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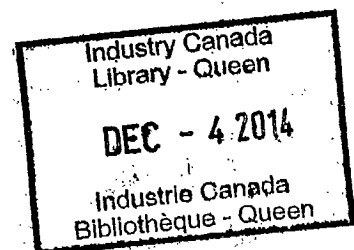
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**ECONOMIC IMPACT OF OPTIONS FOR REFORMING
THE PRIVATE COPYING REGIME**

Prepared for Industry Canada

Ronald Hirshhorn

December 2005



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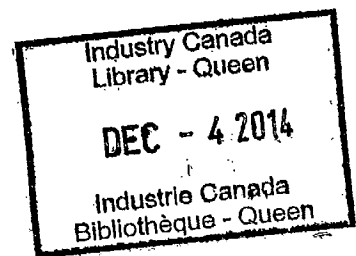


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EXECUTIVE SUMMARY

Sections 79 to 88 of the *Copyright Act* provide for the imposition of a levy on blank audio recording media to compensate authors, performers and makers who own copyright in the sound recordings being copied. It is almost 10 years since the private copying provisions of the Act were introduced and in that period technological developments have led to dramatic changes in the nature of private copying. The relevance of the Act has also been affected by court decisions that have limited the scope of the private copying provisions. In addition, Canada has yet to ratify the 1996 WIPO Performances and Phonograms Treaty (WPPT). If this occurs, it may be necessary to amend the legislation to provide for compensation to performers and producers from WPPT countries. This report examines the impact of a number of possible options aimed at addressing these issues.

In setting rates, the Copyright Board is primarily guided by a “valuation model” that uses the royalties on pre-recorded CDs as a benchmark for calculating the appropriate compensation payments on blank recording media. In the report, this model is used to determine how possible reforms could affect private copying tariffs. The impact of the calculated tariffs on retail revenues and royalties was initially assessed by drawing on available data from the 2003-2004 hearings of the Copyright Board. Along with the resulting *baseline model*, an alternative *growth model* was constructed to look at how impacts might differ when account is taken of the changes underway in private copying, including the growth in downloading, the increasing importance of legal downloading and the growing popularity of iPods and other digital audio recording devices.

One of the most significant recent developments affecting the private copying system was a Federal Court of Appeal ruling in December 2004 that the Board does not have jurisdiction to impose a levy on memory permanently embedded in digital audio recorders. In 2005, the Supreme Court denied the application of the Canadian Private Copying Collective (CPCC) for leave to appeal the Federal Court’s decision. These decisions leave a major gap in the coverage of the private copying regime. The private copying system will impact on stakeholders quite differently in coming years depending on whether or not the government introduces an amendment to bring digital audio recording devices (DARs) under the Act. Therefore, in addition to examining impacts of possible options using the baseline and growth models, the study considers how impacts would differ in regimes that include and exclude DARs.

In both the baseline and growth models and in both regimes including and excluding DARs, certain of the scenarios lead to higher tariffs and royalties while others result in rates and royalty payments below those under the current system. An adjustment to take account of the expanded repertoire of eligible rights holders if national treatment were granted to performers and makers from WPPT countries leads to an approximate doubling in tariffs. Under a number of the possible scenarios, the positive impact of these higher rates on royalty payments would be only slightly offset by the additional tariff adjustments that are required. This is the case when the expansion of the eligible repertoire of rights holders is combined with a provision restricting the regime to media

“primarily” used for recording music and the latter is interpreted to exclude CD-RWs. Royalty payments are also much higher when the granting of national treatment is combined with a reform involving the codification of CPCC’s zero-rating program and it is assumed that the Board would adjust rates (as it has done in the past) to compensate rights holders for the losses from zero-rating.

Impacts are quite different with other scenarios in which: the application of the regime is limited to copying from authorized sources; the expansion of the eligible repertoire is combined with an amendment limiting the application of the regime to media “primarily” used for recording music and the latter is now interpreted to apply to both CD-Rs and CD-RWs; and a rate-setting formula is established similar to the ad valorem tariff used by the U.S. In all these cases, royalties would be substantially lower than under the current system. But while rights holders would receive less, wholesalers and retailers of music recording products would experience a small gain in net revenue (i.e. revenues net of royalty payments).

Although some of the scenarios would result in higher royalty payments, under all of the scenarios, the royalties available for distribution to Canadian rights holders would be less than under the present system. In those scenarios in which tariffs are adjusted upwards to take account of the expansion of the eligible repertoire, about half of all royalties would represent additional obligations to foreign rights holders. Meanwhile, offsetting inflows to Canadian rights holders from private copying levies in other WPPT countries would likely be minimal.

While these general findings are consistent across all the models, when possible options are accompanied by an amendment to bring DARs under the private copying system, royalties are higher and grow more rapidly. When DARs are excluded from the private copying regime, royalty payments do not keep pace with the growth in private copying activity. On the other hand, in regimes that include DARs, under all the scenarios, royalty payments are substantially higher in the growth than in the baseline model.

The net royalty payments available for distribution after the CPCC and other collectives have deducted their expenses are significantly less than the gross royalty payments. In the case of a number of the options that would involve tariffs very much below their level under the regime, overall administrative and transactions costs, including costs incurred by collectives, manufacturers, importers, retailers and the Copyright Board, are likely to amount to a substantial share of royalties.

A different concern arises in the case of those scenarios that include DARs and are generating high royalties due, in part, to the growth in music downloading. If, as assumed in the report, paid downloading is growing in importance, then a significant share of the royalties under these scenarios may come from individuals who have already paid for the right to private copy. In scenarios that exclude MP3s, since much of the legal downloading would involve the use of recording devices that have not been levied, such double payments are less of an issue.

In addition to affecting private copying royalties, the scenarios could also affect rights holders' earnings by promoting changes in private copying behaviour. While individuals may slightly adjust their copying in response to the projected tariff changes, the most significant impact of possible changes could well come from the increased force they would give to other legislative and social developments discouraging copying from unauthorized sources. Rights holders will benefit to the extent consumers substitute paid for unpaid downloading or increase their purchases of pre-recorded CDs. However, possible reforms could also contribute to an overall reduction in downloading, which will not hurt makers of recordings but could affect those artists who are particularly dependent on the Internet for the distribution and marketing of their music.

1. INTRODUCTION

With the passage of the *Act to amend the Copyright Act 1997* ("the Act"), it became legal for a person to make a copy of a musical sound recording for his or her own use. The amendments also provided for the imposition of a levy on blank audio recording media to compensate authors, performers and makers who own copyright in the sound recordings being copied. As a result of rapid technological change, the nature of private copying has changed dramatically in the last eight years. This report examines the impact of possible options for modifying the private copying regime to respond to technological and other developments.

With the private copying provisions as with other aspects of copyright law, the central economic challenge is to establish an appropriate balance between incentives for creators and access for users. A more stringent private copying system intended to increase royalties and encourage the creation of more works will result in higher prices and more limited access for consumers of existing works. Those who create by building on existing works will also be faced with higher costs.

If the 1997 amendments achieved an appropriate balance between benefits and costs, including the significant costs of operating the private copying regime, there is reason to expect that such a balance no longer exists. When the private copying provisions were introduced, the main focus was on the reproduction of authorized recordings or broadcasts. Since then, copying has been transformed by a proliferation in the available sources of recorded music and the development of technologies that greatly facilitate private copying. The current environment in which individuals can rapidly download and copy vast quantities of recorded music from file sharing sites that have been created without the authorization of rights holders is very different from what existed when the private copying exception to the Act was established.

In addition to addressing the challenges created by new technologies, there may be a need to amend the private copying provisions of the Act to satisfy Canada's obligations under the 1996 WIPO Performances and Phonograms Treaty (WPPT). At present, royalty payments are made to all music authors and publishers, regardless of nationality, but only to Canadian sound recording makers and performers. When/if Canada ratifies the WPPT, it might be necessary to significantly narrow the exception or provide adequate compensation to performers and producers from all WPPT countries. Such compensation could be given by granting national treatment to performers and producers from WPPT countries.

Under one of the possible options to be examined in this report, the private copying regime would be limited to copying that is made from authorized sources. Under another possible reform, the eligible repertoire of sound recording makers and performers would be expanded to include makers and performers in other WPPT countries. In other possible options that have been identified, the increase in royalties from the WPPT-related scenarios would be limited, as in the U.S., by restrictions on the scope of the regime or the imposition of a specific rate-setting formula.

This report examines the impact of various scenarios on relevant stakeholder groups. This includes the authors, performers and makers who receive the royalties resulting from the private copying levies imposed under the Act, and the consumers, along with the retailers, importers, manufacturers and distributors who bear the costs of these royalty payments. The main focus is on how possible options could affect levies set under the Act and thereby impact on payments made and income received by different groups. Amendments to the private copying regime, however, may also have some other less direct impacts on stakeholders and these are briefly discussed.

The next section describes some relevant features of the private copying regime. The approach being adopted to understand the potential impact of possible changes is discussed in Section 3. The impact of specified options is then examined in Sections 4 to 7. The analysis concludes in Section 8 with a consideration of possible impacts of reforms on income stakeholders derive outside the private copying regime.

2. BACKGROUND

The Administration of the Private Copying Provisions

Sections 79 to 88 of the Act, covering private copying, are aimed at compensating rights holders for the losses they incur from the copying of sound recordings by individuals onto “blank audio recording media”. Royalty rates are set by the Copyright Board of Canada, an independent tribunal, following public hearings. Music authors, publishers, artists, and recording companies are represented at these hearings by the Canadian Private Copying Collective (CPCC), a “collective of collectives”. The tariffs established by the Board are payable to the CPCC, which allocates them to SOCAN, NRCC, SOGEDAM, CMRRA and SODRAC for distribution to Canadian makers and performers and eligible international authors of sound recordings. By the end of 2004, CPCC had distributed \$33.2 million to copyright holders.

Manufacturers and importers must pay the levy set by the Copyright Board on all sales that are not destined for the export market. Most, if not all of this cost is passed on to retailers and then to consumers. There is an exemption provided under Section 86 of the Act for associations representing persons with perceptual disabilities. In addition, the CPCC has operated a program under which a wide range of groups – including educational institutions, broadcasters, law enforcement agencies, advertising companies, music, film and video industries, religious organizations, governments, software and technology companies – can apply for a waiver allowing them to make royalty-free or “zero-rated” purchases from certified manufacturers, importers and distributors.

The Setting of Private Copying Tariffs

Canadian legislation, unlike comparable laws in the U.S. and some European countries, provides limited guidance on the establishment of tariffs. After considering proposed tariffs filed by CPCC, and hearing objections raised, arguments and evidence, the Copyright Board (“the Board”) must satisfy itself that the levies are “fair and equitable”¹ when certifying levy rates. The Board has generally relied on a “valuation model” developed for CPCC by Paul Audley and Stephen Stohn in setting rates. It did not apply the model to update rates in its 2003-2004 decision, however, because of uncertainties about the data and the Board’s desire to “ensure that the levy is fair and equitable for all, including those to whom the costs of the levy are passed.”²

Recording Media Subject to the Levy

The private copying levy applies to recording media that are “ordinarily used by individual consumers” for reproducing sound recordings. The Board has stated that the term “ordinarily used” must be interpreted through a “qualitative and quantitative approach” that takes account of various factors, such as “the apparent purpose of the

¹ Section 83. (9).

² Copyright Board, *Private Copying 2003-2004*, p. 60.

medium, as evident from its invention, design and promotion, and its actual use, as indicated by surveys, testimony and other evidence.”³ The Board has ruled that a private copying levy cannot be applied to media such as Digital Audio Tapes, recordable DVDs, removable electronic memory cards and removable flash memory storage because these are not ordinarily used by individuals for copying music.

The Application of the Law to Recording Devices

In its 2003-2004 decision, the Board found that digital recording devices with non-removable memory, such as MP3 players and iPods, fall within the definition of an “audio recording medium” under the Act. In December 2004, however, the Federal Court of Appeal ruled that the Board does not have jurisdiction to impose a levy on memory permanently embedded in digital audio recorders and that the levies that had been set on such devices are invalid. On July 28, 2005, the Supreme Court denied the CPCC’s application for leave to appeal the Federal Court’s decision. Given the explosive growth in the use of digital audio recorders, recent court decisions leave a major gap in the coverage of the private copying regime.

The Zero-Rating Program

While the private copying provisions of the Act are aimed at the copying of sound recordings by individuals, the levies are also payable by organizations that use recording media for storing data and other business-related purposes. While organizations can apply for a waiver of payment under CPCC’s zero-rating program, this program has no legal basis as an exemption under the Copyright Act. In its 2003-2004 decision, the Board found that it did not have the authority to take into account the zero-rating program in setting levies. Therefore, no adjustment was applied to account for revenue losses from applying the program to blank CDs. The Board had previously adjusted rates on cassettes to compensate rights holders for the revenue they would lose from the implementation of zero-rating and it retained this adjusted rate in its 2003-2004 decision.

The Private Copying Levy and Paid Downloads

The private copying regime is silent as to source, so that copies onto an “audio recording medium” from both authorized and unauthorized sources are permitted. (In this report, the term “unauthorized source” refers to the illegal status of the recording from which a copy is made; in other words, the source recording is not a legal copy, having been made without right holders’ authorization.) In the digital context, the levy on media is payable both by those who download from unauthorized sources and those who purchase music from authorized online services. When an online service provides for making a copy on a levied audio recording medium, a music purchaser may effectively compensate rights holders twice; first when she pays a downloading fee to a blank CD that incorporates royalty costs; and second, when she pays the levy on the blank media she purchases for

³ Ibid, p.35.

copying the downloaded music.⁴ This issue may become more important as rights holders more fully exploit digital rights management (DRM) systems and other technological opportunities for controlling access to and use of copyrighted works and as changing attitudes lead to a shift from unauthorized to authorized download sites. The Board has acknowledged that paid transactions should be taken into account in calculating levy rates and observed that “in principle, levies may thus be phased out as paid downloads and free downloads become more popular.”⁵

⁴ There would be no double compensation if the downloading charge applies only to the making of an initial copy on the hard drive of the computer and does not include permission to make a subsequent copy; or if the purchaser of a download only intends to retain the file on hard drive and has no need to purchase a CD or other blank recording medium.

⁵ Ibid, p. 51.

3. STUDY APPROACH

Alternative Options

This report examines how different stakeholder groups could be impacted by a number of specified changes in the private copying provisions of the Act. The specified options relate to features of the Act discussed in the previous section and include:

- limiting the regime to copying from authorized sources;
- providing national treatment to performers and producers from WPPT countries;
- codifying CPCC's zero-rating program;
- limiting the application of the regime to media used "primarily" for recording music;
- requiring that the levy be calculated through a formula based on the transfer or retail price of the recording medium.

The report examines the impact of these possible options if they were introduced individually or in various combinations (scenarios).

In addition, there is an examination of the impact of revising the Act to include recording devices with non-removable memory. Since the benchmark system for this study is the one that existed at the time of the 2003-2004 Copyright Board decision, the benchmark regime covers digital audio recording devices with non-removable memory (DARs). This system, which represented the status quo prior to December 2004, is then compared with various alternative systems excluding DARs. Because of the potentially significant impact of legislation in this area, all scenarios are examined with and without the inclusion of DARs.

Estimating Private Copying Payments

The main focus of the study is on understanding how those who bear the costs of private copying levies and those who benefit from the generated revenues would be affected by possible changes in the administration of the regime. A number of sources of uncertainty complicate this analysis.

First, there are uncertainties about how the Board would interpret and respond to various changes. It is reasonable to expect that, for most of the specified options, the Board would turn to the valuation model for guidance on how to adjust rates, but the 2003-2004 decision indicates that other considerations may take precedence.⁶ In addition, some of

⁶ The Board did not apply the model to update rates in its 2003-2004 decision because of uncertainties about available data and its desire to ensure the prescribed levy was fair and equitable. Disputes over data, however, have been a major part of all private copying hearings and it is not clear that data uncertainties were greater in December 2003 than in December 2000 and December 1999. Vice-Chairman Stephen Callary did not believe that this was the case and, in an Appendix to the 2003-2004 decision, he shows how reasonable numbers could be drawn from the evidence to update the valuation model. Moreover, while the burden of increased levies was a major consideration in 2003, it was not a factor in 2000 when the Board

the specified options are open to different interpretations, leading to different calculated results using the valuation model.

Second, there is little published data that can be applied to assess how the specified options would affect the market for blank recording media and how the new rates would impact on consumers and rights holders. Most of the available data on private copying in Canada come from hearings of the Board, and these data have been the subject of disputes.

Third, given the rapid changes that are occurring in the opportunities for copying music, evidence drawn from the last major hearing of the Board may not provide a reliable basis for assessing the impact of any possible legislative changes that might be introduced at some point in the future. A proper assessment should allow for the dynamism in the private copying market, but attempting to project market developments opens the analysis to a range of additional uncertainties.

To deal with these uncertainties, a reasonable baseline estimate of the impact of each of the possible changes was first developed using the most accepted of the available data from the 2003-2004 hearings, and then the influence of various alternative assumptions was investigated. The analysis was undertaken using two models:

- a *baseline model*, which explores impacts using available data from the 2003-2004 Board hearing;
- a *growth model*, which takes account of changes underway in the nature of private copying and the market for recording media and devices.

The main trends in private copying include:

- increases in copying in general and music downloading, in particular;
- increases in downloading from legal sites;
- increases in the use of digital recording devices with embedded memory.

Survey data published by the International Federation of the Phonographic Industry (IFPI) show a strong growth in paid downloads in the U.S. and Europe. While Canada appears to be lagging behind these countries, legal music sites in Canada are growing in number and popularity and new private copying legislation might be expected to reinforce the shift from peer-to-peer to commercial online services. The growth model examines the impact of possible reforms in an environment characterized by greater copying of recorded music, heavy use of iPods and similar recording devices, and the increased importance of authorized music sites. The aim is not to project royalty payments, but to get some sense of how various scenarios compare with each other and with the benchmark results, in circumstances that are very different from those that existed at the time of the Board's 2003-2004 hearing.

more than quadrupled the levy on CD-Rs and CD-RWs (raising the rate from 5.2 to 21 cents). This lack of consistency complicates efforts to predict how the Board would react to various changes.

The report investigates how different assumptions affect the comparative results obtained from each of these models. In examining the first option involving limiting the regime to “authorized sources”, for example, the growth model was adjusted to consider the impact of more rapid growth in private copying and changes in the extent of copying from authorized, as opposed to unauthorized, sources.

As mentioned above, it was believed to be important to examine each option under regimes that include and exclude DARs, although this complicates the analysis. For each possible scenario, four impact measures are provided:

- impacts under a baseline model in a regime with DARs;
- impacts under a baseline model in a regime excluding DARs;
- impacts under a growth model in a system covering DARs;
- impacts under a growth model in a system not covering DARs.

For some of the specified options, there is uncertainty about how the Board might interpret the changes. In these cases, the impact of different interpretations is considered. So, for example, given the uncertainty about how the Board would apply an option to extend national treatment to performers and makers from WPPT countries to digital recording devices, two different DAR tariffs are examined.

Other Impacts of Options in the Private Copying Provisions

The specified options could impact on rights holders in other ways besides affecting the revenues they derive from private copying. Royalties would be affected, for example, if the changes encouraged music downloaders to switch from file sharing to legal music sites or to increase purchases of pre-recorded music. While a lack of information makes it difficult to shed much light on these developments, the possibility of such indirect impacts merits consideration.

4. LIMITING THE PRIVATE COPYING REGIME TO COPYING FROM AUTHORIZED SOURCES

4.1 Baseline Model

Impact on Private Copying Levies

Notwithstanding its reluctance to apply the valuation model in its last major private copying decision, it is reasonable to expect that the Board would turn to this model for guidance on how to respond to legislation specifying that levies are only to apply to copying from authorized sources. In this model, the royalties all authors and Canadian performers and makers would receive on pre-recorded CDs are first calculated, and then various discounts are applied to take account of the lower quality of copied music and the use of blank recording media for other purposes besides recording music. So, for example, in its 2001-2002 decision the Board determined that the qualifying repertoire of Canadian and international authors and Canadian performers and makers were together entitled to royalties of \$1.38 per pre-recorded CD. An adjustment to take account of the ancillary nature of private copying reduced the applicable royalty to \$0.86 and this then was further adjusted to establish the appropriate levy for individual recording media. In the case of cassettes, for example, the Board applied the formula,

$$R_c = \$0.86 \div 2 \times I \times P \times C$$

where R_c is the levy on audio cassettes, I is the percentage of cassettes purchased by individuals, P is the percentage of purchases used to private copy and C is an adjustment for the difference in recording capacity of audiocassettes and CDs. After dividing the initial \$0.86 royalty by two to account for the lower quality of copies made using cassettes rather than digital media, and inserting its determination of the appropriate numbers for I , P and C , the Board found that R_c equals \$0.29.

A restriction limiting levies to copies made from authorized sources would require that an additional adjustment factor be added to the model. In the above equation for R_c , for example, the base royalty for the eligible repertoire would be multiplied by a new component, A , representing the percentage of copies from authorized sources, thereby further reducing the calculated levy.

To calculate the percentage of copying from authorized sources for the baseline model, we drew on information in the 2001-2002 Réseau Circum report on private copying, which was the main source for the private copying data used by the Board.⁷ Appendix A provides the relevant data and describes the procedure used to calculate the required adjustment factor.

⁷ Réseau Circum Inc., *Étude de marché sur la copie privée d'enregistrements musicaux au Canada, 2001-2002*, August, 2002.

The adjustment factors for insertion in the valuation model and the new rates calculated from applying these factors are provided in Table 1. The second column indicates the current private copying rates for recording media and the rates that applied to recording devices prior to the Federal Court of Appeal December 2004 ruling that the levy on digital audio recording devices is invalid. The third column provides the calculated adjustment factors to be inserted in the valuation model to take account of the proposal to restrict coverage to copying from authorized sources. The resulting rates that would apply if the private copying regime was reformed to apply to copying from authorized sources and also to cover DARs are shown in the fourth column. The sixth column shows the new baseline tariffs if the only change was to limit coverage to copying from authorized sources. With such a reform, CDs would experience the largest reduction in levies. The rate for cassettes, which are seldom used to record downloaded music, would change very little.

Table 1 Estimated Private Copying Levies for Regime Applying to Copying from Authorized Sources

<i>Recording Medium</i>	<i>Rates up to December 2004</i>	<i>Modified Regime Including DARs</i>		<i>Modified Regime Excluding DARs</i>	
		<i>Adjustment Factor</i>	<i>New Rates</i>	<i>Adjustment Factor</i>	<i>New Rates</i>
<i>Audio Cassettes</i>	\$0.29	95.2%	\$0.28	95.2%	\$0.28
<i>CD-R</i>	\$0.21	40.5%	\$0.09	40.5%	\$0.09
<i>CD-RW</i>	\$0.21	54.4%	\$0.11	54.4%	\$0.11
<i>CD-R Audio, CD-RW Audio, MiniDiscs</i>	\$0.77	54.4 %	\$0.42	54.4 %	\$0.42
<i>Recording Devices with Embedded Memory:</i>					
- up to 1Gb	\$ 2		\$ 1.09		
- 1-10 Gb.	\$15	54.4%	\$ 8.16		
- more than 10 Gb.	\$25		\$ 13.60		

Impact on Retail Revenues

To determine how an “authorized sources only” option would impact on retail sales and consequently on stakeholder payments and revenues, information is required on:

- the sales volume of affected recording media;
- the average sales price of these media;
- the extent to which importers and manufacturers are likely to pass on a private copying charge;
- the impact of an increase in retail prices on sales of recording media.

For baseline sales revenue, the main source was data produced for the 2003-2004 hearings by Santa Clara Consulting Group.⁸ We adopt the Santa Clara data as adjusted in two reports prepared by Deloitte & Touche for CPCC.⁹ The Deloitte and Touche reports are also the source for our data on average sales prices of recording media.

The extent to which a charge is passed on by suppliers depends on the relative elasticities of supply and demand. The more inelastic demand, the less sensitive consumers are to a change in price and, therefore, the less sales will be affected by a levy that results in higher prices. While buyers will bear more of the burden when demand is inelastic, suppliers will tend to bear more of the cost when supply is inelastic. In previous studies, it has been assumed that the supply curves for blank media are perfectly elastic and that levies are fully passed on.¹⁰ We adopt this same assumption.

The impact of a private copying levy on sales depends on the elasticity of demand for recording media. In previous studies, elasticity is assumed to be low primarily because purchases of recording media account for a minor fraction of the average purchaser's budget. Similarly, if one views the consumer as "manufacturing" a listening experience, then blank recording media constitute a very small portion of the manufacturing cost including the value of the individual's time. The lack of evidence that blank CD sales were affected by the sharp increase in the private copying levy at the end of 2000 supports the view that elasticity is quite low. Therefore, initially, an elasticity of -0.5 was adopted. Such a low elasticity is not appropriate for recording devices with embedded memory, which account for a more significant portion of the purchaser's budget (especially for young consumers). Since recording devices were an insignificant component of sales in 2001, altering the elasticity number does not significantly affect the results. Nonetheless, a more reasonable elasticity measure of -1.5 was adopted for DARs.¹¹

Sales of blank recording media could also be affected because the imposition of a levy leads to the development of a significant "grey market," in which consumers import the product themselves to avoid the charge, or "black market," in which importers and wholesalers illegally acquire blank media for the purposes of trade without paying the levy. There is debate about the significance of these markets. It has not been possible to take account of the impact of grey and black market sales and, to the extent these markets

⁸ In the 2003-2004 hearings, the size of the retail market for individual recording media was the subject of considerable discussion and debate. Retailers reported purchases of substantially more blank CDs than were indicated by sales of Canadian manufacturers and importers. The study by the Santa Clara Consulting Group, however, produced data that were generally consistent with those provided by the Canadian Storage Media Association (CSMA) and the International Recording Media Association (IRMA) and these data were viewed as reliable by Vice-Chairman Callary.

⁹ In Deloitte & Touche (2002A), an adjustment is made because the Santa Clara data group together CD-Rs and CD-RWs. In Deloitte & Touche (2002B), a further slight adjustment is made to the market size estimates to take account of revised IRMA data filed by CSMA at the 2003-2004 Board hearings.

¹⁰ This is the approach in Rushton (2002) and Deloitte & Touche (B).

¹¹ Since DARs are a luxury good, an estimate at the high end of the range reported in studies of the price elasticity of consumer goods and services was chosen. The selected figure is similar to reported estimates of the elasticity of demand for broadband access.

are indeed significant, post-levy revenues may be somewhat overestimated. Our major focus, however, is on the revenue differences due to specified alternative options and these results are likely to be much less affected by grey and black market sales.

These assumptions lead to the results shown in Table 2. To derive post-levy revenues, the impact of higher rates on sales has been estimated (based on the assumed elasticities) and the estimated sales volumes have been multiplied prices that include the actual and estimated levies in Table 1. Revenue impacts are provided both for a system including DARs (Option A), where the rates that applied to MP3s prior to the Federal Court of Appeal ruling have been used for the “existing system”, and excluding DARs (Option B). If a system based on “authorized sources only” had been in place in 2001, revenue from sales of blank recording media would have been almost \$5 million less than under the current regime. The decline in revenue would have been approximately the same whether DARs were included or excluded from the private copying system.

Table 2 **Impact on Retail Revenue**

<i>Media</i>	<i>Pre-levy Sales 2001</i> <i>(units mill)</i>	<i>Average Price</i> <i>(\$)</i>	Option A <i>Post-levy Revenues</i>		Option B <i>Post-levy Revenues</i>	
			Existing System Rates	Authorized Sources Option	Existing System	Authorized Sources Option
			<i>(\$ mill.)</i>			
Cassette	15.50	1.99	32.76	32.71	32.76	32.71
CD-R	102.30	1.00	110.79	106.49	110.79	106.49
CD-RW	3.20	3.72	12.22	12.07	12.22	12.07
CD-R Audio	1.50	2.68	4.43	4.29	4.43	4.29
CD-RW Audio	0.05	3.17	0.17	0.17	0.17	0.17
MiniDiscs	0.40	6.20	2.61	2.56	2.61	2.56
MP3s*	0.10	323.60	31.51	31.92	32.36	32.36
Total	123.10		194.50	190.21	195.35	190.65

* The levy for a recording device with 1-10Gb of memory is used. “MP3” refers to DARs generally.

Impact on Stakeholders

(i) Authors, Performers and Makers

Under an authorized sources option, annual royalty payments to CPCC would decline to almost half of their estimated level under the current system.¹² Along with these estimates of gross royalties, Table 3 provides an estimate of net revenues available for distribution after deducting collectives’ expenses. CPCC’s expenses, which are largely

¹² Royalties have been calculated by multiplying the post-levy sales volume for each recording medium (pre-levy sales minus the expected loss given the assumed price sensitivity of consumers) by the estimated private copying levy.

unrelated to revenues, averaged \$2.2 million per year over the 2001 to 2003 period (which includes one year when there was a major Board hearing). While not all the collectives make their financial statements available, deductions would appear to range from the 6% commission imposed by the Canadian Musical Reproduction Rights Agency (CMRRA) to the approximately 16% retained by the Society of Composers, Authors and Music Publishers of Canada (SOCAN) to cover administrative expenses. Using the average of these costs, the estimated revenues for distribution under Option A would decline from just over \$20 million under the current regime to just over \$11 million under the authorized sources option.

Table 3 **Impact on Royalties**

	Option A		Option B	
	<i>Existing System</i>	<i>Authorized Sources Option</i>	<i>Existing System</i>	<i>Authorized Sources Option</i>
	(\$ mill.)		(\$ mill.)	
Gross Royalties	26.8	14.7	25.4	13.9
Net Royalties	21.9	11.1	20.6	10.4

The decline in royalties is primarily the result of the lower tariffs that would be established under the authorized sources option. Adjusting the other variables employed in the calculation would generally have little effect on the findings. For example, if elasticity of demand for all media is -1 (rather than -1.5 for DARs and -0.5 for all other media), the decline in gross royalty payments with the authorized source regime is \$12.9 million under Option A (rather than \$12.1 million) and \$12.2 million under Option B (rather than \$11.5 million).

In its 2003-2004 decision, the Board determined that 66% of royalties are to go to Canadian and foreign authors and publishers, 18.9% to Canadian performers, and 15.1% to Canadian makers. Implementation of the authorized sources option would reduce the gross royalty shares of right holder groups as shown in Table 4.

Table 4 **Change in Gross Royalty Shares**

	Option A		Option B	
	<i>Current Regime</i>	<i>Authorized Sources Option</i>	<i>Current Regime</i>	<i>Authorized Sources Option</i>
	(\$ mill.)		(\$ mill.)	
<i>Authors</i>	17.7	9.7	16.8	9.2
<i>Performers</i>	5.1	2.8	4.8	2.6
<i>Makers</i>	4.0	2.2	3.8	2.1

(ii) Retailers

While retail revenues may increase with the inclusion of private copying revenues,¹³ the net income of retailers will tend to fall. The decline in net income, however, will be smaller under an authorized sources regime. Under Options A and B, retail income net of levies is \$7 million to \$8 million higher under the authorized sources option than under the existing system.

(iii) Importers and Distributors

There would appear to be little manufacturing of blank recording media in Canada.¹⁴ Major global manufacturers (e.g. Fuji, Maxwell, JVC, Verbatim) sell their product through their Canadian branch offices or using independent Canadian distributors. While wholesale prices are not available, based on Statistics Canada data on retail margins in electronics and computers, it will be assumed that these are 71 percent of retail prices. Using this percentage and the data in previous tables, the revenue of wholesalers net of royalty receipts would be about \$5 million higher (Option A) under an authorized sources system. While the savings would be trivial for global companies, they could be significant for some small domestic firms that specialize in the distribution of blank recording media.

(iv) Consumers

As indicated above, consumers would spend about \$5 million less on blank recording media under the authorized sources option. This saving represents less than 5% of annual consumer spending on recording media. While under the authorized sources option there is a small redistribution from rights holders to consumers, there is also a very small additional welfare gain that consumers would experience as a consequence of the lower prices for recording media.

4.2 Growth Model

New Assumptions

To get a sense of how our conclusions would be affected by the rapid changes underway in private copying, in this section we redo the calculations in Section 4.1 using very different market assumptions.

While there are no recent data on the nature and extent of copying activities, it is clear that in Canada, as in other countries, consumers are taking advantage of the opportunities created by digitalization and the diversification in delivery platforms. Globally, digital music delivery is surging, driven, in part, by the expansion of broadband, the increasing

¹³ Revenues will fall if a different elasticity of demand is applied (-1.0) and it is assumed that suppliers absorb a share of the additional costs associated with the levy.

¹⁴ Deloitte and Touche (2002B).

popularity of technologies such as portable music players and 3G mobile phones, and the growth in online music services. Peer-to-peer technologies, which facilitate the exchange of copyrighted content that has not been authorized by rights owners, have also contributed to growth in digital music use. The IFPI finds that, as a result of the proliferation of music available for purchase online and concerns arising from legal actions taken by the music industry, there is recent evidence of a leveling off in illegal file sharing. Meanwhile, legal downloading is growing rapidly. Over the first half of 2005, the number of legal tracks downloaded internationally is estimated to have tripled to 180 million.¹⁵

Survey data suggest that Canada accounts for a disproportionately high proportion of the P2P users in OECD countries.¹⁶ Canada's online music market did not get going until after October 2003 when the CMRRA and CRIA signed an agreement to issue licenses to Internet music distributors. Since the initial framework agreements between the associations and Napster, MusicNet and Puretracks, however, online sales have grown rapidly. Puretracks Canada achieved 1 million downloads by February 2004. At the end of 2004 Apple opened its highly successful iTunes music store in Canada. While in Canada, as in other countries, online music sales currently account for only a small share of total industry revenues, this is forecast to a rise by a factor of 3 to 5 by 2008.¹⁷ At the same time, the rising popularity of online music is expected to continue to drive the growth in MP3 sales, which are forecast to rise rapidly in coming years notwithstanding a possible decline in the overall audio consumer electronic spending.¹⁸

These observations provide the context for the construction of our growth model. The assumptions that are applied - which are not projections but simply an attempt to construct a reasonably plausible scenario for coming years - are as follows:

- annual private copying of recorded music increases by 30% to 1.4 billion;
- the share of recorded music copying that comes from the Internet increases to 75% (from 48% in 2001-2002);
- iPods and similar recording devices grow to become the means for recording about half of all music;
- amongst recording media, CD-Rs are the most important (accounting for 28% of recordings), followed by CD-RWs (20%), cassettes (1.5%) and other recording devices (1.5%);
- legal downloading becomes more important and comes to account for 25% of all downloading (from about 5% in 2001-2002);
- the elasticity of demand for recording media is - 0.5 and the elasticity of demand for MP3s is - 1.5 (as in the baseline calculation);

¹⁵ IFPI, News Release, July 21, 2005.

¹⁶ Survey data cited in OECD (2005) indicate that Canada accounted for 8% all P2P users in OECD countries in 2003, making it first in terms of P2P use per capita.

¹⁷ From the review of a number of private forecasts, the OECD (2005) concludes that global online music sales are likely to grow from their current level of 1%-2% of music industry revenues to 5%-10% by 2008.

¹⁸ In 2004, global sales of portable MP3 players more than doubled, reaching 6.9 million units. Forecasts in OECD (2005) are for strong growth in coming years to build on what is still a low installed base.

- the private copying tariff is fully passed forward by manufacturers and importers.

Private Copying Levy

Calculations were made as in the baseline model for regimes including and excluding devices with embedded memory. Appendix A provides details on the calculation of the new adjustment factors. The new tariffs under Option A, which are given in Table 5, are somewhat lower than in the baseline calculation. Although legal downloading has increased in importance, the total amount of illegal downloading is higher than in the baseline model and this leads to generally lower adjustment factors.

Table 5 Growth Model Rates for Authorized Sources Option

<i>Recording Media</i>	<i>2003-2004 Rates</i>	<i>Adjustment Factor</i>	<i>New rates</i>
<i>Cassettes</i>	\$0.29	51.4 %	\$.15
<i>CD-R</i>	\$0.21	43.7 %	\$.09
<i>CD-RW</i>	\$0.21	43.7 %	\$.09
<i>CD-R Audio, CD-RW Audio, MiniDiscs</i>	\$0.77	51.4 %	\$.40
<i>DARs -1-10Gb.</i>	\$15.00	43.4 %	\$6.51

Impact on Retail Revenues

To calculate the impact on revenues, data is needed on sales and average prices. Based on available information on trends, baseline sales data were adjusted up (CD-Rs, CD-RWs, MP3s,) or down (cassettes) or left the same (CD-R Audio, CD-RW Audio, MiniDiscs). To facilitate comparison with the baseline estimates, prices were maintained largely at their 2001 levels. The only change introduced was to adjust for the impact of technological change in reducing the real price of digital audio recording devices. All estimates are therefore in 2001 dollars. Table 6 shows the results of applying the new assumptions. Largely because of the growth in sales and the increased popularity of more expensive means of music recording, retail revenues under both the existing regime and the authorized sources option are much higher than in the baseline estimates.

Table 6 Impact on Retail Revenue – Growth Model

<i>Media</i>	<i>Pre-levy Sales 2001</i> <i>(units mill)</i>	<i>Average Price</i> <i>(\$)</i>	<i>Option A**</i> <i>Post-levy Revenues</i>		<i>Option B**</i> <i>Post-levy Revenues</i>	
			<i>Existing Rates</i>	<i>Authorized Sources Option</i> <i>(\$ mill.)</i>	<i>Existing Rates</i>	<i>Authorized Sources Option</i> <i>(\$ mill.)</i>
Cassette	7.00	1.99	14.80	14.42	14.80	14.42
CD-R	115.00	1.00	124.54	119.71	124.54	119.71
CD-RW	10.00	3.72	38.19	37.64	38.19	37.64
CD-R Audio	1.50	2.68	4.43	4.28	4.43	4.28
CD-RW Audio	0.05	3.17	0.17	0.17	.17	0.17
MiniDiscs	0.40	6.20	2.61	2.55	2.44	2.47
MP3s*	0.70	230.00	154.72	158.53	161	161.0
Total	123.1		339.47	337.29	345.75	339.76

* The levy for a recording device with 1-10Gb of memory is used.

** Assumes elasticity of -1.5 for MP3s, and -0.5 for other recording media

Impact on Stakeholders

(i) Authors, Performers and Makers

As compared to the baseline model, there is now a larger disparity between royalty payments under the existing regime and authorized sources option. With the growth model, royalty payments to CPCC rise to \$36.3 million under the current system, but only edge up to \$16.9 million under an authorized sources option (Option A). After deducting collectives' estimated administrative costs (as described in Section 4.1), the net amounts available for distribution under Option A are \$30.3 million in the existing system and \$13.1 million in the system restricted to copying from authorized sources (Table 7). The estimated division of gross royalties between authors, performers and makers under the existing system and authorized sources option are shown in Table 8.¹⁹

Table 7 Impact on Royalties

	Option A (i.e. including DARs)		Option B (i.e. excluding DARs)	
	<i>Existing System</i>	<i>Authorized Sources Option</i>	<i>Existing System</i>	<i>Authorized Sources Option</i>
	<i>(\$ mill.)</i>		<i>(\$ mill.)</i>	
Gross Royalties	36.3	16.9	26.9	12.5
Net Royalties	30.3	13.1	22.0	9.2

¹⁹ While previous calculations suggest that, overall, distributions are likely to be about 75% to 80% of gross royalty payments, the percentage applying to individual classes of rights holders may be substantially higher or lower because of the variation in collective societies' administrative charges.

Table 8 **Change in Division of Gross Royalties**

	Option A		Option B	
	<i>Current Regime</i>	<i>Authorized Sources Option</i> (\$ mill.)	<i>Current Regime</i>	<i>Authorized Sources Option</i> (\$ mill.)
<i>Authors</i>	23.9	11.1	17.7	8.2
<i>Performers</i>	6.9	3.2	5.1	2.4
<i>Makers</i>	5.5	2.6	4.1	1.9

(ii) Retailers, Importers and Distributors

As with the baseline model, retail revenues net of levies are higher under a system that applies to copying from authorized sources only. Net retail revenues are \$17.2 million higher under the authorized sources option as compared to the existing private copying system in Option A, and \$8.4 million higher in Option B. Net wholesale revenue would also be somewhat higher under the authorized sources option – about \$6 million higher under Option A.

(iii) Consumers

While royalty payments are significantly less under the authorized sources option, the calculated difference in overall consumer spending under the existing regime and authorized sources option is very small. As can be seen in Table 6, post-levy consumer expenditures are only about \$2 million to \$6 million less under an authorized sources option. In relation to overall consumer spending on recording media, or in terms of its impact on the average household (\$0.16 per \$0.48 per year), the saving is trivial.

Sensitivity Analysis and Overview

How would results change if developments depart from the assumptions in our growth model? Since impacts on royalty payments are of particular interest, we consider how royalty payments to CPCC would change as different assumptions are made about the market environment applying to the authorized sources option.

(1) Different elasticity of demand for recording media

If the demand for general recording media is more elastic than assumed, the decrease in prices under the authorized sources option will have a more positive influence on sales and this would slightly mitigate the revenue loss from lower royalty rates. The opposite would occur if the demand for recording devices is less elastic than assumed. Under reasonable assumptions, however, these changes would be very small. When, for example, the elasticity for all recording media (including DARs) was changed to -1.0, the loss in royalty revenues in moving from the current regime to an authorized sources

system was found to be about \$2 million less under Option A of the growth model than was previously estimated.

(2) *More rapid growth in private copying of recorded music*

If private copying of recorded music increased more rapidly than assumed above, this could affect the calculation of royalty rates. To examine the effect, the growth in private copying was doubled from 30% to 60%, so that annual copying of pre-recorded music stands at 1.7 billion tracks (vs. 1.4 billion). All other assumptions were left unchanged. Interestingly, the results are much the same as in the original calculation. The calculated adjustment factors, royalty rates, and royalty revenues were not significantly affected by the growth in private copying.²⁰

(3) *Changes in the extent of copying from authorized sources*

Changing assumptions about the extent of downloading from the Internet from authorized, versus unauthorized sources, does significantly affect the results. Two alternative assumptions were applied: a high growth assumption under which half of all Internet downloads are from authorized sources (vs. 25%); and a low growth assumption in which authorized sources account for only 10% of downloads. The factors that are applied to adjust royalty rates for the proportion of copying from authorized sources for each recording medium are quite different under these two scenarios (Table 9). Accordingly, levies and royalty revenues, which are shown in Table 10, differ substantially.

Table 9 Adjustment Factors and Royalty Rates under High and Low Growth Downloading from Authorized Sources

	<i>High Growth Assumption</i>		<i>Low Growth Assumption</i>	
	<i>Adjustment Factor (%)</i>	<i>New Levies (\$)</i>	<i>Adjustment Factor (%)</i>	<i>New Levies (\$)</i>
Cassettes	67.6	.20	41.4	0.12
CD-Rs	62.5	.13	32.5	.07
CD-RWs	62.5	.13	32.5	.07
CD-R Audio	67.6	.52	1.4	.32
CD-RW Au.	67.6	.52	41.4	.32
MiniDisc	67.6	.52	41.4	.32
MP3s	62.3	9.35	32.1	4.82
1-10 Gb				

²⁰ No account was taken of some related developments. In particular, with more rapid growth in private copying, sales and/or utilization of recording media would increase and these changes would likely impact on royalty revenues. These results would be significantly influenced by whether and to what extent the Board raises rates in response to the greater utilization of MP3s. While no account was taken of these developments, since they would affect royalty revenues under both the current and new regime, their net impact on the revenue changes from shifting to a private copying system is likely to be modest.

Table 10

**Gross Royalties under High and Low Growth
Downloading from Authorized Sources**

	<i>High Growth</i> (\$ mill.)	<i>Low Growth</i> (\$ mill.)
Option A	23.7	13.1
Option B	17.5	9.9

The calculated changes in royalty payments to CPCC are illustrated in Figures 1 and 2. For comparison, the baseline royalty payments calculated in Section 4.1 are also included.

Figure 1 **Royalty Revenues Under an Authorized Sources Regime - Option A**

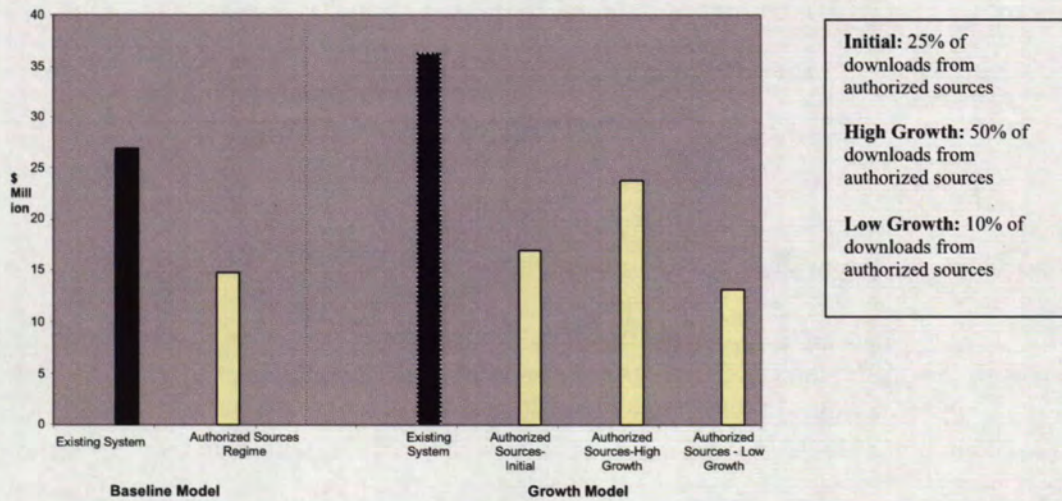
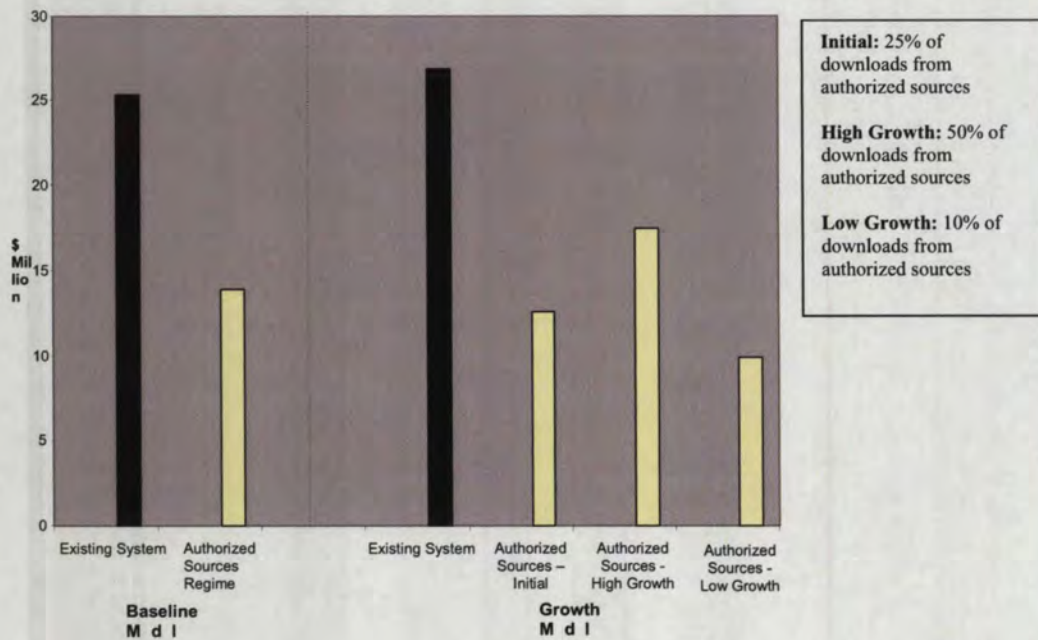


Figure 2

Royalty Revenues Under Authorized Sources - Option B



The figures highlight a number of findings:

1. The changes underway in private copying are likely to result in a significant growth in royalties if the legislation were amended to bring DARs under the private copying regime. Figure 2 shows royalties are likely to remain relatively flat in a system excluding DARs.
2. Under a system in which levies apply only to copying from authorized sources, royalties will be substantially lower than under the existing system and the growth in royalty payments will tend to be much slower, and possibly negative.
3. While royalty payments would be lower under an authorized sources option, the size of gap between the existing regime and authorized sources option would depend on private copying behaviour. With the initial growth model assumptions (i.e. 25% of downloading from authorized sources), under both Options A and B, royalty revenues under an authorized sources approach are just under half of what they would be under the existing system; under a scenario with high growth in authorized sources, revenues are 65% of what they would be under the existing regime; and under the "low growth" alternative, revenues are only 36% of their estimated level under the current regime.

5. LIMITING THE REGIME TO AUTHORIZED SOURCES AND PROVIDING NATIONAL TREATMENT TO PERFORMERS AND MAKERS FROM WPPT COUNTRIES

In this scenario, the option examined above - limiting the regime to authorized sources, is combined with another option, namely the expansion of the repertoire of performers and producers that is eligible for compensation under the Act. As noted above, under the current system private copying royalties are allocated to both Canadian and foreign authors of sound recordings, but only to Canadian performers and makers. Expanding the eligible repertoire to include performers and makers from all WPPT countries would arguably better enable Canada to meet its obligations for ratification of the WPPT.

5.1 Baseline Model

Impact on Private Copying Levies

The impact of moving to an international repertoire for performers and makers was previously examined by Rushton (2002a). There was no tariff on digital audio recording devices when this study was conducted and these devices are not included in the calculations. Incorporating an option including DARs complicates the analysis because it is not clear how the Board would amend the tariffs it set for DARs in previous decisions to take account of a change in the eligible repertoire of rights holders. For other recording media, however, it is reasonable to expect that the Board would base the new rates on calculations from a valuation model adjusted to take account of the expansion in the eligible repertoire.

In the case of recording media (not devices), we assume, following Rushton, that the eligible repertoire for performers and makers is 96 percent of the total repertoire, as it is for authors; and the Board would incorporate this factor in its valuation model to calculate the new rates. In using a figure of 96 percent for the eligible repertoire, the assumption is that 4 percent of pre-recorded works by performers and makers are now in the public domain.²¹

Since, under this approach, the levies on private copying approximately double, it might be assumed that the Board would similarly double the rates for recording devices in response to an expansion of the eligible repertoire. In its 2003-2004 decision, however, the Board was sensitive to the potential impact of tariffs on the market for digital recording devices, and noted that it "does not wish to impede the development of the emerging market for these new technologies in Canada."²² Accordingly, tariffs for DARs might be left unchanged. In estimating the impact of this option, we consider both possibilities: that the rate for the mid-level DARs (i.e. with 1-10 GB) we use in our model

²¹ This might be an overestimate of the works by performers and makers that are in the public domain. Increasing the eligible repertoire from 96% to 98%, however would only result in about a one cent increase in tariffs on recording media.

²² Copyright Board, *Private Copying 2003-2004*, p. 55.

is left at \$15, and that is increased to \$30. Impacts are also estimated for a situation in which the status quo since the Federal Court of Appeal ruling is maintained and DARs are excluded from the private copying regime (i.e. Option B).

The effect of adjusting rates for both an expanded repertoire of makers and performers and an “authorized sources” limitation is shown in Table 11. The rates in column 3 were derived by adjusting the Stohn and Audley valuation formula to take account of the change in repertoire. The adjustment factors in column 4 come from Table 1. While the first adjustment leads to an approximate doubling in tariffs, the adjustment for authorized sources reduces rates for most recording media to close to their current levels.

Table 11 Private Copying Levies under the Modified Regime

	<i>Prescribed Rates</i>	<i>Adjustment for 96 % Repertoire</i>	<i>Adjustment factor for Authorized Sources</i>	<i>New Levies</i>	
	(\$)	(\$)	Option A (%)	Option A (\$)	Option B (\$)
Cassettes	.29	.58	95.2	.55	.55
CD-Rs	.21	.41	40.5	.17	.17
CD-RWs	.21	.41	54.4	.22	.22
CD-R Audio	.77	1.52	54.4	.83	.83
CD-RW Au.	.77	1.52	54.4	.83	.83
MiniDisc	.77	1.52	54.4	.83	.83
MP3s (1-10 Gb)	(i) 15.00	15	54.4	8.16	
	(ii)	30		16.32	

Since the combined effect of the two possible options is to leave private copying levies largely unchanged, royalty payments should be close to their estimated level under the current regime. This is confirmed in Table 12. Calculated royalties under Option A approximate the \$26.8 million benchmark calculation for the current system. Similarly, retail revenues under the modified system are close to their gross (\$194.5 million) and net (\$167.7 million) levels under the existing private copying regime (Option A).²³

Table 12 Royalties and Revenues under the Modified Regime

	<i>Royalties (\$ million)</i>	<i>Retail Revenues –Gross (\$ million)</i>	<i>Retail Revenues – Net (\$ million)</i>
Option A - \$15 MP3 levy ¹	26.1	194.9	168.8
Option A - \$30 MP3 levy ¹	26.9	194.4	167.5
Option B	25.3	195.3	170.0

¹ These refer to the initial tariff adjustments made in response to the expansion of the eligible repertoire.

²³ In all tables, under Option A, the label “\$15 MP3” denotes a decision by the Board to leave MP3 tariffs unchanged. The “\$30 MP3” label refers to a decision to double MP3 tariffs in response to expansion of the eligible repertoire. Because of additional adjustments required under various options, actual tariffs on DARs may depart from these initial levels.

While overall royalties would be about the same as under the current system, a smaller amount would be available for distribution to Canadian authors, makers and performers. With the eligible repertoire for makers and performers representing 96% of the total repertoire, royalty revenues would be evenly divided up, with authors, performers and makers each receiving one third, using the distribution formula applied by the Copyright Board. But under the modified system, 49.5% of the royalties represent obligations to foreign makers and performers resulting from the new national treatment provisions.²⁴

5.2 Growth Model

In this section, we consider the impacts of the possible options using the growth model outlined in Section 4.2. Assumptions about how the Board would respond to such changes remain as in the baseline model. The new rates under the modified system are shown in Table 13. The adjustment for the expanded repertoire of makers and performers is the same as in the baseline model. The adjustment factors in column 4 to take account of the authorized sources provisions come from Table 5 above.

Table 13 Private Copying Levies under the Modified Regime - Growth Model

	<i>Prescribed Rates</i>	<i>Adjustment for 96% Repertoire</i>	<i>Adjustment factor for Authorized Sources</i>	<i>New Levies</i>	<i>New Levies</i>
	(\$)	(\$)	Option A (%)	Option A (\$)	Option B (\$)
Cassettes	.29	.58	51.4	.30	.30
CD-Rs	.21	.41	43.7	.18	.18
CD-RWs	.21	.41	43.7	.18	.18
CD-R Audio	.77	1.52	51.4	.78	.78
CD-RW Au.	.77	1.52	51.4	.78	.78
MiniDisc	.77	1.52	51.4	.78	.78
MP3s (1-10 Gb)	(i) 15.00	15	43.4	6.51	
	(ii)	30		13.02	

While, as in the baseline model, levies for recording media are close to their level under the existing regime, the tariff on recording devices is below current prescribed rates - and substantially so, under the assumption the Board would not increase the levy on DARs with an expansion in the eligible repertoire. Since DARs are an important component of the recording media market in the growth model, the lower tariff has a significant impact on royalty payments. This can be seen in Table 14. The estimated royalties of \$28.2 to \$32.2 million are below the \$36.3 million in royalty payments estimated for the existing system in Section 4.2. Royalties in a regime excluding DARs (i.e Option B) are also estimated to be lower than under the current system (i.e. down from \$26.9 to \$23.9

²⁴ Using the 96 percentage assumption, Canadian and foreign makers and performers would together be entitled to 66.6% of the proceeds from the levy. According to data used in the Board's 2003-2004 decision, the weighted average royalty share of Canadian makers and performers would be 17.2 percent. The difference (49.5% after rounding) represents the share due foreign makers and performers.

6. ALTERNATIVE OPTIONS INVOLVING NATIONAL TREATMENT FOR PERFORMERS AND MAKERS

In this section, we outline a number of options that involve the provision of national treatment to performers and makers in combination with other options. The focus is on understanding the options and determining how new royalty rates should be calculated. The impact of these scenarios on stakeholders will be considered in Section 7.

Providing National Treatment to Performers and Makers and Codifying CPCC's Zero-Rating Program

Under this option, rates would increase from implementation of "national treatment", but organizations that purchase blank recording media for purposes other than copying music would be exempted from the levies. As with previous options, the Board might respond to such requirements in different ways. Tariffs could simply be raised in accordance with calculations using the valuation model. Alternatively, the Board could increase rates by more than needed to adjust for the larger eligible repertoire in order to compensate rights holders for the loss in royalties due to zero-rating. While the latter approach would be consistent with previous decisions, the Board might be reluctant to increase rates by more than the substantial amount required to accommodate national treatment.²⁵ Given this uncertainty, it is desirable to consider both possibilities.

No Compensation for Effects of Zero-Rating

The levies that would apply in a regime involving national treatment for performers and makers were described above. One change should be made to the previous calculations. Existing rates for cassettes over 40 minutes incorporate a premium to compensate rights holders for royalty losses from the sale of zero-rated cassettes. Removing these premiums, which do not belong in calculations involving a "no compensation" assumption, reduces the rate on cassettes from its existing level of \$0.29 to \$0.24.²⁶ Applying an adjustment, as previously, to take account of the expansion in the eligible repertoire brings the rate for cassettes to \$0.41. Adjusted rates for all other media would remain as calculated in the third column of Table 11.

In calculating royalties, it will be assumed that all purchasers of recording media other than individuals are eligible for levy-free purchases and all those who are eligible take advantage of the zero-rating program. The program would apply primarily to cassettes, CD-Rs and CD-RWs and, for these media, royalty payments depend on the percentage of purchases by individuals, as opposed to organizations.

²⁵ As noted, the Board did not increase rates in its 2003-2004 decision, in part because of its view that previously established rates were "as fair and equitable as possible for all parties."

²⁶ This adjustment was made by going back to the formula the Board applied in 2000 when the figure for the "percentage of media purchased by private individuals" was inflated to address this issue. This component was reduced from its inflated level of 95% to its previous level of 80% and the valuation formula was recalculated.

Compensation Provided for Effects of Zero-Rating

Under this scenario, the Board increases the rates on cassettes, CD-Rs and CD-RWs to generate additional revenue from individuals to offset the loss in royalty payments from organizations. Rates on these three media increase, first, as a result of the “national treatment” adjustment and, second, as a consequence of adjustment to compensate for zero-rating. The result is that the tariff rises to \$0.58 for cassettes, and to \$0.87 for CD-Rs and CD-RWs.²⁷ For other media, rates are the same as in the previous calculation.

Providing National Treatment to Performers and Makers and Restricting the Regime to Media Used “Primarily” for Recording Music

Under this option, the introduction of national treatment for performers and makers would be combined with a modification limiting the type of media to which the regime applies. An audio recording medium is currently defined under Section 79 as “a recording medium...onto which a sound recording may be produced and that is of a kind ordinarily used by individual consumers for that purpose....” With this option, Canada would move closer to the approach under the U.S. *Audio Home Recording Act* where the focus is on recording media “primarily marketed or most commonly used by consumers for the purpose of making digital audio copied recordings....”²⁸

The implication of such a change in definition would depend on whether the emphasis is on how a medium is primarily used or how a medium is primarily used *by individuals*. The latter interpretation is less restrictive and suggests that media may be included even if consumers are not the most important users. The main requirement is that, when they do use the medium, individuals do so primarily to record music. The implications of this change would also depend on whether primary use is to be judged using quantitative measures or is to be subject to qualitative assessment.

In its discussion of these matters in its 2003-2004 decision, the Board argued against a strict reliance on quantitative measures and in favour of an approach that centres on the nature of media use by individual consumers. With respect to the latter, it contends that what is important is “both the extent to which the media is used by consumers for copying sound recordings in contrast to other uses, and the extent to which consumers, when copying sound recordings, use that media in contrast to other media.”²⁹

While survey data may not be the only basis for deciding whether a medium should be included in the private copying regime, they are the main source of information on the use of blank recording media. One might expect that, if a medium is *primarily* used by individuals for copying, survey data would confirm that at least half of the purchases by

²⁷ The adjustment for zero-rating was made by increasing the figure for “percentage of media purchased by private individuals” in the valuation formula to 95% from 80% for cassettes and 60% for CD-Rs and CD-RWs.

²⁸ *Audio Home Recording Act* (1992), 17 USC, ch.10, subchapter A, 1001, 4 (A).

²⁹ Copyright Board, *Private Copying 2003-2004*, p. 36.

individuals are for the purpose of copying music. A medium that does not meet this test could be judged not to satisfy the least restrictive interpretation of the “primary use” requirement.

Under a stricter interpretation, a medium would be deemed to be primarily used for recording music, only if this represents its most important use. For media that qualify for inclusion under this approach, survey evidence should confirm that more than half of the use is by individuals who are recording music.

The most recent available data on media use come from 2003-2004 Board hearings. The summary of this evidence by Vice-chairman Callary suggests that all but two of the media on which tariffs have been imposed can qualify as being primarily used for copying music. The exceptions are CD-RWs, which do not satisfy the less restrictive definition and CD-Rs, which do not meet the more stringent “primary use” test.³⁰ The impacts of removing CD-RWs alone and both CD-RWs and CD-Rs from the regime will be examined.

Excluding CD-RWs from Coverage

For this option, tariffs are the “national treatment” rates used in previous examples. The only change required is that the rate for CD-RWs is now zero.

Excluding CD-RWs and CD-Rs from Coverage

The same “national treatment” rates apply in this option, except, now, the rates for both CD-RWs and CD-Rs are zero. Since CD-Rs are one of the most important media covered under the private copying system, a reform leading to their exclusion could be expected to have a major impact on royalties.

Providing National Treatment to Performers and Makers and Specifying a Limit for the Levy

This option would require policymakers to establish a formula that would serve as a cap on levies. The Board could still use its valuation model to calculate rates that would apply with an expanded repertoire of eligible makers and performers, but certified rates could not exceed the level indicated by the specified formula. The latter could, for example, limit rates to a certain percentage of the transfer or retail price of recording media and recording devices.

In its 1999-2000 decision, the Board explicitly rejected the use of *ad valorem* levy rates on the grounds that the value of intellectual property bears no clear relation to the price of

³⁰ In the Appendix to the 2003-2004 Board decision, the percentage of CD-RW purchases by individuals used for copying music is estimated at 40%. For CD-Rs, the figure is 60%, but the copying of music accounts for only about a third of total usage, taking account of that by organizations.

blank media. However, a number of countries do set rates as a percentage of media prices. For example:

- in the U.S., rates are set at 3% of the transfer price for digital recording media, and 2% of the transfer price for digital recording devices (with a \$1 floor and an \$8 ceiling);
- in Belgium, the rate on recording devices is 3% of the manufacturer's or importer's selling price;
- in Italy, rates appear to be 10% of wholesale prices for recording media and 3% of wholesale prices for recording devices;
- in Greece, rates appear to be 6% of import or wholesale prices on both recording media and recording devices;
- in Japan, rates appear to be 3% of retail prices for recording media and 2% of retail prices for recording devices (with a 1000 yen ceiling).

If Canada were to follow the example of some of the above countries, levies could be as shown in Table 15.³¹

**Table 15 Rates Based on Wholesale Prices:
Alternative Examples**

	U.S. <i>3% - media</i> <i>2% - MP3</i>	Italy <i>10% - media</i> <i>3% - MP3</i>	Greece <i>6% - media</i> <i>6% - MP3</i>
Cassettes	.04	0.14	.08
CD-Rs	.02	.07	.04
CD-RWs	.08	.26	.16
CD-R Audio	.06	.19	.11
CD-RW Au.	.07	.23	.14
MiniDisc	.13	.44	.26
MP3s 1-10 Gb			
Baseline Model	4.60	6.89	13.79
Growth model	3.27	4.90	9.80

Note: Wholesale prices for Canadian media are assumed to be 71% of retail prices as in Section 4.1 above.

In examining this option, consideration could also be given to the impact of basing levies on retail instead of wholesale prices.

³¹ While, under this option, the intention is that a formula would be applied to set a cap on rates, all suggested formulae result in levies well below "national treatment" rates. Hence, if any of the specified formula were adopted, they would serve in practice as the basis for rate calculations.

Providing National Treatment to Performers and Makers, Codifying Zero-Rating and Restricting the Regime to Media used "Primarily" for Recording Music

This option involves a combination of a number of previously examined options. As before, consideration will be given to two different interpretations of the option to limit the regime to media used "primarily" for recording music. First, there will be an examination of a regime in which the possible "national treatment" and zero-rating reforms are combined with the removal of CD-RWs from the system. Second, impacts will be examined for a regime involving these same reforms but in which the media restriction is interpreted to exclude both CD-RWs and CD-Rs. In modeling zero-rating, it will be assumed that rates are not increased by an extra margin to compensate rights holders for their royalty losses under this program.

Excluding CD-RWs from Coverage

The "national treatment" rates used in previous examples will be applied, with these being adjusted to take account of the zero rate applying to CD-RWs and the tariff-free sale of cassettes and CD-Rs to organizations.

Excluding CD-RWs and CD-Rs from Coverage

In addition to the adjustments made in the previous option, tariffs will be removed from CD-Rs. As before, it can be expected that, with the elimination of tariffs on CD-Rs, royalty revenues will decline substantially.

7. OVERVIEW OF IMPACTS

The approach outlined in Sections 4 and 5 was applied using the private copying rates that were calculated for the “national treatment” options discussed in Section 6. The impacts of each of the options on revenues and royalties were estimated for the baseline and growth scenarios and for regimes that include and regimes that exclude DARS. For regimes including DARS, we again (as in Section 5) consider the possibility both that tariffs on MP3s would be left unchanged and would be doubled if the eligible repertoire were expanded to include performers and makers from other WPPT countries. The results of these calculations are provided in Appendix B.

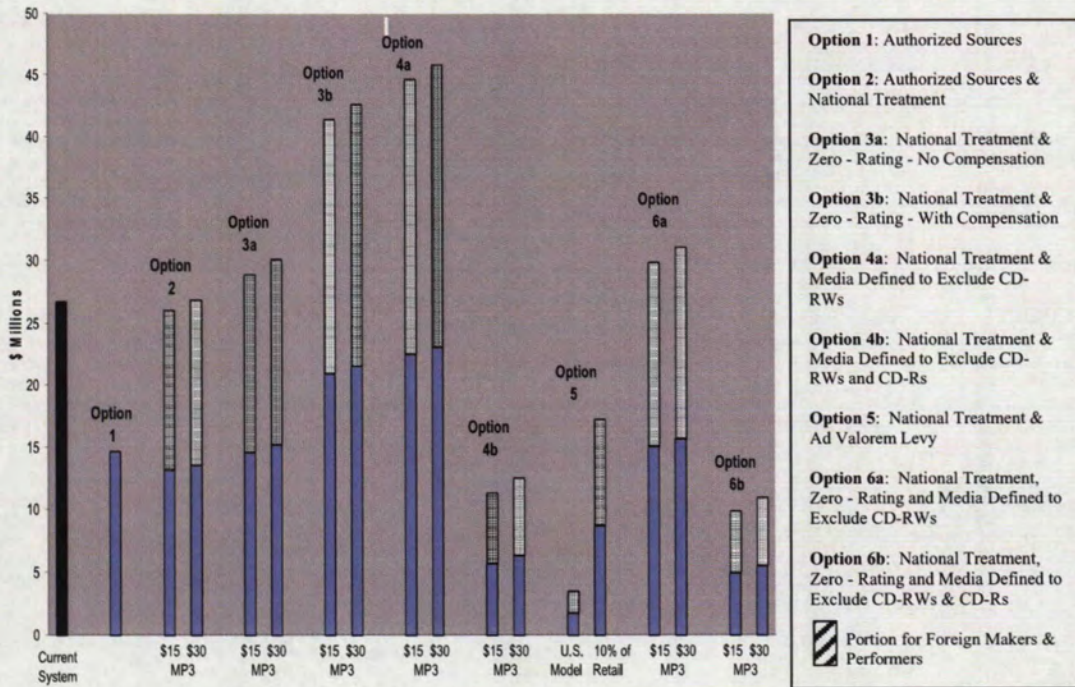
Given the necessary uncertainty surrounding the assumptions used in the baseline and growth models, the specific impact numbers in Appendix B are of less interest than the relative impacts. Most revealing is what the overall results suggest about: (i) how the options differ, in terms of their impact, from each other and from the existing system; (ii) how these differences would be affected by emerging changes in the environment for private copying; and (iii) how they would be affected if, along with other options, the government were to introduce legislation to bring DARS within the regime.

Royalty impacts for the options discussed in Section 6 along with those examined in Sections 4 and 5 are compared in Figures 3 to 6. The first two figures provide estimated royalties for regimes with DARS, while Figures 5 and 6 show results for the same options in private copying systems that exclude DARS.³² In Figures 3 and 4, royalties are provided for the two possible MP3 rates that could be applied under the “national treatment” options. In addition, in all the national treatment options, the bar depicting royalties has been demarcated to show the portion of payments that would be earmarked for foreign makers and performers.

³² As noted earlier, all amounts are in 2001 dollars. In these figures, as in all relevant tables, under Option A, “\$15 MP3” denotes a decision to leave MP3 tariffs unchanged, while the “\$30 MP3” label denotes a decision to double MP3 tariffs in response to an expansion of the eligible repertoire. They do not indicate actual MP3 levies under the specified option.

Figure 3

**Royalties For Systems Including MP3s –
Baseline Model**



- Option 1:** Authorized Sources
 - Option 2:** Authorized Sources & National Treatment
 - Option 3a:** National Treatment & Zero - Rating - No Compensation
 - Option 3b:** National Treatment & Zero - Rating - With Compensation
 - Option 4a:** National Treatment & Media Defined to Exclude CD-RWs
 - Option 4b:** National Treatment & Media Defined to Exclude CD-RWs and CD-Rs
 - Option 5:** National Treatment & Ad Valorem Levy
 - Option 6a:** National Treatment, Zero - Rating and Media Defined to Exclude CD-RWs
 - Option 6b:** National Treatment, Zero - Rating and Media Defined to Exclude CD-RWs & CD-Rs
- Portion for Foreign Makers & Performers

Figure 4 Royalties For Systems Including MP3s – Growth Model

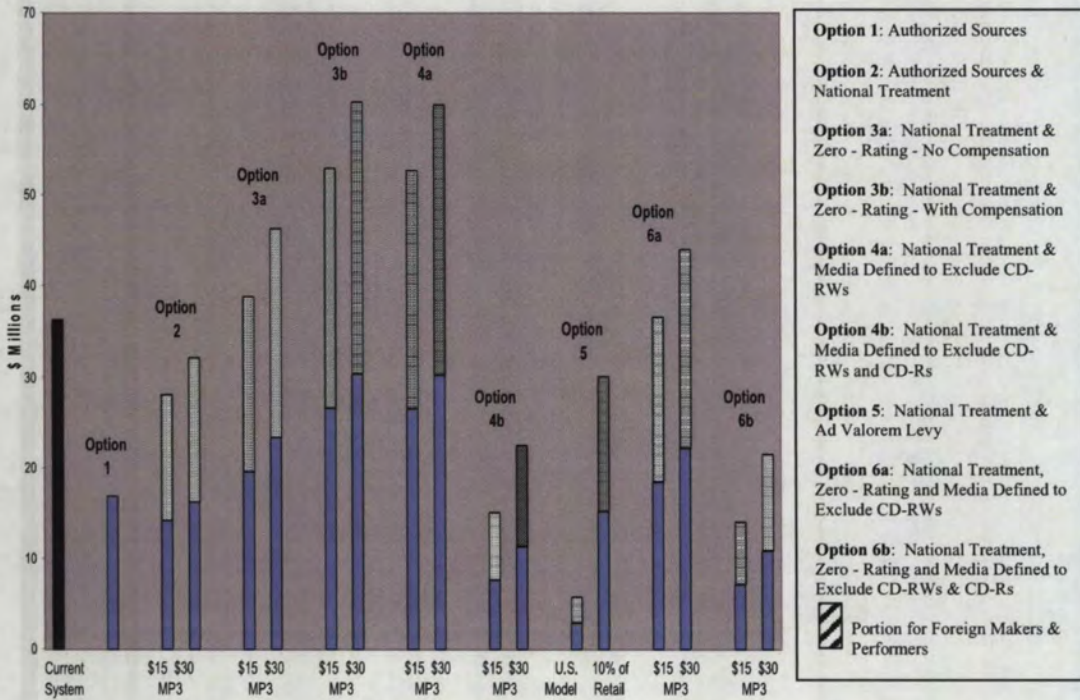


Figure 5 Royalties for Systems Excluding MP3s – Baseline Model

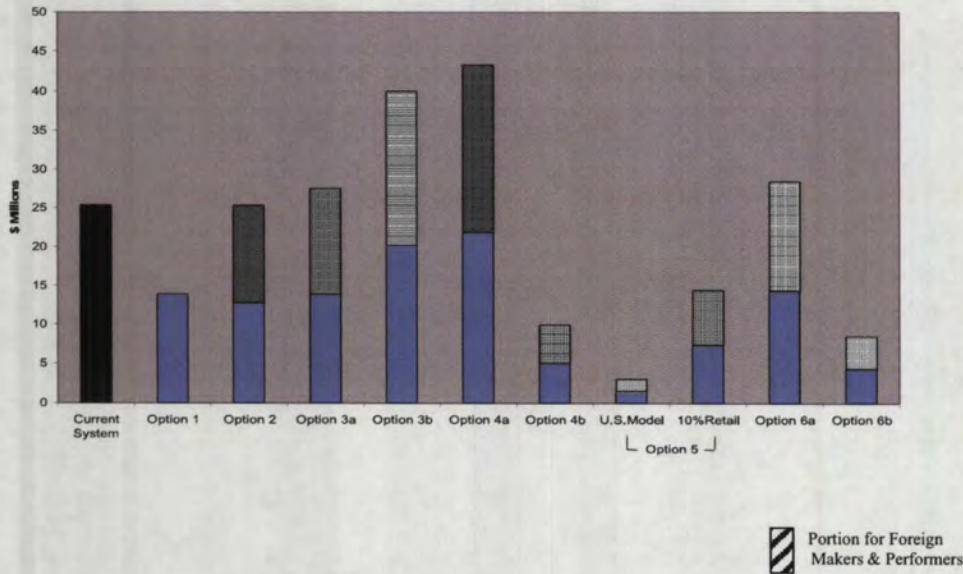
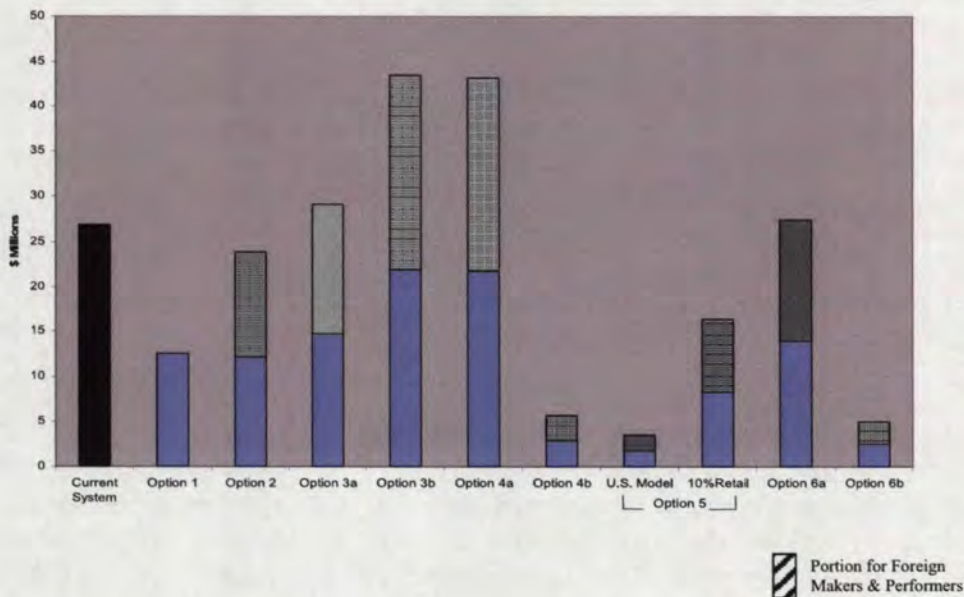


Figure 6

Royalties for Systems Excluding MP3s – Growth Model



A number of general findings emerge from the data and are highlighted in the figures:

1. In all figures, a number of the possible options would result in substantially lower gross royalties. Payments to CPCC would be far below their estimated level under the current system in a regime based on authorized sources only (Option 1 in the figures) and in the systems in which CD-Rs are excluded from the definition of eligible media (Options 4b and 6 b). The lowest royalties would result if Canada was to follow the U.S. example and set levies as a small percent of the transfer prices of blank media. Royalties are highest in Options 3b (national treatment with a compensatory system of zero-rating) and 4a (national treatment and the exclusion of CD-RWs from the regime) where the modifications accompanying the extension of national treatment require tariffs to be reduced only modestly from their high “national treatment” levels. Royalties under Option 3b would be even higher than shown in Figure 4 if the portion of blank media sales to individual consumers was to increase from the baseline level and the portion to organizations qualifying for levy-free sales under the zero-rating program to decrease (as shown in Appendix B).
2. Net retail revenues tend to move in the opposite direction to royalties. They would be lowest in the regimes that combine national treatment with modest exceptions in coverage (Options 3b and 4a) and highest in regimes involving national treatment and rates set as a percentage of the wholesale price of blank recording media (Option 5) Hence, retailers along with importers and distributors would fare best under the latter regimes in which tariffs are well below current levels.

3. As one would expect, royalties in regimes without DARs are well below those in comparable regimes incorporating DARs. Conversely, net retail revenues are higher in the regimes without DARs. The biggest differences in royalties are in those models that take account of changes underway in private copying. In the growth models, regimes that include DARs generate royalties far above comparable regimes that exclude DARs.
4. In regimes that include MP3s, royalties are much higher in the growth model than the baseline model. The relevant changes underway in the environment will push royalty payments higher under regimes that include DARs, especially if the Board were to respond to legislation expanding the eligible repertoire of performers and makers by doubling the rate on MP3s. Regimes that exclude DARs will be much less impacted by the changes taking place in copying practices. This can be seen in Figures 5 and 6 where, under a number of options, royalties are lower in the growth model than in the baseline model.
5. Under the options involving the extension of national treatment to makers and performers from WPPT countries, just about half of the royalty revenues represent obligations to newly eligible foreign rights holders. As can be seen in the figures, under all options and models, payments to the currently covered repertoire of Canadian and foreign authors and Canadian performers and makers would be less than under the current regime.

While recognition of the universal repertoire in performances might be expected to result in some offsetting inflows to Canadian rights holders, these are likely to be minimal. As Rushton (2002b) shows, inflows of payments will remain low in coming years for a number of reasons, including the low private copying tariffs in some countries (especially the U.S.), the existence of substantial transaction and administrative costs, and European countries' partial use of private copying revenues to support cultural funds.

6. The net royalty payments available for distribution after the CPCC and other collectives have deducted their expenses would be significantly less than the gross royalty payments depicted in the figures. CPCC's costs, which do not vary in proportion to revenues, could absorb a substantial proportion of royalties in some regimes. Indeed, overall administrative and transaction costs, including costs incurred by collectives, manufacturers, importers, retailers and the Copyright Board may amount to half or more of royalty revenues in the case of some low-tariff regimes that exclude DARs.
7. As paid downloads become more important, individuals who have already paid for the right to private copy may become the source for an increasing share of private copying royalties. Transactions involving such double payments account for a significant share of royalties in Figure 4, where it is assumed that downloading from authorized source comprises 25 percent of all downloading. This is less of an

issue in regimes that exclude MP3s, since, in these systems, much of the legal downloading would involve the use of recording devices that have not been levied.

8. POTENTIAL IMPACT ON NON-REGIME ROYALTIES

Besides their direct impact on stakeholders, possible changes to the private copying regime could have an indirect impact to the extent they influence consumers' music purchasing or listening behaviour. While a full examination of these other potential impacts is beyond the scope of this report, it is useful to recognize some of the other consequences that could follow from implementation of the possible options. The royalty changes resulting from possible reforms to the administration of the regime could be amplified or offset by changes in three other areas.

1. *Legal Downloading Royalties*

Royalties would be affected if private copying reforms were to influence the extent of legal downloading. A recent study based on U.S. data suggests that of the 99 cents consumers typically pay for a digital download, 8 cents goes towards the mechanical royalty, 3 cents to the producer and 7 cents to the artist.³³ With the expected growth in legal downloading, these payments should become a more significant source of revenue for rights holders.

Private copying reforms may affect legal downloading in two ways. First, private copying levies will affect the price of legal as well as illegal downloading. Price impacts are likely to be very small, however, given that the elasticity of demand for recording media is (with the possible exception of DARs) quite low and that changes in blank media purchases do not lead to corresponding changes in private copying. Second, a law limiting the regime to authorized sources only would support other reforms intended to discourage unauthorized file sharing and could help encourage a shift from copying from unauthorized to authorized sources. This may be more important, but it would be difficult to separate the potential contribution of private copying reforms from the impact of other social and legal changes, including other amendments to the Act, that underlie the growth over time in legal downloading.

2. *Royalties from Pre-recorded Music Sales*

There has been much debate about whether and to what extent file sharing reduces sales of pre-recorded music.³⁴ If file sharing is indeed hurting music sales, then reforms that include both stringent laws to discourage illegal downloading and higher copying levies might be expected to help music sales. But, at most, such reform could only be expected to result in a marginal change in downloading behaviour (as discussed above), and to make a still more modest contribution to the royalties rights holders derive from pre-recorded music sales.

³³ FAD Research (2004).

³⁴ Oberholzer and Strumpf (2004) provide evidence supporting the view that net effect of file sharing is insignificant. Support for the contrary position, that file sharing is responsible for most of the recent decline in music sales, is provided in Liebowitz (2005).

3. *Performers' Reputation and Earnings' Prospects*

For most performers, royalties from the playing of their recordings are not the only, and generally not the most important source of income. A 1993 examination of the Canadian recording industry found that because deductions to recoup production and related costs are so high, up to 80 percent of artists never recoup royalties.³⁵ For many artists, the main benefit from distribution of their recordings is that it helps build their reputation and thereby contributes to their ability to generate future earnings through club and concert appearances and more favourable recording contracts. An artist's "reputational capital", which is a key determinant of his or her earnings' prospects, depends on music distribution in all forms, through broadcasts, CD sales, legal downloads and illegal downloads.

Even if file sharing has hurt pre-recorded music sales, since, at most, it is only a partial substitute, it could be expected to have a positive influence on the overall consumption of music. Available data supports this: the IFPI has found that between 1997 and 2002 total music consumption, including music sales and downloading, grew 30% in five major world markets, including Canada. As a result, reforms to the private copying regime that discourage downloading could negatively affect overall music consumption and thereby hinder artists' efforts to increase their reputational capital. This helps explain why in a recent Pew survey of musicians, more of the artists responded that free music downloading online has helped them rather than hurt them.³⁶ P2P networks are likely to be of primary benefit to lesser known artists who do not have access to the traditional channels for promoting and marketing their music.

As observed above, it is difficult to isolate the impact of possible private copying reforms from other factors affecting private copying behaviour. If these reforms do indeed discourage music consumption, however, the royalty estimates in Section 7 may somewhat underestimate the negative impact of the possible reforms on the income of Canadian recording artists.

³⁵ Task Force of the Future of the Canadian Music Industry (1995).

³⁶ Madden (2004).

9. CONCLUSIONS

Despite the uncertainties about how changes in the private copying provisions of the Act would be interpreted by the Copyright Board and how consumers would respond to new levies on recording media and devices, it is possible to get a reasonable sense of how specified options would impact on different groups of stakeholders. To do so, however, it is necessary to take account of technological developments that are leading to rapid growth and major change in the private copying of recorded music. It is also necessary to recognize that Canada's private copying regime will be very different depending on whether or not current legislation is amended to allow tariffs to be imposed on digital audio recording devices.

In general, the options that have been examined fall into two groups: those that would result in lower levies and generate reduced revenues for CPCC; and those that would result in higher levies and lead to higher royalties for distribution to rights holders. The first group of options includes limiting the regime to copying from authorized sources; establishing a restrictive definition of eligible media that excludes CD-Rs from coverage; and introducing a rate-setting formula, similar to the ad valorem formula used by the U.S. and a number of other countries. In all these cases, royalties would be substantially lower than under the current regime. Rights holders would receive less, but those who bear the costs of the levies would benefit. Consumers would pay less than under the current system for blank recording media and recording devices, and wholesalers and retailers of music recording products would experience a small gain in net revenue (i.e. revenues net of royalty payments).

The options that would result in significantly higher levies include expanding the eligible repertoire of rights holders to include makers and performers in other WPPT countries; combining this expansion in the eligible repertoire with a compensatory zero-rating program; and, both expanding the eligible repertoire and redefining media covered under the program to exclude CD-RWs. While providing national treatment to makers and performers in all WPPT countries would cause the Board to sharply increase levies on recording media and possibly on recording devices, the other options would only slightly offset the positive impact of these higher rates on payments to CPCC. Under these options, consumers would face higher costs and retailers and wholesalers would see their net revenues decline below what they would be under the existing system.

Under those scenarios in which national treatment is extended to makers and performers in WPPT countries, about half of all royalties would represent additional payments to foreign rights holders; the amount available for distribution to Canadian rights holders would be below the estimated level under the existing system. Hence, under all of the specified options, Canadian rights holders would derive less revenue than under the present system.

Whether or not the government amends the Act to include DARs, other possible reforms will fall into these two classes of higher-tariff and lower-tariff options, and it would remain the case that the existing repertoire of eligible rights holders would receive less

than under the current private copying system. If DARs were brought within the regime, however, royalty payments would increase more rapidly over time and more fully reflect the growth in private copying activity. If DARs are excluded from the private copying regime, the changes underway in private copying would in fact lead to lower royalty payments under some options. In addition, administrative and transaction costs would likely to amount to a substantial portion of royalty revenues under some of the resulting low-tariff regimes.

The possible reforms could also affect rights holders' earnings by promoting changes in private copying behaviour. While individuals might slightly adjust their copying in response to the projected tariff changes, the most significant impact of the possible reforms could well come from the increased force they could give to other legislative and social developments discouraging copying from unauthorized sources. Rights holders would benefit to the extent consumers substitute paid for unpaid downloading or increase their purchases of pre-recorded CDs. The possible reforms could also result, however, in an overall reduction in downloading, which would not impact on makers of recordings but would affect those artists who are particularly dependent on the Internet for the distribution and marketing of their music.

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copying. This percentage constitutes the adjustment factor that needs to be applied to the Board's valuation model. The results of these calculations are provided in Table A2.

Table A2 **Adjustment Factors for the Calculation of Levies on Copying from Authorized Copying - Baseline Model**

<i>Recording Medium</i>	<i>Copying from Authorized Sources as % of Total Copying</i>	
	<i>Regime including digital audio recorders</i>	<i>Regime Excluding digital audio recorders</i>
<i>CD-R</i>	40.5	40.5
<i>CD-RW</i>	54.4	54.4
<i>Cassettes</i>	95.2	95.2
<i>MiniDiscs, CD-R Audio, CD-RW Audio</i>	54.4	54.4
<i>MP3s</i>	54.4	--

Growth Model

The same approach as above was applied to calculate the adjustment factors in an environment characterized by more private copying, a greater share of copying from the Internet, and a relatively heavy reliance on MP3s, which were an insignificant factor in the 2001 -2002 period when the data for the baseline model were collected. In the constructed scenario, legal downloading is also much more important than it was in the baseline model.

More specifically, it is assumed that the private copying of recorded music increases by 30% to reach 1.4 billion annually, the Internet becomes the source for 75% of copied recordings, and legal downloading grows to account for 25% of all downloading. In the growth scenario, just under half of all music is copied to MP3s, with the distribution among other recording media as shown in Table A3.

Table A3 **Private Copying of Recorded Music: Percentage Copied from Different Sources to Different Media**

<i>Music Source</i>	<i>Recording Medium</i>					
	<i>Total</i>	<i>CD-R</i>	<i>CD-RW</i>	<i>Cassettes</i>	<i>MP3s</i>	<i>Other*</i>
<i>Total</i>	100%	28	20	1.5	49	1.5
<i>Internet</i>	75	21	15	1	37	1
<i>CD/DVD</i>						
<i>Radio</i>						
<i>Cassettes</i>						
<i>Other</i>						
<i>Television</i>						

* Other includes minidisks and DVDs

With the given assumptions, there are now 787.5 million copies from unauthorized sources to be distributed among recording media in accordance with their relative importance in copying music downloaded from the Internet. As above, after deduction of this copying from unauthorized sources, copying from authorized sources can be calculated and computed as a percentage of total copying to determine the appropriate adjustment factor for each recording medium.

Among the alternative assumptions examined in Section 4 of the report are one in which copying from authorized sources is more important and another in which it is less important than initially assumed. Under a “high growth” assumption in which half of all Internet downloads are from authorized sources, the number of copies from unauthorized sources declines to 525 million. Accordingly, the calculated adjustment factor that is to be applied to the valuation formula is significantly higher than in the initial growth model. On the other hand, with the “low growth” assumption that only 10% of downloads come from authorized sources, copies from authorized sources are a smaller proportion of total copies and the calculated adjustment factor for each medium is lower. Table A4 provides the calculated adjustment factors for the three scenarios in a regime including digital audio recording devices. In a regime excluding DARs, there would be no rate applying to MP3s but the rates for other recording media would be as shown in Table A4.

Table A4

**Adjustment Factors for the Calculation of Levies
on Copying from Authorized Sources – Growth Model with Alternative Assumptions
about Degree of Copying from Authorized Sources**

<i>Recording Medium</i>	<i>Copying from Authorized Sources as % of Total Copying</i>		
	<i>Initial Scenario</i> <i>25% of downloads from authorized sources</i>	<i>High Growth Scenario</i> <i>50% of downloads from authorized sources</i>	<i>High Growth Scenario</i> <i>10% of downloads from authorized sources</i>
<i>CD-R</i>	43.7	62.5	32.5
<i>CD-RW</i>	43.7	62.5	32.5
<i>Cassettes</i>	51.4	67.6	41.4
<i>MiniDiscs, CD-R Audio, CD-RW Audio</i>	51.4	67.6	41.4
<i>MP3s</i>	43.4	62.3	32.1

APPENDIX B

IMPACT OF ALTERNATIVE OPTIONS INVOLVING NATIONAL TREATMENT ON PERFORMERS AND MAKERS

The results of applying the baseline and growth models to the options outlined in Section 6 are provided in Tables B1 and B2. The impact of these possible reforms can be assessed by comparing royalties and revenues with those for the existing system. So, for example, for the first option involving national treatment with a non-compensatory system of zero-rating, royalties projected under the baseline model are somewhat above those for the existing system, as shown in Table 3 (\$26.8 million including MP3s and \$25.4 million excluding MP3s), while gross revenues are very similar to the post-levy revenues for the existing system shown in Table 2. Under the growth model, royalties are again above those for the existing system - \$36.3 million including MP3s and \$26.9 million excluding MP3s.

To calculate impacts for the options involving zero-rating, it was necessary to take account of the royalties foregone as a result of levy-free sales to organizations. The estimated value of revenue-free sales for the first two and last two options is indicated in the notes to the table.

For the second option (national treatment with a compensatory system of zero-rating) and the third option (national treatment and the exclusion of CD-RWs from coverage), royalties are well above those under the existing system, with the disparity being greater under the growth than the baseline model. Net retail revenues, however, are much below what would be collected under the existing system in both the baseline model (where existing system net revenues are calculated at \$167.7 million with MP3s and \$169.9 million without MP3s) and the growth model (\$303.2 million with MP3s and 319.0 million without MP3s).

In the third option, royalties are substantially higher than under the current regime because "national treatment" rates are well above existing tariffs and the loss from the removal of CD-RWs from the regime is relatively modest. However, in the fourth option where the media limitation is defined to also exclude the use of CD-Rs, royalties fall to less than half their level under the current system in both the baseline and growth models. Similarly, royalties are very much below current system royalties under the last option in which a broad media restriction is combined with the provision of national treatment to performers and makers and a non-compensatory system of zero-rating.

Table B1

**Royalties and Revenues under Alternative National Treatment
Options – Baseline Model**

<i>Options</i>	<i>Royalties</i> (\$ millions)	<i>Retail Revenue Gross</i> (\$ millions)	<i>Retail Revenue Net</i> (\$ millions)
<i>National Treatment & Zero-Rating - No Compensation</i>			
Including MP3s - \$15 levy ¹	28.9	193.7 ²	164.8
-\$30 levy ¹	30.1	192.7 ²	162.6
Excluding MP3s	27.5	194.6 ²	167.1
<i>National Treatment & Zero-Rating - with Compensation</i>			
Including MP3s - \$15 levy ¹	41.4	190.6 ²	149.2
-\$30 levy ¹	42.6	189.5 ²	146.9
Excluding MP3s	40.0	191.5 ²	151.5
<i>National Treatment & Application to Media Used "Primarily" for Recording Music - Excluding CD- RWs</i>			
Including MP3s - \$15 levy ¹	44.6	199.5	154.9
-\$30 levy ¹	45.8	198.5	152.7
Excluding MP3s	43.3	200.4	157.1
<i>National Treatment & Application to Media Used "Primarily" for Recording Music - Excluding CD- RWs and CD-Rs</i>			
Including MP3s - \$15 levy ¹	11.3	187.1	175.8
-\$30 levy ¹	12.5	186.1	173.6
Excluding MP3s	9.9	188.0	178.1
<i>National Treatment and Limit for Levy</i>			
Including MP3s - U.S. Model	3.5	185.3	181.8
- 10% of Retail	17.2	188.8	171.6
Excluding MP3s - U.S. Model	3.0	185.6	182.6
- 10% of Retail	14.4	190.9	176.5
<i>National Treatment, Zero-Rating & Application to Media Used "Primarily" for Recording Music - Excluding CD-RWs</i>			
Including MP3s - \$15 levy ¹	29.8	194.0 ³	164.2
-\$30 levy ¹	31.0	192.9 ³	161.9
Excluding MP3s	28.4	194.8 ³	166.4
<i>National Treatment, Zero-Rating & Application to Media Used "Primarily" for Recording Music - Excluding CD-RWs & CD-Rs</i>			
Including MP3s - \$15 levy ¹	9.8	186.5 ⁴	176.7
-\$30 levy ¹	10.9	185.5 ⁴	174.6
Excluding MP3s	8.4	187.4 ⁴	179.0

Notes: ¹ Refers to initial tariff adjustment for expansion of eligible repertoire, not actual tariff.

² Revenues include \$51.9 million in zero-rated sales

³ Revenues include \$47.1 million in zero-rated sales

⁴ Revenues include \$6.2 million in zero-rated sales

All amounts are in 2001 dollars

Table B2

**Royalties and Revenues under Alternative National Treatment
Options – Growth Model**

<i>Options</i>	<i>Royalties (\$ millions)</i>	<i>Retail Revenue Gross (\$ millions)</i>	<i>Retail Revenue Net (\$ millions)</i>
<i>National Treatment & Zero-Rating - No Compensation</i>			
Including MP3s - \$15 levy ¹	38.6	338.6 ²	300.0
-\$30 levy ¹	46.0	330.3 ²	284.3
Excluding MP3s	29.1	344.9 ²	315.8
<i>National Treatment & Zero-Rating - with Compensation</i>			
Including MP3s - \$15 levy ¹	53.0	335.3 ²	282.3
-\$30 levy ¹	60.4	327.0 ²	266.6
Excluding MP3s	43.5	341.6 ²	298.1
<i>National Treatment & Application to Media Used "Primarily" for Recording Music - Excluding CD-RWs</i>			
Including MP3s - \$15 levy ¹	52.7	343.6	290.9
-\$30 levy ¹	60.1	335.3	275.2
Excluding MP3s	43.2	349.9	306.7
<i>National Treatment & Application to Media Used "Primarily" for Recording Music - Excluding CD-RWs and CD-Rs</i>			
Including MP3s - \$15 levy ¹	15.2	329.7	314.5
-\$30 levy ¹	22.6	321.4	298.8
Excluding MP3s	5.7	336.0	330.3
<i>National Treatment and Limit for Levy</i>			
Including MP3s - U.S. Model	5.7	334.3	328.6
- 10% of Retail	30.1	331.1	301.0
Excluding MP3s - U.S. Model	3.5	335.5	332.0
- 10% of Retail	16.4	341.6	325.2
<i>National Treatment, Zero-Rating & Application to Media Used "Primarily" for Recording Music - Excluding CD-RWs</i>			
Including MP3s - \$15 levy ¹	37.0	337.8 ³	300.8
-\$30 levy ¹	44.4	329.4 ³	285.0
Excluding MP3s	27.5	344.0 ³	316.5
<i>National Treatment, Zero-Rating & Application to Media Used "Primarily" for Recording Music - Excluding CD-RWs & CD-Rs</i>			
Including MP3s - \$15 levy ¹	14.5	329.4 ⁴	314.9
-\$30 levy ¹	21.9	321.1 ⁴	299.2
Excluding MP3s	5.0	335.7 ⁴	330.7

Notes: ¹ Refers to initial tariff adjustment for expansion of eligible repertoire, not actual tariff.

² Revenues include \$63.7 million in zero-rated sales

³ Revenues include \$48.8 million in zero-rated sales

⁴ Revenues include \$2.8 million in zero-rated sales

All amounts are in 2001 dollars.

Impacts were also examined using some alternative assumptions to those underlying the results in Tables B1 and B2. In the case of the first two options involving national treatment and zero-rating, results are sensitive to assumptions about the proportion of media sales to individuals, as distinct from zero-rated organizations. For the estimates in Table B1 and B2, it is assumed – based on data in the 2003-2004 Board decision - that 60 percent of CDs and CD-Rs are used by individuals. This assumption, however, may be inappropriate for the growth model. If the proportion of sales to individuals increases over time, the foregone income from levy-free sales would decline and royalty payments would be higher than shown in Table B2. Under the first option with a non-compensatory system of zero-rating, if it is assumed that the use of CDs and CD-Rs by individuals increases to account for 80 percent of the market, royalties under Option A of the growth model would increase by about \$8 million. It can be seen from Table B3 that royalty payments under a compensatory zero-rating would also be significantly higher if individuals come to account for a greater proportion of CD sales.

Table B3 **Royalties Using Alternative Assumptions about Proportion of Sales Qualifying for Zero-Rating Under Growth Model**
(\$ millions)

	<i>Option involving National Treatment and Non-Compensatory Zero-Rating</i>		<i>Option involving National Treatment and Compensatory Zero-Rating</i>	
	<i>60% of Sales Individuals</i>	<i>80% of Sales Individuals</i>	<i>60% of Sales Individuals</i>	<i>80% of Sales Individuals</i>
Option A -\$15 MP3 Levy	38.6	46.8	53.0	65.8
- \$30 MP3 Levy	46.0	54.3	60.4	73.3
Option B	29.1	37.4	43.5	56.4

In the case of the fifth option involving the use of a formula to set a cap on levies, Tables B1 and B2 only provide results for the two formulae giving rise to the highest and lowest levies. Tables B4 and B5 provide royalty impacts for all the formulae discussed in Section 6.

Table B4 **Royalties under Options Involving the Use of a Rate -Setting Formula – Baseline Model**

	<i>Regime that includes MP3s (\$ million)</i>	<i>Regime that Excludes MP3s (\$ million)</i>
<i>As % Wholesale Prices</i>		
U.S. Model	3.5	3.0
Italian Model	10.9	10.3
Greek Model	7.3	6.0
<i>As % Retail Prices</i>		
3% of Retail	5.4	4.5
10% of Retail	17.2	14.4

Table B 5

**Royalties under Options Involving the Use of a
Rate -Setting Formula – Growth Model**

	<i>Regime that includes MP3s (\$ million)</i>	<i>Regime that Excludes MP3s (\$ million)</i>
<i>As % Wholesale Prices</i>		
U.S. Model	5.7	3.5
Italian Model	15.0	11.7
Greek Model	13.3	6.9
<i>As % Retail Prices</i>		
3% of Retail	9.7	5.1
10% of Retail	30.1	16.4

