



*representing the
recording industry
worldwide*

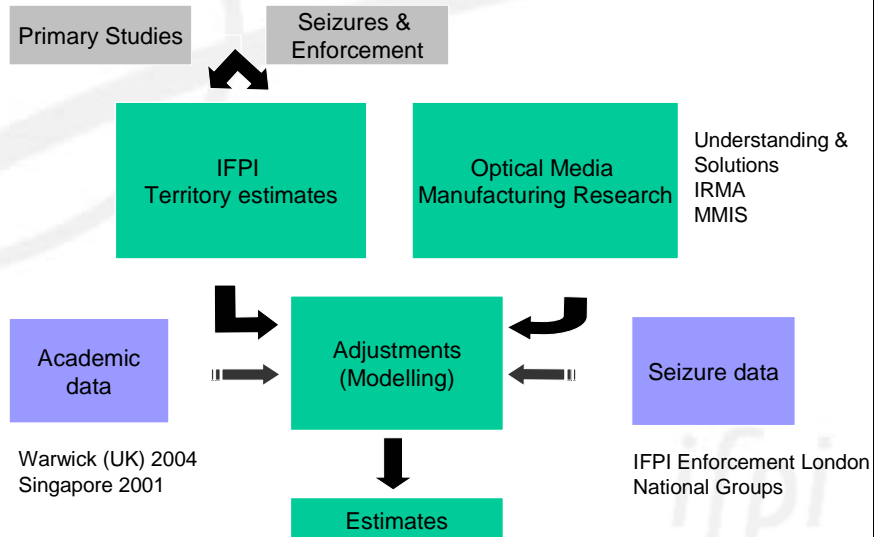
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Commercial Piracy Measurement

WIPO/OECD expert meeting –
October 18th 2005

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How we estimate piracy



Major Categories of Data

- Optical disc research
- Seizures
- Pirate Pricing
- Customs & Excise report (TAXUD)
- Pirate behaviour
- Consumer behaviour

Pro's & Con's of the current methodology

- Allows for a wide range of inputs & sources
- Practical
- Specifically separates commercial piracy from other forms
- Lacks any one rigorous methodology
- Not transparent
- Not consumption based
- Does not measure losses

cebr opinion on IFPI methodology

“The approach of the IFPI is commendable in attempting a mixed methodology approach. However, their estimates requires that estimates are made by national federations which may lead to inconsistency, and are based on production data rather than consumption measures...they had not satisfactorily incorporated survey data in their estimates. Moreover, there have been years where estimates have changed sharply, not permitting meaningful comparisons over time”

Note: cebr (centre for economics and business research) was commissioned by the EU to conduct an audit of piracy methodologies employed in a wide range of business sectors ('Counting Counterfeits' July 2002)

cebr recommendations

- Focus on consumption measures first
- Focus on volume measures
- Don't rely on seizure/investigator data unless 'take-out' rates are known or high

Note: IFPI formally responded to cebr's report

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Consumer research

- Examples
 - Mexico, Brazil, Chile
- Pros
 - Measures consumption
 - Covers all forms of pirate consumption
- Cons
 - High cost
 - Sampling & response concerns (accuracy)
 - Does not measure substitution rate in music
 - Is therefore, high risk

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Good consumer research requirements

- Face-to-face interviews
 - In-home, preferably with possibility to examine product
- Compare pirate buyers consumption with non-pirate buyers
 - real rather than self-reported impact on consumption
- Recruit via omnibus or other large sample vehicle first
 - especially in markets with minority pirate buyers
- Careful sample weighting to capture concentrations of pirate buyers
 - e.g. poorer areas, factory floors, universities, inner-city etc.
- Most expensive & risky consumer research methodology

Bases of estimates by National Groups – NA and Europe 2003

Country	Basis of estimate						Formula
	Consumer research	Plant assessment	Legitimate sales	Seizures	Investigators' reports	Other	
North America							
Canada			✓	✓	✓		
Europe							
Austria	✓		✓	✓	✓		✓
Belgium			✓	✓	✓		
Bulgaria			✓	✓	✓		
Czech Republic			✓	✓	✓		✓
Denmark	✓		✓	✓	✓		
Finland	✓		✓	✓	✓		✓
Italy	✓			✓			
Latvia				✓			
Norway	✓		✓				
Poland			✓	✓	✓		✓
Romania			✓	✓	✓		
Russia		✓	✓	✓			✓
Slovakia			✓	✓	✓		
Spain	✓	✓	✓	✓	✓		
Sweden			✓	✓	✓		
Switzerland				✓	✓		
Thailand		✓	✓	✓	✓		
UK				✓	✓		
Ukraine				✓	✓	✓	

Bases of estimates by National Groups –
Asia, Latin America and Zimbabwe

Country	Basis of estimate						Formula
	Consumer research	Plant assessment	Legitimate sales	Seizures	Investigators' reports	Other	
Asia							
China	✓		✓				
Hong Kong				✓	✓	✓	✓
India							
Indonesia			✓	✓	✓		
Japan				✓			
Malaysia			✓			✓	
Pakistan	✓	✓	✓		✓		
Philippines				✓	✓	✓	
Singapore			✓	✓	✓		✓
South Korea			✓	✓	✓		✓
Taiwan			✓	✓	✓		
Latin America							
Argentina			✓	✓			✓
Brazil	✓						✓
Central America			✓				✓
Chile			✓				✓
Colombia			✓				✓
Ecuador			✓				✓
Mexico	✓						✓
Paraguay			✓				✓
Peru			✓				✓
Uruguay			✓				✓
Venezuela			✓				✓
Zimbabwe	✓		✓	✓	✓		

***Some alternative simple methods
(to consumer surveys)***

- Point-of-sale counting
- FACT-methodology using seizures
- Player penetration rate
- A simple econometric model (based on disposable income or 'life standards')
- Relative criteria & ratio analysis
- Academic approaches

Point-of-sale counting

- Examples
 - Argentina
 - China
 - Russia
- Pros
 - Low cost
 - Use investigators
 - Measures commercial piracy
- Cons
 - Highly inaccurate
 - Can't track change
 - Assumes supply = demand (reasonable)
 - Limited to major markets

FACT (using seizures)

Seizures		Pirate products seized (m)	
Pressed CD		26	
CD-R		9	
Cassette		1	
Total Pirate Units		36	
Total Legitimate Album Sales (Units)		2,740	
Pirate market estimates		Pirate volume	Piracy rate
Assumption 1 - Detection Rate	2	1,775	65%
Assumption 2 - Detection Rate	3	1,183	43%
Assumption 3 - Detection Rate	4	888	32%
Assumption 4 - Detection Rate	5	710	26%
NOT ACCOUNTED FOR: Pirate product having already entered the consumer chain		Take-out rate' refers to a likely rate of pirate product accounted for by seizures	

Formula: Pirate Volume = Seizures / Detection Rate

FACT (using seizures)

- **Examples**
 - Federation Against Copyright Theft (UK)
 - Drug use etc.
- **Pros**
 - Low cost / Use investigators
 - Formalises seizures (only hard data available)
 - Clearly defines commercial piracy
 - Good where confidence in detection rate is high
- **Cons**
 - High error margin (detection rate <10% = 100% margin for error)
 - Applied only where detection rates are high or 'known' – very rare
 - Formulae is circular ('tail wagging the dog')
 - Seizures are unpredictable
 - Requires comprehensive enforcement and tracking

Penetration rate method

- **Principle**
 - Uses the relationship between household penetration of players and units sold in determining piracy loss
 - Methodology is based on a calculation of ideal/expected units sold based on hardware penetration (can build in other factors)
- **Steps**
 - Calculate historical units sold per HH
 - Determine 'non/low piracy' base year
 - Subtract base year demand from current year – can allow for other factors as well as piracy

Example - Taiwan

	1996	1997	1998	1999	2000	2001	2002
No. HH	6.4	6.5	6.6	6.7	6.8	6.9	7
HH with CD player	50%	55%	60%	65%	70%	73%	75%
CD albums sold	21.7	28.5	27.5	28.6	22.0	17.5	16.6
CDs per HH	6.8	8.0	6.9	6.6	4.6	3.5	3.2
Expected CD sales				30.2	33.1	35.0	36.5
Sales gap				1.6	11.1	17.5	19.9
% Piracy / other factors				50%	50%	50%	50%
Pirate units				0.8	5.5	8.7	9.9
Piracy rate				3%	20%	33%	37%

- 1998 taken as base year
- Piracy can be separated from other market factors, such as marketing spend, releases etc.

Pen rate etc.

- Examples
 - BSA – no. of pirate software appl. Per new & used pc
- Pros
 - Takes into account players – good method for new-to-market (DVD)
 - Allows other factors to be built-in
 - Promotes market understanding
- Cons
 - High error margin
 - Requires a lot of data inputs and assumptions (trash-in-trash-out)
 - Does not separate piracy from other factors
 - Does not separate commercial piracy from other forms of substitution

Econometric (simple)

- 4 Step process (see packs for formulae)
 - Select a 'model' market (stable, low piracy)
 - Take per-capita sales * Life Standard Co-efficient of model country
 - Work out anticipated sales in the reference countries based on actual sales and LSC relative to model country
 - Work out piracy level

Results – using France as 'model'

Disposable Income Econometric Model	Proxy for 'Life 1000 Standard Coefficient'			Legitimate Sales		Step 1 Ref. Country	Step 2 Expected Sales (albums)	Step 3 Pirate Sales	Step 4 Piracy Level	Current IFPI Estimates
	Pop'n (m)	pc Disp. Y	Const.	Tot. albums	\$US Value					
Austria	8.2	15.3	0.93	14.7	245.2		17.5	2.8	16%	2%
Belgium	10.2	17.3	1.05	17.8	225.3		24.5	6.7	27%	15%
France	58.9	16.5	1.00	135.4	1,989.7	2.30				2%
Greece	10.6	9.7	0.59	7.2	80.3		14.4	7.2	50%	53%
Italy	57.3	13.8	0.84	48.7	554.7		110.2	61.5	56%	21%
Netherlands	15.7	15.8	0.96	28.0	397.6		34.7	6.7	19%	16%
Switzerland	7.3	23.2	1.41	22.2	253.2		23.8	1.6	7%	3%
USA	276.2	23.4	1.42	835.7	12,325.7		901.8	66.1	7%	3%

Major use would be as a relative check on current estimates; e.g. above – are Austria, Belgium and Italy estimates too low?
Need a better indicator for the LSC

National University of Singapore

- Ivan Png,
Kai-Lung Hui
 - Published
2001 & 2003
 - Econometric
model data
1992-1998
 - 28 countries
- Conclusions:
- The presence of piracy kept legitimate prices below market potential, such that overall losses including price effects may have amounted to 19% of legitimate revenue in 1998 (IFPI estimates show pirate market at 10% of legitimate revenue)
 - Price elasticity of demand of CDs *is lower* where there is piracy – meaning that demand for legitimate product is less likely to respond to decreases in price (since the pirate product alternative will always be available cheaper). Piracy de-stabilises market forces

Warwick Business School, UK

- Conclusions
- Andrew
Burke
 - Not yet
published
 - Econometric
model data
1997-2001
 - 39 countries
- What effect does piracy have?
 - Reduce creativity/innovation: Yes
 - Reduce industry revenues: Yes
 - Enhance consumer access/dissemination: Yes
 - Shadow price competitor: No
 - Justification for copyright law: evidence at last!
 - Berne and Rome no longer effective
 - TRIPS still very effective: concave 10 yr maximum
 - Reduced piracy
 - Enhanced legitimate revenues
 - Increased local artist creativity
 - Increased international cultural diversity
 - How much should business pay to reduce piracy?
 - Not more than 90% of the value of the Pirate CD sales prevented by whoever you are paying to do it!

Measuring Piracy – moving forward

- The efficacy of the ‘piracy rate’ as an indicator increasingly questionable
- How consistent are the estimates? (trending, *ratio analysis & modeling*)
- National groups should apply several different methods & use wide range of sources & develop a ‘toolkit’ for piracy measurement
- IFPI will continue to develop criteria based and econometric approaches, working with academics & economic consultancies where possible

Applying methodology

Method	Territory-level	IFPI level
Point-of-sale counts	✓	⊗
Seizures	✓	⊗
Penetration-rate	✓	?
Econometric / Academic	⊗	✓
Criteria-based	✓	✓