

INTERNATIONAL INTELLECTUAL PROPERTY ALLIANCE

2002 SPECIAL 301 REPORT

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 2002 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.

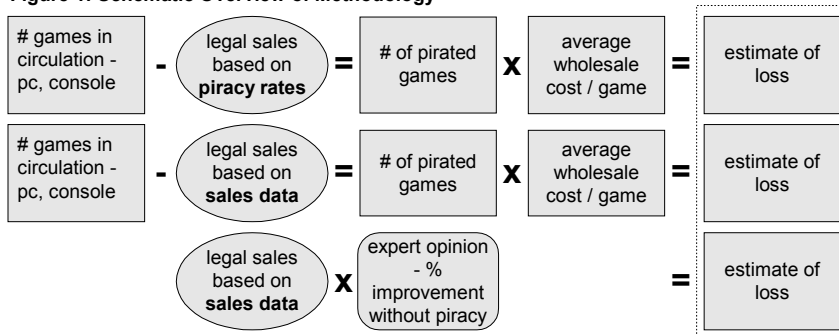
Dollar Losses: The legal and pirated software revenue was calculated by using the average price per application. This is a wholesale price estimate weighted by the amount of shipments within each software application category.

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

The overall logic of IDSA's proprietary piracy estimation approach was to estimate piracy using several different methodologies and sources of data, and to draw conclusions based on a conservative reading of the numbers.

Figure 1: Schematic Overview of Methodology



← Revisions based on informed opinion and previous estimates

The assessment methodology is illustrated schematically in Figure 1. One methodology subtracted the value of games in circulation from the value of legal sales, based on reported sales data. The second approach used the same equation, but substituted piracy rates for reported sales data. The third methodology

used expert opinion about how business would improve, given minimal levels of piracy. The process was iterative. Quantitative findings were reviewed for plausibility. Revisions and/or additional data were then obtained as necessary to resolve issues. Calculations were carried out separately for console and computer-based games in each country of interest. Separate analyses for computer and console games were needed because these products differ in three key respects – prices per game, ratios of games per platform, and data sources. *Games in circulation* were derived from industry data on games per console (for different kinds of consoles), and games per computer, with a special emphasis on residential machines. *Sales data* came in two forms – directly from actual sales figures, and indirectly from knowledge or piracy rates. *Rates* were derived from observations by people in a position to know about piracy in specific countries. *Prices* were wholesale, as reported by game publishers. Because many of the estimates needed in these calculations were of necessity approximate, considerable effort was expended to cross-reference multiple sources of information whenever possible. Data sources include:

- Public information, e.g., population figures, seizure data, or articles in the trade press.
- Confidential industry reports related to game and hardware use.
- Confidential company-specific data, e.g., sales, software/hardware ratios.
- Expert opinion from representatives of IDSA's member companies. Typically, these were individuals who were either close observers of local conditions in countries of interest, or corporate staff with the responsibility of designing, implementing and monitoring each company's piracy assessment and enforcement efforts.

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 US 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 generally bases its estimates on local surveys of the market conditions in each country. The numbers produced by the music industry generally reflect the value of sales of pirate product rather than industry losses, and therefore undervalue the real harm to the interests of record companies, music publishers, performers, musicians, songwriters and composers.

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.

In certain instances where appropriate, RIAA employs economic data to project the likely import or sale of legitimate sound recordings, rather than merely reporting pirate sales. In these instances, projected unit displacement is multiplied by the wholesale price of legitimate articles in that market rather than the retail price of the pirate goods.

BOOKS

The book publishing industry relies on local representatives and consultants to determine losses. These experts base their estimates on the availability of pirate books, especially those found near educational institutions, book stores and outdoor book stalls. A limitation here is that experts can only gauge losses based on the pirated books that are sold; it is impossible to track losses for books which are pirated but not available for public purchase. The trade loss estimates are calculated at pirate prices which are generally (but not always) below the prices which would be charged for legitimate books. Also included are conservative estimates of losses due to the unauthorized systematic photocopying of books.