

**Response to the Request of the Intellectual Property Enforcement Coordinator
for Public Comments Regarding the Joint Strategic Plan to Shape an Effective
Intellectual Property Enforcement Strategy**

SUBMITTING AGENCY: Mississippi Attorney General's Office
Jim Hood, Attorney General

SUMMARY: The Mississippi Attorney General has compiled the information herein in support of its Intellectual Property Task Force created under Grant No. 2009-BE-BX-0032 awarded by the Bureau of Justice Assistance. The Bureau of Justice Assistance is a component of the Office of Justice Programs, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, the SMART Office, and the Office for Victims of Crime. Unless otherwise noted, all statistical information has been obtained from: (1) Intellectual Property Rights Seizures Statistics: Fiscal Year 2009 prepared by U.S. Customs and Border Protection/U.S. Immigration and Customs Enforcement, a copy of which is attached hereto as Exhibit "A"; (2) The True Cost of Copyright Industry Piracy to the U.S. Economy, prepared by the Institute for Policy Innovation; Siwek, Stephen E., Policy Report 189, 3 October 2007, attached hereto as Exhibit B; and (3) The True Cost of Sound Recording Piracy to the U.S. Economy, prepared by the Institute for Policy Innovation; Siwek, Stephen E., Policy Report 188, 21 August 2007, attached hereto as Exhibit C.

PART I. THREATS POSED BY VIOLATIONS OF INTELLECTUAL PROPERTY.

- A. The IPEC seeks written submissions from the public identifying the costs to the U.S. economy resulting from infringement of intellectual property rights, both direct and indirect, including any impact on the creation or maintenance of jobs.**

The death of a child makes headlines, especially when seemingly senseless violence is involved. However, when a teen buys a pirated compact disc, most citizens do not view that act as harmful. In reality, intellectual property (IP) crimes have far-reaching repercussions. According to the U.S. Chamber of Commerce, IP theft accounts for an estimated \$250 billion in lost revenues and 750,000 in lost jobs each year. "Top 10 Ways to Protect Yourself from Counterfeiting and Piracy."

Stopfakes.gov. 22 March 2010. <<http://www.stopfakes.gov>>. Moreover, the RAND Corporation reports that the profits from IP theft can and do directly support violence, terrorism, and economic downfall. "Film Piracy, Organized Crime and Terrorism." Rand Corporation. 22 March 2010. <<http://www.rand.org/pubs/monographs/MG742>>. Additionally, studies have shown that counterfeiting and piracy have significantly impacted the economy by causing injury to American business, trade and government. "Counterfeiting & Piracy - The Facts." The Brand Protection Alliance. 19 March 2010. <<http://www.brandprotectionalliance.org/about/piracy.html>>. Thus, counterfeiting and piracy can no longer be considered "merely another cost of doing business." Id.

According to U.S. Customs and Border Protection/U.S. Immigration and Customs Enforcement, "in fiscal year 2009, there were 14,841 intellectual property rights (IPR) seizures with a domestic value of \$260.7 million (M)." Intellectual Property Rights Seizures Statistics: Fiscal Year 2009, October 2009, Page 4.

Between FY 2005 and FY 2009, the domestic value of seizures for violations of intellectual Property Rights rose 179%. Generally, domestic value is the cost of the seized goods, plus the cost of shipping and importing the goods into the U.S., and an amount for profit.

Fiscal Year	Total Domestic Value of IPR Seizures
2009	\$ 260,697,937
2008	272,728,879
2007	196,754,377
2006	155,369,236
2005	93,234,510

"Yearly Comparisons." U.S. Customs and Border Protection/U.S. Customs Enforcement. <http://www.cbp.gov/xp/cgov/trade/priority_trade/ipr/seizure_stats.xml>.

“For the fourth year in a row, footwear was the top commodity seized, accounting for 38% of all IPR seizures by value.” Intellectual Property Rights Seizures Statistics: Fiscal Year 2009, October 2009, Page 7. In addition to footwear, the top commodities seized in fiscal year 2009 were as follows:

<u>Commodity</u>	<u>Domestic Value</u>	<u>Percent of Total</u>
Footwear	\$ 99,779,263	38%
Consumer Electronics	31,773,625	12%
Handbags/Wallets/Backpacks	21,501,614	8%
Wearing Apparel	21,462,276	8%
Watches/Parts	15,533,922	6%
Computers/Hardware	12,546,098	5%
Media	11,099,758	4%
Pharmaceuticals	11,057,991	4%
Jewelry	10,499,243	4%
Toys/Electronic Games	5,503,143	2%
All Other Commodities	19,941,004	8%

Id. at Page 8.

No industry is safe from this growing threat. The Institute for Policy Innovation (IPI) issued Policy Report 189 in October 2007 which analyzed the economic impact of copyright piracy to four of the major U.S. copyright industries: motion pictures, sound recordings, business software and entertainment software/video games. “In 2005, piracy conservatively cost these U.S. industries collectively at least \$25.6 billion in lost revenue.” “The True Cost of Copyright Industry Piracy to the U.S. Economy”. Institute for Policy Innovation. Siwek, Stephen E., Policy Report 189, 3 October 2007. A synopsis of this study revealed that, “each year, copyright piracy from [these four industries] costs the U.S. economy \$58.0 billion in total output [including revenue and related measures of gross economic performance], costs American workers 373,375 jobs and \$16.3 billion in earnings.” Id. Additionally, “federal, state and local

governments lose at least \$2.6 billion in tax revenues annually. Of this amount, \$1.8 billion represents lost personal income taxes while \$0.8 billion is lost corporate income and production taxes.” Id.

The IPI also conducted a study on “The True Cost of Sound Recording Piracy to the U.S. Economy.” Siwek, Stephen E., Policy Report 188, 21 August 2007.

According to this study, global and U.S. based piracy of sound recordings cost the U.S. economy, annually, \$12.5 billion in lost revenue and related measures of economic performance; 71,060 in lost jobs and \$2.7 billion in lost earnings to American workers.

Id. As an additional consequence of this piracy, U.S. federal, state and local governments lose a minimum of \$422 million in tax revenues annually. Of this amount, \$291 million represents lost personal income taxes while \$131 million is lost corporate income and production taxes.” Id.

B. The IPEC seeks written submissions identifying threats to public health and safety posed by intellectual property infringement, in the U.S. and in other countries.

As indicated from the statistical report prepared by U.S Customs and Border Protection/U.S Immigration and Customs Enforcement, “three of the top ten categories of commodities seized [in fiscal year 2009] include products posing possible safety or security risks.” Intellectual Property Rights Seizure Statistics: Fiscal Year 2009, October 2009, Page 2. These include pharmaceuticals, electrical articles (consumer electronics) and critical technology components (computers/hardware). Id. The top ten commodities seized that threaten safety were as follows:

<u>Commodity</u>	<u>Domestic Value</u>	<u>Percent of Total</u>
Pharmaceuticals	\$ 11,026,260	34%
Electrical Articles	4,317,499	13%
Critical Technology Components	3,756,638	12%
Perfume	3,709,303	11%
Sunglasses	2,924,812	9%
Cigarettes	2,578,415	8%
Batteries	1,850,463	6%
Exercise Equipment	833,724	3%
Personal Care	819,167	3%
All Other Commodities	615,516	2%

Id. at Page 10.

It is noted that these counterfeit products threaten not only consumer safety, but critical infrastructure and national security, as well. Id. at Page 9.

In FY 2009, imports from China accounted for more than 62% of the seizures of IPR infringing goods that posed a safety or security risk. India was the second highest source country for safety or security related IPR seizures with 9%

The total value of all commodities presenting potential safety or security risks seized in FY 2009 was \$32M.

Id. at Page 9.

PART II. RECOMMENDATIONS FOR ACCOMPLISHING IPEC OBJECTIVES.

The IPEC requests written submissions from the public that provide specific recommendations for accomplishing one or more of the objectives of the Joint Strategic Plan, or other specific recommendations for significantly improving the U.S. Government's enforcement efforts.

On September 23, 2009, the Mississippi Attorney General's Office announced the formation its "Intellectual Property Task Force" (Task Force), organized under Grant No. 2009-BE-BX-0032, awarded by the Bureau of Justice Assistance. To assist the IPEC in its endeavor to accomplish the objectives identified in its Joint Strategic Plan,

the Mississippi Attorney General's Office will provide information regarding the objectives, development, accomplishments and future plans of its Task Force. A detailed description of these areas are included in the program narrative and time line attached hereto as Exhibits "D" and "E."

A. The Problem Identified in the State of Mississippi.

The most recent census estimates show that at least 20.8% of Mississippian live below the poverty line, with a capita income of approximately \$15,853. "State and County QuickFacts/Mississippi." U.S. Census Bureau. 22 March 2010.

<http://quickfacts.census.gov/qfd/states/28000.html>. This level of poverty has created a desperate search for low cost products, making Mississippians extremely vulnerable to counterfeit goods. Mississippians are prime targets for pirated goods that are "necessary" goods, such as pharmaceuticals with dangerous ingredients.

Compounding the problem, most law enforcement agencies must focus on violent crime and are simply unable to devote sufficient resources to prevention and enforcement of IP laws.

According to Immigration and Customs Enforcement (ICE) agents in Gulfport, Mississippi, counterfeit products are widespread and prolific across the state, with the most common counterfeit goods being clothing products, DVDs and CDs. The black-market counterfeit pharmaceuticals which have been seen regularly in Mississippi include lipitor and viagra. Although Mississippi statistics have not been developed, federal and state officials believe that virtually every flea market has counterfeit products for sale.

Primary enforcement problems include lack of resources, equipment, training, and the widespread perception among citizens that counterfeiting or piracy is not “really a crime.” Additionally, ICE and the Federal Bureau of Investigation (FBI) have all stated that law enforcement cooperation and increased global intelligence is desperately needed to combat IP crimes.

B. Solutions Developed by the Mississippi Attorney General’s Office.

Having identified the problems noted above, the Mississippi Attorney General’s Office has formed a statewide Intellectual Property Task Force (Task Force). The goals of the Task Force are two-fold: (1) unify federal, state, and local law enforcement efforts and (2) provide much-needed training and resources for coordinated enforcement. Information gathered by the Task Force will be used to develop and implement statewide consumer education. In turn, increased enforcement and consumer education efforts will significantly reduce profit for organized crime and/or terrorist organizations and protect American jobs, government and consumer health.

C. Task Force Design and Implementation.

The Mississippi Attorney General’s Office developed an educational campaign known as Operation Knock Out Knock-Offs (“Operation KOKO”). Operation KOKO contained simultaneous phases. In Phase I, the Task Force was created. The Task Force was designed to (1) provide intense training and investigatory assistance to local law enforcement and (2) increase collaboration among federal, state and local authorities. Phase II is a multi-source campaign to work with local authorities to educate merchants and the general public about the dangers of IP crimes

D. Practices or Methods of the Task Force.

The Task Force developed practices and methods for reducing the supply of infringing goods. The Task Force consists of local, state and federal law enforcement officers. The main objectives of the Task Force are: (1) to seize infringing goods sold throughout the state; (2) indict and convict those who refuse to stop selling infringing goods; and (3) inform and educate the community and businesses about infringing goods.

(1) Practices and Methods for Seizing Infringing Goods.

The Task Force utilizes two tools for seizing infringing goods. The first is a Cease and Desist Notification. This notification explains Mississippi's intellectual property statutes and places the vendor on notice that the selling of infringing goods is in violation of said statutes. The vendor is further put on notice that he is to cease and desist selling infringing goods. The vendor and the law enforcement officer both sign the notification and the vendor is provided with a copy. At the time the cease and desist notification is served, all infringing goods are seized.

After the seizure, the vendor is presented with the second tool used by the Task Force. This is a Forfeiture Agreement. This agreement again explains to the vendor that the seized goods are in violation of Mississippi's intellectual property statutes. The Forfeiture Agreement gives the vendor the opportunity to acknowledge and agree to the seizure and immediate forfeiture of the infringing goods. This allows the Task Force to quickly and efficiently dispose of the seized items as they are deemed forfeited to the state pursuant to this agreement. If the vendor abides by the cease and desist

notification and the forfeiture agreement, the case is closed. If however, the defendant continues to sell infringing goods, the Task Force will prepare the case for presentation to the grand jury and felony charges will be pursued.

(2) Practices and Methods for Prosecution.

If a vendor continues to sell infringing goods, the Task Force conducts a full investigation with the aim being to present the case to the grand jury so felony charges can be pursued. The foundations of the investigation are the cease and desist notification and the forfeiture agreement. These documents remove any doubt that the vendor knew he was involved in criminal activity. With no reasonable defense for his conduct, the vendor is left with few options when indicted. However, the Task Force must establish that the goods are in fact counterfeit. The infringing goods are seized, cataloged, and a chain of custody is established. Samples of the various infringing goods are sent to industry experts who must submit affidavits that establish that the goods are in fact counterfeit. These same experts are required to testify if the case goes to trial. Building on the cease and desist notification and forfeiture agreement coupled with solid evidence handling results in a high probability for a successful prosecution.

(3) Practices and Methods for Community Outreach.

Community outreach is essential for the success of the Task Force. Educated consumers and businesses are the most important part of effective enforcement efforts. Consumers and businesses are in the best position to identify infringing goods and those who sell them. The community generated leads result in significant seizures and

arrest. Educating consumers and business is also the greatest challenge for the Task Force. Community outreach is a perpetual grass roots effort.

E. Accomplishments of the Mississippi Attorney General's Office.

The Mississippi Attorney General's Office (AGO) leads state investigations and prosecutions for IP crimes. Mississippi Attorney General, Jim Hood, serves as the co-chair of the National Association of Attorneys General's (NAAG) IP Committee. The Committee serves as a national information clearinghouse with respect to IP enforcement, legislation, and training. Through the aforementioned grant opportunity, the Mississippi Attorney General's Office has expanded the national purposes of the Committee to the investigation and enforcement of Mississippi IP laws.

Currently, the AGO has recruited seventy-two (72) members to its Intellectual Property Task Force. Members include law enforcement officers from state, local and federal agencies, including, local police and sheriff departments, as well as FBI and US Immigration and Customs Enforcement (ICE) agents.

Attempts to deter IP crimes are being undertaken by training law enforcement and using the Task Force to enforce state and federal laws. Currently, trainings are scheduled for April and June 2010, as well as additional regional trainings throughout the summer months. To assist in such training, the AGO has developed a best practices/training manual for law enforcement officers to use in their investigation of IP crimes. The manual includes the state laws that are applicable to IP investigations, as well as form cease and desist letters, search warrants, and indictments.

The AGO is also working closely with the business community to help train local law enforcement officers on the detection of counterfeit property. Some companies

have assigned experts to assist the AGO in the testing and storage of seized counterfeit property.

Education is also a top priority. The AGO is educating young people, other consumers and businesses on IP law. Additionally, members of the recording industry and motion picture industry are being encouraged to use the star power to better educate the public on the effects of IP theft. Resource materials such as educational brochures on how to identify counterfeit products have been developed for distribution to the public. A second brochure is currently being developed to educate parents on the importance of preventing illegal downloads.

Universities and community colleges are also being educated on the importance of the implementation of new software and policies to deter and punish illegal downloading by students. Industries affected by IP theft on college campuses are being encouraged to pay for some of the screening and notification software that is needed by the educational institutions.

Additionally, the AGO has two divisions that are charged with the investigation and prosecution of IP crimes: Consumer Protection and Cyber Crimes. The Consumer Protection Division currently has several ongoing IP investigations and pending prosecutions. With five investigators and three prosecutors in two locations in the state, the Consumer Protection Division is poised to provide immediate assistance to local law enforcement and prosecuting authorities. The Cyber Crimes Division is available to assist in the growing number of IP crimes on the internet.

The AGO was instrumental in getting legislation passed in the 2009 legislative session which increases the penalties for IP crimes. This new legislation will serve as a vital tool in combating IP crimes.

Finally, the AGO is currently in the process of developing a baseline study from the recording industry to determine how many illegal downloads occur on Mississippi university systems in a day. This baseline study will assist in determining the impact of the efforts of the Task Force.

PART III. SUPPLEMENTAL COMMENT TOPICS.

A. Promoting Information Sharing between Participating Agencies.

A task force is the traditional method used by law enforcement to promote information sharing between participating agencies. A task force that consists of local, state and federal law enforcement officers engenders cooperation and comradery.

B. Disrupting and Eliminating Infringement Networks.

Disrupting and eliminating infringement networks is the sacred cow of a task force. Infringement networks are most easily analogized to drug cartels. In order to disrupt and eliminate a drug cartel, law enforcement must start with street arrest and work their way up through the dealers to the suppliers. The same is true of infringement networks. Law enforcement must start with street seizures and forfeitures and work their way up through the vendors to the manufactures.

C. More Effective Intellectual Property Enforcement.

A major impediment to state law enforcement involving the illegal downloads of music is that most state copyright laws are expressly preempted by the federal

copyright statute. The states are left with only being able to enforce mislabeling statutes. However, these type of state statutes are not applicable to the primary problem of illegal downloads of music, movies and software. The federal law should be amended to allow the states to enforce state laws as stringent or more stringent than the federal law.

Additionally, state and local law enforcement authorities could more effectively assist in intellectual property enforcement efforts through more efficient coordination. Centralization is the key to achieving optimal coordination. For instance, if state and local law enforcement agencies had a secure website dedicated to intellectual property enforcement, coordination would be maximized while duplication of resources would be minimized. The greater the centralization, the greater the impact. For instance, a regional website would be better than a state website and a national website would be better than a regional.

RESPECTFULLY SUBMITTED, this the 24th day of March, 2010.

**JIM HOOD, ATTORNEY GENERAL
STATE OF MISSISSIPPI**

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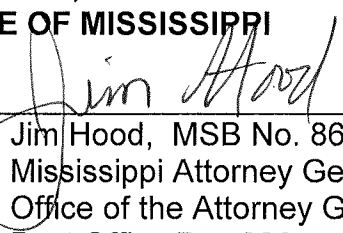
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Intellectual Property Rights

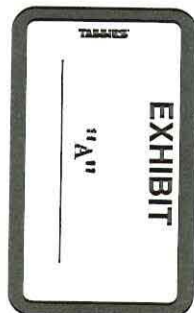
Seizure Statistics: Fiscal Year 2009

Published: October 2009



U.S. Customs and
Border Protection

U.S. Immigration and
Customs Enforcement



Executive Summary

- In Fiscal Year (FY) 2009, there were 14,841 intellectual property rights (IPR) seizures with a domestic value of \$260.7 million (M).
- From FY 2008 to FY 2009, the domestic value of IPR seizures declined 4%, from \$272.7M to \$260.7M, which was significantly lower than the 25% decline in total imports.
- The number of IPR seizures declined by 1% to 14,841 in FY 2009 from 14,992 in FY 2008.
- China was the top trading partner for IPR seizures in FY 2009 with a domestic value of \$204.7M, accounting for 79% of the total value seized.
- Footwear was the top commodity seized in FY 2009 with a domestic value of \$99.7M, which accounted for 38% of the entire value of infringing goods.
- Three of the top ten categories of commodities seized include products posing possible safety or security risks.



U.S. Customs and
Border Protection

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U.S. Immigration and
Customs Enforcement

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U.S. Immigration and
Customs Enforcement

Value and Number of IPR Seizures

In FY 2009, there were 14,841 IPR CBP and ICE seizures with a domestic value of \$260.7 M.

- The domestic value of IPR seizures in FY 2009 decreased 4% to \$260.7M from \$272.7M in FY 2008.
- The number of IPR seizures in FY 2009 decreased by 1% to 14,841 from 14,992 in FY 2008.
- The median value of IPR seizures increased to \$850 in FY 2009 from \$674 in FY 2008.

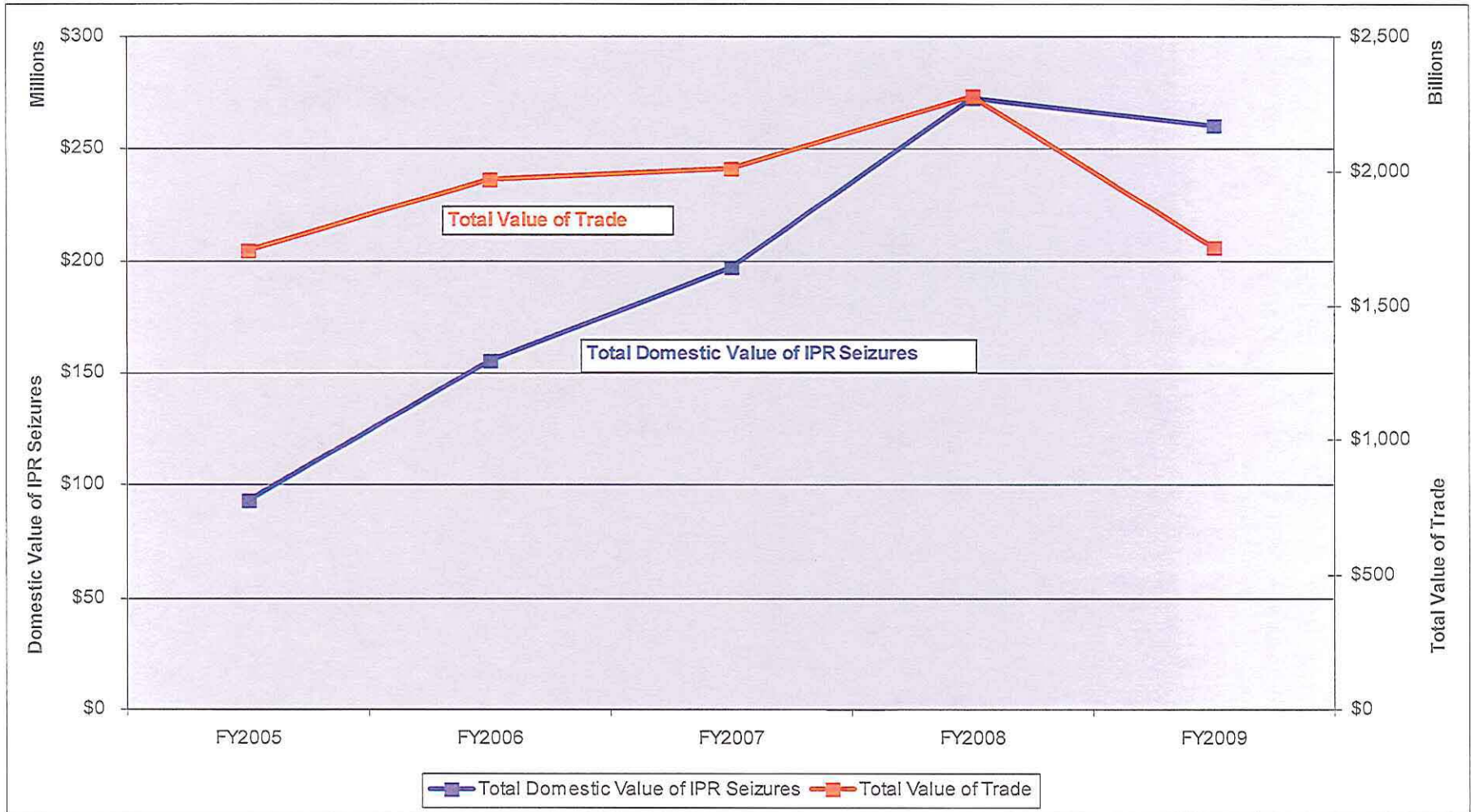


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U.S. Immigration and
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IPR Seizures vs. Total Imports



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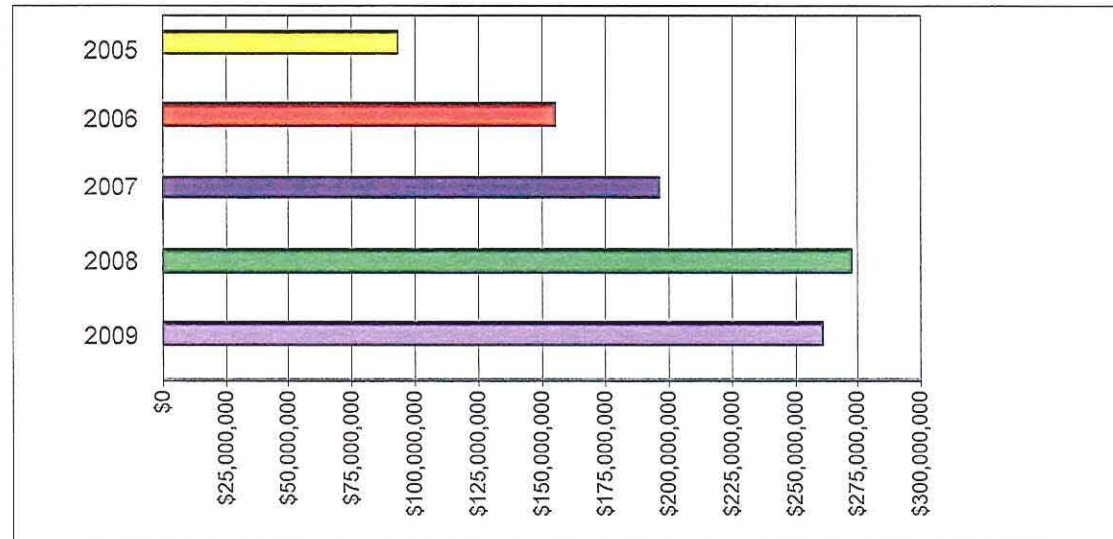
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U.S. Immigration and Customs Enforcement

Comparison of Yearly Domestic Values of IPR Seizures

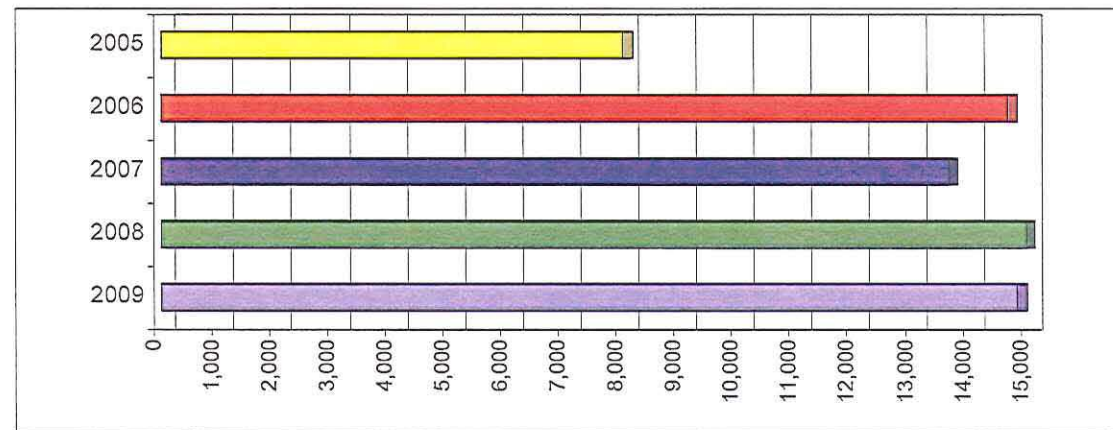
The total value of IPR seizures has increased by more than 25% each year since FY 2005, with the exception of FY 2009 which posted a small decrease. There was a 25% decline of all importations in FY 2009 compared to FY 2008.

Fiscal Year	Overall Total Values (IPR)
2005	\$ 93,234,510
2006	\$ 155,369,236
2007	\$ 196,754,377
2008	\$ 272,728,879
2009	\$ 260,697,937
Total	\$ 978,784,939



Comparison of Yearly IPR Seizure Totals

Fiscal Year	Number of Seizures
2005	8,022
2006	14,675
2007	13,657
2008	14,992
2009	14,841
Total	66,187



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U.S. Immigration and
Customs Enforcement

Top Commodities Seized

Footwear Seizures Continue at Top Spot

For the fourth year in a row, footwear was the top commodity seized, accounting for 38% of all IPR seizures by value.

- Footwear from China accounts for more than 98% of all IPR infringing footwear, by value.
- While the number of IPR footwear seizures declined by almost 50% in FY 2009, the domestic value only decreased by \$2.5M or 3%.
- The median value of IPR footwear seizures in FY 2009 was \$1,008 which was more than double the median value of IPR footwear seizures in FY 2008, \$450.



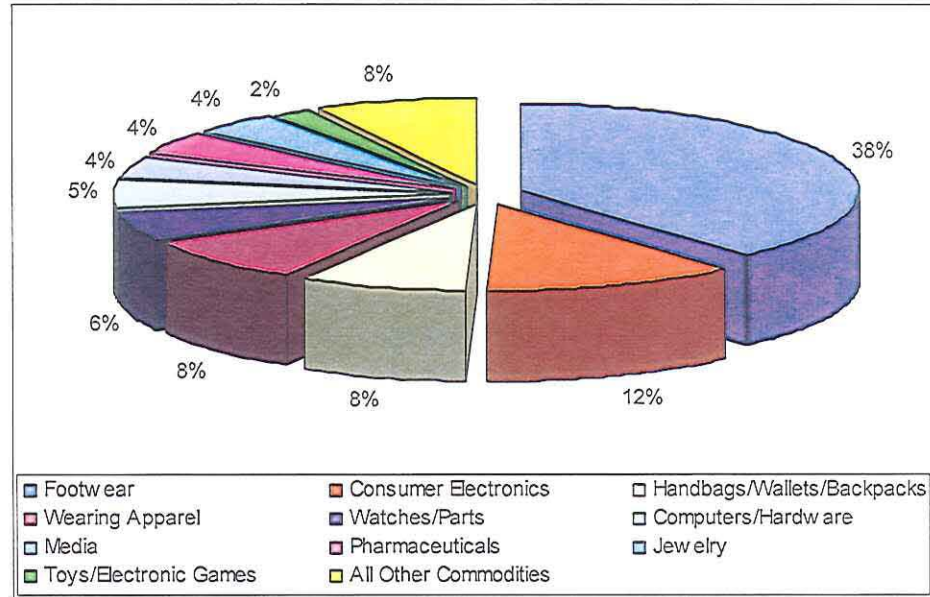
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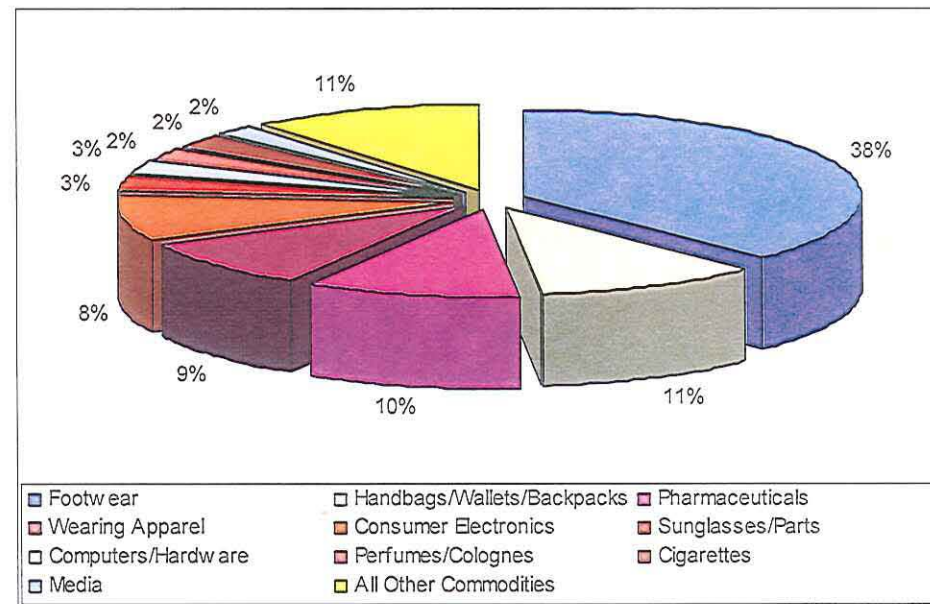
FY 2009 Commodity	Domestic Value	Percent of Total
Footwear	\$ 99,779,263	38%
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Wearing Apparel	\$ 21,462,276	8%
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Total FY 09 Domestic Value \$ 260,697,937
Number of Seizures 14,841



FY 2008 Commodity	Domestic Value	Percent of Total
Footwear	\$ 102,316,577	38%
Handbags/Wallets/Backpacks	\$ 29,609,053	11%
Pharmaceuticals	\$ 28,106,578	10%
Wearing Apparel	\$ 25,119,580	9%
Consumer Electronics	\$ 22,997,685	8%
Sunglasses/Parts	\$ 7,919,385	3%
Computers/Hardware	\$ 7,589,534	3%
Perfumes/Colognes	\$ 6,716,735	2%
Cigarettes	\$ 6,444,649	2%
Media	\$ 5,967,332	2%
All Other Commodities	\$ 29,941,771	11%

Total FY 08 Domestic Value \$ 272,728,879
Number of Seizures 14,992



**U.S. Customs and
Border Protection**

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**U.S. Immigration and
Customs Enforcement**

Top Safety and Security Commodities

Some Counterfeit Products Threaten Consumer Safety, Critical Infrastructure and National Security

In FY 2009, imports from China accounted for more than 62% of the seizures of IPR infringing goods that posed a safety or security risk. India was the second highest source country for safety or security related IPR seizures with 9%.

- The total value of all commodities presenting potential safety or security risks seized in FY 2009 was \$32M.
- Pharmaceuticals were the top commodity presenting potential safety or security risks seized in FY 2009 at 34% by value.

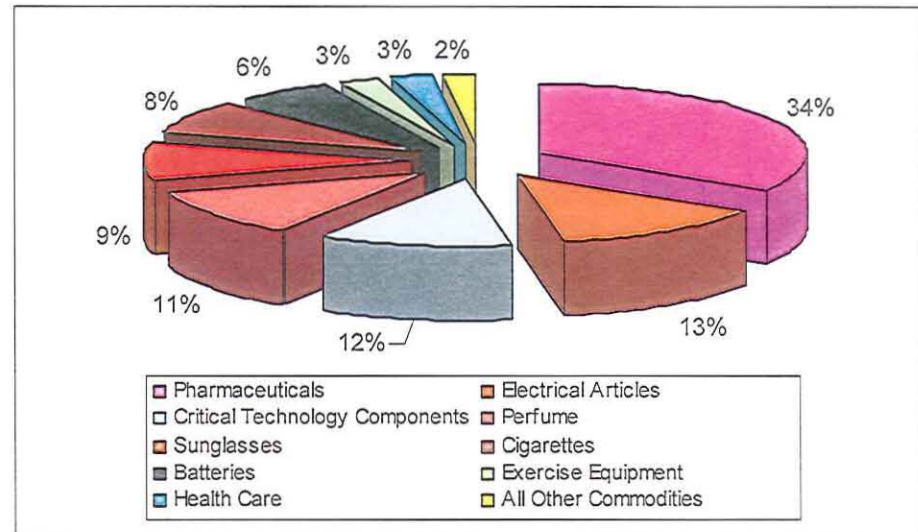


U.S. Customs and
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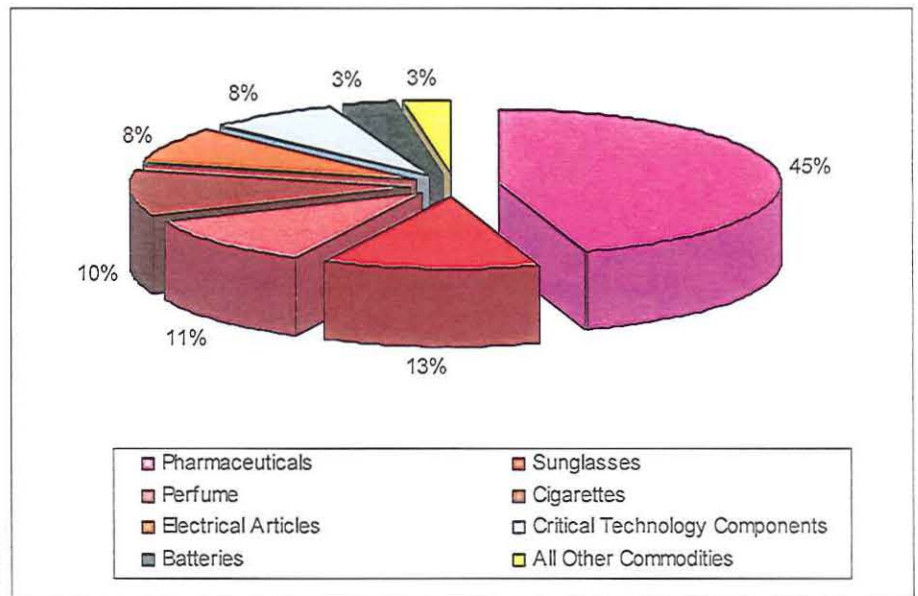
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FY 2009 Safety and Security	Domestic Value	Percent of Total
Pharmaceuticals	\$ 11,026,260	34%
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Critical Technology Components	\$ 3,756,638	12%
Perfume	\$ 3,709,303	11%
Sunglasses	\$ 2,924,812	9%
Cigarettes	\$ 2,578,415	8%
Batteries	\$ 1,850,463	6%
Exercise Equipment	\$ 833,724	3%
Personal Care	\$ 819,167	3%
All Other Commodities	\$ 615,516	2%
Total FY 09 Domestic Value	\$ 32,431,797	
Number of Seizures	1,543	



FY 2008 Safety and Security	Domestic Value	Percent of Total
Pharmaceuticals	\$ 28,106,578	45%
Sunglasses	\$ 7,919,375	13%
Perfume	\$ 6,716,735	11%
Cigarettes	\$ 6,444,649	10%
Electrical Articles	\$ 5,020,361	8%
Critical Technology Components	\$ 4,742,175	8%
Batteries	\$ 1,806,821	3%
All Other Commodities	\$ 1,778,598	3%
Total FY 08 Domestic Value	\$ 62,535,292	
Number of Seizures	1,950	



Electrical Articles includes power cords, lights, dvd players, etc.
Critical Technology Components includes networking equipment and semiconductor devices.



U.S. Customs and
Border Protection

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U.S. Immigration and
Customs Enforcement

Top Trading Partners

China Remains the Top Trading Partner for IPR Violations

FY 2009
seizures of IPR
infringing products from
China totaled \$204.7M
and accounted for 79%
of the total
domestic value for all IPR
seizures.

- Hong Kong's \$26.8M in seized value makes it the second most significant trading partner by domestic value for IPR seizures and accounted for 10% of the total domestic value.
- India had the third highest domestic value at \$3M accounting for 1% of the total domestic value.

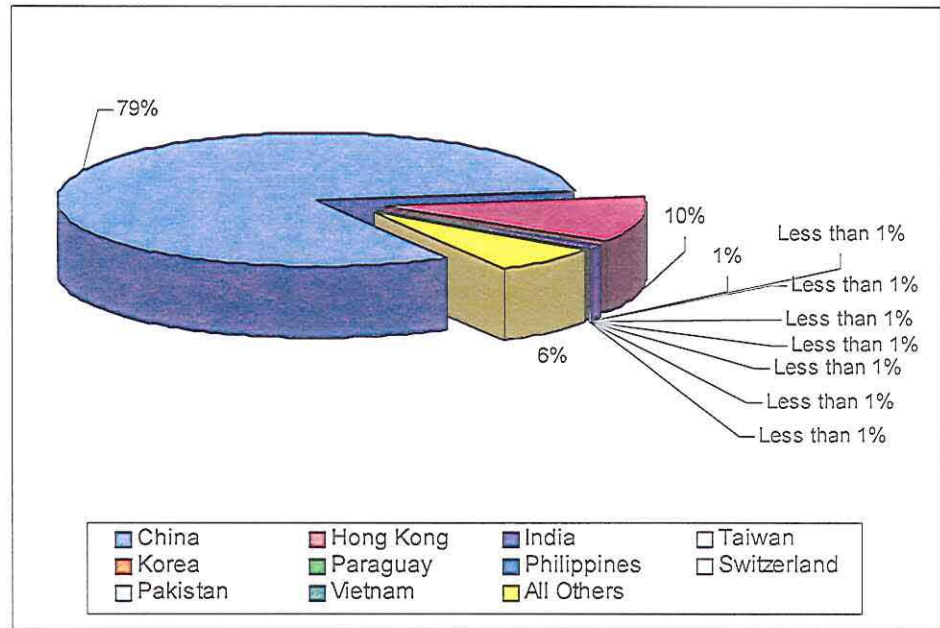


U.S. Customs and
Border Protection

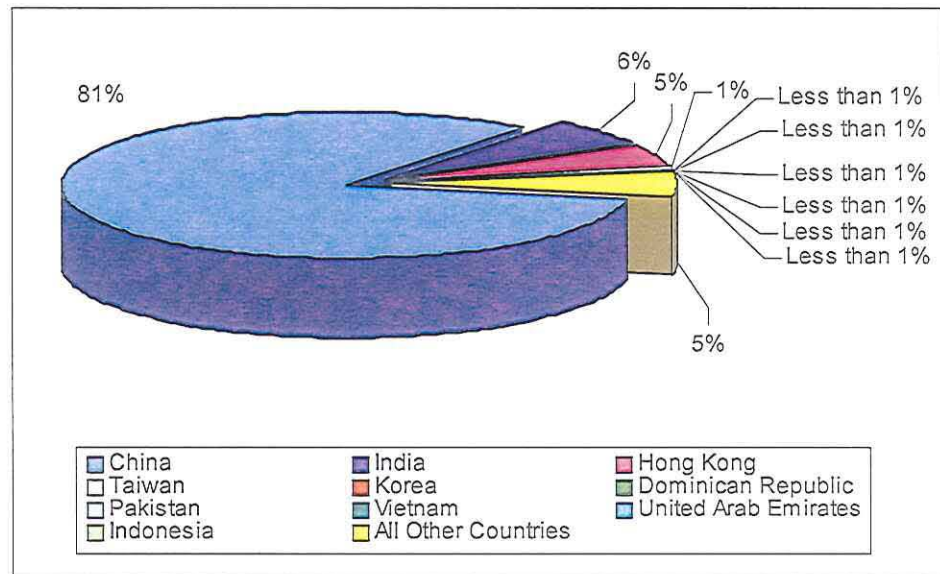
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U.S. Immigration and
Customs Enforcement

FY 2009 Trading Partner	Domestic Value	Percent of Total
China	\$ 204,656,093	79%
Hong Kong	\$ 26,887,408	10%
India	\$ 3,047,311	1%
Taiwan	\$ 2,453,914	Less than 1%
Korea	\$ 1,510,443	Less than 1%
Paraguay	\$ 1,496,043	Less than 1%
Philippines	\$ 1,479,958	Less than 1%
Switzerland	\$ 1,277,646	Less than 1%
Pakistan	\$ 710,658	Less than 1%
Vietnam	\$ 603,529	Less than 1%
All Others	\$ 16,574,934	6%
Total FY 09 Domestic Value	\$ 260,697,937	
Number of Seizures	14,841	



FY 2008 Trading Partner	Domestic Value	Percent of Total
China	\$ 221,661,579	81%
India	\$ 16,258,368	6%
Hong Kong	\$ 13,433,606	5%
Taiwan	\$ 2,631,980	1%
Korea	\$ 1,028,348	Less than 1%
Dominican Republic	\$ 942,128	Less than 1%
Pakistan	\$ 780,109	Less than 1%
Vietnam	\$ 747,567	Less than 1%
United Arab Emirates	\$ 658,626	Less than 1%
Indonesia	\$ 649,066	Less than 1%
All Other Countries	\$ 13,937,502	5%
Total FY 08 Domestic Value	\$ 272,728,879	
Number of Seizures	14,992	



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U.S. Immigration and
Customs Enforcement

Top Five Trading Partners FY 2009 Commodity Breakdown

	Domestic Value	Percent of Total
1. China		
Footwear	\$ 97,966,684	48%
Handbags/Wallets/Backpacks	\$ 19,552,496	10%
Consumer Electronics	\$ 18,490,022	9%
Wearing Apparel	\$ 17,855,649	9%
Computers/Hardware	\$ 8,783,669	4%
Jewelry	\$ 7,290,051	4%
Pharmaceuticals	\$ 6,720,977	3%
Media	\$ 5,501,906	3%
Watches/Parts	\$ 4,888,786	2%
Toys/Electronic Games	\$ 4,488,320	2%
All Other Commodities	\$ 13,117,533	6%
Total FY 09 Domestic Value	\$ 204,656,093	
Number of Seizures	10,288	

	Domestic Value	Percent of Total
2. Hong Kong		
Consumer Electronics	\$ 10,821,110	40%
Watches/Parts	\$ 7,925,501	29%
Jewelry	\$ 2,861,642	11%
Computers/Hardware	\$ 1,987,615	7%
Pharmaceuticals	\$ 711,646	3%
Wearing Apparel	\$ 535,398	2%
Handbags/Wallets/Backpacks	\$ 437,298	2%
Identifying Elements	\$ 331,883	1%
Perfume	\$ 287,228	1%
Toys/Electronic Games	\$ 280,526	1%
All Other Commodities	\$ 707,561	3%
Total FY 09 Domestic Value	\$ 26,887,408	
Number of Seizures	1,680	

	Domestic Value	Percent of Total
3. India		
Pharmaceuticals	\$ 2,623,760	86%
Perfume	\$ 160,945	5%
Wearing Apparel	\$ 160,082	5%
Watches/Parts	\$ 67,775	2%
All Other Commodities	\$ 34,749	1%
Total FY 09 Domestic Value	\$ 3,047,311	
Number of Seizures	279	

	Domestic Value	Percent of Total
4. Taiwan		
Computers/Hardware	\$ 1,434,910	58%
Consumer Electronics	\$ 656,266	27%
Toys/Electronic Games	\$ 97,032	4%
Media	\$ 91,019	4%
Wearing Apparel	\$ 71,896	3%
Footwear	\$ 60,179	2%
All Other Commodities	\$ 42,612	2%
Total FY 09 Domestic Value	\$ 2,453,914	
Number of Seizures	87	

	Domestic Value	Percent of Total
5. Korea		
Consumer Electronics	\$ 1,115,844	74%
Jewelry	\$ 251,965	17%
Wearing Apparel	\$ 55,531	4%
Handbags/Wallets/Backpacks	\$ 46,216	3%
Media	\$ 11,663	Less than 1%
All Other Commodities	\$ 29,224	2%
Total FY 09 Domestic Value	\$ 1,510,443	
Number of Seizures	122	



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**U.S. Immigration and
Customs Enforcement**



U.S. Customs and Border Protection



Institute For Policy Innovation

IPI CENTER FOR TECHNOLOGY FREEDOM

The True Cost of Copyright Industry Piracy to the U.S. Economy

By Stephen E. Siwek



POLICY REPORT 189

OCTOBER 2007

EXECUTIVE SUMMARY

Synopsis: Using a well-established U.S. government model and the latest copyright piracy figures, this study concludes that, each year, copyright piracy from motion pictures, sound recordings, business and entertainment software and video games costs the U.S. economy \$58.0 billion in total output, costs American workers 373,375 jobs and \$16.3 billion in earnings, and costs federal, state, and local governments \$2.6 billion in tax revenue.

It is well established that U.S. copyright-protected works are pirated in vast numbers in the U.S. and in international markets throughout the world. This wide-spread theft clearly harms intellectual property (IP) owners, who are denied the revenues they would have earned had their legitimate products been purchased. Such direct losses from copyright piracy damage not only large companies, but small firms too: for example, in 2004, approximately 84% of all firms in the motion picture and video industries and 60% of all software publishing firms employed fewer than ten workers.¹

However, these direct losses to copyright owners represent only part of the story. Piracy also causes significant and measurable harm to both the upstream suppliers and downstream distributors who would also have benefited from the sale of legitimate copyright products. Indeed, the harms that flow from piracy produce a cascading effect throughout the economy as a whole.

In order to determine the magnitude of these ripple effects, this paper assesses the harmful impact of the piracy of U.S. produced copyright products on the overall U.S. economy. To accomplish this, data were gathered that reflected the piracy losses incurred in 2005 by four of the major U.S. copyright industries: motion pictures, sound recordings, business software and entertainment software/video games. In 2005, piracy conservatively cost these U.S. industries collectively at least \$25.6 billion in lost revenue.

Beyond the cost to the copyright industries, this lost revenue translates into lost production of legitimate copyright products, which in turn means lost wages and lost purchases of upstream products and services throughout the U.S. economy. Using the RIMS II mathematical model maintained by the U.S. Bureau of Economic Analysis (BEA), this study measures the lost economic output, jobs and employee earnings that are the economic consequences of copyright piracy.

Applying the model to the combined copyright industry loss figures reveals the true magnitude of the impact of copyright piracy on the U.S. economy. Because of that piracy:

- The U.S. economy loses \$58.0 billion in total output annually. Output includes revenue and related measures of gross economic performance.
- The U.S. economy loses 373,375 jobs. Of this amount, 123,814 jobs would have been added in the copyright industries or in downstream retail industries, while 249,561 jobs would have been added in other U.S. industries in support of the copyright industries.²
- American workers lose \$16.3 billion in earnings annually. Of this total, \$7.2 billion would have been earned by workers in the copyright industries or in their downstream retail industries while \$9.1 billion would have been earned by workers in other U.S. industries.
- Federal, state and local governments lose at least \$2.6 billion in tax revenues annually. Of this amount, \$1.8 billion represents lost personal income taxes while \$0.8 billion is lost corporate income and production taxes.

As these numbers show, the true cost of copyright piracy cannot properly be measured by its impact on the U.S. producers of copyright-protected works alone. Piracy harms not only the owners of intellectual property but also U.S. consumers, workers, and taxpayers. As policymakers turn their attention to the competitiveness of the U.S. economy in the global marketplace, it is clear that the problem of copyright piracy should be afforded a prominent place on the policy agenda.

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THE TRUE COST OF COPYRIGHT PIRACY TO THE U.S. ECONOMY

by Stephen E. Siwek

INTRODUCTION

Widespread piracy of motion pictures, recorded music, software, and electronic games harms the companies that design, create and sell these products. Since many of these are American companies, the harm of global copyright piracy falls disproportionately on U.S. industry, its stockholders and employees, and on federal, state and local governments that lose tax revenue due to piracy.

The U.S. companies most directly affected by piracy have long sought to increase understanding of the scope of this problem, and to encourage government-wide efforts to address this threat. However, until recently, there has been little reliable economic information available to U.S. policymakers to assist them in balancing the importance of enforcing intellectual property rights as against other priorities. In order to address this issue, in 2005, a study entitled *Engines of Growth: Economic Contributions of the U.S. Intellectual Property Industries* was published.³ That study analyzed the contributions to the U.S. economy of the U.S. “IP industries” – industries that rely most heavily on copyright or patent protection to generate revenue, employ and compensate workers and contribute to real growth. The study found, among other things, that these IP industries are the most important growth drivers in the U.S. economy, contributing nearly 40% of the growth achieved by all U.S. private industry and nearly 60% of the growth of U.S. exportable products. It also found that the IP industries were responsible for one-fifth of the total U.S. private industry’s contribution to GDP and two-fifths of the contribution of U.S. exportable products and services to GDP.

To build on these data, in September 2006, the Institute for Policy Innovation (IPI) published *The True Cost of Motion Picture Piracy to the U.S. Economy* (the *Motion Picture Piracy* study).⁴ Subsequently, in August 2007, IPI published *The True Cost of Sound Recording Piracy to the U.S. Economy* (the *Sound Recording Piracy* study). Both of those studies measured the economic impact of pirate activities in a single industry on the U.S. economy as a whole.

Expanding on the analyses used in the *Motion Picture Piracy* study and the *Sound Recording Piracy* study, this study measures the *combined* effects of pirate activities on a group of U.S. industries that, like the motion picture and sound recording industries, rely heavily on the effective enforcement of copyright.

I. THE COPYRIGHT INDUSTRIES

This study measures the costs of piracy for four of the “core” copyright products: motion pictures, sound recordings, packaged software, and video games. The study measures these costs at both the production and at the downstream, retailer level. In addition, through the use of industry-specific “multipliers,” the study

quantifies the additional costs of piracy on the upstream industries that supply the copyright producers and on the suppliers to those suppliers through the U.S. economy as a whole.

Because this study focuses only on four copyright industries, it provides an incomplete picture of the overall costs of copyright piracy to the U.S. economy. The copyright industries in the United States that are affected by piracy represent a much larger number of companies and employees, including photographers, songwriters, magazine and book publishers, and other creators. A fuller description of the copyright industries can be found through the website of the Copyright Alliance, www.copyrightalliance.org.

U.S. MOTION PICTURE AND VIDEO INDUSTRY

The U.S. motion picture and video industry, classified as NAICS 5121 in U.S. government statistical reports called the North American Industry Classification System (NAICS),⁵ includes motion picture and video production, motion picture and video exhibition, postproduction services and “other” motion picture and video industries. In 2005, the industry had estimated revenue of \$73.4 billion.⁶

U.S. SOUND RECORDING INDUSTRY

The U.S. sound recording industry (NAICS 5122) includes establishments primarily engaged in producing and distributing musical recordings, publishing music, providing sound recording services and “other” sound recording industries. According to the U.S. Census Bureau, the employer firms in the U.S. sound recording industry generated revenue of \$18.7 billion in 2005.⁷

U.S. SOFTWARE PUBLISHING INDUSTRY

The U.S. software publishing industry (NAICS 5112) comprises establishments engaged in computer software publishing or in both software publishing and reproduction. These companies “carry out operations necessary for producing and distributing computer software, such as designing, providing documentation, assisting in installation, and providing support services to software purchasers.”⁸ In 2005, employer firms in the U.S. software publishing industry had revenues of \$119.6 billion.⁹

U.S. ENTERTAINMENT SOFTWARE AND VIDEO GAME INDUSTRY

The NAICS codes do not show the U.S. entertainment software and video game industry under a separate classification. Within the NAICS framework, the entertainment software industry remains part of the U.S. software publishing industry described above. Industry sources report that in 2005, U.S. retail sales of video game software was \$7.0 billion, rising to \$7.4 billion in 2006.¹⁰

FOREIGN SALES OF THE U.S. COPYRIGHT INDUSTRIES

The copyright industries rely significantly on sales in both the U.S. and foreign markets. In 2005, the recorded music, motion picture, packaged software and book and periodicals industries achieved combined foreign sales of \$110 billion.¹¹ Just as in the U.S., sales of pirated products in foreign markets reduce the legitimate sales that would have occurred in those markets. Moreover, copyright piracy in foreign markets directly harms American-based production of these products.

The products that are created and sold by the U.S. copyright industries consist largely, but not entirely, of what economists call a “public good.”¹² A “pure” public good “is one whose cost of production is independent of the number of people who consume it; more precisely, one person’s consumption of such a good does not reduce the quantity available to other people.”¹³ Since production costs are fixed with respect to the number of people who consume the product, cost per user or per viewer declines as market or audience size increases. As firms in the copyright industries compete, they are inevitably driven to expand

the size of their markets and thereby reduce their costs per user. For this reason, all of the U.S. copyright industries have long sought and achieved significant expansion into foreign markets.

Since revenues for the U.S. copyright industries are now generated from both U.S. and foreign markets, the copyright industries reasonably expect that such revenues will continue to flow in the future. Thus, the budgeting process for copyright products tends to approve new product budgets that maximize profits *across all markets*. For this reason, copyright piracy *in any market* will affect the total sales and profits earned by the U.S.-based producers of these products. In this study, the worldwide piracy losses of U.S. producers and distributors of copyright products are used to assess the impact of piracy on U.S. production of copyright products. (See Sidebar “A Decrease in Piracy Expands Production”).

U.S. RETAIL INDUSTRY

Copyright piracy affects more than the companies that produce and distribute copyrighted products. Legitimate retailers, such as Blockbuster, Best Buy, Wal-Mart, and Circuit City, sell DVDs, CDs, packaged software and video games under licenses with the manufacturers of these products. When consumers obtain pirated versions of these products, profits also decline for the legitimate retailers who would, absent piracy, have made these sales. Unlike U.S. producers of copyright products, U.S.-based retailers are not generally affected by foreign piracy. They are, however, affected by U.S.-based copyright piracy. This study measures the costs of U.S.-based copyright piracy to the U.S. retail industry and to its upstream supplier industries.

II. THE INTERDEPENDENT ECONOMY

The economic impact of copyright piracy is not limited to the companies that design, create and sell copyright protected works. The impact of piracy flows throughout the U.S. economy. Piracy in one segment of the economy can affect other industries because the economy is an interdependent system. Changes in supply or demand in one industry can and do affect supply and demand in other industries.

For example, assume that hybrid vehicles suddenly became very popular and shortages develop. In this situation, the price of hybrid vehicles will rise and so will the profits of the manufacturers. However, in order to continue to earn these higher profits, the manufacturers will have to make more hybrid vehicles. In the process, they will buy, among other things, more parts from parts manufacturers.

Of course, the process doesn't stop there. In order to produce more parts, the parts manufacturers will have to buy more materials from their suppliers. And those suppliers will have to buy more of the particular materials that they need.

Moreover, the cascade does not end with the hybrid vehicle manufacturers. It continues downstream as well. The retail sellers of hybrid vehicles who buy from the manufacturers will also be able to earn more money by raising prices or by increasing volume.

What is true for hybrid vehicles is equally true for the copyright products discussed here. If the revenue generated by making and selling these products increases (in this case, not by higher demand but by a decrease in piracy), the companies that create and distribute these products will create more of them. They may also invest in higher quality products, broader distribution or marketing, or some combination of all of these activities in order to maximize their profits (See Sidebar “A Decrease in Piracy Expands Production”).

As more copyright products are created, and more funds are invested in developing, testing, marketing and distributing such products, the people and the companies that serve as suppliers to the copyright industries will also benefit. The “output” of these companies will also increase. Moreover, as the output of these suppliers increases, so too, in turn, will the output produced by the other industries that supply the suppliers.

A DECREASE IN COPYRIGHT PIRACY EXPANDS PRODUCTION

In this study, we estimate the gains to U.S. industries, to U.S. workers and to federal, state and local government that would occur absent piracy of copyright-protected products. This analysis can be viewed either as an estimate of the damages sustained by the U.S. as a result of copyright piracy in the past year or as an estimate of the gains that could be realized in the future if global piracy were substantially curtailed.

This analysis begins with an assessment of the increased demand for legitimate American products that would be observed throughout the world if piracy did not exist. The increased demand for U.S. copyright products is quantified on a market-by-market basis using a variety of industry sources. This increased demand is then adjusted to reflect an assumed response by former consumers of pirated works to higher legitimate prices.

From the supply side perspective, we assume that the market for the production and distribution of legitimate copyright products would remain intensely competitive as it is today. We see little reason to assume that absent piracy, producers of copyright products would (or even could) cease to compete with each other.

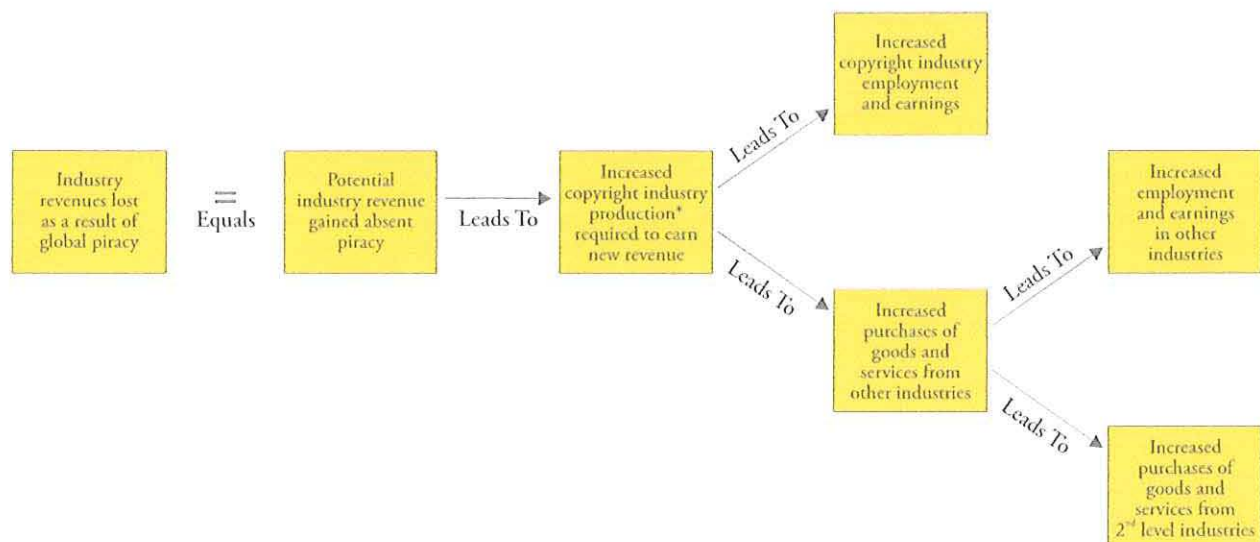
We also assume that with a larger potential market for legitimate copyright products, profit-seeking developers, publishers and producers could readily expand their development efforts to market the creations of new developers or to increase the development and marketing budgets for existing developers or both. The copyright industries do not face many of the production bottlenecks that might limit the ability of other industries to satisfy increased demand for their products. More importantly, copyright producers would likely seek to exploit the expansion of the market for legitimate U.S. copyright products, not only by creating more products but also by increasing the audience appeal of each product through the use of more expensive inputs.

Indeed, as a general matter, we would expect profit-seeking copyright producers to spend more on creative inputs the larger the potential market for the product. Higher quality inputs, in turn should increase the producer's share of revenue from the market and increased share is more valuable in a larger market. Because of these considerations, copyright producers could (and as competitors, clearly would) attempt to meet the increased demand for legitimate U.S. copyright products through a variety of strategies. These strategies might involve the release of more products (i.e., titles) or more expensive products or both. Precisely because of this flexibility, however, there is little reason to believe that supply side constraints would inhibit the U.S. copyright industries from satisfying even a significant increase in the demand for its products.

These kinds of interactions among industries are captured in input-output tables. Input-output tables measure the interrelationships that exist among different industries. With this information, one can estimate what impact a specific change in one industry will have on other industries.

A visual depiction of the process is outlined in Figure 1.

FIGURE 1 IMPACT OF PIRACY THROUGHOUT THE ECONOMY



* Increased production of copyright products could include the creation of more products, more expensive products, or both.

III. PIRACY LOSS ESTIMATES FOR THE COPYRIGHT INDUSTRIES: DATA AND METHODOLOGY

This Section discusses how this study derived piracy loss estimates for each of the four industries examined: motion pictures, sound recording, software, and videogames.

THE MOTION PICTURE INDUSTRY

For the motion picture industry, loss figures produced by a major consumer research study conducted by the firm of LEK Consulting were utilized. The LEK research revealed that the member studios of the Motion Picture Association of America (MPAA) lost \$6.1 billion to movie piracy in 2005.¹⁴ These figures were also used in the *Motion Picture Piracy* study, and the loss estimates from that report remain sufficiently timely and detailed to be included again here.

THE SOUND RECORDING, SOFTWARE PUBLISHING AND VIDEO GAME INDUSTRIES

Other copyright industries analyzed in this report did not have an exact analogy to the LEK study. Accordingly, additional data were collected and evaluated from and about each of these industries.

The principal sources used to estimate piracy losses for this report included the following:

1. Internal estimates of piracy losses compiled by each of the copyright industries.
2. Confidential estimates of piracy losses developed by others on behalf of individual copyright industries.
3. Piracy loss estimates from "Special 301" filings with the USTR.
4. Sales data by country and physical piracy rates for recorded music from the Recording Industry Association of America (RIAA) and the International Federation of the Phonographic Industry (IFPI).
5. Piracy rates and piracy losses by country for packaged software from the Business Software Alliance (BSA) and International Data Group (IDC).
6. National and trade press articles and press releases.
7. Academic journals.

Each of the copyright industries that were studied in this report was able to provide certain internal statistics on piracy losses. Some of these statistics were confidential estimates that cannot be reported directly in this study. Other piracy loss statistics are developed and published by industry trade associations and are widely distributed.

A major source of relevant information was the annual piracy loss estimates that are filed with the office of the United States Trade Representative (USTR). These estimates are compiled for all the major copyright industries and placed into the public record each year in support of the industries' Special 301 filings. The Special 301 piracy loss estimates for 2005 are shown, by region, in Table 1. As reported in Table 1, the combined losses estimated by all four copyright industries for all regions were nearly \$17 billion.

The Section 301 loss figures, however, understate the true extent of piracy losses, because they do not include piracy estimates for such major markets as the United States, the United Kingdom, France, Germany, and Australia. Thus, a more accurate accounting of piracy losses sustained by the U.S. copyright industries that includes those countries omitted by the Section 301 figures is reflected in a number of industry-specific studies that are publicly available. For example, in the recorded music industry, the International Federation of Phonographic Industry (IFPI) found that in 2005, an estimated 1.2 billion

TABLE 1 USTR “SPECIAL 301” PIRACY LOSS ESTIMATES FOR COPYRIGHT INDUSTRIES - 2005 ^a

Loss Estimates for Selected Countries Only ^b

U.S. Industry	Piracy Loss Asia/Pacific (\$ Millions)	Piracy Loss Europe/The CIS (\$ Millions)	Piracy Loss The Americas (\$ Millions)	Piracy Loss Middle East/Africa (\$ Millions)
Motion Pictures	\$593.0	\$1,014.0	\$1,120.0	\$186.0
Recorded Music	\$710.8	\$773.9	\$1,133.3	\$86.7
Business Software	\$3,476.0	\$3,086.4	\$1,493.0	\$583.0
Entertainment Software	\$1,357.6	\$1,021.1	\$258.5	\$15.6
Sub-Total	\$6,137.4	\$5,895.4	\$4,004.8	\$871.3
Total Losses All Regions			\$16,908.9	

^a Source: *International Intellectual Property Alliance*, USTR 2007 “Special 310” Decisions, May 1, 2007.

^b These estimates do not include losses incurred in the United States, United Kingdom, France, Germany, Australia and a number of other countries.

pirate CDs were purchased and that, even at reduced pirate prices, the worldwide pirated CD market could be valued at \$4.5 billion.¹⁵ IFPI also reports piracy rates for the physical¹⁶ piracy of recorded music in individual countries. These piracy rates reflect the number of pirate units sold divided by the total (pirate and legitimate) units sold.

Piracy rates by country are similarly available for the packaged software industry in the annual piracy reports that are published jointly by the Business Software Alliance (BSA) and the International Data Group (IDC). Piracy rates by country for the recorded music and packaged software industries are provided in Table 2. While these data show variations across countries as between the two products, the weighted-average global piracy rate for both industries remained in a range of 35-37%.

CONSERVATIVE ADJUSTMENTS TO INDUSTRY ESTIMATES

While the copyright industries that were examined individually develop and publish estimates of the losses they sustain from pirate activities, the methodologies they use and assumptions they rest on are different. This study does not attempt to impose a judgment as to which methodologies and assumptions produce the most accurate count of piracy loss. As with any economic study, each methodology and set of underlying assumptions provides some insight into the scope of the problem; each has its strengths and weaknesses, its proponents and detractors.

At the same time, a decision to simply combine the results of four disparate sets of industry loss figures with no effort to identify and adjust even the most glaring inconsistencies among those figures would be unlikely to yield an accurate result. Such a procedure would have applied diverse and admittedly inconsistent piracy loss estimates to a consistent set of industry multipliers. Accordingly, in this study a series of *conservative* adjustments were made in order to increase the internal consistency of the loss estimates that were used for each of the copyright industries that were analyzed. These adjustments were conservative in that they tended to reduce the final piracy loss estimates (and thus the economic cost estimates) that were generated in the analysis. These adjustments are discussed below.

TABLE 2 PIRACY RATES FOR RECORDED MUSIC AND PACKAGED SOFTWARE BY COUNTRY AND WORLDWIDE - 2005

Country	Mid-Point Piracy Rates	
	Recorded Music ^a (Physical Piracy Only)	Piracy Rates Packaged Software ^b
United States	5%	21%
China	88%	86%
France	5%	47%
Germany	5%	27%
United Kingdom	5%	27%
Russia	63%	83%
Japan	5%	28%
Italy	38%	53%
Canada	5%	33%
Brazil	38%	64%
Spain	17%	46%
Netherlands	17%	30%
Mexico	63%	65%
S. Korea	17%	46%
Worldwide	37%	35%

^a IFPI, 2006 *Global Recording Industry in Numbers*, rates taken from individual country pages.

^b BSA and IDC, *Third Annual BSA and IDC Global Software Piracy Study*, May 2006, pages 12-13.

The principal differences between the ways different copyright industries approach the daunting problem of measuring piracy losses include:

1. *Omission of Geographic Markets.* Some industries have not measured piracy losses in every geographic market in which they operate. For these industries to have loss estimates that are consistent with those of other industries, the missing geographic markets should be identified and, where possible, analyzed to measure the piracy losses that were not previously counted. However, the adjusted loss estimates developed in this report conservatively do not include piracy loss figures for *all* foreign markets for *all* of the copyright industries that were studied. The inclusion of piracy losses experienced in these additional markets would have increased the piracy cost estimates that were ultimately produced in this study.
2. *Inconsistent Estimates of Units Sold Absent Piracy.* The industries' estimates differ as to how they measure the quantity of *legitimate* unit sales that would have been made absent piracy. Some industries assume that, absent piracy, consumers of pirated products would substitute legitimate purchases for all or nearly all of the pirate purchases that they now make. By contrast, other industries assume that, absent piracy, consumers would purchase fewer products than they now consume, because they would not substitute legitimate products for all the pirated products. While the number of substitute units need not be identical in each copyright industry, an effort has been made in this study to impose a consistent set of assumptions regarding product substitution across the four industries that are analyzed in this report. Again, this report has taken a conservative approach, and not assumed that each pirated product served to deprive the industry of a legitimate sale. Had

this “one-to-one” ratio been maintained in any of the copyright industries, the resulting piracy cost estimates would have been higher than the figures reported here.

3. *Inconsistent Estimates of Price.* Some industries measure the quantity of pirated units in a market and value that quantity at the *pirated price*: that is, the price at which the pirated goods were actually sold.¹⁷ Other industries value the quantity of pirated units at the *legitimate price*: the price at which authorized products are sold in the market. For this study, since a one-to-one ratio between pirated goods and legitimate goods was not assumed, it is acceptable to multiply the quantity of legitimate products that would have been sold absent piracy by the legitimate price that prevailed in that market in 2005. The product of this calculation represents the sales that were lost as a result of copyright piracy.
4. *Inconsistent Estimates of U.S. Share of Losses from Piracy.* The market share of legitimate U.S. copyright products in any given country can and often does vary significantly. As a very general rule, the market share of U.S. copyright products is very high in the United States, somewhat lower in Western Europe and considerably lower in many (but not all) Asian countries. Moreover, the share of all *pirated* products that are pirate versions of U.S. products can also differ from the U.S. share of legitimate products. In each of their piracy loss studies, the copyright industries address the issue of U.S. share in ways that differ from one industry to the next.

This report attempts to impose some standardization on this issue by comparing each industry’s assumptions and/or calculations of the U.S. industry’s share of *pirated* product to the assumptions and/or calculations made in the other copyright industry reports *for the same foreign market*. For example, in the LEK study of motion picture piracy, the MPAA member-companies’ losses from piracy in Mexico was estimated at \$954 million.¹⁸ This value was approximately 85.6% of the total consumer spending loss from all movie piracy in Mexico (that is, including piracy of films made by non-MPAA members). Thus, at least for pirated movies in Mexico, the U.S. industry’s share of total losses is very high. Based on the LEK results, one would expect, *all else equal*, that another copyright industry’s share of total piracy losses in Mexico would also be substantial. For example, another copyright industry could have detailed piracy loss estimates for their product in Mexico in which the U.S. share of losses (in that product) was very low, and such discrepancies in the same market would have triggered further analysis and review. In the course of preparing this report, such inconsistencies were considered and where appropriate, adjustments to the figures were made.

PIRACY LOSS ESTIMATES FOR U.S. COPYRIGHT INDUSTRIES

After gathering data and making appropriate adjustments so that the loss estimates would be roughly comparable in their methods and assumptions, the estimated piracy losses for the four copyright industries and for the U.S. retail sector were combined. The combined losses used in this study are reported in Table 3.

As shown in Table 3, the piracy losses sustained by the four U.S. copyright industries that design, produce and distribute copyright products were estimated at \$23.074 billion in 2005. The losses from copyright piracy that are borne by the U.S. retail industry were estimated at \$2.549 billion. Thus, the total losses to U.S. producers and retailers from copyright piracy were \$25.623 billion.

This study does not break down the combined industry loss figures into its component parts. One reason for that determination was that the underlying loss estimates for each industry were based, at least in part, on confidential information. These data would likely have been revealed if the loss estimates for each industry were reported separately. Nevertheless, based even on the publicly available data, it can readily be seen that the estimate of piracy loss affecting the U.S. economy is extremely conservative. As shown in Table 1, the copyright industries’ piracy losses, as reported to the USTR, were nearly \$17 billion -- even though those estimates omitted losses in numerous major markets including the United States, the United Kingdom, France, Germany and Australia.

TABLE 3

PIRACY LOSS ESTIMATES FOR U.S. COPYRIGHT INDUSTRIES ^a

1. Piracy Losses		(\$ Billions)
that harm U.S. industries that design produce or distribute products that rely fundamentally on global copyright protection and indirectly by other U.S. input industries.		\$23.074
plus		
2. Piracy Losses		
that harm U.S. retail industries that sell or rent products that rely fundamentally on U.S. copyright protection and indirectly by other U.S. input industries.		\$2.549
equals		
3. Total Piracy Losses		\$25.623

^a The U.S. copyright industries analyzed in this study include the motion picture and video industries, the sound recording industries, the software publishing industries and the entertainment software and video game industries.

Moreover, reporting the loss estimates as a lump sum avoided having to arbitrarily choose to which industry category certain products belong. For example, PC games can be considered both software and videogames. Reporting software and videogames separately would have required putting them into one category or another in order not to double count. By reporting only the combined loss results for all copyright industries, potential inaccuracies like this can be avoided.

IV. INDUSTRY MULTIPLIERS

INPUT-OUTPUT TABLES AND MULTIPLIERS

As noted above, assessing the total cost of copyright piracy for the U.S. economy involves looking at how piracy-induced changes in one industry affect other industries throughout the U.S. economy. This study relies on an analytical framework known as an *input-output* (I-O) table for this purpose. For every industry in the economy, an I-O table shows the distribution of the inputs purchased and the outputs sold. Using this framework, the U.S. Department of Commerce's Bureau of Economic Analysis (BEA) has developed a method for estimating I-O *multipliers*. Using multipliers, it is possible to measure not only the direct effects of piracy (that is, the lost 1st round of output) but also the indirect effects (that is, the lost 2nd and subsequent rounds of output) as piracy reduces the need for the legitimate industry to purchase inputs from factor suppliers in other industries. In addition, the BEA's multipliers also take into consideration the "induced" economic effects that arise from the piracy-driven loss in labor income that is borne by workers in the legitimate industries and which results in a consequent decrease in household consumption.

In this analysis, the multipliers used to estimate the full effects of copyright piracy were derived using the BEA's Regional Input-Output Modeling System or "RIMS II." The RIMS II model produces industry-specific "final demand" multipliers for output (in dollars), employment (in numbers of employees) and earnings of those employees (in dollars). The RIMS II model also provides industry-specific "direct effects" multipliers for employment and earnings.

COMBINED AVERAGE MULTIPLIERS

In this analysis, separate RIMS II multipliers were used for each of the four sectors to estimate the effects of piracy. In addition, each industry-specific multiplier was constructed as a weighted average of multipliers across states where industry production was most concentrated. All of these multipliers are reported in Appendix A. However, by mathematical process, we were able to represent the combined effects of all these calculations as one value. The “combined” average multipliers that are used in this study to measure the costs of copyright piracy to the U.S. economy are reported in Table 4.

TABLE 4	WEIGHTED AVERAGE MULTIPLIERS USED TO MEASURE OUTPUT, EMPLOYMENT AND EARNINGS LOST DUE TO COPYRIGHT PIRACY ^a
1. Lost Output Multiplier	
The weighted average multiplier used to measure the loss in total U.S. output that results from the global piracy of U.S. copyright protected works.	2.2713
2. Lost Employment Multiplier	
The weighted average multiplier used to measure the loss in total U.S. employment that results from the global piracy of U.S. copyright protected works.	14.572
3. Lost Earnings Multiplier	
The weighted average multiplier used to measure the loss in total U.S. employee earnings that results from the global piracy of U.S. copyright protected works.	0.6354

^a Each multiplier is the weighted average of the production and retail industry multipliers used for each of the copyright industries studied. Each industry multiplier in turn reflects the weighted average of the state multipliers used to derive the national multiplier.

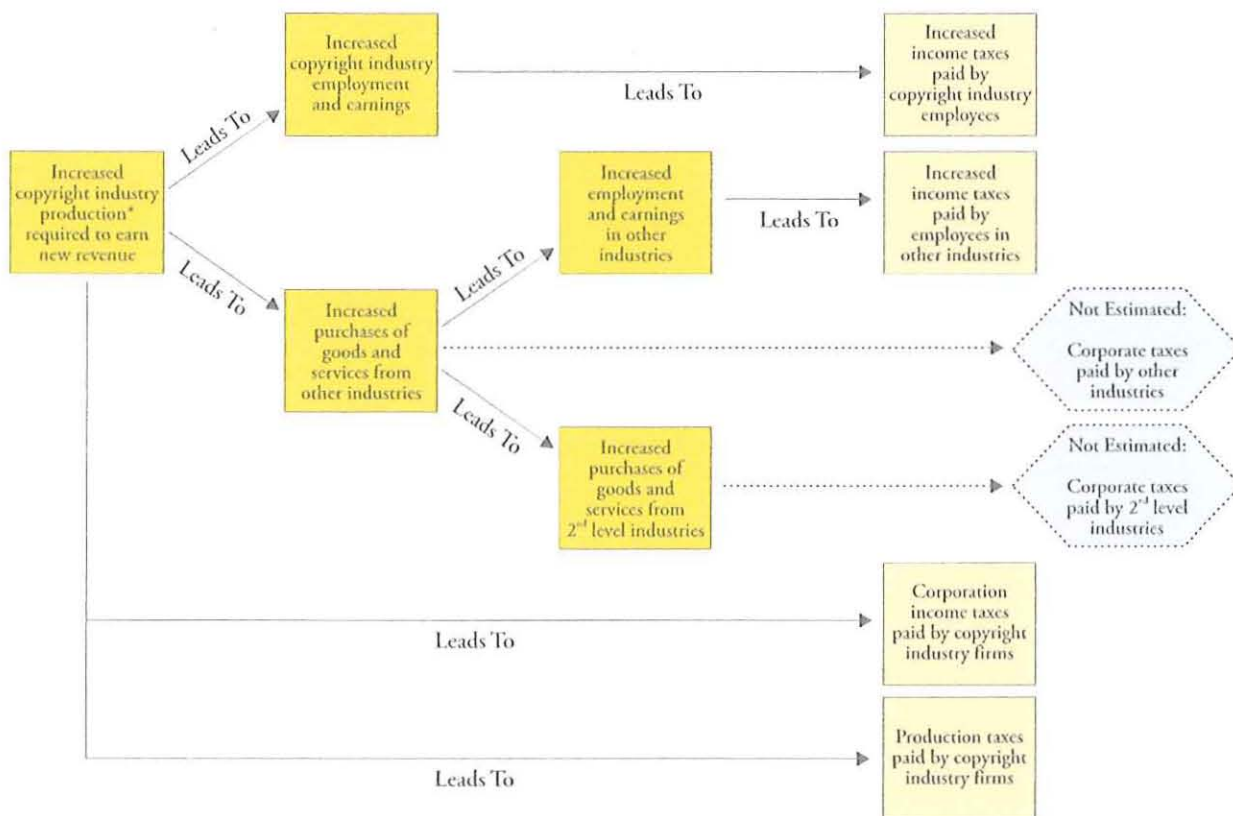
As shown in Table 4, the combined weighted average *output* multiplier calculated by this study was 2.2713. This means that every dollar lost to copyright piracy by the U.S. copyright industries results in a total loss of output of \$2.27. Similarly, the combined weighted average *employment* multiplier used in this report was 14.572. This means that for every \$1,000,000 lost to copyright piracy, the U.S. economy loses 14,572 jobs. Finally, as reported in Table 4, the combined weighted average *earnings* multiplier was 0.6354. This multiplier reflects that every dollar lost to copyright piracy by the U.S. copyright industries results in a loss of \$0.6353 in the earnings of U.S. workers.

V. TAX LOSSES

The RIMS II modeling system does not yield a loss of tax revenues. Yet the loss of tax receipts that results from copyright piracy represents another significant cost of piracy to the U.S. economy. For the tax loss estimates presented in this study, the methodology previously used in the *Motion Picture Piracy* and *Sound Recording Piracy* studies was applied to each of the copyright industries considered here. As in the previous studies, the tax loss estimates are developed for *three categories of taxes*. These are: (i) lost personal income taxes that would have been paid by copyright industry employees, (ii) lost corporate income taxes of copyright industry companies and (iii) lost production and other business taxes. The details that underlie each of these tax calculations are provided in Appendix B.

The tax loss estimates presented in this study do *not* encompass a full accounting of all tax losses attributable to piracy (See Figure 2). The estimates for both corporate income tax losses and production tax losses reflect only the *direct* losses sustained by the copyright industries themselves. The estimates do not include additional tax losses that would result from decreased income and lower sales in those U.S. industries that supply inputs to the U.S. copyright industries, because that data cannot be derived from the RIMS II model.¹⁹ Accordingly, the corporate income tax and production tax estimates presented in this report conservatively exclude tax losses sustained at U.S. industries that are *indirectly* affected by piracy.

FIGURE 2 COPYRIGHT INDUSTRY PIRACY TAX EFFECTS



* Increased production of copyright products could include the creation of more products, more expensive products, or both.

VI. FINDINGS

LOST U.S. OUTPUT

As noted above, this report estimates that, in 2005, the U.S. motion picture, sound recording, packaged software and entertainment software industries sustained combined piracy losses of at least \$23.549 billion (See Table 3). In addition, the U.S. retail industry lost another \$2.459 billion. Applying the appropriate multipliers as set out above, the report concludes that as a consequence of global and U.S.-based piracy of copyright products, the U.S. economy loses **\$58.0 billion in total output** each year. Of this total, \$52.4 billion is output lost at the U.S. production level while \$5.6 billion reflects output lost at the U.S. retail level (See Table 5).

LOST U.S. JOBS

The losses sustained by the U.S. copyright industries also translate into lost American jobs. Using other industry-specific “multipliers” from the U.S. Bureau of Economic Analysis, it is estimated that in 2005, the U.S. economy lost approximately **373,375 jobs** in total as a result of copyright piracy both in the U.S. and

TABLE 5 U.S. COPYRIGHT INDUSTRIES: U.S. OUTPUT LOST AS A RESULT OF COPYRIGHT PIRACY

1. Output that is Lost		(\$ Billions)
	directly by U.S. industries that design produce or distribute products that rely fundamentally on global copyright protection and indirectly by other U.S. input industries.	\$52.407
	plus	
2. Output that is Lost		
	directly by U.S. retail industries that sell or rent products that rely fundamentally on U.S. copyright protection and indirectly by other U.S. input industries.	\$5.611
	equals	
3. Total Lost Output ^a		\$58.018

^a Estimates reflect losses at industries that directly or indirectly produce or sell copyright protected products.

abroad. Of these lost jobs, approximately 312,052 jobs were lost at the U.S. production level in the creation, manufacture and distribution of copyright-protected works while 61,323 jobs were lost at the U.S. retail sales level (See Table 6).

TABLE 6 U.S. COPYRIGHT INDUSTRIES: U.S. EMPLOYMENT LOST AS A RESULT OF COPYRIGHT PIRACY

1. Employment that is Lost		(Jobs)
	directly at U.S. industries that design produce or distribute products that rely fundamentally on global copyright protection and indirectly at other U.S. input industries.	312,052
	plus	
2. Employment that is Lost		
	directly at U.S. retail industries that sell or rent products that rely fundamentally on U.S. copyright protection and indirectly at other U.S. input industries.	61,323
	equals	
3. Total Lost Employment ^a		373,375

^a Estimates reflect losses at industries that directly or indirectly produce or sell copyright protected products.

The estimates of lost employment shown in Table 6 include both the *direct* employment losses sustained by producers and retailers of copyright products and the *indirect* employment losses experienced at other U.S. industries that depend on copyright producers and retailers. Of the total job loss of 373,375 reported above, 123,814 jobs were lost at establishments that *directly* produce or sell copyright products. The remaining 249,561 jobs were lost at *other* non-copyright U.S. industries that are *indirectly* harmed by global piracy in copyright products.²⁰

LOST EARNINGS OF U.S. WORKERS

Using additional multipliers from the U.S. BEA, it is estimated that, because of copyright piracy, U.S. employees lose **\$16.3 billion in total earnings** annually. Of this total, \$14.6 billion are earnings lost at the U.S. production level for the creation and manufacture of legitimate copyright products, while \$1.7 billion are earnings lost at the U.S. retail level (Table 7).

TABLE 7 U.S. COPYRIGHT INDUSTRIES: U.S. EARNINGS LOST AS A RESULT OF COPYRIGHT PIRACY	
1. Employee Earnings that are Lost	
	(\$ Billions)
directly at U.S. industries that design, produce or distribute products that rely fundamentally on global copyright protection and indirectly by other U.S. input industries.	\$14.565
plus	
2. Employee Earnings that are Lost	
directly at U.S. retail industries that sell or rent products that rely fundamentally on U.S. copyright protection and indirectly by other U.S. input industries.	\$1.716
equals	
3. Total Lost Employee Earnings^a	
	\$16.281

^a Estimates reflect losses at industries that directly or indirectly produce or sell copyright protected products.

As with the employment estimates provided in Table 6, the lost earnings calculations shown in Table 7 include both the *direct* earnings losses sustained by workers at firms that produce and sell copyright products and the *indirect* earnings losses experienced by workers at other U.S. industries that depend on copyright producers and retailers. Of the total earnings loss of \$16.281 billion reported above, \$7.164 billion were lost by workers at establishments that *directly* produce or sell copyright products. The remaining \$9.117 billion in earnings were lost by workers at *other* non-copyright U.S. industries that are *indirectly* harmed by global piracy in copyright products.

LOST TAX REVENUES

The harm of copyright piracy extends to governments at the federal, state and local level, which lose significant revenue as a result of copyright piracy in the U.S. and overseas. This study estimates that governments lose a **minimum of \$2.6 billion in tax revenues** annually. Of this amount, \$1.8 billion represents lost personal income taxes while \$0.8 billion is lost corporate income and production taxes

(See Table 8). These numbers surely underestimate actual losses because the corporate income tax and production tax loss estimates do not include estimated income and production tax losses at the upstream supplier level of the economy. The tax losses that were estimated in this study are shown in Table 8.

TABLE 8 U.S. COPYRIGHT INDUSTRIES: TAXES LOST AS A RESULT OF COPYRIGHT PIRACY ^a

1. Employee Personal Income Taxes Lost		(\$ Billions)
	Reflects income taxes lost as a result of lost employee earnings in the direct copyright industries and in the indirect industries that are also harmed by piracy.	\$1.759
plus		
2. Corporate Income Taxes Lost		
	Reflects corporate income taxes lost as a result of lost corporate profits in the direct copyright industries only.	\$0.557
plus		
3. Production and Other Taxes Lost		
	Reflects production and other taxes lost as a result of lower sales in the direct copyright industries only.	\$0.263
equals		
4. Total Taxes Lost		\$2.579

^a Lost taxes include federal, state and local taxes. Lost corporate income tax and production tax estimates do not include tax losses at industries that are indirectly affected by copyright piracy.

CONCLUSION

Copyright piracy harms a broad segment of the U.S. economy that extends far beyond the U.S. companies that distribute copyright protected works. Because of piracy, American writers, artists, designers, actors, software and video game developers and musicians are denied compensation for the fruits of their creative efforts. And, since the products that embody these efforts are highly valued by consumers the world over, this loss in compensation to the American creative community is increasingly significant, even as measured against the U.S. economy as a whole.

Moreover, the economic damage caused by global copyright piracy also extends to the up-stream industries in the U.S. that *directly and indirectly* supply inputs to the U.S. motion picture, recorded music, packaged software and entertainment software industries. Since the industries in the U.S. economy are interdependent, losses from copyright piracy extend through the U.S. economy as a whole. In this study, the *total costs* to the U.S. economy of copyright piracy are estimated to exceed \$58 billion in lost output, 373,375 lost jobs, \$16 billion in lost employee earnings and more than \$2.6 billion in lost tax revenues. These estimates underscore the true magnitude of the copyright piracy problem to the U.S. economy as a whole.

APPENDIX A — MULTIPLIERS FOR THE COPYRIGHT INDUSTRIES

In the RIMS II model, the U.S. Bureau of Economic Analysis estimates five different industry and region-specific multipliers. These five multipliers are 1) total output, 2) total employee earnings, 3) total number of employees, 4) direct employee earnings and 5) direct number of employees. The first three “Final Demand” multipliers measure the economic impacts that result from an initial change in the output delivered to final users. The fourth and fifth “Direct Effects” multipliers measure the subset of those earnings and employment effects for the industry that was directly affected by the initial change. In the model, each of these five multipliers is calculated for a specific industry (as defined by a NAICS code). In addition, the model must be preset for a region or state. In this study, individual *states* are used as the relevant regions to be analyzed for each copyright industry under study.

In RIMS II, it is important to consider the “region” to be analyzed in the model because the region defines the geographic boundary within which an “input” from another industry will be counted in the computation of each multiplier. Recall that multipliers rely on “input-output” tables that report how individual U.S. industries purchase and supply goods and services to other individual U.S. industries. If a supplying industry is located in the region to be studied, the “inputs” provided by that industry will be counted in the development of the multiplier for that region. If the supplying industry is not located in the region to be studied, the “inputs” provided by that industry will not be counted in the development of the multiplier for that region.

This concept is easiest to see in the case of imports. If a U.S. industry purchases Import X from a non-U.S. supplier, the RIMS II model assumes that the upstream products needed to produce Import X would, like

TABLE A-1 FINAL DEMAND MULTIPLIERS FOR MOTION PICTURE AND SOUND RECORDING INDUSTRIES

U.S. Motion Picture Industries NAICS 512100		U.S. Sound Recording Industries NAICS 512200	
Output		Output	
California	2.9398	California	2.0156
New York	2.6002	New York	1.8183
		Tennessee	1.9436
		Florida	1.7499
		Texas	1.9659
Earnings		Earnings	
California	0.8042	California	0.4250
New York	0.6096	New York	0.3190
		Tennessee	0.3827
		Florida	0.3545
		Texas	0.3999
Employment		Employment	
California	19.6	California	9.6
New York	14.3	New York	6.7
		Tennessee	11.0
		Florida	10.3
		Texas	9.7

TABLE A-2 DIRECT EFFECTS MULTIPLIERS FOR MOTION PICTURE AND SOUND RECORDING INDUSTRIES

U.S. Motion Picture Industries NAICS 512100		U.S. Sound Recording Industries NAICS 512200	
Earnings		Earnings	
California	3.1190	California	2.9689
New York	2.8024	New York	2.6418
		Tennessee	2.7321
		Florida	2.5628
		Texas	2.8671
Employment		Employment	
California	3.5974	California	4.3948
New York	3.1080	New York	3.6664
		Tennessee	3.0776
		Florida	2.9544
		Texas	4.4529

Import X, also have been manufactured by non-U.S. upstream suppliers. Since the additional inputs needed to manufacture Import X are not made in the United States, the model does not attempt to measure the effects of those additional inputs on the U.S. economy.

This basic concept also applies in the case of total U.S., U.S. county, state and U.S. local area multipliers. All else equal, total U.S. multipliers are higher than U.S. state multipliers and U.S. state multipliers are, in turn, larger than U.S. local area multipliers. In the motion picture industry for example, the output multipliers estimated by BEA for the states of California and New York were 2.9398 and 2.6002 respectively. By contrast, the total U.S. output multiplier for the motion picture industry was 3.5552.

In this study only state multipliers are used. The decision to use only state specified multipliers in this study means that the results are inherently conservative. Had total U.S. multipliers been used, the estimates of piracy effects on the U.S. copyright industries would have been considerably higher than the figures reported here.

MULTIPLIERS FOR THE MOTION PICTURE AND SOUND RECORDING INDUSTRIES

The products that are created and produced by the U.S. copyright industries are *sold* throughout the United States. Through their distribution and sales activities, the copyright industries thus produce real economic value in every U.S. state. In terms of *production* activities however, the U.S. copyright industries are more prominent in some states than in others.

In the U.S. motion picture industry, for example, two states – California and New York – employed 50.3% of all U.S. workers in NAICS 5121.²¹ In addition, for the six-digit NAICS 512111, the motion picture and video *production* industry, the states of California and New York employed 73.4% of all employees.²² For these reasons, the final demand multipliers used to analyze the motion picture industries in NAICS 5121 were multipliers for California and New York (See Table A-1).

In terms of production activities, however, the U.S. sound recording industries were similarly focused on only a few states. As shown in Table A-1, the final demand multipliers used to estimate the costs of

sound recording piracy were specific to five states including California and New York. Three other states – Tennessee, Florida and Texas – also supported fairly sizeable employment levels in the sound recording industry. Based on discussions with industry representatives, the employment levels in these states also reflect the traditional importance of these states to specific types of music. The direct effects multipliers that were used in this study for the U.S. motion picture and sound recording industries are shown in Table A-2.

MULTIPLIERS FOR THE U.S. SOFTWARE AND ENTERTAINMENT SOFTWARE INDUSTRIES

As for the motion picture and sound recording industries, centers of production were identified for which software industry multipliers would be appropriate. For the software publishing industry, five states – California, Washington, Texas, Massachusetts and New York – collectively employed 56% of all workers in NAICS 5112. Final demand multipliers for these five states are reported in Table A-3.

TABLE A-3 FINAL DEMAND MULTIPLIERS FOR U.S. SOFTWARE AND ENTERTAINMENT SOFTWARE INDUSTRIES		
U.S. Packaged Software and Entertainment Software/Video Games Industries NAICS 511200		
Output	California	2.1819
	Washington	1.9819
	Texas	2.1760
	Massachusetts	1.9778
	New York	1.8151
Earnings	California	0.7141
	Washington	0.6479
	Texas	0.7003
	Massachusetts	0.6239
	New York	0.5187
Employment	California	13.6
	Washington	12.5
	Texas	14.7
	Massachusetts	11.2
	New York	9.1

As noted in the text of this report, U.S. government statistics for the entertainment software and video games industry are generally not published on a separated basis. As a result, the software publishing industry final demand multipliers reported in Table A-3 above are also appropriate for the entertainment software and video games subset of that industry.

Similarly, direct effects multipliers for the U.S. software publishing industry in the five states of California, Washington, Texas, Massachusetts and New York are provided in Table A-4. The same multipliers were used to measure economic impacts of piracy on the U.S. entertainment software and video games industry as well.

TABLE A-4

DIRECT EFFECTS MULTIPLIERS FOR U.S. SOFTWARE PUBLISHING AND ENTERTAINMENT SOFTWARE

U.S. Packaged Software and Entertainment Software/Video Games Industries NAICS 511200		
Earnings	California	1.9748
	Washington	1.7955
	Texas	1.9511
	Massachusetts	1.8200
	New York	1.7269
Employment	California	3.7470
	Washington	3.4718
	Texas	3.5399
	Massachusetts	3.1535
	New York	2.9421

APPENDIX B — DETERMINING TAX LOSSES

The RIMS II model cannot be used to generate multipliers for the tax payments that would have been made by employees and corporations if copyright piracy were reduced. For this reason, the analysis of the tax effects of piracy losses in this study makes use of financial accounts for the U.S. as a whole and of industry specific information on the components of the value added that would increase if copyright piracy were significantly curtailed or eliminated.

PERSONAL AND CORPORATE INCOME TAXES

Within the financial accounts of the United States, one can readily identify the taxes paid in aggregate by U.S. resident individuals and U.S. corporations as a whole. For example, in 2004, personal (current) taxes paid by U.S. residents totaled \$1,049.1 billion. As shown in Table B-1, these taxes amounted to 10.8% of the total U.S. disposable personal income for the same year. While U.S. disposable personal income was derived from many sources, it is assumed in this analysis that all forms of personal income were in effect taxed at the same average rate. Under this assumption, the U.S. average personal tax rate in 2004 was 10.8%.

In this report, the personal income taxes that are lost as a result of copyright piracy are derived by applying the assumed personal tax rate of 10.8% to the total (direct and indirect) lost employee earnings that were estimated using the appropriate RIMS II multipliers. As shown in the text of this report at Table 2, those lost earnings were \$16.281 billion. Assuming a 10.8% personal income tax rate, these lost earnings result in lost personal income taxes of \$1.759 billion.

The data in Table B-1 also show two separate calculations of the corporate income tax rate paid by U.S. corporations to federal, state and local tax authorities in 2004. In 2004, total corporate income taxes were \$271.1 billion. Dividing this figure by total U.S. corporate profits as adjusted of \$1,161.5 billion yields an average corporate tax rate of 23.3%.²³

Unfortunately, in the U.S. accounts, corporate profits *by industry* are not to our knowledge reported by any of the U.S. statistical agencies in the same format as shown above. The U.S. Bureau of Economic Analysis does report industry data on Gross Operating Surplus (GOS) by industry in its calculations of value added by industry. Using these data, GOS by industry can be divided into five underlying categories. The categories include "Other GOS" which can be defined as corporate profits before tax plus net interest and

TABLE B-1 TAX RATES ON PERSONAL AND CORPORATE INCOME

Tax Rates on Personal Income				Tax Rates on Corporate Income	
		2004 (\$ Billions)	2004 (\$ Billions)		2004 (\$ Billions)
	U.S. Disposable Personal Income		\$8,664.2	U.S. Corporate Profits w Adjusts.	\$1,161.5
<i>Add Back</i>	Personal Current Taxes		\$1,049.1	Taxes on Corporate Income	\$271.1
<i>Equals</i>	U.S. Personal Income		\$9,713.3	Corp. Inc. Taxes/Corp. Profits	23.3%
	Compensation of Employees	\$6,687.6		U.S. Other GOS (Corporate)	\$1,822.9
	Proprietors' Income	\$889.6		Taxes on Corporate Income	\$271.1
	Rental Income	\$134.2		Corp. Inc. Taxes/U.S. Other GOS (Corp.)	14.9%
	Personal Income Receipts/Assets	\$1,396.5			
	Personal Current Transfers	\$1,427.5			
<i>Less</i>	Contrib. Govern. Social Insurance	\$(822.2)			
				Taxes on Production	
<i>Equals</i>	U.S. Personal Income	\$9,713.2	\$9,713.2		2004
					(\$ Billions)
	Pers. Cur. Tax/Pers. Income		10.8%	Taxes on U.S. Production and Imports less Subsidies	\$809.4

miscellaneous payments and adjustments. While this measure is broader than U.S. corporate profits, it does provide an approximate measure of corporate profits on an industry-by-industry basis.

In Table B-1, U.S. corporate income taxes are also divided by "Other GOS" for corporations, an amount reported as \$1,822 billion in 2004. This calculation yields a corporate tax rate on Other GOS of 14.9%.

PRODUCTION TAXES AND GROSS OPERATING SURPLUS

The major components of U.S. value added and value added for the industry sectors classified under NAICS 512 (motion pictures and recorded music) and NAICS 511 (all publishing including software) are shown in Table B-2. The three components are employee compensation, taxes on production and imports less subsidies and gross operating surplus. As shown in Table B-2, for these broad industry sectors, production taxes can be divided by employee compensation in order to derive industry-specific factors for the taxes. In Table B-2, production tax factors are derived for NAICS 512 and 511. These tax factors are subsequently used to estimate the production taxes lost for each of the four copyright industries that are analyzed in this report. For each industry, the production tax factor is applied only to the *direct* employee compensation that was lost as a consequence of piracy. The production tax factor is not applied to the *indirect* employee compensation that was also lost because the RIMS II model does not provide a breakdown of that lost compensation for each industry affected. For this reason, the production tax estimate derived in this report should be regarded as a conservative measure of the minimum production tax losses that can be attributable to copyright piracy.

As shown in Table 5 in the text, the estimated direct industry earnings lost to copyright piracy were \$7.164 billion. The production tax factors for the industry sectors shown in Table B-2 (4.7% and 2.9%) were applied to the lost direct earnings for each copyright industry in order to derive an overall estimate of lost production taxes of \$263 million (See Table 4).

TABLE B-2 FACTORS FOR PRODUCTION TAX AND GROSS OPERATING SURPLUS

		U.S. Economy as a Whole (\$ Billions)	NAICS 512 Movies and Records (\$ Millions)	NAICS 511 All Publishing (\$ Millions)
	Output	\$21,346.0	\$94,100.0	\$254,900.0
<i>equals</i>	Value Added	\$11,734.3	\$47,300.0	\$125,300.0
	Employee Compensation	\$6,693.4	\$23,094.0	\$71,042.0
	Taxes on Productions + Imports less Subsidies	\$809.4	\$1089.0	\$2,085.0
	Gross Operating Surplus	\$4,231.5	\$23,130.0	\$52,188.0
<i>plus</i>	Intermediate Inputs	\$9,611.8	\$46,800.0	\$129,600.0
	Tax on Prod./Employee Compensation	12.1%	4.7%	2.9%
	Gross Operating Surplus	\$4,231.5	\$23,130.0	\$52,189.0
	Current Surplus Gov. Enterprises	\$(3.0)	\$ —	\$ —
	Consumption of Fixed Capital	\$461.9	\$ —	\$ —
	Business Current Transfer Payment	\$91.1	\$149.0	\$868.0
	Other GOS (Corporate) ^a	\$1,822.9	\$12,028.0	\$37,623.0
	Other GOS (Non-Corporate)	\$1,858.6	\$10,953.0	\$13,698.0
	Sub-Total	\$4,231.5	\$23,130.0	\$52,189.0
	Other GOS (Corporate)/Employee Comp.	27.2%	52.1%	53.0%

^a Other GOS (Corporate) includes corporate profits before tax plus corporate net interest and miscellaneous payments and adjustments.

Source: U.S. Bureau of Economic Analysis, *Gross Domestic Product by Industry*, Release data: April 27, 2006.

In Table B-2, industry sector data is also reported for gross operating surplus. Recall that in this analysis, the corporate tax rate previously calculated in Table B-1 was measured as a tax on gross operating surplus. In Table B-2, the gross operating surplus is reported by industry sector. The ratio of “Other” GOS (Corporate)” to employee compensation is also calculated for each of the two industry sectors. This ratio is then applied to the lost employee earnings calculated for each of the four copyright industries that are analyzed in this report. The application of these sector-specific ratios to each of the four copyright industries yields estimates of the gross operating surplus earned by each of the four industries. The corporate tax factor estimated in Table B-1 is then applied to the estimated gross operating surplus for each industry in order to derive corporate income taxes lost through piracy. As shown in the text in Table 4, these lost corporate income taxes were \$557 million. Note that, like the production tax estimate, the corporate income tax calculation was applied only to the direct industries affected by piracy. For this reason, this estimate should also be regarded as a minimum value for the corporate income taxes lost as a consequence of global copyright piracy.

ENDNOTES

1. See U.S. Census Bureau, *Statistics of U.S. Businesses – 2004*, for NAICS 5121- Motion Pictures and Video Industries and NAICS 5112 – Software Publishing Industry.
2. “Other” industries here mean the U.S. industries that supply intermediate goods and services directly to the U.S. copyright industries and the U.S. industries that directly and indirectly supply these supplier industries.
3. http://nbcumv.com/corporate/Engines_of_Growth.pdf
4. Siwek, Stephen, E., *The True Cost of Motion Picture Piracy to the U.S. Economy*, Institute for Policy Innovation, Policy Report 186, September 2006, <http://www.ipi.org>
5. The North American Industry Classification System (NAICS) is used by U.S. statistical agencies such as the Census Bureau and the U.S. Bureau of Economic Analysis to classify industrial sectors, groups and industries.
6. U.S. Census Bureau, *Estimated Revenue for Employer Firms: 2004 through 2005*, Table 3.0.1.
7. U.S. Census Bureau, *2005 Service Annual Survey*, Table 3.0.1.
8. U.S. Office of Management and Budget, *North American Industry Classification System, United States, 2002*, 511210 Software Publishers.
9. U.S. Census Bureau, *2005 Service Annual Survey*, Table 3.0.1
10. The NPD Group, Inc., *2006 U.S. Video Game and PC Game Retail Sales reach \$13.5 Billion Exceeding Previous Record Set in 2002 by Over \$1.7 Billion*, January 19, 2007.
11. Siwek, Stephen, E., *Copyright Industries in the U.S. Economy – The 2006 Report*, International Intellectual Property Alliance, Table A-5, Page 18.
12. In most copyright products, the content provided to consumers is a public good but the mechanism of delivery is frequently in the form of a private good like a CD or DVD.
13. Owen, Bruce M.; Wildman, Steven, S., *Video Economics*, Harvard University Press, 1992, page 23.
14. See Siwek, Stephen, E., *The True Cost of Motion Picture Piracy to the U.S. Economy*, Institute for Policy Innovation, Policy Report 186, September 2006, Appendix C.
15. IFPI, *2006 Global Recording Industry in Numbers*, August 2006, page 9.
16. In recorded music, physical piracy is the unauthorized sale or consumption of protected music on a physical medium such as compact disk. Physical piracy can be distinguished from “download” piracy in which protected music is transferred using virtual media such as an MP3 computer file.
17. For example, as noted earlier in this report, IFPI estimated that in 2005, the value of the worldwide market for pirate CDs was \$4.5 billion at pirate prices.
18. Siwek, Stephen E., *The True Cost of Motion Picture Piracy to the U.S. Economy*, Institute for Policy Innovation, Policy Report 186, September 2006, Appendix C – Conclusions of the LEK Study, page 24.
19. In the RIMS II model, the multipliers used to derive changes in output and employment for the supplier industries that are affected indirectly by piracy are not identified on an industry-by-industry basis. For this reason, supplier industry values for employee compensation, gross operating surplus and taxes on production are not available. As a result, the tax effects that would result from changes in these supplier industry values cannot be measured using RIMS II.
20. NOTE: The RIMS II Model produces separate industry-specific multipliers that can be used to estimate employment and earnings effects in the “direct” industries under study.
21. Siwek, Stephen E., *The True Cost of Motion Picture Piracy to the U.S. Economy*, Institute for Policy Innovation, Policy Report 186, September 2006, page 14.
22. Id. Pages 14-15.
23. In these figures, corporate profits have been adjusted to reflect changes in inventory valuation and capital consumption.

ABOUT THE AUTHOR

Stephen E. Siwek is Principal at Economists Incorporated, a research and consulting firm with offices in Washington D.C. and in the San Francisco Bay area. Active in research and consulting for over 30 years, Mr. Siwek specializes in the analysis of economic, financial, and accounting issues. He has testified as an expert witness before regulatory bodies and courts on more than 80 occasions.

Mr. Siwek has particular expertise in the economic analysis of the U.S. entertainment industries and of the related U.S. industries that depend on the effective protection of their copyrights. Since 1990, Mr. Siwek has published eleven studies on behalf of the International Intellectual Property Alliance (IIPA) that analyzed in detail the economic importance of the U.S. “copyright” industries (including the sound recording industry) to the U.S. economy. In these studies, Mr. Siwek quantified the substantial contributions made by the copyright-based industries to U.S. economic growth, employment and foreign trade.

Mr. Siwek has also been instrumental in furthering the efforts of the World Intellectual Property Organization (WIPO) to encourage other nations to measure the economic contribution of copyright-based industries in their own countries. In this regard, Mr. Siwek has been closely associated with the development of the WIPO “Guide” for the measurement of copyright industry contributions and he has directly assisted a number of foreign governments in the preparation of their own studies.

Mr. Siwek is co-author of *International Trade in Films and Television Programs* (American Enterprise Institute/Ballinger Publishing Company, 1988) and *International Trade in Computer Software* (Quorum Books, 1993).

In 2005, Mr. Siwek authored a widely reported study entitled *Engines of Growth: Economic Contributions of the U.S. Intellectual Property Industries* (Commissioned by NBC Universal, 2005). In that study, Mr. Siwek quantified the substantial contributions made by the IP sector as a whole to real U.S. growth. More recently, Mr. Siwek authored a study on the effects of motion picture piracy on the U.S. economy as a whole. That study was entitled *The True Cost of Motion Picture Piracy to the U.S. Economy*, (Institute for Policy Innovation, Policy Report 186, September 2006).

In February of 2007, Mr. Siwek participated as a panelist in the Motion Picture Association of America's first-of-its-kind industry symposium entitled, *The Business of Show Business*. In May 2007, he also served as a panelist for the launch of the Copyright Alliance, a non-profit education group whose 29 member organizations represent an estimated 11 million Americans working in the copyright sector.

Mr. Siwek earned his undergraduate degree at Boston College and his M.B.A. at George Washington University.

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The Institute for Policy Innovation (IPI) is a nonprofit, non-partisan educational organization founded in 1987. IPI's purposes are to conduct research, aid development, and widely promote innovative and nonpartisan solutions to today's public policy problems. IPI is a public foundation, and is supported wholly by contributions from individuals, businesses, and other non-profit foundations. IPI neither solicits nor accepts contributions from any government agency.

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IPI CENTER FOR TECHNOLOGY FREEDOM

The True Cost of Sound Recording Piracy to the U.S. Economy

By Stephen E. Siwek



POLICY REPORT 188

AUGUST 2007

EXECUTIVE SUMMARY

Synopsis: "Piracy" of recorded music costs the U.S. sound recording industries billions of dollars in lost revenue and profits. These losses, however, represent only a fraction of the impact of recorded music piracy on the U.S. economy as a whole. Combining the latest data on worldwide piracy of recorded music with multipliers from a well established U.S. government model, this study concludes that recorded music piracy costs American workers significant losses in jobs and earnings, and governments substantial lost tax revenue.

There is little debate that U.S. sound recordings are "pirated" in vast numbers in the U.S. and in international markets. Piracy of these works harms the intellectual property owner, who loses the revenue that would have been gained had the legitimate recording been purchased. These "direct" losses, however, represent only part of the story. Piracy also causes significant and measurable harm to the "upstream" suppliers and "downstream" purchasers who also would have benefited from the sale of legitimate, copyright protected sound recordings. Indeed, the harms that flow from pirate activities produce a cascading effect throughout the economy as a whole. These harms include lost output, lost earnings, lost jobs and lost tax revenues.

In order to alert policy makers to the magnitude of these ripple effects, this paper estimates the true impact of piracy in the sound recording industry on the overall U.S. economy. Using the RIMS II mathematical model maintained by the U.S. Bureau of Economic Analysis (BEA), this study estimates the impact of piracy in the sound recording business on the U.S. economy as a whole. The effects of music piracy on the U.S. economy are quantified in terms of lost economic output, jobs, employee earnings and tax revenue.

The true cost of sound recording piracy far exceeds its impact on U.S. producers and distributors of sound recordings. Piracy harms not only the owners of intellectual property but also U.S. consumers and taxpayers.

Specifically, the analysis demonstrates that:

- a. As a consequence of global and U.S.-based piracy of sound recordings, the U.S. economy loses \$12.5 billion in total output annually. Output includes revenue and related measures of economic performance.
- b. As a result of sound recording piracy, the U.S. economy loses 71,060 jobs. Of this amount, 26,860 jobs would have been added in the sound recording industry or in downstream retail industries, while 44,200 jobs would have been added in other U.S. industries.
- c. Because of sound recording piracy, U.S. workers lose \$2.7 billion in earnings annually. Of this total, \$1.1 billion would have been earned by workers in the sound recording industry or in downstream retail industries while \$1.6 billion would have been earned by workers in other U.S. industries.
- d. As a consequence of piracy, U.S. federal, state and local governments lose a minimum of \$422 million in tax revenues annually. Of this amount, \$291 million represents lost personal income taxes while \$131 million is lost corporate income and production taxes.

As policy makers turn their attention to the viability of the U.S. economy in the global marketplace, it seems obvious that the problem of music piracy should be afforded a high place on the policy agenda in coming years.

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THE TRUE COST OF SOUND RECORDING PIRACY TO THE U.S. ECONOMY

by Stephen E. Siwek

INTRODUCTION

Widespread piracy of copyright protected works through both physical and electronic media harms the companies that create and sell these products. Since many of these companies are U.S. firms, the harm of global piracy falls disproportionately on U.S. companies, their stockholders and employees, and on U.S. federal and state governments.

The U.S. companies that are most directly affected by piracy have long sought to increase understanding of the scope of this problem and to encourage government-wide efforts to address this threat. However, until recently, there has been little reliable economic information available to U.S. policymakers to assist them in balancing the importance of enforcing intellectual property rights as against other priorities. In order to address this issue, in 2005, I published a study entitled *Engines of Growth: Economic Contributions of the U.S. Intellectual Property Industries*.¹ In that study, I analyzed the contributions to the U.S. economy of the U.S. “IP industries” – industries that rely most heavily on copyright or patent protection to generate revenue, employ and compensate workers and contribute to real growth. The study found, among other things, that these IP industries are the most important growth drivers in the U.S. economy, contributing nearly 40% of the growth achieved by all U.S. private industry and nearly 60% of the growth of U.S. exportable products. It also found that the IP industries were responsible for one-fifth of the total U.S. private industry’s contribution to GDP and two-fifths of the contribution of U.S. exportable products and services to GDP.

Subsequently, in September 2006, the Institute for Policy Innovation (IPI) published my new study entitled, “*The True Cost of Motion Picture Piracy to the U.S. Economy*.”² In that study, (hereinafter, the “*Motion Picture Piracy*” study) I measured the true cost of motion picture piracy to the U.S. economy as a whole. I concluded that global piracy of motion pictures resulted in \$20.5 billion annually in lost output among all U.S. industries, \$5.5 billion annually in lost earnings for all U.S. workers and 141,030 U.S. jobs that would otherwise have been created. In addition, as a result of piracy, governments at the federal, state and local levels are deprived of at least \$857 million in tax revenue each year.

The *Motion Picture Piracy* study was an initial effort to measure the economic impact of motion picture piracy on the U.S. economy as a whole.

In the current study, the basic methodology and approach that was pioneered in the *Motion Picture Piracy* study will be applied to another industry—the U.S. Sound Recording industry. In this analysis, as in the motion picture study, estimates of sound recording industry losses to piracy will be used in conjunction with industry-specific multipliers from the U.S. Bureau of Economic Analysis to derive economy-wide

losses in output, employee earnings and jobs. In addition, these estimates, in conjunction with other data, will be used to derive estimates of the tax receipts that are lost as a result of sound recording piracy.

The analysis of the impact of sound recording piracy that is presented here will also serve as an essential input in yet another upcoming IPI study that will consider the *combined* effects of piracy in four separate copyright-dependent industries. The industries to be included in this broader effort will include the U.S. sound recording industry as well as the U.S. motion picture, business and entertainment software and video games industries.

I. BACKGROUND: MEASURING THE HARM CAUSED BY SOUND RECORDING PIRACY

U.S. SOUND RECORDING INDUSTRIES

In this study, the principal focus of analysis will be the U.S. Sound Recording Industries that are identified in the North American Industry Classification System as a four-digit industry group - NAICS 5122.³ This industry group “comprises establishments primarily engaged in

- producing and distributing musical recordings,
- in publishing music,
- or in providing sound recording and related services.”⁴

NAICS 5122 is part of the broader Motion Picture and Sound Recording Industry sub sector (NAICS 512) which is, in turn, part of the “Information” industry sector (NAICS 51).

According to the U.S. Census Bureau, the “employer firms” in NAICS 5122 generated revenue of \$18.7 billion in 2005.⁵ This total represented an increase of \$2.2 billion or 13.7% over 2004. In that year, (2004), the Census Bureau also found that the Sound Recording Industries had 25,101 paid employees in 3,405 establishments.⁶ These employees received a total payroll of \$1.965 billion.

Within the four-digit Sound Recording Industries group, the largest five-digit NAICS industry is NAICS 51222-integrated record production and distribution. In 2005, the NAICS 51222 industry reported revenues of \$12.866 billion. Of this total, 87 percent or \$11.242 billion was generated through the sale of recordings.⁷ In 2005, the NAICS 51222 industry reported total expenses of \$11.122 billion. This total represented an increase of 24.6% or \$2.194 billion over total expenses in 2004.⁸ Personnel costs alone rose from \$1.631 billion in 2004 to \$2.173 billion in 2005.

U.S. SOUND RECORDING RETAIL TRADE

The full impact of sound recording piracy is not limited to the U.S. companies that create and sell copy protected music products. In particular, U.S. retailers of compact disks face reduced sales and lower profits as a result of pirate activities that occur in the United States. The International Federation of the Phonograph Industry (IFPI) has reported that in 2005, U.S. sales of recorded music generated record company “trade” revenues of \$7.012 billion.⁹ At the retail level, however, these same sales of recorded music in the U.S. cost consumers \$12.270 billion. Clearly, in the U.S., recorded music piracy hurts both producers and retailers of recorded music.

OUR INTERLOCKING ECONOMY

In fact, the impact of music piracy flows throughout the U.S. economy. Piracy in one segment of the economy can affect other industries because the economy is an “interlocking” system. Changes in supply or demand in one industry can and do affect supply and demand in other industries.

For example, assume that personal watercraft suddenly become very popular and shortages develop. In this situation, the price of personal watercraft will rise and so will the profits of the manufacturers. However, in order to continue to earn these higher profits, the manufacturers will have to make more personal watercraft. In the process, they will buy, among other things, more waterproof seats from seat manufacturers.

Of course, it doesn't stop there. In order to produce more seats, the seat manufacturers will have to buy more plastic and more padding. And the plastic and padding manufacturers will have to buy more of the particular materials that they need.

The cascade does not even end with the suppliers of personal watercraft manufacturers but continues downstream as well. The retail sellers of personal watercraft who buy from the manufacturers will also be able to earn more money by raising prices or by increasing volume. These kinds of interactions among industries are captured in input-output tables. Input-output tables measure the interrelationships that exist among different industries. With this information, one can estimate what impact a specific change in one industry will have on other industries.

What is true for personal watercraft is equally true for recorded music. If the revenue generated by making and selling recorded music increases (In this case, not by higher demand but by a decrease in piracy), record companies will make more recordings, invest in higher quality, broader distribution or marketing, or some combination of these activities in order to capture more profits. (See sidebar "A Decrease In Piracy Expands Production").

A DECREASE IN PIRACY EXPANDS PRODUCTION

In this study, we estimate the gains to U.S. industries, to U.S. workers and to U.S. national, state and local governments that would occur absent piracy of recorded music. This analysis can be viewed either as an estimate of the *damages* sustained by the U.S. as a result of music piracy in the past year or as an estimate of the *gains* that could be realized in the future if global piracy were substantially curtailed.

This analysis begins with an assessment of the *increased demand* for legitimate U.S. music products that would be observed throughout the world if piracy did not exist. The increased demand for U.S. recorded music is quantified on a market-by-market basis using a variety of industry sources including the most recent IFPI report on the global recording industry.¹ This increased demand is then adjusted to reflect an assumed response, by former consumers of pirated works, to higher legitimate prices.

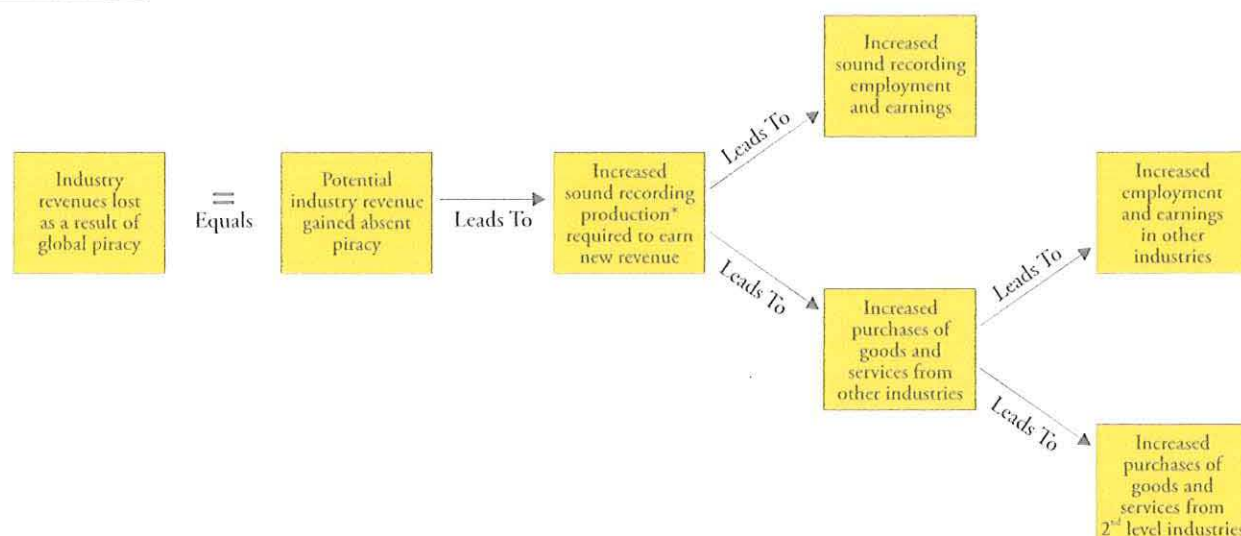
From the *supply side* perspective, we assume that the market for the production and distribution of recorded music would remain intensely competitive as it is today. We see little reason to assume, in the alternative that absent piracy, producers of recorded music would (or even could) cease to compete with each other.

We also assume that with a larger potential market for legitimate music products, profit seeking music producers and distributors could readily expand their development efforts to market the music of new artists or to increase the development and marketing budgets for existing artists or both. The music industry does not face many of the production bottlenecks that might limit the ability of other industries to satisfy increased demand for their products. More importantly, music producers would likely seek to exploit the expansion of the market for legitimate U.S. sound recordings, not only by creating more recordings but also by increasing the audience appeal of each recording through the use of more expensive inputs.

Indeed, as a general matter, we would expect profit-seeking music producers to spend more on creative inputs the larger the potential market for the music. Higher quality inputs, in turn should increase the producer's share of revenue from the market and increased share is more valuable in a larger market. Because of these considerations, music producers could (and as competitors, clearly would) attempt to meet the increased demand for legitimate U.S. recordings through a variety of strategies. These strategies might involve the release of more recordings or more expensive recordings or both. Precisely because of this flexibility, however, there is little reason to believe that supply side constraints would inhibit the U.S. sound recording industries from satisfying even a significant increase in the demand for its products.

¹ International Federation of Phonographic Industry (IFPI), *2006 Global Recording Industry in Numbers*.

FIGURE 1 IMPACT OF PIRACY THROUGHOUT THE ECONOMY



* Increased sound recording production could be of more recordings, more expensive recordings, or both.

II. METHODOLOGY: PIRACY LOSS ESTIMATES FOR THE SOUND RECORDING INDUSTRY

GLOBAL LOSSES FROM PHYSICAL PIRACY

In the *Motion Picture Piracy* study, estimates of the global losses to the U.S. industry from motion picture piracy were available from the extensive piracy survey analysis conducted for the Motion Picture Association of America by L.E.K. Consulting. At this writing, no such comprehensive analysis of piracy exists for the recorded music industry. However, many of the underlying building blocks of such an analysis do exist in a variety of industry and trade publications. For this study, the most important of these sources was *2006 Global Recording Industry in Numbers* which is published by the International Federation of the Phonogram Industry (IFPI).

The IFPI report contains detailed, country-by-country information on actual sales of recorded music by year and as between physical and digital media. The report also establishes two separate measures of value for the recorded music that is sold in each country. These measures are record company “trade” value and the “retail” value paid by the consumer for the purchase of a music product. The IFPI report shows, by country, the number of physical units sold by medium (i.e. CD, DVD etc.) and the number of single units sold (i.e. songs) by physical and digital media. Finally, the IFPI report publishes an estimate of the physical piracy rate for each market analyzed.¹⁰ Country-by-country data from the IFPI 2006 report are reproduced in Appendix A.

In this report, physical piracy refers to manufactured pirate CDs, copied CDs and manufactured or copied music video DVDs. The calculations used to derive worldwide losses from physical piracy of recorded music are shown in Table 1. The calculations begin with an estimate of the losses sustained by the worldwide recorded music industry from physical piracy. As set forth in Appendix A, the IFPI provides estimates of the physical piracy rates experienced in all major markets of the world. These calculations are used, in conjunction with legitimate sales quantities to derive the number of pirate units sold by market. As shown in Table A-3 of Appendix A, this quantity was 1.398 billion units in 2005. If these units could have been sold at the average retail price that prevailed in each market, the global industry would have earned an additional \$6.460 billion (Table A-3).

SUBSTITUTION OF LEGITIMATE PRODUCT FOR PIRATE PRODUCT — PHYSICAL PIRACY

However, unlike the calculations in Table A-3, in this analysis it is conservatively assumed that absent piracy, there would be a significant loss of pirate quantities as former consumers of those products would likely have to pay higher (legitimate) prices. Unfortunately, there is no precise measure of the degree to which consumers of pirated CD would continue to purchase those CDs at legitimate prices. In this analysis, we have reviewed results of several surveys of consumers of both pirated and legitimate CDs in different markets. We have also reviewed surveys of home video consumers in markets around the world. These surveys generally conclude that if counterfeit channels were not available, many buyers of counterfeit CDs would purchase CDs legally. While the degree to which these legitimate purchases would occur differs by market, it appears nevertheless, that such purchases would comprise a very significant fraction of the total number of pirated CDs now purchased. Indeed, the “substitution” rates cited by survey respondents range from approximately 40% to 70%.¹¹ In this study, the weighted average substitution rate used for the physical piracy of recorded music is 65.7%. A calculation of the implied substitution rate for physical piracy is shown in Table 2.

With a weighted average substitution rate of 65.7%, the estimated global loss from physical piracy falls from \$6.460 billion (100% substitution at retail prices) to \$4.068 billion. (See Table 1) This value must

TABLE 1 SOUND RECORDING INDUSTRY DIRECT LOSSES DUE TO PIRACY

Sound Recording Industries: NAICS 512200^a (Part One)

Part One: Worldwide Losses of U.S. Sound Production/Distribution & Related Industries.

		Billions of U.S. Dollars
Global Loss to U.S. Industry from Physical Piracy		
Estimated Global Losses at Trade Value ^b	\$4.068	\$4.068
Assumed Net Return to Vendor ^c	60.7%	
U.S. Share of Pirated Physical Works ^d	66%	
Estimated Physical Piracy Losses to U.S. Integrated Firms		\$1.630
Global Loss to US Industry from Download Piracy		
Global Illegal Songs Downloaded (in millions) ^e	20,000	
Illegal Downloads of U.S. Repertoire (in millions)	13,200	
Lost Legitimate Unit Sales (in millions) (20%) ^f	2,640	
Unit P=\$2.31 * Net Return ^g	\$1.403	
Estimated Download Piracy Losses to U.S. Integrated Firms		\$3.703
Sub-Total Piracy Losses (Part One)		\$5.333

^a NAICS 512200 - Sound Recording Industries includes production, distribution, music publishing, recording, producing and promoting of sound recordings.

^b See Appendix A - IFPI Data, Table A-4.

^c Equals world average trade price (\$8.58) divided by world average retail price (\$14.13). See Appendix A - IFPI Data, Table A-1, A-2.

^d Greater investment in U.S. product increases the likelihood that U.S. product will be pirated more frequently than domestic product. Add 10% to assumed split of 60% U.S. product.

^e Based on IFPI 2006 Global Recording Industry in Numbers, page 9.

^f Based on review of published articles on the effects of music downloading.

^g For legitimate downloads (90%), sales at \$0.99 per song. For legitimate CDs (10%), average retail price. See Table 2.

TABLE 2 ASSUMPTIONS: SUBSTITUTION RATES AND PRICING

Assumptions for the Substitution of Legitimate Physical Product for Pirated Physical Product.

1. No. of pirated units at trade price . See Appendix A, Table A-4	\$4,068.15 divided by 2.91 equals	1,398
2. No. of pirated units at retail price if revenue is held constant. Table A-5	\$4,068.15 divided by 4.43 equals	918
3. Implied reduction in number of pirate units sold absent piracy		480
4. Implied substitution rate for legitimate product		65.7%

Assumptions for the Pricing of Legitimate On-Line and Physical Product that would Substitute for Pirate Downloads of Recorded Music.

1. Average Price for a Legitimate Downloaded Song as per IFPI:	Assume Legitimate World and U.S. on-line price of \$0.99 per downloaded song.	\$0.99
2. Average Retail Price for Legitimate CD as per IFPI:	World Average Price	\$14.13
	U.S. Average Price	\$15.64

3. Weighted Average "But-For" Price Absent Piracy ^a

	World Weight	Price Sub-Total	U.S. Weight	Price Sub-Total
Download	90%	\$0.89	90%	\$0.89
CD	10%	\$1.41	10%	\$1.56
	World Price	\$2.30	U.S. Price	\$2.46

^a Absent piracy, experienced downloaders would be unlikely to purchase bundled CDs when they could legally download individual songs. Assume 90% of download substitution purchases go to legitimate on-line music services.

then be divided between the music retailer and the music producer. For this purpose, we again use the IFPI data to derive the weighted average world trade price (\$8.58) and the weighted average world retail price (\$14.13).¹² The ratio of the trade price average to the retail price (60.7%) is used for this purpose. (See Table 1)

Finally, we must determine the share of piracy losses that represents U.S. recorded music. In its Special 301 filings with the U.S. Trade Representative's office, the U.S. industry develops an "estimate of the local pirate market that is classified international repertoire and takes, on average, 60% of this as U.S. repertoire. This figure is based on legitimate market repertoire data."¹³ In this analysis, we increase this percentage by 10% (to 66%) to reflect the belief that greater investment in the development and marketing of U.S. product (relative to non-U.S. product) increases the likelihood that U.S. product will be pirate.

Based on these assumptions, the total loss to U.S. sound recording producers from physical piracy is estimated as \$1.630 billion. (See Table 1)

GLOBAL LOSSES FROM DOWNLOAD PIRACY

The U.S. recorded music industries sustain losses not only from physical piracy but also increasingly from illegal downloads of recorded music. Many of these songs are downloaded from peer-to-peer (P2P) networks whose users increasingly are responsible for recent declines in the number of legitimate CD

and great talent make music possible.

Music theft can take various forms: individuals who illegally upload or download music online, online companies who build businesses based on theft and encourage users to break the law, or criminals manufacturing mass numbers of counterfeit CDs for sale on street corners, in flea markets or at retail stores. Across the board, this theft has hurt the music community, with thousands of layoffs, songwriters out of work and new artists having a harder time getting signed and breaking into the business.

One credible analysis by the Institute for Policy Innovation concludes that global music piracy causes \$12.5 billion of economic losses every year, 71,060 U.S. jobs lost, a loss of \$2.7 billion in workers' earnings, and a loss of \$422 million in tax revenues, \$291 million in personal income tax and \$131 million in lost corporate income and production taxes. For copies of the report, please visit www.ipi.org.

In response, the music industry has employed a multi-faceted approach to combat this piracy, combining education, innovation, and enforcement:

- With investigators deployed in cities across the country, the RIAA is working closely with law enforcement to pull pirate products off the street and to demonstrate that the consequences for this illegal activity are real.
- We are continuing our efforts to educate fans about the value of music and the right ways to acquire it and, when necessary, to enforce our rights through the legal system.
- Record companies have licensed hundreds of digital partners that offer a range of legal models to fans: download and subscription services, cable and satellite radio services, Internet radio webcasting, legitimate peer-to-peer services, video-on-demand, podcasts, CD kiosks and digital jukeboxes, mobile products such as ringbacks, ringtones, wallpapers, audio and video downloads and more.

Our goal with all these anti-piracy efforts is to protect the ability of the recording industry to invest in new bands and new music and, in the digital space, to give legal online services a chance to flourish.



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PIRACY: ONLINE AND ON THE STREET

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Piracy: Online and On The Street

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Piracy: Online and on the Street

It's commonly known as piracy, but it's a too benign term that doesn't even begin to adequately describe the toll that music theft takes on the many artists, songwriters, musicians, record label employees and others whose hard work

sales in the U.S. IFPI estimates that in 2005, 20 billion songs were illegally downloaded worldwide.¹⁴ In this report, the calculations used to derive the recorded music industries' losses from download piracy are provided in Table 1.

SUBSTITUTION OF LEGITIMATE PRODUCT FOR PIRATED PRODUCT — DOWNLOAD PIRACY

As reported in Table 1, the calculation begins with the IFPI estimate of 20 billion illegal downloads worldwide. For reasons set forth above in connection with the physical piracy estimates, it is further assumed that 66% of all illegal downloads represent downloads of U.S. recorded music. It is then assumed that only 20% (1 in 5) of these downloaded songs would have been purchased legitimately if piracy did not exist.¹⁵

For the 20% of downloaded U.S. songs that, absent piracy would be purchased legitimately, it is then necessary to derive the legitimate price that these consumers (who formerly downloaded recorded music illegally) would now pay. Since these consumers are all familiar with the Internet and capable of downloading computer files, it is reasonable to assume that most (but not all) of their substitution efforts would occur in the form of legal downloads from legitimate web sites.

For these downloads, we assume a legitimate price of \$0.99 per song. (See Table 2) We further assume that 90% of these songs would ultimately be acquired through legitimate music downloads while the remaining 10% of songs would be purchased on a legitimate CD.¹⁶ The weighted average legitimate price used for worldwide downloads of U.S. music is \$2.30. (See Table 2)

As shown in Table 1, the legitimate price of \$2.30 times the net return to the record producer (60.72%) times the total estimated song substitutions (2.640 billion) yields total download piracy losses to U.S. firms of \$3.703 billion. When combined with the physical piracy losses of \$1.630 billion, the total piracy loss to the sound recording industries from global piracy equals \$5.333 billion. (See Table 1)

U.S. RETAIL LOSSES FROM SOUND RECORDING PIRACY

As noted earlier, piracy losses to U.S. industries are not limited to the losses sustained by U.S. producers of recorded music. Recorded music is sold through a wide variety of retail distribution channels and U.S.-based music piracy reduces those legitimate sales. Calculations in support of the piracy losses estimates for U.S. retail industries are provided in Table 3.

The calculations in Table 3 follow on from the calculations provided in Tables 1 and 2. As shown in Table 3, U.S. retail sales and profits are affected by both physical and download piracy. The physical piracy loss estimate begins with the U.S. losses from physical piracy that occur within the United States. As shown in Table 3, this value is \$335 million as per IFPI. (See Table A-4, Appendix A). This value is then adjusted to reflect only the retail portion of these losses. The net U.S. retail loss from physical piracy is shown as \$151 million. (Table 3)

The download piracy losses to U.S. retailers are calculated using an assumed value of 4.0 billion illegal downloaded songs in the U.S. in 2005. This value (based primarily on a review of confidential sources) implies that of the 20 billion illegal songs downloaded globally in 2005, some 20% or 4 billion were downloaded to U.S. consumers.

Again assuming a 20% substitution rate, these 4 billion downloaded songs translate into 800 million lost legitimate sales. This figure is then adjusted for the weighted average price of legitimate purchases for download consumers and by the retail margin. These calculations lead to download piracy losses to U.S. retailers of \$890 million and total U.S. retail losses (from both download and physical piracy) of \$1.041 billion. See Table 3.

TABLE 3 SOUND RECORDING RETAIL TRADE LOSSES DUE TO PIRACY**U.S. Sound Recording Industries, Retail Trade: NAICS 44-45^a**

Part Two: U.S. Losses of U.S. Retail industries that sell or rent sound recording products.

		Billions of U.S. Dollars
Losses to U.S. Retail Industries from U.S. piracy of		
Physical	Sound Recording Products	
	U.S. Losses in U.S. Market at Trade Value	\$0.335
	Assumed Net Return to U.S. Retail ^b	45.2%
	Total Losses to U.S. Retail Industries	\$0.151
Downloaded	Sound Recording Products	
	Illegal Downloaded Songs in U.S. (millions) ^c	4,000
	Lost legitimate unit sales (millions) (20.0%)	800
	Unit P = \$2.46 * (.452)	\$1.112
	Total Losses to U.S. Retail Industries	\$0.890
Sub-Total Piracy Losses (Part Two)		\$1.041

^a NAICS 44-45 includes all industries engaged in retailing merchandise, generally without transformation, and rendering services to the sale of merchandise.

^b Assumes US Retail Price of \$15.64 and U.S. Trade Value Price of \$8.57. See Appendix A.

^c In March 2007, NPD group reported 3.4 billion song downloads in the U.S. for 2005 and 6.0 billion song downloads in the U.S. for 2006. However, in 2006, the total number of U.S. Households downloading via P2P networks increased by only 8% in 2006. If the number of illegal downloads per P2P household in 2006 had also applied to 2005, there would have been more than 4.6 billion illegal downloads in the U.S. in 2005. In this analysis we adopt a figure of 4.0 billion illegal songs downloaded in the U.S. in 2005.

THE APPLICABLE RIMS II MULTIPLIERS — PRODUCTION

The recording industry production and retail losses calculated above reveal only the direct impact of piracy on the sound recording industry and its retail trade. To derive and estimate additional losses throughout the economy, we use multipliers from the RIMS II model.

The RIMS II model contains five types of multipliers for many U.S. industries. For each industry, there are three “Final Demand” multipliers for output, earnings, and employment and two “Direct- Effect” multipliers for “direct” earnings and employment. In this analysis, the Final Demand multipliers tell us the total effects of sound recording piracy on the output, earnings, and employment of all U.S. industries. The Direct Effects multipliers tell us the specific effects of piracy on the sound recording industries themselves. This analysis uses all five types of multipliers.

The RIMS II model defines industries based on the North American Industry Classification System (NAICS), a classification system maintained by the U.S. Government that tracks increasing levels of specialty within each classification. As noted earlier in this report, the U.S. Sound Recording Industries are classified in NAICS 5122.

A total of five multipliers were acquired from the Bureau of Economic Analysis for NAICS 5122. The three Final Demand multipliers are designed to estimate the changes in total economic output, total earnings (of workers), and total employment that result from a specified change in Final Demand. The two Direct Effect multipliers are used to derive the changes in earnings and employment levels only for workers

who are directly employed in the industry under study. In Table 4, all five multipliers are reported for the states of California, New York, Tennessee, Florida and Texas. A detailed discussion of the reasons for this determination is provided in Appendix B.

TABLE 4 **MULTIPLIERS FOR U.S. SOUND RECORDING INDUSTRIES**
Part One

U.S. Sound Recording Industries: NAICS 512200

Final Demand Multipliers for Primary States ^a

Output:

California	2.0156
New York	1.8183
Tennessee	1.9436
Florida	1.7499
Texas	1.9659

Earnings:

California	0.4250
New York	0.3190
Tennessee	0.3827
Florida	0.3545
Texas	0.3999

Employment:

California	9.6
New York	6.7
Tennessee	11.0
Florida	10.3
Texas	9.7

Direct Effect Multipliers for Primary States ^a

Earnings:

California	2.9689
New York	2.6418
Tennessee	2.7321
Florida	2.5628
Texas	2.8671

Employment:

California	4.3948
New York	3.6664
Tennessee	3.0776
Florida	2.9544
Texas	4.4529

^a In the 2002 Census, California, New York, Tennessee, Florida and Texas collectively employed 74.3% of all workers in NAICS 512200. California employed 41.46% of this subtotal while the remaining four states employed the following shares; New York = 39.11%, Tennessee = 9.99%, Florida = 5.41%, and Texas with 4.02%.

THE APPLICABLE RIMS II MULTIPLIERS — RETAIL

As noted previously, sound recording piracy affects other U.S. industries in addition to the industries that are classified in NAICS 5122. In particular, U.S. retailers of compact disks face reduced sales and lower profits as a result of piracy. However, the inter-industry relationships that affect these industries differ from the inter-industry relationships that exist in the sound recording industries. As a result, the multipliers that apply to the retailing of compact disks should also differ from the multipliers that were calculated for NAICS 5122. In this study, the economic effects of piracy on U.S. sound recording retailers are measured using multipliers for U.S. retail trade (NAICS 44-45).

The five multipliers used in the retail calculations in this study are shown in Table 5. Multipliers are reported for eight states: California, New York, Texas, Ohio, Pennsylvania, Illinois, Florida, and New Jersey. In the U.S., the retail industries that sell compact disks to consumers are less geographically concentrated than the industries that produce sound recordings. In this study, it is assumed that the retail multipliers for these eight states appropriately and reasonably capture the economic relationships that exist for the U.S. sound recording retailing sector as a whole.

More detailed information on the RIMS II multipliers used in this analysis may be found in Appendix B.

TABLE 5 MULTIPLIERS FOR U.S. SOUND RECORDING INDUSTRIES
Part Two

U.S. Sound Recording Industries: Retail Trade NAICS 44-45

Final Demand Multipliers for Primary States ^a

States	Output	Earnings	Employment
California	2.2996	0.7244	24.4
New York	2.0293	0.5820	19.9
Texas	2.2242	0.6809	25.1
Ohio	2.1855	0.6692	26.3
Pennsylvania	2.1873	0.6562	25.0
Illinois	2.3286	0.7077	25.3
Florida	2.0600	0.6549	25.3
New Jersey	2.1566	0.6280	21.0

Direct Effect Multipliers for Primary States ^a

States	Earnings	Employment
California	2.1447	1.7520
New York	1.8618	1.5392
Texas	2.0205	1.7222
Ohio	2.0312	1.6773
Pennsylvania	2.0238	1.6387
Illinois	2.1579	1.6914
Florida	1.9406	1.6689
New Jersey	2.0227	1.6420

^a In the 2002 Census the top eight states for establishments and employment in NAICS 45122 - Pre-recorded Tape, Compact Disk and Record Stores, were responsible for 50% of the total establishments and employment in NAICS 45122 for the U.S. as a whole.

III. FINDINGS: THE IMPACT OF SOUND RECORDING PIRACY ON THE OVERALL ECONOMY

TOTAL LOST OUTPUT, EMPLOYMENT AND EARNINGS

To produce industry-specific estimates of the impacts of piracy on the U.S. economy, the estimated losses from piracy for the sound recording industry are combined with the appropriate multipliers. The three “Final Demand” estimates of the overall impact of piracy on the U.S. economy are reported in Table 6.

As shown in Table 6, as a result of piracy, the sound recording industries have sustained a reduction in Final Demand for their products in the amount of \$5.333 billion in 2005. Using the relevant industry

TABLE 6 ECONOMIC IMPACTS OF INCREASED FINAL DEMAND FOR RECORDED MUSIC

Part One: Absent Piracy, Final Demand in U.S. Sound Recording industries would increase.

State	Allocation Factor	Final Demand (\$ Millions)	Output (\$ Millions)	Earnings (\$ Millions)	Employment (Number)
		\$5,333.21			
California	0.4146		\$4,456.79	\$939.74	21,227
New York	0.3911		\$3,792.64	\$665.38	13,975
Tennessee	0.0999		\$1,035.53	\$203.90	5,861
Florida	0.0541		\$504.89	\$102.28	2,972
Texas	0.0402		\$421.48	\$85.74	2,080
		Sub-Total	\$10,211.33	\$1,997.03	46,114

Part Two: Absent Piracy, Final Demand in U.S. Sound Recording Retail would also increase.

State	Allocation Factor	Final Demand (\$ Millions)	Output (\$ Millions)	Earnings (\$ Millions)	Employment (Number)
		\$1,040.97			
California	0.2967		\$710.25	\$223.74	7,536
New York	0.1607		\$339.47	\$97.36	3,329
Texas	0.1471		\$340.58	\$104.26	3,843
Ohio	0.0919		\$209.08	\$64.02	2,516
Pennsylvania	0.0847		\$192.85	\$57.86	2,204
Illinois	0.0837		\$202.89	\$61.66	2,204
Florida	0.0798		\$171.12	\$54.40	2,102
New Jersey	0.0554		\$124.37	\$36.22	1,211
		Sub-Total	\$2,290.61	\$699.52	24,946

Economic Impacts of Increased Final Demand for Sound Recordings

Output (\$ Millions)	Earnings (\$ Millions)	Employment (Number)
\$12,501.94	\$2,696.55	71,060

multipliers, this loss is converted into an estimate of the total loss in U.S. output. This total loss figure is \$10.211 billion. In addition, the “direct” loss sustained by retailers of U.S. sound recordings (\$1.04 billion) would provide an additional \$2.290 billion in total lost output to the U.S. economy. As a result, the full impact of sound recording piracy on U.S. output was an overall loss of **\$12.501 billion**.

TABLE 7 DIRECT EFFECTS OF INCREASED FINAL DEMAND FOR RECORDED MUSIC

Part One: Absent piracy, the Direct Effects of increased Final Demand on U.S. Sound Recording industries would increase.

State	Total Employment (Number)	Direct Employment (Number)	Total Earnings (\$ Millions)	Direct Earnings (\$ Millions)
California	21,227	4,830	\$939.74	\$316.53
New York	13,975	3,812	\$665.38	\$251.86
Tennessee	5,861	1,904	\$203.90	\$74.63
Florida	2,972	1,006	\$102.28	\$39.91
Texas	2,080	467	\$85.74	\$29.90
	Sub-Total	12,019	\$1,997.03	\$712.84

Part Two: Absent piracy, the Direct Effects of increased Final Demand on the U.S. Sound Recording industries would also increase.

State	Total Employment (Number)	Direct Employment (Number)	Total Earnings (\$ Millions)	Direct Earnings (\$ Millions)
California	7,536	4,301	\$223.74	\$104.32
New York	3,329	2,163	\$94.36	\$52.29
Texas	3,843	2,232	\$104.26	\$51.60
Ohio	2,516	1,500	\$64.02	\$31.52
Pennsylvania	2,204	1,345	\$57.86	\$28.59
Illinois	2,204	1,303	\$61.66	\$28.57
Florida	2,102	1,259	\$54.40	\$28.03
New Jersey	1,211	738	\$36.22	\$17.91
	Sub-Total	14,841	\$342.84	\$342.84

Direct Effects of Increased Final Demand for Sound Recordings

Total Direct Employment (Number)	Total Direct Earnings (\$ Millions)
26,860	\$1,055.67

With regard to lost earnings of U.S. workers, the comparable loss figures are \$1.997 billion that stem from the losses sustained by the sound recording production and distribution industries and \$699 million from the losses of retail sales of legitimate music CDs. Thus, the total loss in earnings to workers in 2005 was \$2.697 billion.

Finally, in terms of losses in employment that would have been created, the effects of piracy on the sound recording industries in NAICS 5122 cost the United States 46,114 jobs and the effects on U.S. retail distribution cost 24,946 jobs. Thus, the total loss in U.S. employment that has resulted from piracy of U.S. sound recordings in 2005 was 71,060 jobs.

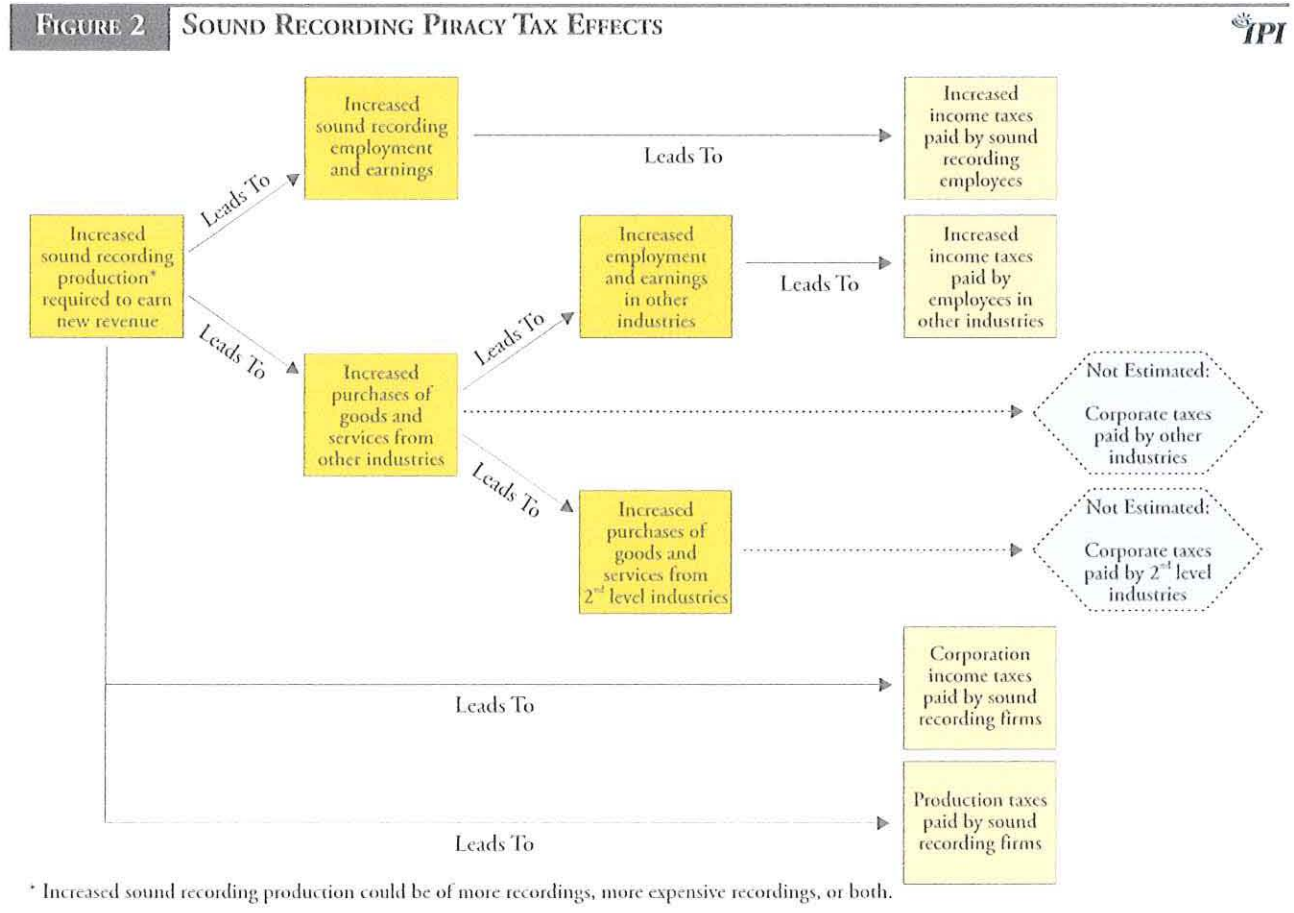
DIRECT LOST EMPLOYMENT AND EARNINGS

As noted above, the RIMS II model also provides multipliers that measure the economic effects of a change in final demand solely on the industries that are directly affected by that change. Using these multipliers, as shown in Table 7, we estimate that the direct loss in employee earnings in the U.S. sound recording and retail industries that results from pirate activities is \$1.056 billion. The direct loss in employment at these industries was 26,860 jobs.

LOST TAX REVENUES

In total, sound recording piracy costs government at all levels, conservatively \$422 million annually.

Tax multipliers are not provided in RIMS II. For the tax loss estimates presented in this study, the methodology previously used in the Motion Picture Piracy study was again applied to the sound recording industry.



As in the *Motion Picture Piracy* study, in this study, tax loss estimates are developed for three categories of taxes. These are lost personal income taxes that would have been paid by sound recording industry employees, lost corporate income taxes and lost production and other business taxes. In Table 8A, we calculate the income taxes that would have been paid on the employee earnings that would have been paid absent piracy in sound recordings. As shown in Table 8A, these personal income taxes would have exceeded \$113 million from sound recording employees alone and more than \$291 million from the total employees directly and indirectly affected by sound recording piracy.

TABLE 8A PERSONAL INCOME TAX LOSSES

U.S. Sound Recording Industries: NAICS 5122			
I. Personal Income Taxes on Lost Employee Earnings: NAICS 5122 Only			
	(\$ Billions)	Assumed Tax Rate ^a	NAICS 5122 Personal Taxes (\$ Billions)
Direct Employee Earnings Loss: NAICS 5122	\$1.056	10.8%	\$0.114
IA. Personal Income Taxes on Lost Employee Earnings: NAICS 5122 Plus All Input Industries			
	(\$ Billions)	Assumed Tax Rate ^a	NAICS 5122 Plus All Input Industries Personal Taxes (\$ Billions)
Total Employee Earnings Loss: All Affected Industries	\$2.697	10.8%	\$0.291

^a See Appendix C, Table C-1.

In Table 8B, we estimate other tax losses that result from pirate activities in the sound recording industry. For example, focusing only on corporate income taxes, we estimate that the sound recording industry alone would have generated additional taxes of \$81 million each year. In addition, lost “production” taxes from the U.S. sound recording industry would have exceeded \$50 million annually.

It is important also to recognize that the tax loss estimates presented here do not encompass a full accounting of all tax losses attributable to piracy. The estimates for both corporate income tax losses and production tax losses reflect only the direct losses sustained by the sound recording industries themselves. The estimates do not include additional tax losses that would result from lower income and lower sales in those U.S. industries that supply inputs to the U.S. copyright industries. *Thus the corporate income tax and production tax estimates do not include tax losses sustained at U.S. industries that are indirectly affected by piracy.*

CONCLUSION

As set forth in this report, the U.S. sound recording industries are now sustaining approximately \$5.33 billion in losses as a result of global and U.S. piracy. In addition, U.S. retailers are losing another \$1.04 billion. These estimates suggest total “direct” losses to all U.S. industries from music piracy that exceed \$6.37 billion.

These direct losses then cascade through the rest of the U.S. economy and the losses of economic output, jobs and employee earnings “multiply.”

Based on the analyses set forth in this paper, because of music piracy, the U.S. economy loses a total of \$12.5 billion in economic output each year.

TABLE 8B

CORPORATE INCOME AND PRODUCTION TAX LOSSES

U.S. Sound Recording Industries: NAICS 5122

II. Corporate Income Taxes Lost: NAICS 5122 Only			
	(\$ Billions)	Apply to Direct Earnings NAICS 5122 (\$ Billions)	Estimate of Other GOS NAICS 5122 (\$ Billions)
Other GOS (Corporate) NAICS 512	\$12.028		\$0.550
Employee Compensation NAICS 512	\$23.100	\$1.056	
Ratio of Other GOS to Employee Comp.	52.1%		
		Assumed Tax Rate ^a	14.8%
Equals Estimated Corporate Income Tax Loss in NAICS 5122			\$0.081
III. Taxes on Production Lost: NAICS 5122 Only			
	(\$ Billions)	Apply to Direct Earnings NAICS 5122 (\$ Billions)	Estimate of Taxes on Production NAICS 5122 (\$ Billions)
Taxes on Production NAICS 512 ^b	\$1.100		\$0.550
Employee Compensation NAICS 512 ^b	\$23.100	\$1.056	
Ratio of Taxes on Prod. to Employee Comp.	4.8%		
Equals Estimated Production Tax Loss in NAICS 5122			\$0.050

^a See Appendix C, Table C-1.

^b See Appendix C, Table C-2.

Furthermore, the U.S. economy also loses 71,060 jobs. Of this amount, 46,114 jobs are lost at the U.S. production level for sound recordings while 24,946 jobs are lost at the U.S. retail level.

Because of global piracy in recorded music U.S. employees lose \$2.7 billion in total earnings annually. Of this total, \$2.0 billion is lost at the U.S. production level while \$700 million is lost at the U.S. retail level.

Finally, as a consequence of piracy in sound recordings, U.S. federal, state and local governments lose a minimum of \$ 422 million in tax revenues annually. Of this amount, \$291 million represents lost personal income taxes while \$131 million is lost corporate income and production taxes.

APPENDIX A — IFPI REFERENCE DATA

The International Federation of the Phonographic Industry (IFPI) is an international organization that represents the recording industry worldwide. Its membership comprises some 1,400 major and independent companies in more than 70 countries. It also has affiliated industry national groups in 48 countries.

The data shown in Tables A-1 through A-5 were obtained from an IFPI report entitled: *2006 Global Recording Industry in Number*.

TABLE A-1

IFPI GLOBAL RECORDING INDUSTRY DATA - RETAIL VALUES OF LEGITIMATE UNITS

Rank	Country	Retail Value (\$ Millions)	Less: Digital	Equals: Physical Units at Retail Value (\$ Millions)	Physical Units Sold (Millions)	Retail Price Per Unit
1	USA	\$12,269.5	\$636.0	\$11,633.5	743.7	\$15.64
2	Japan	\$5,448.2	\$277.5	\$5,170.7	235.5	\$21.96
3	UK	\$3,446.0	\$69.2	\$3,376.8	182.0	\$18.55
4	Germany	\$2,210.6	\$39.1	\$2,171.5	133.7	\$16.24
5	France	\$1,990.0	\$28.1	\$1,961.9	112.2	\$17.49
6	Canada	\$731.9	\$14.7	\$717.2	56.8	\$12.63
7	Australia	\$674.4	\$7.5	\$666.9	41.8	\$15.95
8	Italy	\$669.3	\$15.7	\$653.6	33.4	\$19.57
9	Spain	\$555.1		\$555.1	34.6	\$16.04
10	Brazil	\$394.2		\$394.2	53.3	\$7.40
11	Mexico	\$411.6		\$411.6	67.4	\$6.11
12	Netherlands	\$430.6	\$4.9	\$425.7	25.2	\$16.89
13	Switzerland	\$267.3		\$267.3	16.4	\$16.30
14	Russia	\$387.6		\$387.6	96.5	\$4.02
15	Belgium	\$329.4		\$329.4	15.0	\$21.96
16	South Africa	\$254.4		\$254.4	23.2	\$10.97
17	Sweden	\$240.4		\$240.4	16.1	\$14.93
18	Austria	\$284.9		\$284.9	11.2	\$25.44
19	Norway	\$252.6		\$252.6	11.4	\$22.16
20	Denmark	\$180.1		\$180.1	9.9	\$18.19
21	India	\$156.2		\$156.2	103.6	\$1.51
22	Turkey	\$147.5		\$147.5	27.2	\$5.42
23	Taiwan	\$109.1		\$109.1	10.0	\$10.91
24	Ireland	\$149.0		\$149.0	8.3	\$17.95
25	Finland	\$132.4		\$132.4	7.8	\$16.97
26	Portugal	\$113.9		\$113.9	8.3	\$13.72
27	China	\$119.7		\$119.7	57.9	\$2.07
28	New Zealand	\$122.0		\$122.0	7.2	\$16.94
29	South Korea	\$132.4	\$11.8	\$120.6	10.6	\$11.38
30	Thailand	\$106.3		\$106.3	28.0	\$3.80
31	Hong Kong	\$79.4		\$79.4	6.8	\$11.68
32	Greece	\$143.0		\$143.0	7.4	\$19.32
33	Poland	\$99.7		\$99.7	9.8	\$10.17
34	Argentina	\$108.2		\$108.2	14.9	\$7.26
35	Indonesia	\$66.7		\$66.7	30.1	\$2.22
36	Hungary	\$53.4		\$53.4	5.3	\$10.08
37	Singapore	\$38.3		\$38.3	4.8	\$7.98
38	Colombia	\$58.0		\$58.0	7.2	\$8.06
39	Czech Republic	\$42.0		\$42.0	3.6	\$11.67
40	Chile	\$38.8		\$38.8	5.4	\$7.19
41	Malaysia	\$28.4		\$28.4	4.3	\$6.60
42	Philippines	\$24.8		\$24.8	4.7	\$5.28
	TOTAL	\$33,497.3	\$1,104.5	\$32,392.8	2,292.5	\$14.13

TABLE A-2

IFPI GLOBAL RECORDING INDUSTRY DATA - TRADE VALUE OF LEGITIMATE UNITS

Rank	Country	Trade Value (\$ Millions)	Less: Digital Sales	Equals: Physical Units at Trade Value (\$ Millions)	Physical Units Sold (Millions)	Sales Price Per Unit
1	USA	\$7,011.9	\$636.0	\$6,375.9	743.7	\$8.57
2	Japan	\$3,718.4	\$277.5	\$3,440.9	235.5	\$14.61
3	UK	\$2,162.2	\$69.2	\$2,093.0	182.0	\$11.50
4	Germany	\$1,457.5	\$39.1	\$1,418.4	133.7	\$10.61
5	France	\$1,248.3	\$28.1	\$1,220.2	112.2	\$10.88
6	Canada	\$544.3	\$14.7	\$529.6	56.8	\$9.32
7	Australia	\$440.0	\$7.5	\$432.5	41.8	\$10.35
8	Italy	\$428.5	\$15.7	\$412.8	33.4	\$12.36
9	Spain	\$368.9		\$368.9	34.6	\$10.66
10	Brazil	\$265.4		\$265.4	53.3	\$4.98
11	Mexico	\$262.7		\$262.7	67.4	\$3.90
12	Netherlands	\$246.3	\$4.9	\$241.4	25.2	\$9.58
13	Switzerland	\$205.9		\$205.9	16.4	\$12.55
14	Russia	\$193.7		\$193.7	96.5	\$2.01
15	Belgium	\$161.8		\$161.8	15.0	\$10.79
16	South Africa	\$158.8		\$158.8	23.2	\$6.84
17	Sweden	\$148.2		\$148.2	16.1	\$9.20
18	Austria	\$138.7		\$138.7	11.2	\$12.38
19	Norway	\$133.1		\$133.1	11.4	\$11.68
20	Denmark	\$113.1		\$113.1	9.9	\$11.42
21	India	\$111.6		\$111.6	103.6	\$1.08
22	Turkey	\$105.3		\$105.3	27.2	\$3.87
23	Taiwan	\$99.7		\$99.7	10.0	\$9.97
24	Ireland	\$91.2		\$91.2	8.3	\$10.99
25	Finland	\$81.2		\$81.2	7.8	\$10.41
26	Portugal	\$81.1		\$81.1	8.3	\$9.77
27	China	\$79.8		\$79.8	57.9	\$1.38
28	New Zealand	\$77.5		\$77.5	7.2	\$10.76
29	South Korea	\$77.4	\$11.8	\$65.6	10.6	\$6.19
30	Thailand	\$77.2		\$77.2	28.0	\$2.76
31	Hong Kong	\$66.2		\$66.2	6.8	\$9.74
32	Greece	\$65.1		\$65.1	7.4	\$8.80
33	Poland	\$63.9		\$63.9	9.8	\$6.52
34	Argentina	\$51.4		\$51.4	14.9	\$3.45
35	Indonesia	\$50.2		\$50.2	30.1	\$1.67
36	Hungary	\$33.4		\$33.4	5.3	\$6.30
37	Singapore	\$33.1		\$33.1	4.8	\$6.90
38	Colombia	\$27.0		\$27.0	7.2	\$3.75
39	Czech Republic	\$24.8		\$24.8	3.6	\$6.89
40	Chile	\$24.1		\$24.1	5.4	\$4.46
41	Malaysia	\$23.1		\$23.1	4.3	\$5.37
42	Phillippines	\$19.1		\$19.1	4.7	\$4.06
	TOTAL	\$20,771.1	\$1,104.5	\$19,666.6	2,292.5	\$8.58

TABLE A-3

IFPI GLOBAL RECORDING INDUSTRY DATA - RETAIL VALUE OF PIRATE UNITS

Country	Legitimate Units Sold (Millions)	Retail Price Per Unit	IFPI Midpoint Piracy Rates ^a	Total Physical Units ^b (Millions)	Pirate Units Sold ^c (Millions)	Pirate Sales at Retail Prices (\$ Millions)
USA	743.7	\$15.64	5%	782.8	39.1	\$612.3
Japan	235.5	\$21.96	5%	247.9	12.4	\$272.1
UK	182.0	\$18.55	5%	191.6	9.6	\$177.7
Germany	133.7	\$16.24	5%	104.7	7.0	\$114.3
France	112.2	\$17.49	5%	118.1	5.9	\$103.3
Canada	56.8	\$12.63	5%	59.8	3.0	\$37.7
Australia	41.8	\$15.95	5%	44.0	2.2	\$35.1
Italy	33.4	\$19.57	38%	53.9	20.5	\$400.6
Spain	34.6	\$16.04	17%	41.7	7.1	\$113.7
Brazil	53.3	\$7.40	38%	86.0	32.7	\$241.6
Mexico	67.4	\$6.11	63%	179.7	112.3	\$686.0
Netherlands	25.2	\$16.89	17%	30.4	5.2	\$87.2
Switzerland	16.4	\$16.30	5%	17.3	0.9	\$14.1
Russia	96.5	\$4.02	63%	257.3	160.8	\$646.0
Belgium	15.0	\$21.96	5%	15.8	0.8	\$17.3
South Africa	23.2	\$10.97	38%	37.4	14.2	\$155.9
Sweden	16.1	\$14.93	5%	16.9	0.8	\$12.7
Austria	11.2	\$25.44	5%	11.8	0.6	\$15.0
Norway	11.4	\$22.16	5%	12.0	0.6	\$13.3
Denmark	9.9	\$18.19	5%	10.4	0.5	\$9.5
India	103.6	\$1.51	63%	276.3	172.7	\$260.3
Turkey	27.2	\$5.42	63%	72.5	45.3	\$245.8
Taiwan	10.0	\$10.91	38%	16.1	6.1	\$66.9
Ireland	8.3	\$17.95	5%	8.7	0.4	\$7.8
Finland	7.8	\$16.97	17%	9.4	1.6	\$27.1
Portugal	8.3	\$13.72	17%	10.0	1.7	\$23.3
China	57.9	\$2.07	88%	482.5	424.6	\$877.8
New Zealand	7.2	\$16.94	5%	7.6	0.4	\$6.4
South Korea	10.6	\$11.38	17%	12.8	2.2	\$24.7
Thailand	28.0	\$3.80	38%	45.2	17.2	\$65.2
Hong Kong	6.8	\$11.68	17%	8.2	1.4	\$16.3
Greece	7.4	\$19.32	38%	11.9	4.5	\$87.6
Poland	9.8	\$10.17	38%	15.8	6.0	\$61.1
Argentina	14.9	\$7.26	63%	39.8	24.9	\$180.7
Indonesia	30.1	\$2.22	88%	250.8	220.7	\$489.1
Hungary	5.3	\$10.08	38%	8.5	3.2	\$32.7
Singapore	4.8	\$7.98	5%	5.1	0.3	\$2.0
Colombia	7.2	\$8.06	63%	19.2	12.0	\$96.7
Czech Republic	3.6	\$11.67	38%	5.8	2.2	\$25.7
Chile	5.4	\$7.19	63%	14.4	9.0	\$64.7
Malaysia	4.3	\$6.60	38%	6.9	2.6	\$17.4
Phillipines	4.7	\$5.28	38%	7.6	2.9	\$15.2
	2,292.5			3,690.7	1,398.2	\$6,460.08

Average Piracy Rate 38%

^a Countries with Piracy Rates > 50% divided into <75% and >75% sub-groups.^b Equals Legitimate Units Sold divided by (1 - piracy rate).^c IFPI reports that in 2005, 1.2 million pirate CDs, or 37% of all CDs were purchased.

TABLE A-4

IFPI GLOBAL RECORDING INDUSTRY DATA - PIRATE SALES AT TRADE PRICES

Country	Legitimate Units Sold (Millions)	Retail Price Per Unit	IFPI Midpoint Piracy Rates ^a	Total Physical Units ^b (Millions)	Pirate Units Sold ^c (Millions)	Pirate Sales in Retail Prices (\$ Millions)
USA	743.7	\$8.57	5%	782.8	39.1	\$335.6
Japan	235.5	\$14.61	5%	247.9	12.4	\$181.1
UK	182.0	\$11.50	5%	191.6	9.6	\$110.2
Germany	133.7	\$10.61	5%	140.7	7.0	\$74.7
France	112.2	\$10.88	5%	118.1	5.9	\$64.2
Canada	56.8	\$9.32	5%	59.8	3.0	\$27.9
Australia	41.8	\$10.35	5%	44.0	2.2	\$22.8
Italy	33.4	\$12.36	38%	53.9	20.5	\$253.0
Spain	34.6	\$10.66	17%	41.7	7.1	\$75.6
Brazil	53.3	\$4.98	38%	86.0	32.7	\$162.7
Mexico	67.4	\$3.90	63%	179.7	112.3	\$437.8
Netherlands	25.2	\$9.58	17%	30.4	5.2	\$49.4
Switzerland	16.4	\$12.55	5%	17.3	0.9	\$10.8
Russia	96.5	\$2.01	63%	257.3	160.8	\$322.8
Belgium	15.0	\$10.79	5%	15.8	0.8	\$8.5
South Africa	23.2	\$6.84	38%	37.4	14.2	\$97.3
Sweden	16.1	\$9.20	5%	16.9	0.8	\$7.8
Austria	11.2	\$12.38	5%	11.8	0.6	\$7.3
Norway	11.4	\$11.68	5%	12.0	0.6	\$7.0
Denmark	9.9	\$11.42	5%	10.4	0.5	\$6.0
India	103.6	\$1.08	63%	276.3	172.7	\$186.0
Turkey	27.2	\$3.87	63%	72.5	45.3	\$175.5
Taiwan	10.0	\$9.97	38%	16.1	6.1	\$61.1
Ireland	8.3	\$10.99	5%	8.7	0.4	\$4.8
Finland	7.8	\$10.41	17%	9.4	1.6	\$16.6
Portugal	8.3	\$9.77	17%	10.0	1.7	\$16.6
China	57.9	\$1.38	88%	482.5	424.6	\$585.2
New Zealand	7.2	\$10.76	5%	7.6	0.4	\$4.1
South Korea	10.6	\$6.19	17%	12.8	2.2	\$13.4
Thailand	28.0	\$2.76	38%	45.2	17.2	\$47.3
Hong Kong	6.8	\$9.74	17%	8.2	1.4	\$13.6
Greece	7.4	\$8.80	38%	11.9	4.5	\$39.9
Poland	9.8	\$6.52	38%	15.8	6.0	\$39.2
Argentina	14.9	\$3.45	63%	39.8	24.9	\$85.8
Indonesia	30.1	\$1.67	88%	250.8	220.7	\$368.1
Hungary	5.3	\$6.30	38%	8.5	3.2	\$20.5
Singapore	4.8	\$6.90	5%	5.1	0.3	\$1.7
Colombia	7.2	\$3.75	63%	19.2	12.0	\$45.0
Czech Republic	3.6	\$6.89	38%	5.8	2.2	\$15.2
Chile	5.4	\$4.46	63%	14.4	9.0	\$40.2
Malaysia	4.3	\$5.37	38%	6.9	2.6	\$14.2
Phillipines	4.7	\$4.06	38%	7.6	2.9	\$11.7
	2,292.5			3,690.7	1,398.2	\$4,068.15

Average Piracy Rate 38%

^a Countries with Piracy Rates > 50% divided into <75% and >75% sub-groups.^b Equals Legitimate Units Sold divided by (1 - piracy rate).^c IFPI reports that in 2005, 1.2 million pirate CDs, or 37% of all CDs were purchased.

TABLE A-5

IFPI GLOBAL RECORDING INDUSTRY DATA - IMPLIED SUBSTITUTION RATES

Country	Pirate Sales at Trade Value (\$ Millions)	Retail Prices	Substitute Units ^a	Original Pirate Units	Implied Substitution Rate ^b
USA	\$335.6	\$15.64	21.5	39.14	54.8%
Japan	\$181.1	\$21.96	8.2	12.39	66.5%
UK	\$110.2	\$18.55	5.9	9.58	62.0%
Germany	\$74.7	\$16.24	4.6	7.04	65.3%
France	\$64.2	\$17.49	3.7	5.91	62.2%
Canada	\$27.9	\$12.63	2.2	2.99	73.8%
Australia	\$22.8	\$15.95	1.4	2.20	64.9%
Italy	\$253.0	\$19.57	12.9	20.47	63.2%
Spain	\$75.6	\$16.04	4.7	7.09	66.5%
Brazil	\$162.7	\$7.40	22.0	32.67	67.3%
Mexico	\$437.8	\$6.11	71.7	112.33	63.8%
Netherlands	\$49.4	\$16.89	2.9	5.16	56.7%
Switzerland	\$10.8	\$16.30	0.7	0.86	77.0%
Russia	\$322.8	\$4.02	80.4	160.83	50.0%
Belgium	\$8.5	\$21.96	0.4	0.79	49.1%
South Africa	\$97.3	\$10.97	8.9	14.22	62.4%
Sweden	\$7.8	\$14.93	0.5	0.85	61.6%
Austria	\$7.3	\$25.44	0.3	0.59	48.7%
Norway	\$7.0	\$22.16	0.3	0.60	52.7%
Denmark	\$6.0	\$18.19	0.3	0.52	62.8%
India	\$186.0	\$1.51	123.4	172.67	71.4%
Turkey	\$175.5	\$5.42	32.4	45.33	71.4%
Taiwan	\$61.1	\$10.91	5.6	6.13	91.4%
Ireland	\$4.8	\$17.95	0.3	0.44	61.2%
Finland	\$16.6	\$16.97	1.0	1.60	61.3%
Portugal	\$16.6	\$13.72	1.2	1.70	71.2%
China	\$585.2	\$2.07	283.1	424.60	66.7%
New Zealand	\$4.1	\$16.94	0.2	0.38	63.5%
South Korea	\$13.4	\$11.38	1.2	2.17	54.4%
Thailand	\$47.3	\$3.80	12.5	17.16	72.6%
Hong Kong	\$13.6	\$11.68	1.2	1.39	83.4%
Greece	\$39.9	\$19.32	2.1	4.54	45.5%
Poland	\$39.2	\$10.17	3.8	6.01	64.1%
Argentina	\$85.8	\$7.26	11.8	24.89	47.5%
Indonesia	\$368.1	\$2.22	166.1	220.73	75.3%
Hungary	\$20.5	\$10.08	2.0	3.25	62.5%
Singapore	\$1.7	\$7.98	0.2	0.25	86.4%
Colombia	\$45.0	\$8.06	5.6	12.00	46.6%
Czech Republic	\$15.2	\$11.67	1.3	2.21	59.0%
Chile	\$40.2	\$7.19	5.6	9.00	62.1%
Malaysia	\$14.2	\$6.60	2.1	2.64	81.3%
Phillipines	\$11.7	\$5.28	2.2	2.88	77.0%
TOTAL	\$4,068.2		918.4	1,398.2	65.7%

^a Substitute Units = Trade Value/Retail Price

^b Country-specific studies put substitution rate between 45% and 75%.

APPENDIX B — SOUND RECORDING INDUSTRY MULTIPLIERS

The estimates in this report are based on an analytical framework known as an *input-output* (I-O) table. For every industry in the economy, an I-O table shows the distribution of the inputs purchased and the outputs sold. Using this framework, the U.S. Bureau of Economic Analysis (BEA) has developed a method for estimating I-O *multipliers*. Using multipliers, it is possible to measure not only the direct effects of piracy (i.e. the lost 1st round of output) but also the indirect effects (i.e. the lost 2nd and subsequent rounds of output) as piracy reduces the need for inputs from factor suppliers in other industries. In addition, the BEA multipliers also consider the “induced” economic effects that arise from the piracy-driven loss in labor income that is borne by workers in the legitimate industries and which results in a consequent decrease in household consumption.

In this analysis, the multipliers used to estimate the full effects of sound recording piracy were derived using BEA’s Regional Input-Output Modeling System or (RIMS II). The RIMS II model produces industry-specific “final demand” multipliers for output (in dollars), employment (in numbers of employees) and earnings of those employees (in dollars). The RIMS II model also provides industry-specific “direct effects” multipliers for employment and earnings. The actual multipliers that were used in this analysis are shown in Table 4 (U.S. Sound Recording Industries – NAICS 512200) and in Table 5 (U.S. Sound Recording Industries: Retail Trade – NAICS 44-45).

DEFINING REGIONS BY INDUSTRY

The RIMS II model produces industry-specific final demand and direct effects multipliers. However, the RIMS II model is fundamentally a regional model that estimates multipliers within a pre-defined geographic area. Thus, for example, an analyst might be tasked with estimating the economic effects of building a new sports stadium within a given metropolitan region. In this example, the analyst would first pre-specify the relevant metropolitan region for which the RIMS II model should be calibrated. Subsequently the analyst would select the relevant industry multipliers to be derived within that region. The pre-specification of a region directly effects the RIMS II multipliers because, all else equal, the smaller the region, the greater the chance that that necessary inputs will be obtained from outside the region. When inputs are obtained from outside of the pre-specified region in RIMS II, they may no longer “count” as in-region effects of the initial change in final demand. Thus, with a narrowly defined area, the indirect economic effects of a given change in final demand might be too low.

This study differs from the more typical RIMS II analysis in that the economic effects of sound recording piracy are generally not focused on one or a few small geographic areas. For example, according to the U.S. Census Bureau, in 2002, the U.S. Sound Recording Industries (NAICS 5122) employed workers in 43 different states. For this reason, further analyses were conducted of the state-by-state employment patterns in the U.S. Sound Recording Industries.

MULTIPLIERS FOR U.S. SOUND RECORDING PRODUCTION/DISTRIBUTION

A review of the sound recording industry’s employment levels on a state-by-state basis revealed that in 2002 only five states: California, New York, Tennessee, Florida and Texas employed 74.3% of all U.S. workers in NAICS 5122. Forty-one percent of the workers in this subset were located in California while 39.1% were employed in New York. The remaining three states employed the following shares: Tennessee – 10.0%; Florida – 5.4% and Texas – 4.0%.

In certain instances, sound recording industry centers may specialize in particular music genres. The sound recording industry in Tennessee, for example, has long been associated with country music while sound recording centers in Florida and Texas increasingly emphasize Spanish language music. In this analysis, it is assumed that absent piracy, legitimate sound production would increase in those geographic regions that already specialize in the production of sound recordings. However, if piracy were eliminated, other

regions that already specialize in particular music genres would also see growth in their production of sound recordings in those genres. For these reasons, the final multipliers used to analyze the sound recording production and distribution industries in NAICS 5122 include multipliers for both the major production states of California and New York and for the states of Tennessee, Florida and Texas where the sound recording industries are both smaller and more genre-specific.

Five categories of multiplier were acquired from the Bureau of Economic Analysis in order to analyze the effects of piracy in NAICS 5122. The three Final Demand multipliers related to output, earnings (of workers) and employment. The two Direct Effect multipliers also related to earnings (of workers) and employment. These multipliers were specific to both NAICS 5122 and to the states of California and New York. As noted above, the actual multipliers that were used in the analysis of NAICS 51122 are shown in Table 4.

MULTIPLIERS FOR U.S. SOUND RECORDING RETAIL TRADE

As noted previously, sound recording piracy affects other U.S. industries in addition to the industries that are classified in NAICS 5122. In particular, U.S. retailers of music CDs and of legitimate downloads face reduced sales and lower profits as a result of pirate activities that occur in the United States. However, the inter-industry relationships that affect these industries differ from the inter-industry relationships that exist in the sound recording industry itself. As a result, the multipliers that apply to the retailing of recorded music should also differ from the multipliers that were calculated for NAICS 5122. In this study, the economic affects of piracy on U.S. sound recording retailers are measured using multipliers for U.S. retail trade (NAICS 44-45).

In this study, the five multipliers used to assess the effects of music piracy on U.S. retailers were obtained for eight U.S. states. These states were: California, New York, Texas, Ohio, Pennsylvania, Illinois, Florida and New Jersey. In the US, the industries that sell music CDs directly to consumers are far less geographically concentrated than the industries that produce and distribute sound recordings. Nevertheless, all states are not equal even with regard to CD sales and. In 2002, the U.S. Census Bureau calculated state-by-state figures for the number of U.S. establishments and paid employees in NAICS 45122 – Pre-recorded Tape, Compact Disk and Record Stores. For both establishments and employment, eight states were responsible for 49.1% of the U.S. totals within this industry.¹⁷ Those states were the eight states shown in Table 5. In this study, it is assumed that the retail industry multipliers for these eight states appropriately and reasonably capture the economic relationships that exist for the U.S. sound recording retail sector as a whole.

APPENDIX C — REFERENCES FOR TAX CALCULATIONS

The principal calculations that support the estimates of lost taxes that are set forth in this report are reported in the text at Tables 8A and 8B. Those calculations reflect the application of estimated tax rates to the employee earnings loss estimates that were derived elsewhere in this report. This Appendix provides the supporting calculations that were used to determine the appropriate tax rates for use in these estimates.

Table C-1 provides the calculations used to determine the average tax rates to be applied to the employee compensation and corporate profits that are lost as a result of sound recording piracy. These calculations rely on U.S. National Accounts data. For personal income taxes, the total amount of personal current taxes reported for the economy is divided by total U.S. Personal Income. These calculations suggest an average personal income tax rate of 10.8%.

In Table C-1, for corporate income taxes, the total amount of U.S. taxes on corporate income is divided by both corporate profits and “U.S. Other Gross Operating Surplus” or “GOS.” This calculation is required because national estimates of corporate profits are not, to our knowledge, broken out by specific industries. By contrast, the Bureau of Economic Analysis does provide data on Other GOS figures for individual industries. This derived tax rate is then applied to the Other GOS values reported for NAICS 512, the U.S. Motion Picture and Sound Recording Industries combined. Subsequently, (in Table 8B) these calculations are then adjusted to reflect tax payments solely from sound recording industry firms.

The supporting calculations that reflect the Other GOS values for NAICS 512 are reported in Table C-2.

TABLE C-1

SUPPORTING CALCULATIONS FOR PRODUCTION TAXES

I. Tax Rates on Personal Income:		2004 (\$ Billions)	2004 (\$ Billions)
	U.S. Disposable Personal Income		\$8,664.2
<i>Plus</i>	Personal Current Taxes		\$1,049.1
<i>Equals</i>	U.S. Personal Income		\$9,713.3
	Compensation of Employees	\$6,687.6	
	Proprietors' Income	\$889.6	
	Rental Income	\$134.2	
	Personal Income Receipts/Assets	\$1,396.5	
	Personal Current Transfers	\$1,427.5	
<i>Less</i>	Contrib. Govern. Social Insurance	\$(822.2)	
<i>Equals</i>	U.S. Personal Income	\$9,713.2	\$9,713.2
	Pers. Cur. Tax/Pers. Income		10.8%
II. Tax Rates on Corporate Income:			2004 (\$ Billions)
	U.S. Corporate Profits with Adjustments		\$1,161.5
	Taxes on Corporate Income		\$271.1
	Corporate Income Taxes/Corporate Profits		23.3%
	U.S. Other GOS (Corporate)		\$1,822.9
	Taxes on Corporate Income		\$271.1
	Corporate Income Taxes/U.S. other GOS (Corporate)		14.9%

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

TABLE C-2

SUPPORTING CALCULATIONS FOR PRODUCTION TAXES

		U.S. Economy As a Whole (\$ Billions)	NAICS 512 ^a Movies and Records (\$ Millions)
	Output:	\$21,346.0	\$94,100.0
<i>Equals</i>	Value Added:	\$11,734.3	\$47,300.0
	Employee Compensation	\$6,693.4	\$23,100.0
	Taxes on Production + Imports less Subsidies	\$809.4	\$1,100.0
	Gross Operating Surplus	\$4,231.5	\$23,100.0
<i>Plus</i>	Intermediate Inputs	\$9,611.8	\$46,800.0
	Tax on Prod./Employee Compensation	12.1%	4.8%
	Gross Operating Surplus:	\$4,231.5	\$23,130.0
	Current Surplus Gov. Enterprises	\$(3.0)	—
	Consumption of Fixed Capital	\$461.9	—
	Business Current Transfer Payment	\$91.1	\$149.0
	Other GOS (Corporate) ^a	\$1,822.9	\$12,028.0
	Other GOS (Non-Corporate)	\$1,858.6	\$10,953.0
	Sub-Total	\$4,231.5	\$23,130.0
	Corporate Income Tax (\$271.1 B)/Other GOS (Corp.)	14.9%	

^a Other GOS (Corporate) includes corporate profits before tax plus corporate net interest and miscellaneous payments and adjustments.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

ENDNOTES

1. http://nbcumv.com/corporate/Engines_of_Growth.pdf
2. Siwek, Stephen, E., *The True Cost of Motion Picture Piracy to the U.S. Economy*, Institute for Policy Innovation, Policy Report 186, September 2006.
3. In the RIMS II model, the U.S. Bureau of Economic Analysis does not publish multipliers for sound recording industries at the five digit or six digit levels.
4. See Executive Office of the President, Office of Management and Budget, *North American Industry Classification System: United States 2002*, National Technical Information Service and Bernan, a Division of The Klaus Organization Ltd., page 662.
5. U.S. Census Bureau, 2005 Service Annual Survey, Table 3.0.1.
6. U.S. Census Bureau, Statistics of U.S. Businesses: 2004, U.S., Sound recording industries.
7. U.S. Census Bureau, 2005 Service Annual Survey, Table 3.2.5.
8. U.S. Census Bureau, 2005 Service Annual Survey, Table 3.2.5.
9. IFPI, 2006 *Global Recording Industry in Numbers*, page 26.
10. The piracy rate (or level) is measured as a percentage of total (legitimate and pirate) unit sales.
11. For example in U.K., 45% of counterfeit CD purchasers would “definitely” purchase legitimate titles if counterfeit CDs were unavailable while 69% of counterfeit CD purchasers would “definitely” or “probably have bought” such titles. See: BPI Market Information, No. 274, August 25, 2006, page 4.
12. Table A-1, A-2.
13. See International Intellectual Property Alliance, 2006 *Special 301: Methodology*, page 5.
14. IFPI, 2006 *Global Industry in Numbers*, “The key figures in 2005,” page 9.
15. A number of academic studies have attempted to estimate the impact that file sharing has had on sound recording sales. The specific estimate of 20% is taken from Pietz, M. and Waclbroeck, P., *The Effect of Internet Piracy on Music Sales: Cross Section Evidence*, Review of Economic Research on Copyright Issues, 2004, vol. 1(2), pp 78.
16. Based on confidential survey data, it appears that many consumers of pirated sound recordings also purchase significant quantities of legitimate sound recordings.
17. 3,431 out of 6,987 establishments and 30,742 out of 62,647 employees in NAICS 45122 were located in the eight states listed above.

ABOUT THE AUTHOR

Stephen E. Siwek is Principal at Economists Incorporated, a research and consulting firm with offices in Washington D.C. and in the San Francisco Bay area. Active in research and consulting for over 30 years, Mr. Siwek specializes in the analysis of economic, financial, and accounting issues. He has testified as an expert witness before regulatory bodies and courts on more than 80 occasions.

Mr. Siwek has particular expertise in the economic analysis of the U.S. entertainment industries and of the related U.S. industries that depend on the effective protection of their copyrights. Since 1990, Mr. Siwek has published eleven studies on behalf of the International Intellectual Property Alliance (“IIPA”) that analyzed in detail the economic importance of the U.S. “copyright” industries (including the sound recording industry) to the U.S. economy. In these studies, Mr. Siwek quantified the substantial contributions made by the copyright-based industries to U.S. economic growth, employment and foreign trade.

Mr. Siwek has also been instrumental in furthering the efforts of the World Intellectual Property Organization (“WIPO”) to encourage other nations to measure the economic contribution of copyright-based industries in their own countries. In this regard, Mr. Siwek has been closely associated with the development of the WIPO “Guide” for the measurement of copyright industry contributions and he has directly assisted a number of foreign governments in the preparation of their own studies.

Mr. Siwek is co-author of *International Trade in Films and Television Programs* (American Enterprise Institute/Ballinger Publishing Company, 1988) and *International Trade in Computer Software* (Quorum Books, 1993).

In 2005, Mr. Siwek authored a widely reported study entitled *Engines of Growth: Economic Contributions of the U.S. Intellectual Property Industries* (Commissioned by NBC Universal, 2005). In that study, Mr. Siwek quantified the substantial contributions made by the IP sector as a whole to real U.S. growth. More recently, Mr. Siwek authored a study on the effects of motion picture piracy on the U.S. economy as a whole. That study was entitled *The True Cost of Motion Picture Piracy to the U.S. Economy*, (Institute for Policy Innovation, Policy Report 186, September 2006).

In February of 2007, Mr. Siwek participated as a panelist in the Motion Picture Association of America’s first-of-its-kind industry symposium entitled, *The Business of Show Business*. In May 2007, he also served

as a panelist for the launch of the Copyright Alliance, a non-profit education group whose 29 member organizations represent an estimated 11 million Americans working in the copyright sector.

Mr. Siwek earned his undergraduate degree at Boston College and his M.B.A. at George Washington University.

ABOUT THE INSTITUTE FOR POLICY INNOVATION (IPI)

The Institute for Policy Innovation (IPI) is a nonprofit, non-partisan educational organization founded in 1987. IPI's purposes are to conduct research, aid development, and widely promote innovative and nonpartisan solutions to today's public policy problems. IPI is a public foundation, and is supported wholly by contributions from individuals, businesses, and other non-profit foundations. IPI neither solicits nor accepts contributions from any government agency.

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The IPI Center for Technology Freedom is the technology division of the Institute for Policy Innovation. The purpose of the Center is to sort out the policy challenges posed by technological change for both the American people and policy makers.

The IPI Center for Technology Freedom points the way for a society that encourages freedom to develop new technologies, and the freedom to access them.



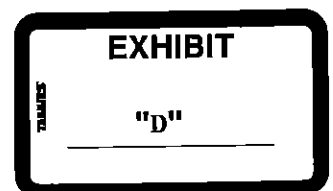
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Statement of the Problem

The death of a child makes headlines, especially when seemingly senseless violence is involved. However, when a teen buys a pirated compact disc, most citizens don't view that act as harmful. In reality, intellectual property (IP) crimes have far-reaching repercussions, both nationwide and in Mississippi. According to the U.S. Chamber of Commerce, IP theft accounts for an estimated \$250 billion in lost revenues and 750,000 in lost jobs each year. Moreover, the RAND Corporation reports the profits from IP theft can and do directly support violence, terrorism, and economic downfall. RAND, Immigration and Customs Enforcement (ICE), and the Federal Bureau of Investigation (FBI) have all stated that law enforcement cooperation and increased global intelligence is desperately needed to combat IP crimes.

This global problem is magnified in Mississippi. The most recent census estimates show that at least 21% of Mississippians live below the poverty line, with a per capita income in 2007 of approximately \$18,900. This level of poverty has created a desperate search for low cost products, making Mississippians extremely vulnerable to counterfeit goods. Mississippians are prime targets for pirated goods that are "necessary" goods, such as pharmaceuticals with dangerous ingredients. Compounding the problem, most law enforcement agencies must focus on violent crime and are simply unable to devote sufficient resources to prevention and enforcement of IP laws.

According to Gulfport ICE agents, counterfeit products are widespread and prolific across the state, with the most common counterfeit goods being clothing products, DVDs and CDs. The black-market counterfeit pharmaceuticals which have been seen regularly in Mississippi include lipitor and viagra. Although Mississippi statistics are not developed, federal and state officials



believe virtually every flea market has counterfeit products for sale.

Primary enforcement problems include lack of available resources, equipment, training, and the widespread perception among citizens that counterfeiting or piracy is not “really a crime.” The formation of a statewide IP task force under the umbrella of the Attorney General’s Office (AGO) will (1) unify federal, state, and local law enforcement efforts and (2) provide much-needed training and resources for coordinated enforcement. Information gathered by the task force will be used to develop and implement statewide consumer education. In turn, increased enforcement and consumer education efforts will significantly reduce profit for organized crime and/or terrorist organizations and protect American jobs, government services, and consumers’ health.

Project Design & Implementation

The AGO leads state investigations and prosecutions of IP crimes. In 2009, Attorney General Jim Hood assisted lawmakers in passing crucial legislation providing enhanced penalties for IP crimes. General Hood is also a national leader in this areas, serving as the co-chair of the National Association of Attorneys General’s (NAAG) IP Committee. The Committee serves as a national information clearinghouse with respect to IP enforcement, legislation, and training. Through this grant opportunity, the AGO is prepared to expand the national purposes of the Committee to the investigation and enforcement of Mississippi IP laws. This state-specific program will provide the necessary training and resources for investigation and enforcement of IP crimes.

Because offenders outnumber the trained state and local law enforcement personnel dedicated to the investigation and prosecution of IP crimes, resources provided by this federal solicitation will allow for the development and implementation of a statewide task force and educational campaign

known as Operation Knock Out Knock-Offs ("Operation KOKO"). Operation KOKO will contain simultaneous phases. Phase I will create an IP Task Force designed to (1) provide intense training and investigatory assistance to local law enforcement and (2) increase collaboration among federal, state and local authorities. Phase II will be a multi-source campaign to work with local authorities to educate merchants and the general public about the dangers of IP crimes.

Phase I: The KOKO Task Force. As the coordinating agency, the AGO will invite local prosecution and investigative agencies from each Mississippi county to participate. The AGO will also invite state and federal agencies, such as the U.S. Attorney's offices, FBI and ICE, to participate and assist in training efforts. For geographic convenience, the state's 82 counties will be divided into 12 regions for training and enforcement. Task force members will (i) participate in a series of statewide and regional training sessions; (ii) develop investigative protocols; (iii) utilize joint enforcement tools; (iv) investigate cases; and (v) obtain materials to train non-task force members.

Initial Training: The AGO will conduct an initial training on IP crimes at the regularly-scheduled AGO's October 2009 Prosecutor's Training Conference. Task force members, prosecutors, and Crime Victim Assistance Coordinators will be trained on the investigation and enforcement of IP crimes and IP-related dangers. This training, as well as future training sessions, will be recorded and distributed with other materials for future use by task force members.

Training Materials: Following the initial training, the AGO will develop and provide to task force members a training DVD, a written training manual, and other materials on IP crimes. The manual will provide examples of documents that can be used in enforcement, such as suggested forms for search warrants, affidavits, and indictments, tips on how to spot counterfeit goods, and a

collection of industry conducts available to assist in investigations and prosecutions. On an as-needed basis, the task force will be provided with additional enforcement tools and information. The AGO will use specialized software and equipment to produce the training materials.

Regional training: Throughout the year, the AGO will conduct more detailed training in one region per month. The AGO will work closely with other funded agencies, especially those receiving Byrne/JAG funds.

Annual Conference: The task force will meet yearly for an annual conference and intense training. Task force members will review processes, objectives, and participate in regional breakout sessions. The AGO will seek the assistance of federal agencies such as the training partner funded by BJA, members of the NAAG IP Committee, and industry representatives to train task force members. The AGO anticipates 100 participants, which will include AGO Cyber Crime staff.

Continuing training: The task force will, beginning in Spring 2010, hold additional training twice a year in conjunction with the AGO's Prosecutor's Training conference. These sessions will be targeted to specific enforcement issues, including analysis of suspected counterfeit goods.

Enforcement/Technical Assistance: Task force members will work together to locate, investigate, and prosecute IP crimes. State and federal task force members will lead statewide investigations with the assistance of local members. Local members will also assist in local investigations in neighboring counties and regions. The task force will combine resources and knowledge, on both a statewide and localized level, to quickly identify and prosecute IP crimes.

As part of the task force's enforcement efforts, the AGO will provide technical assistance to task force members by maintaining critical equipment for use in investigations throughout the state.

Covert camera, audio, and radio systems are essential to any undercover law enforcement operations, but such systems are not readily available to local law enforcement or are dedicated solely to narcotics crimes. The tools provided by the task force will be a vital part of the investigative process. In addition, having equipment on hand to assist in the seizure and recording of evidence will enhance the ability to prosecute IP crimes. Equipment and items to be used by the task force in providing technical assistance to members will include:

- (i) Undercover surveillance camera to be used in making buys of counterfeit goods;
- (ii) Undercover audio transmitter to be used by task force in investigatory operations;
- (iii) Radio Communications to be used by task force members during investigations;
- (iv) Transportation Trailer to be used for transporting seized evidence; and
- (v) Evidence data system to be used to record and maintain evidence data.

In addition, local authorities do not have facilities to store the large volume of counterfeit goods that will be seized during investigations, particularly those goods that are sensitive to heat and light. By utilizing climate-controlled storage facilities to secure and centralize evidence, task force members will properly maintain evidence pending prosecution. Finally, the AGO will use its investigators' cars to assist task force members in undercover operations. The vehicles will allow task force members to transport cumbersome and costly surveillance equipment, other investigatory equipment, and seized evidence by providing towing capacity to pull necessary transport trailers.

Phase II: Education of Merchants and Consumers. Phase II will run concurrently with Phase I and will include the education of the general public, sellers and merchants. This phase will build public awareness of the economic and safety impact of IP crimes. This phase will begin with

the creation of educational tools, including written presentation materials, exhibits for public display, and oral and written public service announcements (PSAs) and advertisements. The written presentation materials will include a power point presentation and a brochure to be distributed to consumers. In addition, public/booth exhibits will be designed for use at merchant sites, and will include large-scale reproductions of applicable IP laws. With the assistance of task force members, the AGO will create these materials using specialized software and equipment. The materials for PSAs and advertisements will be used to educate Mississippi consumers, on an ongoing basis, on the dangers of and ways to avoid IP crime. After the campaign materials are finalized, the AGO will:

- (i) schedule speaking engagements to disseminate the materials;
- (ii) set up booths in one region per month at a local fair, flea market, or other venue; and
- (iii) run both television and radio public service announcements, as well as paid advertising.

In all aspects, Phase II will emphasize goods presenting health or safety concerns. As with development, the presentation of materials will be done with the assistance of task force members.

III. Capabilities/Competencies

The Mississippi AGO has been a leader in efforts to investigate and prosecute IP crimes. As noted above, General Hood is the co-chair of the NAAG IP Committee. In this capacity, General Hood is overseeing efforts to develop a best practices manual for states, and is seeking industry assistance for IP enforcement. The best practices manual currently being developed will be used a starting point for state-specific materials. Two attorneys in the Consumer Protection Division have been instrumental in researching and developing written materials for the IP subcommittee.

Second, General Hood and the staffs of the Consumer Protection and Cyber Crime divisions

have extensive backgrounds in criminal investigations and prosecutions. The Consumer Protection Division currently has several ongoing IP investigations and pending prosecutions. With five investigators and four prosecutors in two locations in the state, the Consumer Protection Division is poised to provide immediate assistance to local law enforcement and prosecuting authorities. The Cyber Crime division is available to assist in the growing number of IP crimes on the internet.

Third, the AGO was instrumental in getting legislation passed in the 2009 session which increases the penalties for IP crimes. The purposes behind this new legislation will be achieved by creating the task force described above and providing critical equipment to combat IP crimes. Fourth, the AGO has already received training related to the IP work envisioned in this application. The entire Consumer Protection Division participated in a pilot training presented by the U.S. Patent & Trade Office and the Global IP Academy in November 2008.

Fifth, the AGO has a sound fiscal management structure in place to keep federal grant funds in separate accounts, and the AGO is audited by law annually. The Attorney General has been the recipient of several federal and state grants including funds from BJA, VAWA, VOCA, Medicaid, and the Mississippi Department of Public Safety. The Administrative Officer is the fiscal manager, with separation of purchase authority. Purchases are requisitioned through a purchasing agent, tracked and paid by an accounts receivable agent following state law.

Finally, the AGO is prepared to dedicate a separate timekeeping system to the administration of funds provided under this grant. The office utilizes the CRIMES computer system, which will allow for detailed timekeeping, mileage reports, and similar data. Accurate records will reflect not only the proper use of grant funds, but also the results obtained.

IV. Impact/Outcome, Evaluation, Sustainment, and Plan for the Collection of the Data

As to Phase I: Because no task force is in existence, and little (if any) local enforcement of IP laws is occurring, the AGO will undertake to ascertain a baseline immediately upon grant approval. The AGO will collect data from task force members for the preceding twelve-month period as to (1) IP investigations and arrests; (2) IP-related search warrants; (3) IP-related tips/leads; and (4) requests for technical assistance and completion of same. The AGO will maintain this data in the CRIMES system, which allows for search and retrieval of inputted data. The CRIMES system is designed to allow entry of each existing investigation and prosecution as a separate matter, which will generate a reference number. Future documentation about a specific matter may be scanned and saved into the CRIMES system. As new investigations are instituted, each will be inputted accordingly.

Objective 1: Establish statewide task force to conduct investigations involving criminal IP laws.

The AGO will evaluate performance by comparing the number of agencies invited to participate versus the number that participate. After establishing a baseline, the AGO will maintain data regarding the number of new investigative cases initiated by the task force. *Performance Measure:* 50% of invited agencies participate; task force has a 20% increase in the number of investigations.

Objective 2: Increase the knowledge of local authorities on IP enforcement through training.

The AGO will collect the number of task force participants who attend and complete each statewide and regional training. At each training, pre-tests, post-tests and evaluations will be provided. For each training, the AGO will collect data on (1) the number of evaluations completed; (2) the number of participants who rated the training as satisfactory or better; and (3) the number of individuals whose post-test indicate an increased score over pre-test. Finally, the AGO will maintain data on

the number of training materials distributed to task force members following each statewide training.

Performance measure: (1) 50% of task force members attend at least one statewide training and regional training; (2) 75% of training participants complete at least one statewide training and regional training; (3) 75% of those trained complete an evaluation; (4) 75% of those trained rate the training as satisfactory or better; (5) 75% show an increase in post-test scores over pre-test scores; and (6) 100% of task force members are provided with materials following each statewide training.

Objective 3: Assist local authorities in enforcing IP laws, including providing technical assistance

The AGO will collect data from task force members on: (1) the number of IP-related arrests; (2) the number of statewide and local IP-related search warrants served; (3) the number of IP-related tips/leads received; and (4) the number of office-based and on-site technical assistance (TA) requests received by task force members, and the number completed. *Performance measure:* Following the establishment of a baseline for the above items: (1) 10% increase in number of IP-related arrests; (2) 25% increase in the number of statewide and 15% increase in the number of local IP-related search warrants served; (3) 15% increase in the number of IP-related tips/leads received; (4) 20% increase in the number of office-based and on-site TA requests received by task force members; and (5) 50% increase in the number of office-based and on-site TA requests completed.

Objective 4: Work with local authorities to educate merchants and the general public about the dangers of IP crimes.

Because the AGO is unaware of any educational materials related to IP crimes in Mississippi, the AGO will undertake to ascertain a baseline immediately upon grant approval. The AGO will collect data from task force members and other available outlets for the preceding twelve-month period as to (1) existing materials; (2) the presence of law enforcement at

flea markets and similar venues; and (4) the number of IP- prevention presentations. To monitor educational efforts, the AGO will maintain (1) the number of educational materials (brochures, power point presentations, public service announcements, and other materials) developed; (2) the number of materials pilot tested; (3) the number of materials revised following pilot testing; (4) the number of educational materials requested by government entities, civic groups, and members of the general public, including response; (5) the number of exhibits at flea markets and other events; and (6) the number of consumer education and prevention events. *Performance measure:* (1) 25% increase in the number of educational materials developed; (2) 25% increase in materials pilot tested; (3) 20% increase in materials revised after pilot testing; (4) 20% increase in number of educational materials requested, with 90% response rate; (5) 30% increase in the number of booths at a flea markets; and (6) 30% increase in consumer education and prevention events.

Finally, the AGO will participate in any national evaluation, and will provide required data or supporting documentation to federal agencies as required. The AGO will participate and provide data collection for any training/technical assistance provided including national web-based or distance learning. Performance measures are attached in chart form as a separate appendix.

Continuation Strategy: The task force will continue in annual training efforts, meeting as a group once a year and as needed regionally. The annual meetings will coincide with the AGO's Prosecutor's Training conferences, which are held twice a year. Enforcement efforts will continue and increase, with task force members working together to provide mutual aid. The funding for such continued enforcement will be supported by collection of investigative costs and fines. Phase II goals, except paid advertising, will be continued as part of the AGO's consumer protection mission.

PROJECT TIMELINE AND POSITION DESCRIPTIONS

Project Timeline

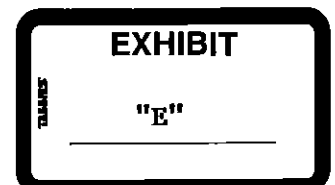
Goal 1: Establish statewide task force to conduct investigations involving criminal IP laws

- a. **Objective:** Invite state, federal and local authorities to participate
Activity: Develop and send invitations to state, federal, and local authorities. Correspondence will explain need for task force, organizational structure, goals, and activities.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey
Timeline: One month

- b. **Objective:** Organize task force by region
Activity: Evaluate geographic proximity and population of state. Divide participating counties into twelve geographically-convenient regions for training and enforcement efforts. Inform task force participants of regional designations, including the contact information for all members.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey
Timeline: One month

- c. **Objective:** Develop and complete mutual aid agreements
Activity: Develop mutual aid agreement in accordance with state law. Send agreement to task force members, and confirm receipt and understanding of agreement. Ensure agreements are signed.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey
Timeline: One - three months

- d. **Objective:** Track Statistics
Activity: Develop baseline of task force data to be maintained. Develop and maintain computer files related to task force invitations and participants. Monitor participation for geographic diversity, and seek assistance in non-responsive areas of state.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Project Assistant Leigh Ann Cox
Timeline: Throughout grant period



Goal 2: Increase the knowledge of local authorities on IP enforcement through training

- a. **Objective:** Conduct orientation and initial training
Activity: Organize and notify task force members of orientation and initial training, to be held in conjunction with AGO's Prosecutor's Training Conference in April, 2010. Develop agenda for orientation and initial training. Develop pre-training and post-training tests and evaluations. Conduct orientation and initial training.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Special Assistant Attorney General Scott Johnson; 4. Investigator Lee McDivitt; 5. Project Assistant Leigh Ann Cox
Timeline: One month - four months

- b. **Objective:** Develop and distribute training materials
Activity: Research, create, and produce training materials on CD, including a power point presentation for use in local offices. Distribute to task force members. Provide updates to materials as needed, and in response to questions and concerns by task force members.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Special Assistant Attorney General Scott Johnson; 4. Investigator Lee McDivitt; 5. Project Assistant Leigh Ann Cox
Timeline: Three - five months for initial materials; updates supplied as needed

- c. **Objective:** Conduct regional training
Activity: Create additional training materials in response to evaluations received at initial training. Develop pre-training and post-training tests and evaluations. Travel to and conduct training sessions in each designated region.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Special Assistant Attorney General Scott Johnson; 4. Investigator Lee McDivitt; 5. Investigator Jake Windham; 6. Investigator Kenny Allen; 7. Investigator Duncan Foster
Timeline: Throughout grant period

- d. **Objective:** Conduct annual training
Activity: Create and conduct in-depth training at annual meeting. Work with industry representatives and federal agencies to provide training sessions. Develop pre-training and post-training tests and evaluations.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Special Assistant Attorney General Scott Johnson; 4. Special Assistant Attorney General Jack Denton; 5. Special Assistant Attorney General Linda Davis; 6. Investigator Lee McDivitt

Timeline: Six - nine months

- e. **Objective:** Conduct additional training
Activity: Develop and conduct additional training in conjunction with Fall 2010 Prosecutor's Training Conference. Create materials regarding identification and analysis of common counterfeit goods. Develop pre-training and post-training tests and evaluations.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Special Assistant Attorney General Scott Johnson; 4. Investigator Lee McDivitt
Timeline: One - two months to prepare, to be held in Fall 2010

- e. **Objective:** Track statistical information
Activity: Monitor and maintain records of participation and attendance at each training session. Maintain pre-tests, post-tests, and evaluations.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Project Assistant Leigh Ann Cox
Timeline: Throughout grant period

Goal 3: Assist local authorities in enforcing IP laws, including providing technical assistance

- a. **Objective:** Develop and produce investigative protocols
Activity: Research and draft investigative protocols, including form search warrants, affidavits, indictments, and other investigatory and prosecutorial tools. Provide protocols as part of statewide and regional training. Revise as needed based on comments in training and actual investigations.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Special Assistant Attorney General Scott Johnson; 4. Special Assistant Attorney General Jack Denton; 5. Special Assistant Attorney General Linda Davis; 6. Investigator Lee McDivitt; 7. Project Assistant Leigh Ann Cox
Timeline: One - three months to develop protocols; revise and distribute throughout grant period

- b. **Objective:** Assist in investigations statewide
Activity: Provide manpower and expertise in investigations statewide. Work with task force members and other local authorities to investigate intellectual property crimes, engage in undercover operations, obtain and serve search warrants, and assist in arrest and prosecution of offenders.
Responsible Persons: 1. Chief Investigator, Richie McCluskey; 2. Investigator Lee

McDivitt; 3. Investigator Jake Windham; 4. Investigator Kenny Allen; 5. Investigator Duncan Foster

Timeline: Throughout grant period

- c. **Objective:** Provide technical assistance to local authorities
Activity: Provide necessary equipment and other resources for intellectual property crimes investigations. Work with task force members to organize and execute covert operations. Assist in seizing and storing evidence, and taking cases to trial.
Responsible Persons: 1. Chief Investigator, Richie McCluskey; 2. Investigator Lee McDivitt; 3. Investigator Jake Windham; 4. Investigator Kenny Allen; 5. Investigator Duncan Foster
Timeline: Throughout grant period
- d. **Objective:** Track statistical information
Activity: Establish baseline of date to be maintained. Monitor and maintain records on active investigations, including tips/leads received. Maintain records related to intermediates steps, such as execution of warrants and the use of technical assistance by task force members.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Project Assistant Leigh Ann Cox
Timeline: Throughout grant period

Goal 4: Work with local authorities to educate merchants and the general public about the dangers of IP crimes

- a. **Objective:** Create, test and distribute educational materials
Activity: Develop, revise, and produce educational materials, incorporating suggestions from task force members. Materials will include brochures, informational packets, power point presentations, public service announcements, and other advertising/campaign materials. Engage in pilot testing of materials with task force members and a selected consumer group. Distribute materials to media, at events described below, and in response to inquiries from the press and citizens.
Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Project Assistant Leigh Ann Cox
Timeline: Two - three months
- b. **Objective:** Locate and schedule exhibit booths at flea markets/other merchant locations
Activity: Research and target flea markets and similar venues in each geographic region. Schedule booth space at target venues, and attend as scheduled. Work with task force members to attend events.

Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Project Assistant Leigh Ann Cox

Timeline: One - two months to schedule, provide exhibits throughout grant period

c. **Objective:** Schedule consumer education presentations

Activity: Research and schedule consumer presentation opportunities at civic organizations, town hall meetings, and similar venues. Attend presentations with materials to distribute. Work with task force members to present materials to consumers.

Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Project Assistant Leigh Ann Cox

Timeline: One - two months to schedule, make presentations throughout grant period

d. **Objective:** Track statistical information

Activity: Monitor the number of materials produced by type and use. Monitor changes made as a result of task force member suggestion and/or pilot testing. Monitor the number of venues, both retail and educational, attended. Monitor the number of requests for information by the press and citizens.

Responsible Persons: 1. Consumer Protection Division Director, Meredith Aldridge; 2. Chief Investigator, Richie McCluskey; 3. Project Assistant Leigh Ann Cox

Timeline: Throughout grant period

Position Descriptions

Division Director, Meredith Aldridge: Develop program materials. Oversee fulfillment of goals and objectives. Monitor and direct day-to-day activities associated with the grant. Ensure statistics are properly maintained throughout grant period.

Chief Investigator, Richie McCluskey: Assist in developing program materials. Oversee investigative aspects of program, especially the provision of technical assistance.

Special Assistants Attorney General: Assist in developing program materials. Assist in training and enforcement efforts, as well as educational presentations.

Investigators: Assist in training and enforcement. Provide investigative manpower and technical assistance to local authorities.

Project Assistant: Assist in developing program materials. Utilize specialized software to create educational tools. Assist in tracking statistical information.