

INTERNATIONAL INTELLECTUAL PROPERTY ALLIANCE

2004 SPECIAL 301 REPORT

APPENDIX B: METHODOLOGY

Estimated trade losses due to piracy are calculated by IIPA's member associations. Since it is impossible to gauge losses for every form of piracy, we believe that our reported estimates for 2003 actually underestimate the losses due to piracy experienced by the U.S. copyright-based industries.

Piracy levels are also estimated by IIPA member associations and represent the share of a country's market that consists of pirate materials. Piracy levels, together with losses, provide a clearer picture of the piracy problem in different countries. Low levels of piracy are a good indication of the effectiveness of a country's copyright law and enforcement practices. IIPA and its member associations focus their efforts on countries where piracy is rampant due to inadequate or nonexistent copyright laws and/or lack of enforcement.

BUSINESS SOFTWARE APPLICATIONS

The Business Software Alliance (BSA)'s calculation method compares two sets of data—the *demand* for new software applications, and the legal *supply* of new software applications.

Demand: PC shipments for the major countries are estimated from proprietary and confidential data supplied by software publishers. The data is compared and combined to form a consensus estimate, which benefits from the detailed market research available to these member companies.

Two dimensions break the shipments into four groups. Splitting the PC shipments between home and non-home purchasers represents the market segments of each country. The PC shipments are also compared to the change in the installed base of existing PCs. The part of PC shipments which represents growth of the installed base is called "new shipments" and is separated from the "replacement shipments," which represent new PCs that are replacing older PCs.

A scale of the installed base of PCs by country compared to the number of white-collar workers was developed. PC penetration statistics are a general measure of the level of technological acceptance within a country. The level of penetration, for a variety of reasons, varies widely from country to country. This level is then ranked and each country is assigned to one of five maturity classes.

The number of software applications installed per PC shipment is provided by member companies, and the following ratios for the four shipment groups are developed:

1. Home: new shipments
2. Non-home: new shipments
3. Home: replacement shipments
4. Non-home: replacement shipments

For each shipment group, ratios are developed for each of five maturity classes. U.S. historical trends are used to estimate the effects of lagged technological development by maturity class.

Piracy rates can vary among applications. Grouping the software applications into three tiers and using specific ratios for each tier further refined the ratios. The tiers were General Productivity Applications, Professional Applications, and Utilities. These were chosen because they represent different target markets, different price levels, and it is believed, different piracy rates.

Software applications installed per PC shipped are researched and estimated using these dimensions:

1. Home vs. non-home
2. New PCs vs. replacement PCs
3. Level of technological development
4. Software application tier

From this work, a total software applications installed estimate was calculated for each country.

Supply: Data was collected by country and by 26 business software applications. Shipment data was limited in some instances; hence, uplift factors were used to estimate U.S. and world-wide shipments.

Piracy Estimates: The difference between software applications installed (demand) and software applications legally shipped (supply) equals the estimate of software applications pirated. The piracy rate is defined as the amount of software piracy as a percent of total software installed in each country.

Dollar Losses: The legal and pirated software revenue was calculated by using the average price per application. This is a wholesale price estimate weighted by the amount of shipments within each software application category.

To develop the wholesale dollar losses for U.S. software publishers, the wholesale dollar losses due to piracy were reduced by the ratio of the software shipped by U.S. software publishers as a percent of software shipped by all software publishers.

ENTERTAINMENT SOFTWARE

ESA bases its estimates on local surveys of market conditions in each country and other factors bearing on the presence of pirate products in the marketplace, including public and proprietary data on sales and market share. The reported dollar values reflect the value (at pirate prices) of the pirated product present in the marketplace as distinguished from definitive industry losses.

Based on the data collected, calculations are performed to arrive at an estimate of the overall quantity of pirate games present in a marketplace. Estimates of the overall number of games in use are based on what is known about the presence of game-playing hardware in each

market and the number of games in use on each of those platforms. Separate estimates are generated for PC, handheld and console product insofar as they may differ in at least three key respects — price per game, ratio of games per platform, and data sources. These estimates of overall game usage are compared to what is known about the relative percentages of pirate sales to legitimate sales to arrive at an estimate of the amount of pirate product in circulation.

Conservative assumptions such as the following are employed throughout, producing results likely to underestimate the overall quantity of pirate product present in the marketplace and its value:

- The methodology accounts only for pirated PC games estimated to be present on home PCs, and thus discounts pirated games that may be in use on business computers.
- The methodology accounts only for console games estimated to be used either in connection with consoles that do not require hardware modification, or those believed to have been modified to facilitate play of pirated games.
- The methodology values pirated games in circulation according to localized pirate prices as opposed to optimal or actual prices at which legitimate sales might occur.

Because the reported figures reflect only the value of pirate product present in the market, it does not measure, and thus vastly understates, the overall harm done to rights holders and the industry in countries engaged in mass factory overproduction for export. However, the dollar figures may nonetheless be taken to reflect a sense of the relative harm done to software developers, publishers, distributors and retailers through the loss of potential sales opportunities. This approach approximates the overall dollar investments made by purchasers of pirate product at pirate process, and thus represents, at a minimum, the potential taxable revenue that could be made part of a country's legitimate economy if piracy were to be brought under control.

Because a number of the estimates needed in these calculations were of necessity approximate, considerable effort was expended to cross-reference multiple sources of information where possible.

MOTION PICTURES

Many factors affect the nature and effect of piracy in particular markets, including the level of development of various media in a particular market and the windows between release of a product into various media (theatrical, video, pay television, and free television). Piracy in one form can spill over and affect revenues in other media forms. Judgment based on in-depth knowledge of particular markets plays an important role in estimating losses country by country.

Video: As used in the document the term encompasses movies provided in video cassette as well as in all optical disc formats. Losses are estimated using one of the following methods.

1. For developed markets:
 - a. The number of stores that rent pirate video product and the number of shops and

- vendors that sell pirate video product are multiplied by the average number of pirate video product rented or sold per shop or vendor each year.
- b. The resulting total number of pirate video product sold and rented each year in the country is then multiplied by the percent of pirate video product that would have been sold or rented legitimately and adjusted to reflect the U.S. producers' share of the market.
 - c. The figure resulting from the foregoing calculations is an estimate of the number of legitimate sales of U.S. motion pictures that are lost each year in the market due to video piracy. These estimates are adjusted to reflect the wholesale price of legitimate video product, to equal losses due to video piracy.
2. For partially developed markets:
- a. The number of legitimate video product sold or rented in the country each year is subtracted from the estimated total number of videos sold or rented in the country annually to estimate the number of pirate video product sold or rented annually in the country.
 - b. The resulting total number of pirate video product sold and rented each year in the country is then multiplied by the percent of those pirate video product that would have been sold or rented legitimately and adjusted to reflect the U.S. producers' share of the market.
 - c. The figure resulting from the foregoing calculations is an estimate of the number of legitimate sales of U.S. motion pictures that are lost each year in the market due to video piracy. These estimates are adjusted to reflect the wholesale price of legitimate video product, to equal losses due to video piracy.
3. For fully pirate markets:
- a. Either: (a) the number of blank video media sold in the country annually is multiplied by the percent of media used to duplicate U.S. motion pictures to equal the number of pirate copies of U.S. motion pictures estimated to be sold in the country each year; or (b) the number of VCRs/VCD/DVD players in the country is multiplied by an estimated number of U.S. motion pictures on video that would be rented and sold per VCR/VCD/DVD player per year.
 - b. The figure resulting from each of the foregoing calculations is an estimate of the number of legitimate sales of U.S. motion pictures that are lost each year in the market due to video piracy. These estimates are adjusted to reflect the wholesale price of legitimate video product, to equal losses due to video piracy.

Television and Cable: Losses are estimated using the following method.

1. The number of broadcast television and cable systems that transmit U.S. motion pictures without authorization is multiplied by the average number of U.S. motion pictures transmitted without authorization by each system each year.

2. The resulting total number of illegal transmissions is multiplied by the average number of viewers per transmission.
3. The number of viewers of these illegal transmissions is allocated among those who would have gone to a theatrical exhibition, or who would have rented or purchased a legitimate video. The number of legitimate transmissions of the motion picture that would have been made is also estimated.
4. These figures are multiplied by the producers' share of the theatrical exhibition price, the wholesale share of the video cost or the license fee per legitimate transmission, as appropriate, to estimate the lost revenue from the illegal transmissions.

Public Performance: Losses are estimated using the following method.

1. The number of vehicles and hotels that exhibit videos without authorization is multiplied by the average number of viewers per illegal showing and the number of showings per year.
2. The resulting total number of viewers of unauthorized public performances is allocated among those who would have gone to a theatrical exhibition or who would have rented or purchased a legitimate video. The number of legitimate broadcast television and cable transmissions that would have been made of the motion pictures is also estimated.
3. These figures are multiplied by the producers' share of the theatrical exhibition price, the wholesale share of the video cost or the license fee per legitimate transmission, as appropriate, to estimate the lost revenue from the illegal performances.

SOUND RECORDINGS AND MUSICAL COMPOSITIONS

RIAA collects market data from the local industry, or from executives with responsibility for the particular territory. The estimates are based on local surveys of the market conditions in each territory. Each submission is reviewed against a range of sources:

- Optical disc industry data provided by third-party consultants;
- Legitimate sales;
- Enforcement data and anti-piracy developments;
- Historical piracy estimates; and where possible,
- Economic indicators and academic studies of piracy or counterfeit goods.

The basis for estimating the value of U.S. repertoire is to take an estimate of the local pirate market that is classified international repertoire and to take, on average, 60% of this as U.S. repertoire. This is based on legitimate market repertoire data.

The numbers produced by the music industry reflect, in most cases, the projected displacement of sales of U.S. repertoire. This does not take into account downstream (or value chain) losses from high piracy levels acting as a drag on the economic development of legitimate markets. Rather than merely reporting pirate sales, projected unit displacement is multiplied by the wholesale price of legitimate articles in that market rather than the retail price of the pirate goods.

Where RIAA has sufficient information relating to known manufacture of pirate recordings that emanate from a third country, this loss data will be included in the loss number for the country of manufacture rather than the country of sale, since international trade in pirate music is extremely difficult to quantify.

BOOKS

The book publishing industry relies on local representatives and consultants to determine losses. These representatives base their estimates on the availability of pirate versions and illegally photocopied books, especially those found within or near educational institutions, book stores and outdoor book stalls. Publishing industry representatives also take into account the number of users in a jurisdiction, the estimated need for the product (based, in the case of educational materials, on university and school adoptions) and the number of legitimate sales. Given the diverse types of products offered by different publishing companies, these estimates cover only a portion of the market lost in each territory and are thus rather conservative in most cases.