded music in their business activities.

- 1 A rate of return for the industry is calculated. This could be the profit before interest and taxes, divided by total assets. Licence fees should be excluded from the analysis here so that they do not distort outcomes.
- 2 The 'normal' rate of return is estimated using:
 - a A measure of the return for risk free assets, plus the risk premium that is associated with the risk of holding assets in the industry.OR
 - b The WACC of comparable industries, which represents the minimum return a company must earn to remain profitable. The WACC of a company represents the rate of return that providers of financial capital require as compensation for the risk they bear in their investment in the company.
- 3 The rate of return for the industry is compared to the 'normal' rate of return estimated for the industry, and the difference is identified as 'excess' profit earned by the industry over the years of the analysis.
- 4 The proportion of the 'excess' profit that is related to the use of recorded music is identified as that portion of the industry's revenue that is related to the use of recorded music.
- 5 The size of this excess profit as a proportion of the industry's revenue is examined. If the margin (taking into account the existing level of royalties) is significant, one can conclude that there is the capacity to pay a royalty of x per cent, where x is somewhat less than the margin.

Figure 2 provides an example of how the 'excess' profit is calculated for an industry.

Figure 2 'Excess' profit



For example, if research showed that the industry had earned an average return of 24% over a ten year period, compared to the 'normal' return of 10%, this would represent an 'excess' return of 14%. Applied to the industry's assets which are valued at, say, 500 million, it can be shown that the industry had earned an excess of around 70 million. This figure can be interpreted as both:

- the extent to which existing royalty rates (and any other inputs that were priced by a regulator) are below their appropriate levels; and
- the maximum that commercial radio stations would be able to pay in additional royalties and still make a 'normal' level of return.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none">• Financial data is usually relatively easy to obtain for large or listed companies.• Analysis is simple and relatively easy to carry out.	<ul style="list-style-type: none">• Difficult to apply if there are a large number of firms in the industry.• Criticisms associated with the use of accounting information (i.e. the information is subject to manipulation, there are significant differences in accounting methods between firms, etc).• Cannot be used if companies have negative returns, although companies may be willing to carry these for some period of time for a variety of reasons (e.g. building market share, etc).• The implied future profitability of the industry is ignored. The future profits of the industry can be important in determining an appropriate royalty rate.

Relevant uses

This method can be used for those industries for which reasonably reliable information on financial performance can be obtained and analysed. This generally applies to those industries that are made up of a few large companies, for example: radio or television broadcasting.

Financial Analysis Method 2: Forward looking analysis

This method attempts to determine the maximum that a user would be willing to pay in royalties for the use of music, through analysing the expected future profitability of the industry.

Required information

- Market value of equity or assets for the relevant businesses in the industry
- Current revenue and expected growth rate of revenue of the relevant businesses
- The expected return for debt and equity finance providers for the relevant businesses

Methodology overview

Instead of relying on historical returns, this approach attempts to determine the level of future profits expected for the businesses in the industry.

A firm's current share price is evidence that investors expect the firm to generate future profits. The steps used to obtain an estimate of a firm's future revenue are:

- 1 Estimate the market value of the firm, based on its market value of equity and debt at a recent point in time.
- 2 Find the current revenue of the firm and estimate the expected growth rate of revenue (which can be sourced from financial analysts).
- 3 Estimate the expected return to the firm's investors. In a forward looking analysis, it is possible to estimate the returns that a company's investors expect through using the standard capital asset pricing model. This model calculates the level of return needed to attract investment by shareholders.
- 4 The level of future profitability that is implied by the firm's investors' expectations can be calculated using financial analysis drawing on the information obtained in Steps 1-3 above.
- 5 The level of implied future profitability estimated for the firms in the relevant industry is the level of maximum additional funds that the industry could spend on licences. This amount should be adjusted for the 'normal' level of return that should be earned by the industry's assets, as well as by non-core businesses that do not make use of recorded music.

An example of the results of such an analysis is presented below.

Estimated future return	-	'Normal' level of return	=	Excess return
45%		10%		35%

Excess return (as a % of assets)	X	Value of industry assets	=	Maximum additional funds that the industry could spend on licences
35%		100 million		35 million

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none">• Financial performance data is usually relatively easy to obtain for large or public companies.• Avoids use of accounting data which is subject to criticisms regarding its reliability.• Can be used for situations where the companies of interest have historically had small or negative profit margins.	<ul style="list-style-type: none">• Difficult to apply if there are a large number of firms in the industry.• Share price can only be observed for listed companies.• Several assumptions need to be made in generating the estimated expected returns, etc, which can be subject to criticism.

Relevant uses

This method can be used to develop an estimated royalty rate for those industries that are made up of a few large listed companies, for example: radio or television broadcasting.

3.3 Prices of alternatives to protected music

This method attempts to determine the minimum that the record producers and performers would be willing to accept in royalties, through analysing the prices of alternatives to protected, recorded music.

Underlying theory

Users of protected, recorded music also have access to a number of alternative forms of recorded music which they could use. The prices of these alternative forms of recorded music, if agreed between willing buyers and sellers in a free market, can provide an indication of the minimum value that users attribute to protected music:

- Commissioning of recordings
Users could commission the production of sound recordings for which they would have copyright.
- Non-protected music
Users can choose to play non-protected sound recordings (i.e. music that is not part of the repertoire covered by collecting societies).

It is unlikely that record producers and performers of protected music would accept royalty rates which are lower than the prices of these alternatives. Also, the extent to which these alternatives are not taken up by businesses show that users value protected music much more than its alternatives.

Information required

- The range of viable substitutes to protected music (such as commissioned music, non-protected music, etc)
- The prices of these alternatives to protected music
- The extent to which these alternatives are used by businesses (including broadcasters, etc)

Methodology overview

Information on the prices of alternatives to protected music is used to estimate the minimum that record producers and performers would be willing to accept in performance rights royalties.

The extent to which businesses use these alternatives should also be examined as they demonstrate end customers' desire to mostly listen to popular or well known sound recordings by artists, which tend to be part of the repertoire covered by collecting societies.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none">• The findings are based on real world observations of customer behaviour rather than surveys.• Findings can be useful in determining an economically justifiable position in the bargaining process.	<ul style="list-style-type: none">• Not practical in situations where there are no realistic alternatives to the use of protected sound recordings.• Reliance on this method will produce values that are too low, as it only shows the lower bound of the hypothetical negotiation range.

Relevant uses

Can be used widely in almost any situation, although it only shows the lower bound of the hypothetical negotiation range.

3.4 Hedonic pricing (on business revenues)

This method attempts to determine the maximum that a business would be willing to pay for the use of music, through analysing the revenue of businesses that use music compared to those that do not use music.

Underlying theory

Hedonic pricing assumes that a product is made up of a bundle of characteristics. For example, a restaurant is a product that is made up of a bundle of characteristics including location, menu items, ambience, quality of service, etc. The aim of hedonic pricing is to estimate the value of each of these characteristics to the overall revenues of the business.

Required information

- Detailed revenue information on a large number of businesses that use music as an input that they can turn on/off
- Detailed information on the usage of music by each business
- Detailed information on the other characteristics of each business that can affect revenue, such as location, quality of products, service, etc

Methodology overview

A summary of the steps of this approach is outlined below:

- 1 Collect data on a large number of businesses, including:
 - current and historical revenue, or data on expected future revenue. Expected future revenue can be inferred from analysis of the sales prices of businesses;
 - whether each of these businesses play recorded music; and
 - other characteristics which may influence the revenue obtained from each business, such as its distance from town centre, service quality, etc.
- 2 Analyse the link between revenue and different product characteristics.

The value that music brings to a business can be determined through:

- Regression (a form of statistical modelling that evaluates the relationship between different variables). A regression model would show the relative contribution of each different characteristic towards revenue (for example, the revenue generated by restaurants that is driven by factors such as distance from town centre, quality of the food, the playing of music, etc). It is important that all relevant factors are accounted for, including factors such as seasonal effects, etc.

OR

- Comparison of the sales price of two similar businesses, where one business plays music and the other does not. It is important that the businesses be very similar in every other regard, for example location, service provided, etc.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> • Based on real world data, and hence not subject to criticisms that apply to stated preference techniques. • By incorporating the analysis of financial records from the industry, this methodology also uncovers the industries' ability to pay. This is a crucial factor that provides an economically justifiable position in the bargaining process. 	<ul style="list-style-type: none"> • This method is contingent upon good data sources. There may be the need to manually collect or generate the required information, which can add cost. • If a significant factor affecting revenue is neglected from the analysis, the results will fail to accurately reflect the true value of music.

Relevant uses

Hedonic pricing can be used in situations where the playing of music forms a part of the characteristics of businesses, and data can be obtained regarding revenue and all other business characteristics for a large number of businesses.

Case Study: Nightclubs, Ireland

Context:

The dispute between Phonographic Performance (Ireland) Limited (PPI) and the Irish Hotels Federation (IHF) as well as the Irish Nightclub Industry Association (INIA) concerns the rate for use of the PPI repertoire in nightclubs. An Arbitration Award was made in 2002, which was appealed in the High Court in 2004.

Approaches adopted:

The suggested rate put forward by the IHF and INIA was based on an international comparison of tariffs charged by collecting societies in other jurisdictions, on a 'per event' basis. This approach had previously been rejected in the Arbitration Award as it does not provide clear indications as to the legislative background in each of the jurisdictions examined and the legislative basis of each benchmark rate.

The approach put forward by PPI was based on an assessment of the profitability of four

types of notional nightclubs, including an estimate of profit margins and illustrative financial statements based on the information available. This approach was largely an assessment of the industry's ability to pay.

A tariff structure was suggested by PPI in which the baseline rates are related to notional turnover on an incremental basis. This structure was largely accepted by the Arbitrator.

The High Court considered that music was only one of many features of a nightclub and hence it was difficult to establish a direct link between the use of music and revenue. It also overturned the Arbitrators' rejection of benchmark rates, and chose to accept the use of rates charged in the UK as the commercial realities of a "large disco operating in a city" in the UK was not different from that of one operating in Ireland.

Critique:

The tariff structure suggested by PPI had some economic basis in that it considered the hypothetical bargaining range through an assessment of industry profitability and ability to pay. However, although the link between revenue and rates was accepted by the Arbitrator, there was no robust linkage between the playing of music and the attraction of patrons to the venue. This resulted in the Arbitrator's decision being overturned in the High Court and the use of benchmark rates (which were lower than that suggested by the PPI) being adopted instead.

A choice modelling study or a revealed preference study would have assisted the PPI in establishing the direct link between the use of music and revenue to nightclub operators.

Chapter 4

Analysing the behaviour and preferences of consumers

Users of recorded music are typically businesses who use music to increase revenue from customers. It is therefore reasonable to assess the preferences of the end-consumer as a proxy for the maximum amount business users would pay for the right to use recorded music.

This chapter provides an overview of the analysis methods that make use of data on consumer behaviour and preferences, through survey techniques and real world observations of consumer behaviour.

4.1 Field experiments – observing and analysing consumer behaviour

This method attempts to determine the maximum that a business would be willing to pay for the use of music, through analysing the impact of music on end-consumer behaviour.

Underlying theory

Observations of real world consumer behaviour can reveal a specific value for the right to use recorded music in a business activity. Such approaches are commonly called ‘revealed preference’ techniques.

If consumers are observed to behave consistently in a certain way (e.g. going to a restaurant where music is played instead of going to a similar restaurant where music is not played), then it is reasonable to expect that consumers have revealed their preference for music in restaurants.

Required information

- Willing business owner(s) that will allow changes in music during the period of the experiment, while holding other operating conditions equal
- Sales data for some control group (or period)
- Sales data for the experiment group (or period)

Methodology overview

This methodology is explained using an example of the experiment carried out by North, A., Shilcock, A., and Hargreaves, D. in the UK in 2002. The experiment was designed to test whether music played in a restaurant environment has the ability to influence consumer behaviour, i.e. whether customer spending will be positively influenced by the musical conditions. This experiment aimed to compare the sales patterns of a restaurant under musical and non-musical conditions.

A summary of the steps of the experiment are outlined below:

- 1 Appropriate music needs to be selected to constitute the musical condition. Academic literature identifies that even the type of music can have an impact upon consumer behaviour. The music played in the experiment included both classical music and pop music.

- 2 The experiment was run over period of 18 nights, to allow an adequate collection of data under musical and non-musical conditions.

During this period, music was alternated (between classical, pop and no music at all) on a daily basis, with the crucial factor being to ensure that all weekdays experience the altered musical conditions at least once.

- 3 At the end of the experimental period, the sales records were analysed using regression analysis to investigate the statistical differences in spending habits under differing musical conditions. Figure 3 below illustrates the result of the experiment.

Figure 3 Field experiment results

Musical Condition	Non-music Condition
 Classical music played	 No music played
Same food & drinks offered 	
Same level of service 	
Same menu prices 	
Average customer spend under musical condition GBP 32.5 per customer	Average customer spend when no music was played GBP 29.7 per customer

In this example, the experiment showed that, on average, customers spent an additional GBP 2.8 per meal under a musical condition compared to when no music was played. These results, combined with analysis of the increased patronage that music

usually brings to a restaurant, would provide an indication of the maximum that restaurant operators would be willing to pay for music royalties.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> • The findings are based on real world observations of customer behaviour. • By incorporating the analysis of financial records from the industry, this methodology also uncovers the industry's ability to pay. This is a crucial factor that provides an economically justifiable position in the bargaining process. 	<ul style="list-style-type: none"> • The ability to find a suitable business that is willing to participate can be a major hurdle to this experiment. • Variation in factors other than music has potential to compromise results and render the experiment inconclusive. • The argument can be made that the business selected to conduct the experiment was an industry exception and not the norm. • Not suitable for industries where not playing recorded music is generally not practical. For example, music is played in almost all nightclubs and hence not playing music during certain nights is not a viable option.

Relevant uses

Experiments can be carried out where an industry participant is willing to cooperate in changing the playing of music and provide the necessary financial data. This is usually more feasible in an industry where there are many small players, such as restaurants, retail outlets, etc.

The key to undertaking experiments is the selection of a suitable commercial business that is willing to participate. Careful consideration must be given to this selection, with the ideal business having a relatively constant stream of revenue and sales that are not heavily reliant upon the activities of competitors or seasonal fluctuations. Examinations of past sales records can help confirm these factors. The business must agree to hold constant all other aspects of their operating activities, apart from the playing of recorded music. The business must also hold constant its product offerings and prices to ensure that the only variable being manipulated is the musical condition.

4.2 “Choice modelling” – surveying end-consumers on their preference for music

This method attempts to determine the maximum that a business would be willing to pay for the use of music, through surveying end-consumers on their preferences regarding music.

Underlying theory

The value that end-consumers attribute to music can be estimated through a survey technique called ‘choice modelling’. Choice modelling experiments infer people’s preferences by presenting respondents with two or more alternatives (a “choice set”) and then asking them to choose their preferred alternative.

Each alternative is described by a bundle of “attributes”. One of these attributes would be the performance of recorded music. Some form of price or cost is also included as an attribute. By varying the levels between alternatives and observing the choice behaviour of respondents, researchers can determine the relative importance of each attribute, including the value that consumers attribute to the presence of music.

Information required

- Focus groups for use in designing the questionnaire
- A sufficient survey sample

Methodology overview

The steps involved in conducting a choice modelling study are described using an example from the 2007 Australian Copyright Tribunal case regarding the value of music to the revenues of Australian nightclubs:

1 Identifying the attributes.

This stage involves identifying the set of attributes which need to be considered as sources of influence on consumer choice.

In this example, other important attributes which influence a person’s choice between two different nightclub venues (or whether to go to a nightclub at all) was determined through several focus group sessions. The attributes that were considered include the entrance fee, the price of beer, the location of the club and its hours of operation, etc.

Attributes were as far as possible made mutually exclusive, so that respondents do not necessarily associate the increased provision of one attribute with higher or lower provision of another.

2 Selecting the measurement unit for each attribute.

In this example, an absence of music would be implausible as almost all nightclubs play music. Hence, music was presented as

the presence of alternative types of music (e.g. recorded music or live music).

The ‘payment vehicle’ (i.e. how prices are charged) in a choice modelling survey needs to be understood by respondents. Also, the respondent needs to be made aware that the cost is the same for everyone who enjoys the music played. Introducing a new payment vehicle (for example, an entry fee to restaurants, where none is usually charged) would run the risk of introducing bias into the experiment results. Hence, it is necessary to choose a payment vehicle that consumers are familiar with.

In this example, entry fees for nightclubs were used as the payment vehicle.

3 Specify the details of each attribute.

It is important that respondents are faced with realistic choices in a choice modelling survey. Hence, researchers should choose attribute levels which are inside the range of both current experience and believability. In computer aided surveys, it is possible to design experiments such that attribute levels pivot around a respondent’s known experience, giving even greater confidence to the outputs.

In this example, participants in a focus group were asked to think back on their previous experience to generate the range of levels outlined in Table 4 below

Table 4 Attribute levels in the 2007 Australian nightclubs choice modelling survey

Attribute	Levels
Entry fee	zero, \$5, \$10, \$15, \$20, \$30
Venue type	Bar with no dancefloor and no music played, Nightclub with dancefloor with no DJ, Nightclub with dancefloor with DJ
Drink prices	Cheap, average, expensive
Décor (i.e. design and furnishings)	Dated or rundown, average décor, expensive, new or trendy
Closing time	1am, 3am, 5am
Location of the club	Inconvenient, somewhat convenient, convenient

4 Develop the questionnaire.

A draft questionnaire was developed and tested on focus groups. The results of focus group testing allow those parts of the questionnaire that emerge as unclear to be revised. This step ensures that the final questionnaire contains realistic and credible attributes and options. An example of a choice pair in the questionnaire is provided in below.

Figure 4 Example of a choice screen

Suppose the following two nightclubs were the only ones available for you to go to. Realistically, which late night venue would you choose to go to?

	Venue A	Venue B
Venue Type 	Nightclub with recorded music (background)	Nightclub with DJ (foreground)
Drink Prices 	Cheap	Expensive
Location 	Convenient	Inconvenient
Entry Fee 	\$10	\$5

Please tick one box:

Venue A Venue B

I would choose not to go

5 Design the experiment.

Experimental design determines the complexity of analysis and the efficiency of the experiment. A pilot survey was conducted to refine the experimental design so that it is more effective.

6 Conduct the survey and analyse the results.

The survey needs to be conducted over a sufficiently large sample to ensure results are credible. The sample size required varies

according to the size of the target population (the population to which the particular sound recording performance rights apply). The larger the sample size, the lower the level of error associated with the results. Using mathematical and statistical models, the results of the survey can be used to determine the value that consumers place on recorded music.

In the 2007 Australian nightclubs choice modelling survey, a total of 813 respondents completed surveys. The results found that respondents were willing to pay about AUD 6.97 each to visit a nightclub which played recorded music, compared to other late night venues which do not have music, all else held constant. This can be interpreted as the maximum amount that end customers are willing to pay for the presence of music at a nightclub.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> • Less prone to the errors associated with other survey techniques, as respondents are offered more realistic choice scenario. • Can be used widely in almost any situation where music needs to be valued, as it does not rely on industry data, etc 	<ul style="list-style-type: none"> • Need large sample of respondents, so can be time consuming and costly to carry out. • Choice modelling surveys need to be carefully designed so it can be more time consuming to design and test the questionnaire compared to other survey forms.

Relevant uses

Choice modelling can be used widely in almost any situation, as it does not rely on industry data or the cooperation of industry participants.

Case Study: Nightclubs and Dance Parties, Australia

Intro & context:

In 2007 the Phonographic Performance Company of Australia (PPCA) filed with the Australian Copyright Tribunal to increase the tariff rate for the use of recorded music in nightclubs and dance venues. The respondents included Australian Hotels Association, Clubs Australia, Clubs NSW, Explorer Cruise Lines Ltd and others.

Approach adopted & result obtained:

In their submission PPCA noted the limited economic and statistical data that existed for the nightclub and dance venue industries, and the difficulty this presented for accurately determining a

fair and equitable tariff level. To combat the limited amount of industry information available, the PPCA undertook the following approach:

- Choice modelling. This approach was adopted as the most accurate way to determine the public's willingness to pay for recorded music at these venues. A statistically significant sample (total of 800 people) were asked to undertake the choice modelling exercise. The choice modelling exercise determined a per patron willingness to pay of \$6.97 for recorded music at a nightclub, which was accepted by the Tribunal as the upper bound of the hypothetical bargaining range after discounting for non-protected music (20%) and competition from other late night venues providing live or recorded music (20%).

To determine the hypothetical bargaining outcome, the Tribunal took into account the fact that the entrepreneurial risk attached to the operation of a nightclub is undertaken by the operator and not the recording rights holders. The Tribunal determined that an appropriate split of the value attached to music between the stakeholders would be 50% to the operator and 25% to each of the underlying musical rights holders and the recording rights holders.

The Tribunal arrived at a figure of \$1.05 per person for the use of protected music at nightclubs, which represented an increase of 1,400% on the previous rate.

Similarly, the PPCA's willingness to pay study found the consumer willingness to pay for music at dance parties was \$15.37. The Tribunal discounted this rate for non-protected music and entrepreneurial risk by 20%, and a similar negotiating outcome as that proposed for the nightclubs rate. This resulted in a figure of \$3.07 per person for the use of protected music at dance parties, an increase of 1,437%.

Critique:

The Copyright Tribunal recognised the use of choice modelling as an acceptable legal argument. Measures taken throughout the design and application of the modelling increased the validity of the findings and reduced their contestability in court. These included:

- including academic input into the design of the choice modelling survey and analysis of the results; and
- applying the survey in three differing geographical locations, all representing differing scales of nightclub venues and customers with varying socio-economic backgrounds.

The Copyright Tribunal accepted the findings of the choice modelling and incorporated them into their final determination, noting that the value of this willingness to pay must be distributed between the associated parties, i.e. the collecting societies and the venue owner.

The Copyright Tribunal determined that the split between PPCA and APRA (representatives of the underlying copyright works owners) is an equal share, on the basis that both parties would choose such a split in order to economise on bargain costs. This appears to be a simplistic assumption and highlights the need for a more robust analysis of the appropriate split of music related royalties between authors, producers and performers.

Case Study: Pay Radio, Germany

Context:

GVL, a German collecting society, disputed the reasonableness of a rate scale for a multi-channel music service from Great Britain which can only be received against payment of a fee ("Pay Radio"). The German Supreme Court examined the case and made a decision in 2004.

Approaches adopted:

GVL drew up a rate scale (at 30% of all gross proceeds) for pay radio that was different from that for private radio broadcasting (which had a rate scale that stipulated royalties up to 4.5% of advertising revenue). GVL held that pay radio should be treated differently as it used exclusively released phonograms and enabled the users to record the music items in digital quality. The Arbitration board held that the scale for private sound radio programs is reasonable, with the advertising income being replaced by rental income. GVL appealed this decision.

The appeal court ruled that:

- the royalty rate specified by GVL was not reasonable, since if the copyright holder had a corresponding claim the total royalty would be 60%; and
- even if the private radio broadcasting radio was not reasonable, this does not establish the reasonable rate scale for pay radio.

The appeal court recognised that a reasonable royalty rate should consider the effects of the secondary marketing (i.e. where users can record the musical items in digital quality). It also recognised that for pay radio, musical content accounts for close to 100% of the program content and is relatively economical compared to commercial radio where close to half of programs consist of spoken word which are relatively costly to finance.

Critique:

The Supreme Court took into consideration that the industry's ability to pay is important (intuitively noting that a 60% royalty rate would be beyond any reasonable upper bound). Economic analysis could have assisted GVL in suggesting an appropriate new rate scale for pay radio, including:

- usage analysis (noting that music comprised almost 100% of pay radio programs, compared to only 50% of commercial radio broadcasts); and
- choice modelling to find the value that consumers attach to music accessed through pay radio, as they could potentially make recordings from the pay radio programs that would be of CD quality.

4.3 Hedonic pricing (on consumer prices)

This method is identical to that described in the method described in section 3.4, but is here applied to consumer prices rather than business revenues. It attempts to determine the maximum that a consumer would be willing to pay for the use of music (as a proxy for the business user's maximum willingness to pay).

Underlying theory

This application of hedonic pricing follows the same basic premise, that the price of a marketed product is related to its observable characteristics. For example, a drink at a bar is a marketed product, and the price of such a drink is related to how consumers value the quality and size of the drink, ambience of the bar (which is enhanced by the presence of music), location of the bar, etc.

Required information

- Observations on the price of an industry's marketed products
- Observations on the characteristics of the marketed products (including quality, quantity, whether music is played, and other characteristics)

Methodology overview

A summary of the steps of this approach is outlined below:

- 1 Collect data on a large number of marketed products:
 - its price to consumers. For example, the average price of a bar's drinks, the cover charge of a nightclub, etc;
 - whether the delivery of each product involved the playing of recorded music, for example whether the bar usually plays music; and
 - other characteristics which may influence the consumer preference for the product, such as the popularity of the bar's location, the bar's opening hours, etc.
- 2 Analyse the link between consumer prices and different product characteristics.

The value that consumers attribute to music can be determined through regression (a form of statistical modelling that evaluates the relationship between different variables).

A regression model would show the relative contribution of each different characteristic towards the price of a marketed good. An output of the model would be the difference in price between a product that includes the playing of music compared to one which is similar in all other respects but does not involve music.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none">• Based on real world data, and hence not subject to criticisms that apply to stated preference techniques.• The ability to use existing observable data on prices and other characteristics of products.	<ul style="list-style-type: none">• There may be the need to manually collect or generate the required information, which can add cost.• If a significant factor affecting prices is neglected from the analysis, the results will fail to accurately reflect the true value of music.

Relevant uses

Hedonic pricing can be used in situations where the playing of music generates behaviours by consumers that are easily observable and a reasonable proxy for the actual user (i.e. broadcaster, etc) of the recorded music.

Chapter 5

Choosing the appropriate approach

This chapter provides some guidance on choosing the most appropriate approach to suit particular situations.

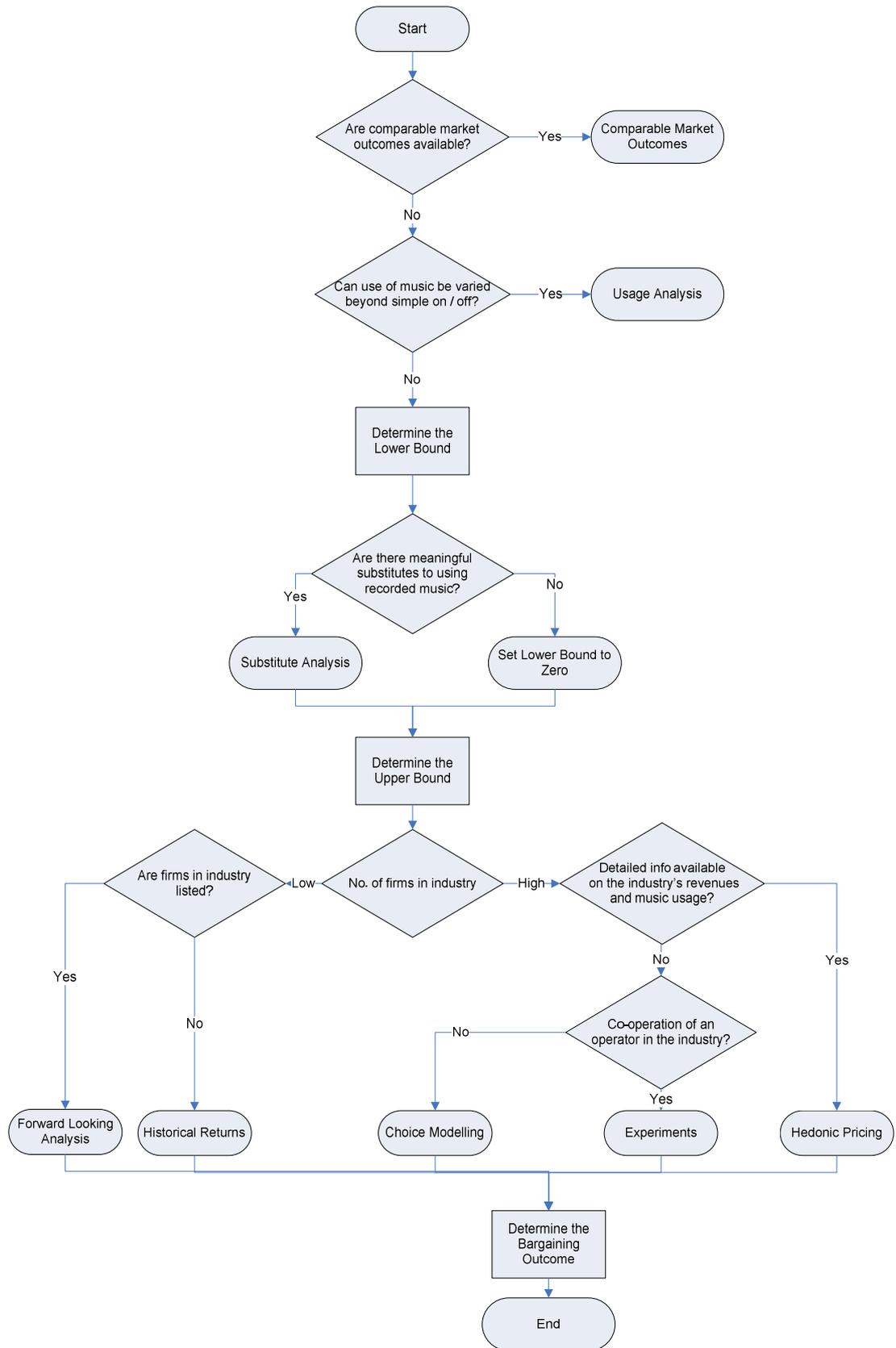
5.1 Type of information required

The following table provides a summary of the type of information that each approach would provide.

	Specific rate	Lower bound of hypothetical bargaining range	Upper bound of hypothetical bargaining Range	Industry's ability to pay
Comparable market outcomes	✓			
Usage analysis			✓	✓
Financial analysis			✓	✓
Substitute analysis		✓		
Hedonic pricing (based on business revenues)			✓	✓
Hedonic pricing (based on consumer prices)			✓	
Experiments			✓	
Choice modelling			✓	

5.2 Industry characteristics

The following flow chart and table provides some guidance on the methods that may be appropriate in a scenario depending on the unique circumstances of the industry in question. Please note that some methods (such as choice modelling) can be used under many different circumstances.



Approach	Types of industries where its application is most likely to prove effective
Comparable market outcomes	Any (if available)
Usage analysis	Radio and television broadcasters
Financial analysis: historical returns	Radio and television broadcasters
Financial analysis: forward looking analysis	Radio and television broadcasters
Substitute analysis	Any
Hedonic pricing	Retail outlets Bars, restaurants and cafes Nightclubs and commercial dance parties
Experiments	Retail outlets Bars, restaurants and cafes Nightclubs and commercial dance parties
Choice modelling	Any

Where possible, a range of complementary approaches should be adopted to calculate the appropriate rate.

Chapter 6

The potential global value of sound recordings

This chapter provides an estimate of the 'potential global value' of sound recording rights if a more systematic approach were taken to placing a value on such rights, based on a combination of evidence from case studies and the valuation approaches that could be applied.

Background

In 2007, record producers and performers were provided with remuneration totalling USD 1.2 billion for the performance rights in relation to their sound recordings (i.e. broadcasting and public performance rights, excluding private copying). This figure is likely to understate the true level of 'equitable remuneration' that should be paid to producers and performers, as:

- Not all rights are protected in all countries. Even some developed nations like the US do not currently provide producers and performers with full performance rights.
- Many of the royalty rate schedules in place currently were set through inconsistent or flawed approaches. Recent experience shows that where more robust approaches have been adopted, these royalty rates have tended to increase substantially. This indicates that current royalty rates, most of which were not determined through rigorous economic analysis, most likely understate the true value of sound recordings.
- 'Market penetration', the degree to which copyright law is enforced and the appropriate amount of remuneration is collected, is low for certain industries and countries. For example, it is often difficult to ensure that all restaurants that play protected music are making royalty payments. The legal and law enforcement system of many countries do not enable sufficient monitoring of usage and enforcement of rights.

Methodology

The methodology employed here attempts to derive a potential global sound recording income figure, assuming that:

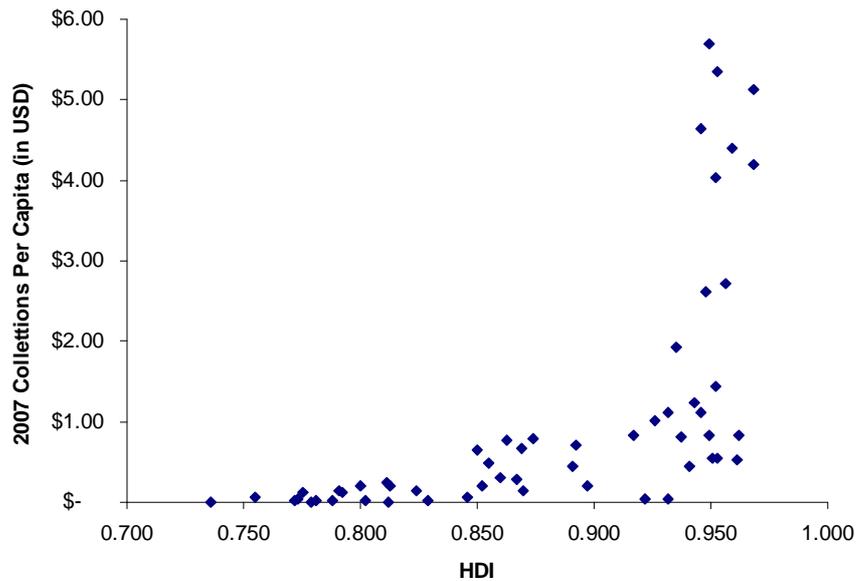
- people with a similar level of wellbeing should be willing to pay similar amounts for the use of recorded music;
- as people's wellbeing improve, so too should the amount they are willing to pay for the use of recorded music. The rationale behind this is that as people's wellbeing improve:
 - there is an increase in the average consumer's willingness to pay (and the industry's ability to pay) for the musical rights; and
 - the legal and law enforcement system of the country can better enable the right holders to monitor the use of protected music and enforce the collection of appropriate rates.

The Human Development Index (HDI), published by the United Nations Development Programme, is the normalised measure of life expectancy,

literacy, education, standard of living, and gross domestic product (GDP) per capita for countries worldwide. The HDI is used here as the measure of the wellbeing of a country's residents.

Figure 5 below shows that generally, as people's wellbeing improve, so too does the average amount of revenue collected by producers and performers for their sound recordings¹¹ ("collections") from each person. The figures are shown on a per capita basis to account for differences in population size between countries.

Figure 5 Sound recording revenue per capita, 2007



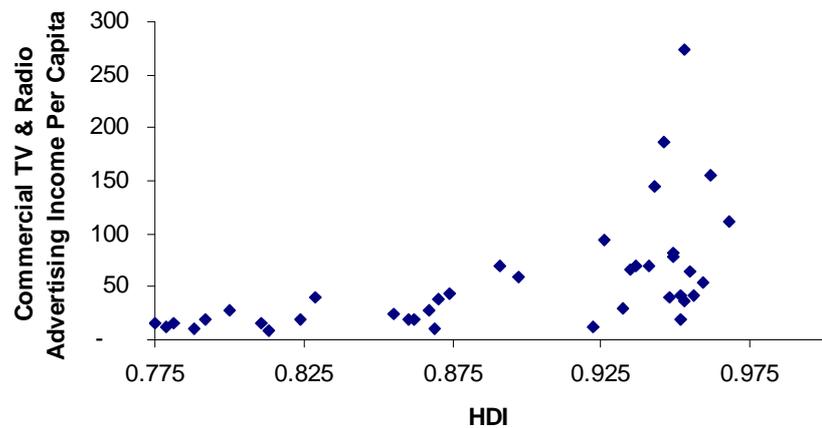
Sources: IFPI, 2008

United Nations Development Programme, Human Development Report 2007/08

Figure 6 below shows that some correlation also exists between the size of the commercial TV and radio industry in terms of advertising revenue per person, and the HDI of the country.

¹¹ Calculated as total income less private copying.

Figure 6 Commercial TV & Radio advertising revenue per capita vs HDI, 2006



Sources: IFPI, KPIs September 2007

United Nations Development Programme, Human Development Report 2007/08

These two industries are important because:

- they are fairly ubiquitous across countries (i.e. broadcast radio and TV exist in almost every country);
- the industries rely on music as part of their core revenue generating activities (i.e. music is part of program content that is the core of their business); and
- they are the most significant revenue generators for performance rights royalties collecting societies.

The correlation between HDI and the size of the commercial TV and radio industry shows that there should be some relationship between the collections for each country in relation to its HDI.

The method used to determine the potential global value of sound recording performance rights for commercial radio and TV and other businesses playing music is outlined below.

- 1 Examine the per capita collection rate for each country in relation to its HDI, and calculate the relative collections ratio (calculated by dividing the per capita collections for each country by its HDI).

Given that the relationship between HDI and collections does not appear to be linear, we would analyse the countries in groups of 0.05 increments in HDI. Benchmark rates are developed based on the average relative collections ratios.

The countries within each HDI interval are presented in Table 5.

Table 5 Countries by HDI interval

Less than 0.790	0.790-0.839	0.840-0.889	0.890-0.940	> 0.940
<ul style="list-style-type: none"> • Turkey • Paraguay • Peru • Thailand • Ukraine • Ecuador • Dominican Republic • Jamaica 	<ul style="list-style-type: none"> • Malaysia • Brazil • Romania • Bulgaria • Colombia • Venezuela • Russia • Mexico • Panama 	<ul style="list-style-type: none"> • Hungary • Slovak Republic • Argentina • Croatia • Latvia • Estonia • Chile • Uruguay • Poland • Costa Rica 	<ul style="list-style-type: none"> • Germany • Israel • Greece • Slovenia • Hong Kong • Barbados • Czech Republic • Portugal • Taiwan • Singapore 	<ul style="list-style-type: none"> • Denmark • Netherlands • Norway • UK • Ireland • Iceland • Finland • Sweden • Austria • France • New Zealand • Belgium • Spain • Australia • USA • Japan • Canada • Italy

Source: United Nations Development Programme, Human Development Report 2007/08

- 2 Estimate the potential value that would emerge if each country within the HDI interval were to achieve at least the 'benchmark' ratio for relative collections.

Given that some countries do not enable the collection of payment to record producers (or performers) for certain types of rights, these countries are analysed separately.

Results

Countries which already have most performance rights in place

This section shows the results of analysing the potential value of performance rights royalties for those countries which currently already have most broadcasting and public performance rights in place. In 2007, these countries collected sound recording revenues (not including private copying) of USD 971 million.

The estimates are developed as follows:

- Base Case: every country in the HDI interval achieves at least the average relative collections ratio.
- High Case: every country in the HDI interval achieves at least the average of the three highest relative collections ratios for those countries that fall within the HDI interval.

The results of the analysis are presented in the following tables. Table 6 below shows the potential value that would emerge.

Table 6 Potential value of sound recordings for countries which already have most broadcasting rights in place

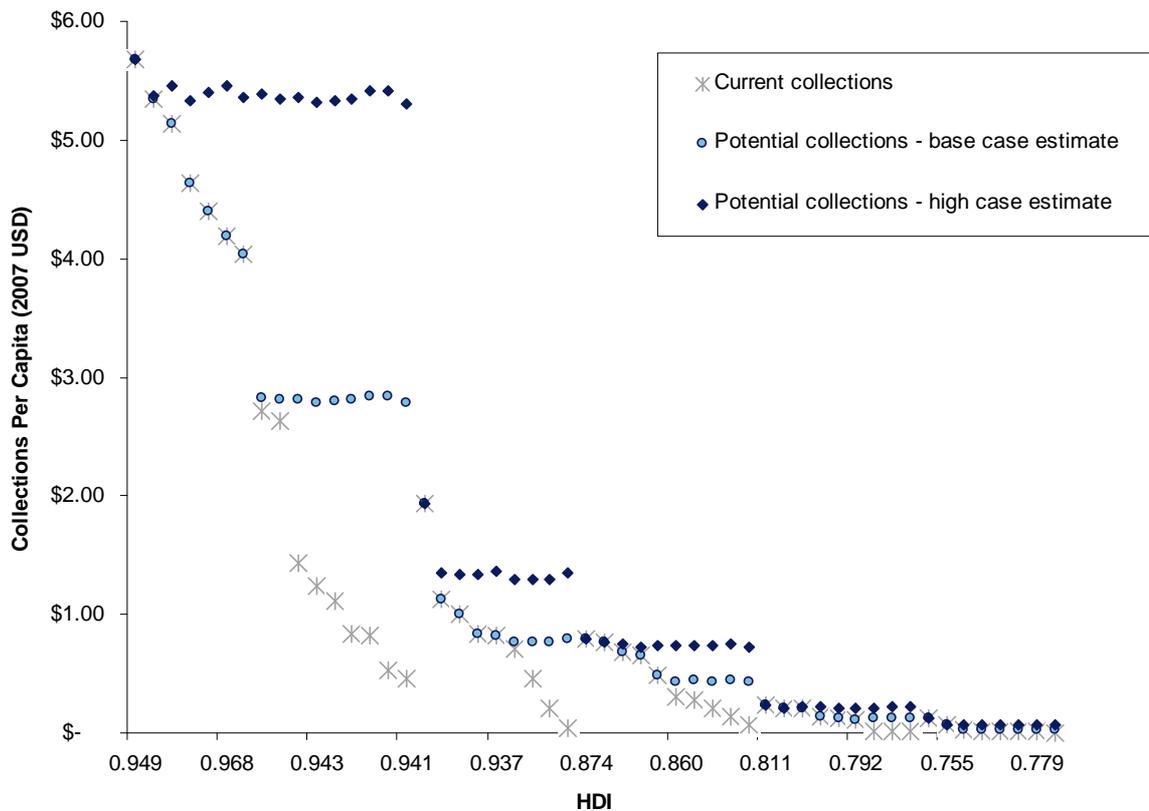
		Less than 0.790	0.790-0.839	0.840-0.889	0.890-0.940	> 0.940	Total
Current (2007) collections	Average relative collection ratio	0.04	0.15	0.51	0.86	2.96	-
	Average actual collections per capita (USD)	\$0.03	\$0.12	\$0.44	\$0.79	\$2.83	-
	Total collections (USD millions)	12	64	55	193	648	971
Potential collections – base case estimate	Benchmark relative collection ratio	0.04	0.15	0.51	0.86	2.96	-
	Potential average collections per capita (USD)	\$0.05	\$0.16	\$0.55	\$0.98	\$3.67	-
	Potential total collections (USD millions)	15	90	71	219	1,095	1,491
	Potential increase in collections	29%	40%	30%	14%	69%	
Potential collections – high case estimate	Benchmark relative collection ratio	0.10	0.27	0.86	1.45	5.64	-
	Potential average collections per capita (USD)	\$0.08	\$0.22	\$0.75	\$1.39	\$5.39	-
	Potential total collections (USD millions)	23	123	94	253	1,769	2,262
	Potential increase in collections	91%	91%	72%	31%	173%	

Sources: IFPI 2008, United Nations Development Programme, Human Development Report 2007/08

The potential value of copyright royalties for countries which already have most public performance and broadcasting rights in place are calculated as USD 1.49 billion under the base case (an increase of 53% over current collections) and as USD 2.26 billion under the high case (an increase of 133% of current collections).

The following chart shows the results of the above analysis.

Figure 7 Current and potential collections for countries which already have most broadcasting / public performance rights in place



The above analysis shows that most of the potential global value will need to be realised in countries that already have a relatively high HDI.

Countries which do not have full performance rights in place

The US, Japan and Singapore are three significant countries which currently do not have full performance rights in place. In 2007, these three countries collected sound recording revenues (not including private copying) totalling USD 234 million. It is unlikely that these countries would be able to achieve the same ‘benchmark’ relative collection rates as other countries which have full performance rights in place, hence the potential value of performance rights for these countries are analysed separately.

To estimate the potential value of performance rights royalties for the US, Japan and Singapore, collection rates are assumed to increase at the same rate as the “potential increase in collections” estimated for other countries in their HDI interval (see Table 6 earlier). This calculation does not reflect the value of any potential new or broader set of rights in the US, Japan and Singapore.

The results of the analysis are shown in Table 7 below.

Table 7 Potential value of sound recordings for US, Japan and Singapore

		US and Japan	Singapore	Total
Current (2007) collections	Total collections (USD millions)	234.6	0.18	235
Potential collections – base case estimate	Potential increase in collections (based on results of analysis for other countries in HDI range)	69%	14%	-
	Potential total collections (USD millions)	396.5	0.20	397
Potential collections – high case estimate	Potential increase in collections (based on results of analysis for other countries in HDI range)	173%	31%	-
	Potential total collections (USD millions)	640.9	0.24	641

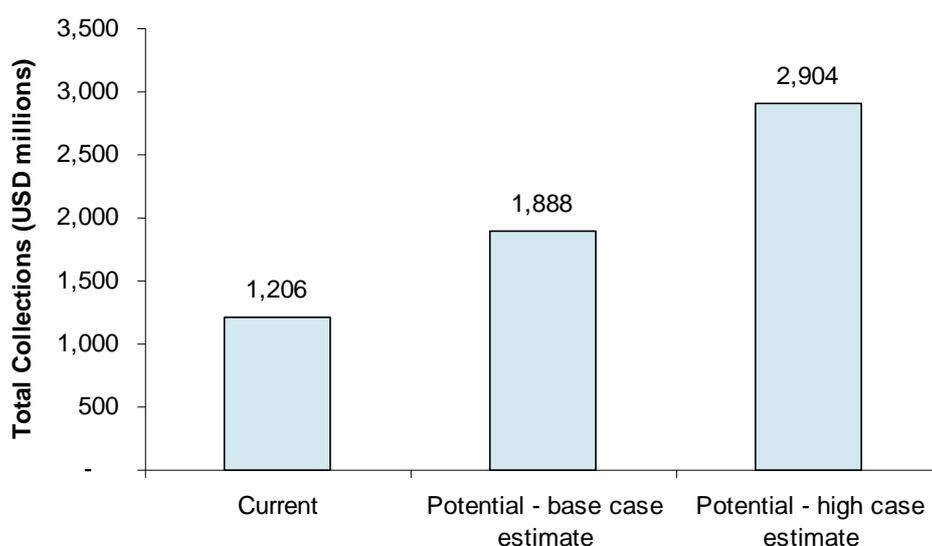
Sources: IFPI 2007, United Nations Development Programme, Human Development Report 2007/08

The potential value of performance rights royalties for countries which do not already have some or all radio and TV broadcasting rights in place are calculated as USD 0.40 billion under the base case (an increase of 69% over current collections) and as USD 0.64 billion under the high case (an increase of 173% over current collections).

Total potential global value

Summing the estimates from the two categories of countries provides an aggregate estimate of the potential global value of sound recording performance rights, which is presented in Figure 8 below.

Figure 8 Current and potential global value of collections for sound recordings



The estimated range for the potential global value of sound recording performance rights is between USD 1.9 billion to 2.9 billion, in 2007 dollars. These figures represent an increase of 56% to 141% over today's collections levels.

A 'sanity check' of this estimate is carried out by examining total collections as a proportion of GDP. The average ratio of total collections to GDP was 0.005%. If all countries whose collections to GDP is currently below average were to achieve the average ratio, the potential value that could be achieved is around USD 2.07 billion, which is well within the range of estimates developed in the original analysis.

Interpreting the results

This potential global value of sound recording performance rights is based on a number of assumptions, of which the key assumptions are:

- The 'benchmark' rate, i.e. those countries with a higher ratio of collections per capita compared to their HDI, is an appropriate rate.
- All people across the globe attach the same value (relative to their level of wellbeing) to music as residents in the benchmark countries, despite differences in culture, lifestyle, leisure activities, etc.

It would be necessary to develop a tailored approach for each market and to undertake country-specific valuation projects to produce estimates that would be suitable for use in a tribunal / court environment.

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