



# **Estimating the global economic and social impacts of counterfeiting and piracy**

**AN EXECUTIVE SUMMARY COMMISSIONED BY BUSINESS ACTION TO STOP COUNTERFEITING AND PIRACY (BASCAP)**

February 2011

## Executive Summary

Counterfeiting and piracy has increased substantially over the last two decades. Today, counterfeit and pirated products can be found in almost every country in the world and in virtually all sectors of the global economy. As policymakers grapple with allocating resources across multiple public policy challenges, better information on the full scope, scale, costs and impacts of counterfeiting and piracy is necessary to ensure that the appropriate resources and prioritization are given to combating counterfeiting and piracy.

Estimates of the level of counterfeiting vary but all estimates agree that counterfeiting represents a multi-billion dollar underground economy with hundreds of billions of dollars of counterfeit product being produced every year.

## Building on the OECD's work

Most recently, the OECD endeavoured to address the lack of in-depth systematic evidence on counterfeiting and piracy and provide governments with a reliable, data-based assessment.

The OECD published an extensive report on the subject in 2008<sup>1</sup>, and concluded that the value of counterfeited and pirated goods moving through international trade alone equalled \$200 billion annually, a number they updated in 2009 to \$250 billion<sup>2</sup>.

In releasing their findings, the OECD stated,

*“This total does not include the value of domestically produced and consumed counterfeit and pirated products and the significant volume of pirated digital products being distributed via the Internet. If these items were added, the total magnitude of counterfeiting and piracy worldwide could well be several hundred billion dollars more.”*

In addition the OECD explained that,

*Counterfeiting and piracy “can have broader economy-wide effects on trade, foreign investment, employment, innovation, criminality, environment [...] and with respect to governments, counterfeiting and piracy have direct effects on tax revenues and government expenditures.”*

Taken together, the OECD report delineated four categories of impact, of which they provided quantitative estimates for only one: Counterfeit and pirated goods moving through international trade.

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<sup>1</sup> OECD, The Economic Impact of Counterfeiting and Piracy, 2008 (hereinafter “OECD Report”).

<sup>2</sup> OECD, Magnitude of Counterfeiting and Piracy of tangible products: An Update, November 2009.

This study seeks to build on the OECD's work, by updating their estimates and more importantly, introducing and examining categories of impacts identified and discussed but not quantified by the OECD report – the value of domestically produced and consumed counterfeit products, the value of digital piracy, and impacts on society, governments and consumers.

- **Category 1: Counterfeit and pirated goods moving through international trade.** We update the OECD's estimate of the value of counterfeit and pirated goods moving through international trade, drawing on new customs seizure data indicating that the incidence of counterfeiting and piracy has increased relative to the 2005-based customs data used in the OECD's 2008 study.
- **Category 2: Value of domestically produced and consumed counterfeit and pirated products.** We develop a methodology, derived from the OECD's modeling work, to generate an estimate of the value of domestic manufacture and consumption of counterfeit and pirate products – thereby capturing an estimated value of fake products that do not cross borders.
- **Category 3: Volume of pirated digital products being distributed via the Internet.** We describe, evaluate and contextualize industry reports and academic studies on the value of digital piracy of recorded music, movies and software. We then use these studies to produce an estimate of the total value of digital piracy that has been calculated using consistent assumptions and methodology across these industries.
- **Category 4: Broader economy-wide effects.** We provide a summary of previous analysis aimed at identifying the broader economy-wide effects of counterfeiting and piracy.

Before discussing our findings, it is important to be clear about the nature and context of the analysis presented in this report. Since counterfeiting operates outside the law, estimating the exact level of counterfeiting and the harm it brings is extremely challenging. The activities of illegal businesses cannot be measured using the same techniques used for legitimate business concerns.

We have therefore used a variety of analytical approaches to reach our estimates, drawing on a range of sources of information and making conservative assumptions. Our methodologies are described in detail, and we are explicit about the assumptions that have been required to reach the estimates we present and their limitations. While the methods used cannot yield precise estimates, the results do offer compelling evidence of the broad global magnitude of counterfeiting and piracy.

## Key findings

The following Table 1 compiles the set of findings we refer to as *the complete picture*, drawing together estimates for the total value of counterfeit and pirated products in 2008, along with projections for 2015. Notably, our estimates of impacts on the broader economy only include estimated impacts on the twenty G20 economies and are presently limited to 2008.

**Table 1. The Complete Picture.** Estimate of the total value of counterfeit and pirated products in 2008 and 2015, and impacts on the broader economy and employment

OECD Category	Estimate in \$ billions (2008)	Estimate in \$ billions (2015)
Internationally traded counterfeit and pirated products	\$285 - \$360	\$770 - \$960
Domestically produced and consumed counterfeit and pirated products	\$140 - \$215	\$370 - \$570
Digitally pirated products	\$30 - \$75	\$80 - \$240
<b>sub total</b>	<b>\$455 - \$650</b>	<b>\$1,220 - \$1,770</b>
Broader economy wide effects <sup>†*</sup>	\$125	\$125 +
Employment losses*	2.5 million	2.5 million +

Source: Frontier Economics

<sup>†</sup> Effects on government tax revenues, welfare spending, costs of crime health services, FDI flows

\* Estimate limited to G20 economies

## Global economic value

We estimate that, based on 2008 data, the total global economic value of counterfeit and pirated products is as much as \$650 billion every year. Table 2 below provides a breakdown of our estimate. It shows that international trade accounts for more than half of counterfeiting and piracy (our updated estimate is \$285 billion to \$360 billion), domestic production and consumption accounts for between \$140 billion and \$215 billion and digitally pirated music, movies and software accounts for between \$30 billion and \$75 billion.

**Table 2.** Estimate of the total value of counterfeit and pirated products (2008)

OECD Category	Estimate (2008 data)
Internationally traded counterfeit and pirated products	\$285 billion - \$360 billion
Domestically produced and consumed counterfeit and pirated products	\$140 billion - \$215 billion
Digitally pirated products	\$30 billion - \$75 billion
<b>Total</b>	<b>\$455 billion - \$650 billion</b>

Source: Frontier Economics

It is important to note that these estimates are likely to provide a conservative estimate of the impact of counterfeiting and piracy. The estimates of the value of counterfeiting are based on 2008 data (the last year for which complete data was available), and given the rapid increase in counterfeiting and piracy observed between 2005 and 2008, this is likely to under-estimate the level of counterfeiting and piracy beyond 2008. It is for this reason that we have provided estimates to 2015.

It is also important to note that this study, following in the footsteps of the OECD report, has not attempted to estimate business losses associated with counterfeiting and piracy. This is primarily because the likely variations and other difficulties associated with estimating substitution effects across substantially different countries and industries introduces an additional level/degree of variables which could undermine our aim to as accurately as possible characterize the magnitude of counterfeiting and piracy.

### Broader economy-wide effects

In addition to their work on economic impacts, the OECD examined – but did not provide quantitative estimates for a range of broader economy-wide effects: *“Counterfeiting and piracy can have broad economy-wide effects on trade, foreign investment, employment, innovation, criminality and the environment. Concerning the microeconomic effects, the sales volume, prices and costs of rights holders are impacted, as are investment, royalties and brand value. For consumers, counterfeit and pirated products may offer cheap alternatives to genuine goods but are usually of inferior quality. For certain types of infringing goods, the health and safety of consumers may be put at significant risk. With respect to governments, counterfeiting and piracy have effects on tax revenues, government expenditures, and, when corruption takes place, the effectiveness of public institutions. (p. 133)*

These social costs are far from insignificant and merit treatment sufficient to ensure that they are not overlooked when considering the full range of negative impacts resulting from counterfeiting and piracy. In an associated study<sup>3</sup> (excerpted in Chapter 3 of this report), Frontier explored the value and impact of these broader economy-wide effects. Notably, this work did not capture all of the thirteen “broader economy wide effect” cost-categories identified by the OECD; we only tackled impact of counterfeiting and piracy on government tax revenues, legitimate employment, increased costs of crime, economic costs on consumer health and safety, and downward pressures on FDI flows. Moreover, the scope of this report was limited to only the 20 countries comprising the “group of 20”, and so will be an under-estimate of the global impact of counterfeiting and piracy. The findings, however, are relevant to this report and serve to complete the picture of the total impacts to “economy and society”.

We found counterfeiting and piracy are estimated to cost G20 governments and consumers over \$125 billion every year:

- of this, the G20 economies lose approximately \$77.5 billion in tax revenues and higher welfare spending, \$25 billion in increased costs of crime, \$18.1 billion in the economic cost of deaths resulting from counterfeiting and another \$125 million for the additional cost of health services to treat injuries caused by dangerous fake products; and
- a number of G20 economies may be missing out on higher FDI as a result of concerns over IPR enforcement. That lost investment could give rise to additional tax losses of more than \$6.25 billion across the G20.

## Employment

This report has not considered explicitly the impact of counterfeiting and piracy on employment. However, Frontier's previous study, which focused on the wider social and economic impacts of counterfeiting and piracy found that counterfeiting and piracy has significant negative impacts on employment across the G20 economies. Our previous analysis found that **approximately 2.5 million jobs have been destroyed by counterfeiting and piracy** – alternatively, if counterfeiting and piracy could be eradicated or seriously reduced, up to 2.5 million jobs could be created in the legitimate economies of the G20. It should also be noted that these estimates do not include secondary impacts on employment that may well be experienced by suppliers, retailers and other sectors in the supply chain.

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<sup>3</sup> Frontier Economics, The Impact of Counterfeiting on Governments and Consumers, December 2009

While it is likely that many of those who lost their jobs have gone on to find reemployment, the personal and family trauma associated with even temporary unemployment should not be lightly discounted. For example, people may quickly get into arrears on mortgages or personal debts, have difficulty paying medical expenses (as benefits are often linked to employment) or be forced to relocate to find alternative employment.

Finally, it is important to note that our previous analysis focused only on the G20 economies and so are likely to under-estimate the negative global impacts of counterfeiting and piracy on employment.

### A growing problem – projections to 2015

Based on the OECD's analysis, our work to update the OECD figures and a range of analysis by industry and academics, it would appear that the value and volume of counterfeiting and digital piracy is increasing rapidly. In order to understand the potential impact of this rapid increase, we have developed an estimate of the value of counterfeiting and piracy in 2015. Obviously, estimating what will happen to counterfeiting and piracy is a difficult exercise, and depends on many factors, including developments in the world economy, and action by business and governments to try to counter such activities. Nevertheless, it is helpful to understand what the total magnitude of counterfeiting and piracy would be in 2015, were current growth rates to continue.

The OECD's original report (based on 2005 data) estimates that the value of counterfeit and pirated products in trade equated to \$200 billion. In 2009, the OECD increased this figure to \$250 billion. Updating these trends using 2008 data to reflect increases in trade *and* seizures since 2005, we find that the value of counterfeit and pirated products in trade has increased by up to \$160 billion (to \$360 billion) over this period – this is an increase of around 22% per year. Were counterfeiting and piracy to continue to grow at even the much lower rate of 15% per year, it would imply that traded counterfeit and pirated products could be worth up to **\$960 billion by 2015**. Similar increases for domestic counterfeit production and consumption imply estimates of up to **\$570 billion by 2015**.

The findings also suggest that digital piracy has grown substantially over the last decade, to the point where it now accounts for between 6.5% and 12% of the total value of counterfeit and pirated products consumed. In some sectors, such as music, movies and software, digital piracy accounts for a substantially greater share of the total. It is also likely that digital piracy will continue to grow rapidly over the next decade as internet access grows and ever-faster broadband speeds facilitate illegal downloads and file sharing. Even using a highly conservative assumption, that digital piracy maintains its share of total counterfeiting and piracy, it could account for \$210 billion by 2015. Alternative projections based on internet traffic growth suggest this figure could reach **\$240 billion by 2015**.

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Together these estimates imply that the global value of counterfeit and pirated products could be up to **\$1.77 trillion by 2015**.

## Analytical approach

In this report we have sought to build on the work of the OECD to provide up to date estimates of the impact of counterfeiting and piracy in the four categories identified in the OECD's work. In some cases this has involved updating the OECD's analysis with more recent data, whereas in others it has involved developing new analysis, much of which is based on the OECD's analytical approach. The analysis in relation to each of the four impact categories is based on a combination of publicly available data and assumptions.

The publicly available data is from reputable sources such as national governments and the OECD, and is supplemented where necessary with data and analysis from industry associations, businesses and academia. We have based the assumptions used in the analysis on existing data and analysis where possible and have in all cases made the assumptions used as conservative as possible. For instance, in projecting the value of counterfeiting and piracy to 2015, we have assumed growth rates considerably below those observed between 2005 and 2008. The main body of the report sets out in detail the assumptions used in the analysis, the basis of those assumptions, and the impact that they have on our analysis.

It is important to note that the model does not include any multipliers, nor does it attempt to estimate the wider effects that counterfeiting may give rise to in terms of impact on the wider supply chain, investment by firms to prevent counterfeiting and piracy or potentially reduced investment and R&D incentives.

The analysis has been developed so that it can be used by national governments, independent agencies, industry sector associations or any other bodies seeking to identify and examine the costs and impacts of counterfeiting. Over time, we hope that if this approach is implemented by policymakers and other stakeholders at a national level, the reliance on assumptions in developing estimates can be substantially reduced.

## Agenda for future research

Looking to the future research agenda, we believe that while it is important to have an understanding of global magnitudes in order to highlight the increasing threat to the global economy, more fine grained and detailed analysis is required on a country by country basis.

Only when the analysis is conducted on a country by country basis, can one identify in detail the negative impacts of counterfeiting and piracy, and the relative costs and benefits of significantly increasing enforcement activities.



Moreover, analysis carried out at the country level is likely to provide better quality, more accurate estimates, due to greater and more robust data. To demonstrate the extent to which the types of approach identified in this report can be applied at a country level, Annexe 1 provides an illustrative assessment of the magnitude of counterfeiting and piracy in the US economy.

Finally, we believe an important next step in the work to identify the impact of counterfeiting and piracy will be to develop a robust methodology for understanding the relationship between the magnitude of counterfeiting and piracy and business losses.

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