

Chapter 1. The economic context of counterfeiting and piracy

Illicit trade in fake goods¹ is a longstanding problem that keeps growing in scope and magnitude. These practices have negative effects on the sales and profits of affected firms while raising adverse revenue, economic, health, safety and security effects for governments and consumers. Organised criminal groups are seen as playing an increasingly important role in these activities, benefiting significantly from highly profitable counterfeiting and piracy operations.

In order to improve the factual understanding of counterfeit and pirated trade, and to formulate evidence-based policy messages the OECD has been carrying out a comprehensive economic assessment of the problem and of the main governance gaps that facilitate it or act as a driver. To perform this task, it has built a comprehensive database on seized counterfeit and pirated products, which can serve as a basis for case studies (see Box 1.1)

Box 1.1. Database on seized counterfeit and pirated products

The database on customs seizures is the critical quantitative input to this study. It was constructed from three separate datasets received from the World Customs Organization, from DG TAXUD of the European Commission and the US Customs and Border Protection. The database includes detailed information on seizures of IPR-infringing goods made by customs officers in 99 economies around the world between 2011 and 2016. Altogether there are about 900 000 observations in the database (in most cases 1 observation corresponds to 1 customs' seizure).

The database contains a wealth of information about the intellectual property rights (IPR)-infringing goods that can be used for quantitative and qualitative analysis. In most cases, for each seizure, the database reports the date of seizure, the mode of transport of fake products, departure and destination economies, the general statistical category of seized goods as well as their detailed description, the name of the legitimate brand owner, the number of seized products and their approximate value.

Counterfeiting and piracy – The Swedish context

Sweden is a well-developed, knowledge-based economy that produces innovative, IP-intensive products. This is supported by existing indicators. In 2016, Swedish gross domestic product (GDP) per capita amounted SEK 408 333 (USD 49 000), above the OECD average (SEK 354 166 or USD 42 500). In terms of IP intensity, Swedish IP-intensive industries contributed on average to 39.1% of the Swedish gross domestic product (GDP) (42.3% for the European Union [EU]) and accounted for 31.8% of employment in Sweden (27.8% for the EU) between 2011 and 2013 (EUIPO/EPO, 2016). Concerning trademarks, Sweden is the 8th country in the EU in terms of the total number

of trademarks registered. Between 2011 and 2013, Swedish trademark-intensive industries contributed to 32.4% of the Swedish GDP and to 24.5% of employment in Sweden (EUIPO/EPO, 2016).

Swedish competitiveness relies on high levels of education, and on intense investments in all sorts of intellectual assets including research and development (see OECD, 2016). In 2016, the Swedish research and development spending represented 3.3% of GDP, a level higher than the OECD average (2.3%) or the United States (2.7%) and Japan (3.1%).

Sweden is also a highly globalised economy and characterised by the internationalisation of large Swedish companies and excellent integration in global value chains. Swedish exports, including engines and other machines, motor vehicles and telecommunications equipment, accounted for almost 45% of GDP in 2016. The Swedish exports intensity is largely above the OECD average (28%). These top exporting manufacturing industries in Sweden are in particular highly IPR-intensive. In addition, Sweden is a significant contributor to global value chains: in 2015, the Swedish exports represented more than 0.6% of total world exports in value-added terms (see OECD Trade in Value Added database).

To reiterate, the Swedish economy is well-developed, innovative and intellectual property (IP)-intense. It is also well integrated into the global economy through active participation in global value chains. These characteristics make Sweden particularly susceptible to the damaging effects of counterfeiting and piracy. This is especially relevant when the threats of counterfeiting and piracy are growing worldwide (OECD/EUIPO, 2019).

According to the OECD/EUIPO (2019), Sweden belongs to the top 15 countries whose companies are most affected by counterfeiting. In 2016, Sweden ranks 12th on the list of economies whose right holders suffer from counterfeiting. This means that 1% of the total seized value of fake goods worldwide concerned goods infringing Swedish IP.

The damaging effects of trade in counterfeit and pirated goods on the Swedish economy are analysed in this study from two perspectives:

1. the effects of smuggling of counterfeit products into Sweden
2. the effects of infringements of IP rights of Swedish right holders in world trade.

Regarding smuggling of fakes into Sweden, it will impact four areas analysed in this report: i) loss of consumers' welfare; ii) loss of sales; iii) loss of jobs for the retail and wholesale sector; and iv) lower tax revenues. These four categories are described in detail in Chapter 2.

With respect to global trade in counterfeit and pirated products that infringe Swedish IPRs, it impacts the following areas described in Chapter 3: i) lower sales for IPR owners; ii) job losses for the Swedish manufacturing industries; and iii) lower tax revenues.

The methodological framework developed to calculate all these effects as well as the data used is presented below and discussed in detail in Annex A. Importantly, this framework takes account the “double-counting” issue, which arises from the sale of fake products in Sweden that infringe the IPRs of its own residents.

Chapter 4 summarises the main findings of the report and provides suggestions for future research.

Three important things should be kept in mind when analysing these impacts:

- First, the methodology refers to the notion of *primary and secondary markets* for counterfeit and pirated goods. That is to say, it distinguishes between fake products that deceive consumers (primary markets) and those that are openly sold as fakes to consumers (secondary markets – see OECD/EUIPO, 2016). The markets for deceptive and non-deceptive products have significantly different characteristics, and these differences have important implications in the overall assessment.
- Second, whereas in primary markets consumers pay the full (or approximately full) retail price for a fake product thinking it is genuine, consumers knowingly purchasing IPR-infringing products in secondary markets are likely to pay a lower price and would not necessarily have substituted the fakes for the genuine goods given the choice. Obviously, these differences in price and substitution rates have different implications for estimating lost sales and lost taxes, and for the valuation of consumer detriment (the price premium unjustly paid by consumers in the belief they are buying a genuine product).²
- Third, there are other impact areas that are hard to measure quantitatively or are likely to occur only in the long term; these are therefore excluded from the analysis. They include, for example, the negative effects of counterfeiting and piracy on consumer health and safety, on the environment, on the proliferation of criminal networks and on long-term innovation and growth.

Data and methodology

Given the clandestine nature of counterfeiting, data on this threat are scarce and incomplete. Consequently, there are two major methodological issues that should be kept in mind when developing and applying a methodological framework to quantify the effects of counterfeit trade.

1. First, there is a wide myriad of impacts of trade in counterfeit goods and the framework developed here does not claim to quantify all of them. Rather, it looks at areas where quantification was possible while identifying areas of work needed to better understand how counterfeit and pirated trade affects economies and societies overall.
2. In areas where quantification was possible, the framework relies on a set of methodological assumptions. For transparency purposes, all are clearly spelt out in the text.

In addition, the framework leaves scope for further methodological amendments subject to future data improvements. These are discussed in the last chapter.

Data

Quantitative analysis in this report relies on three types of data inputs:

- seizures data of IP-infringing products from customs
- world import statistics
- other data, mainly Swedish background macro- and firm-level indicators.

The trade statistics are based on the United Nations (UN, n.d.) Comtrade database (landed customs value). With 171 reporting economies and 247 partner economies (76 economies in addition to reporting economies), the database covers the largest part of world trade and

is considered the most comprehensive trade database available. Products are registered on a two-digit Harmonised System (HS)³ basis (see UN Trade Statistics, 2017). Data used in this study are based on landed customs value, which is the value of merchandise assigned by customs officials. In most instances, this is the same as the transaction value appearing on accompanying invoices. Landed customs value includes the insurance and freight charges incurred when transporting goods from the economy of origin to the economy of importation.

Data on customs seizures originate from national customs administrations. These data are aggregated and harmonised at the national or regional level and then submitted to international agencies that hold datasets on seizures. Two agencies and two datasets will be used as inputs into the analysis of this study. These datasets were received from:

- The World Customs Organization (WCO).
- The European Commission's Directorate-General for Taxation and Customs Union (DG TAXUD).
- The analysis in this study also uses a dataset received from the United States Department of Homeland Security (DHS) containing the seizure data from the US Customs and Border Protection (CBP), the customs agency of the United States and from the US Immigration and Customs Enforcement (ICE).

Other statistical information was used to develop a methodology to gauge the economic impact of trade in fake goods. This includes firm-level data on Swedish sectorial production, sales, jobs and wages, extracted from the Eurostat database (Eurostat, 2018).⁴ It also includes statistical information on Swedish taxes extracted from the OECD TAX database.

Methodology

The assessment builds on the general methodology, developed in-house to study the economic impact of trade in counterfeit goods based on customs data. The general, so-called GTRIC (General Trade-Related Index of Counterfeiting) statistical methodology to analyse the scope and magnitude of trade in fakes has been developed in the 2008 OECD report *The Economic Impact of Counterfeiting and Piracy* and elaborated in OECD/EUIPO (2016), *Trade in Counterfeit and Pirated Goods: Mapping the Economic Impact*. Building on this statistical framework, a general methodology to study country-specific impacts of counterfeiting was prepared for the 2017 OECD report *Trade in Counterfeit Products and the UK Economy* (2017b) and elaborated in OECD (2018), *Trade in Counterfeit Goods and the Italian Economy*.

This methodology is applied separately to gauge i) the scale and effects of imports of fakes to Sweden and ii) the effects of trade in fake goods that infringe Swedish IP.

Gauging of the scale and effects of imports of fakes on Sweden is carried out in the following steps.⁵

First, the databases on customs seizures of IP-infringing products and on imports of genuine goods are tailored, to estimate the value of counterfeit imports in Sweden by product category and provenance economy. This results in economy- and industry-specific indices of the propensity of imports of fakes to Sweden (see Annex B for more details).

Based on the estimates of flows of imports of counterfeits into Sweden, the values of those products sold in the primary and secondary markets are estimated for each industry. This

is done based on an assumption that every sale of a fake item on a primary market represents a direct loss for the retail and wholesale industry. For secondary markets, where only a share of consumers would have deliberately substituted their purchases of counterfeit products for legitimate ones, the analysis is based on proxies of consumers' substitution rates, i.e. the extent to which every knowing illegal purchase displaces a legal sale (see OECD, 2017b). The estimates for substitution rates used in this analysis are presented in Table 1.1.

Table 1.1. Assumed consumer substitution rates in the main scenario

Sector	Substitution rate (%)
Perfumery and cosmetics	49
Watches and jewellery	27
Clothing, accessories, leather and related products	39
Other sectors	32

Sources: Anti-Counterfeiting Group (2007), *Consumer Survey*, <http://www.wipo.int/ip-outreach/en/tools/research/details.jsp?id=691>; Tom, G. et al. (1998), "Consumer demand for counterfeit goods", *Psychology & Marketing*, Vol. 15/5, pp. 405-421.

Once the volumes of primary markets at the industry level are established for each industry, the aggregated values of consumer detriment are calculated. The individual consumer detriment is the price premium unjustly paid by the consumer in the belief they are buying a genuine product.

Volumes of primary and secondary markets at the industry level are used to estimate lost sales for retailers and wholesalers. First, the estimated value of counterfeit products smuggled into Sweden combined with the share of the primary market gives the total volume of lost sales for Swedish retailers and wholesalers due to the unsuspecting purchase of counterfeit products. Second, the estimated value of counterfeit goods smuggled into Sweden together with the shares of the secondary market and consumers' substitution rates, equals the total volume of lost sales for Swedish retailers and wholesalers due to the knowing purchase of counterfeit products. This takes into account the fact that those consumers would not necessarily have bought genuine alternatives if the fakes had not been available. Finally, the sum of both estimates reveals the total value of lost sales for wholesalers and retailers due to counterfeit imports.

The next step uses lost sales to calculate jobs lost in Swedish retail and wholesale industries. This relies on transmission rates between lost sales and lost jobs for each industry, which are calculated as in OECD (2017b). The industry-specific estimates of the elasticity of employment with respect to sales and calculated based on this methodology are presented in Table 1.2 below. Importantly, a decrease in sales does not translate into the same proportion of lost jobs in each sector. For example, while a 1% decline in sales in the Swedish wholesale and retail sector of machinery and industrial equipment induces a 0.47% decline in the number of employees within this sector, it induces a 0.39% decrease for chemicals and pharmaceuticals products.

Table 1.2. Elasticity of employment with respect to sales in the Swedish wholesale and retail sector

Estimates for 2014-16

HS category	Sales elasticity of employment
Food, beverages and tobacco	0.423
Chemical and allied products; except pharmaceuticals, perfumery and cosmetics	0.390
Pharmaceutical and medicinal chemical products	0.431
Perfumery and cosmetics	0.383
Textiles and other intermediate products (e.g. plastics; rubbers; paper; wood)	0.417
Clothing, footwear, leather and related products	0.401
Watches and jewellery	0.375
Non-metallic mineral products (e.g. glass and glass products, ceramic products)	0.418
Basic metals and fabricated metal products (except machinery and equipment)	0.414
Electrical household appliances, electronic and telecommunications equipment	0.417
Machinery, industrial equipment; computers and peripheral equipment; ships and aircrafts	0.469
Motor vehicles and motorcycles	0.418
Household cultural and recreation goods; including toys and games, books and musical instruments	0.416
Furniture, lighting equipment, carpets and other manufacturing n.e.c	0.428

Once estimated, these transmission rates between sales and jobs can be used to estimate the share of lost jobs due to counterfeit products smuggled into Sweden in terms of total employment. For each Swedish retail and wholesale sector, this is done by multiplying the transmission rate with the share of lost sales by the total sales of genuine products.

Lower genuine sales due to counterfeit and pirated imports reduce several sources of revenue for the Swedish Government:

- value-added taxes (VAT) that would have been collected on consumption at purchase
- corporate income taxes (CIT) that would have been collected from firms in the wholesale and retail industry
- social security contributions (SSC) from employees and employers in the retail and wholesale industry
- personal income taxes (PIT) from employees and employers in the retail and wholesale industry.

In order to calculate the lost VAT, one simply needs to apply the VAT rates on the estimated amount of total lost sales due to counterfeit and pirated imports.

The amount of government taxes lost from CIT is calculated by multiplying the average profit rates within each category of retail and wholesale industry by the average rate of corporation tax taking into account the estimated value of lost sales.

To calculate losses in social security contributions, the share of the actual average amount of SSC paid by employees and employers for one unit of employment is multiplied by the amount of estimated lost jobs due to counterfeit and pirated imports.

The PIT foregone is calculated by multiplying the average salary in a given industry by the average income tax rate times the number of lost jobs.

Note that in order to estimate the results as accurately as possible, these four types of lost revenues were calculated by industry. The final result at the national level was obtained by adding the estimated amounts of foregone tax revenues across industries.

Estimation of scale and effects of trade in fake goods that infringe Swedish IP is calculated following a number of steps:

The first step is to estimate the value of counterfeit goods traded worldwide that infringe trademarks or patents held by Swedish rights owners. For this purpose, observations in the database that refer to trademarks or patents whose rights holders' address is registered in Sweden were selected. Note that the identification of rights holders' locations was done using the Global Brand Database WIPO (2016) and the PATENTSCOPE database WIPO (2017), both provided by the World Intellectual Property Organization.

From this data selection, the value of global counterfeiting targeting the IPR of Swedish industry is assessed by product and economy, by adapting the GTRIC methodology developed in OECD/EUIPO (2016) for exports and domestic sales. The indices included in the GTRIC matrix refer to the likelihood that a given type of counterfeit product of a brand or patent whose rights holder's location is registered in Sweden is sold in a given destination economy. The methodological note can be found in Annex B.

The second step checks what share of these counterfeit products is traded on primary versus secondary markets worldwide. This is analysed with exactly the same methodology as described in the case of imports of fakes to Sweden. Second, within secondary markets, the substitution rates are applied. This yields lost sales of Swedish right holders, by industry. In other words, the estimated value of products sold worldwide that are fake versions of these Swedish brands combined with information on: i) the share of primary and secondary markets for these products by destination economy; and ii) consumers' substitution rates. The total value of lost sales for Swedish rights owners is given by adding the value of sales of fake products on primary markets to the value of sales on the secondary market, adjusted for consumers' substitution rates.

The next step estimates job losses in the Swedish manufacturing sector as a response to changes in sales on export markets and on the domestic market. This is done by applying the econometric model presented in the case of imports of fakes to Sweden and outlined in detail in the OECD report on the UK economy (2017b).

The estimates of the sales elasticity of employment for each Swedish manufacturing industry are reported in Table 1.3. Again, a decrease in sales does not translate into the same proportion of lost jobs in each one of them. For instance, a decline of 1% in sales for the Swedish wholesale and retail sector of machinery and industrial equipment induces a 0.51% decline in the number of employees within this sector while it induces a 0.41% decrease for chemicals and pharmaceuticals products.

Table 1.3. Elasticity of employment with respect to sales in the Swedish manufacturing sector

Estimates for 2014-16

HS category	Sales elasticity of employment
Food, beverages and tobacco	0.4805
Chemical and allied products; except pharmaceuticals, perfumery and cosmetics	0.4197
Pharmaceutical and medicinal chemical products	0.4130
Perfumery and cosmetics	0.4870
Textiles and other intermediate products (e.g. plastics, rubbers, paper, wood)	0.5083
Clothing, footwear, leather and related products	0.4750
Watches and jewellery	0.4571
Non-metallic mineral products (e.g. glass and glass products, ceramic products)	0.5052
Basic metals and fabricated metal products (except machinery and equipment)	0.5049
Electrical household appliances, electronic and telecommunications equipment	0.4940
Machinery, industrial equipment; computers and peripheral equipment; ships and aircrafts	0.5103
Motor vehicles and motorcycles	0.4923
Household cultural and recreation goods, including toys and games, books and musical instruments	0.4294
Furniture, lighting equipment, carpets and other manufacturing n.e.c	0.5092

These transmission rates between sales and jobs can be used to estimate the share of lost jobs due to infringements in global trade of Swedish IP in total employment. For each Swedish manufacturing industry, this is done by multiplying the transmission rate with the share of lost sales for Swedish IPR owners.

Three types of tax revenues occur in Sweden due to infringement of Swedish IP: corporate income taxes of rights holders; social security contributions; and personal income taxes paid by employers and employees in the manufacturing sector. The methodologies applied to calculate each of these foregone tax revenues are exactly the same as those described in the case of imports of fakes to Sweden. It is done industry by industry in order to obtain estimates as accurate as possible.

Notes

¹ Counterfeit and pirated goods are defined as goods that infringe trademarks, copyrights, patents or design rights.

² For more discussion on substitution rates see OECD (2017b), *Trade in Counterfeit Products and the UK Economy*.

³ The Harmonised System (HS) is an international commodity classification system, developed and maintained by the WCO.

⁴ Correspondence tables between the classification of economic activities for manufacturing and wholesale and retail industries used by Eurostat (NACE) and the Harmonized System (HS) classification, used to calculate both infringements of Swedish IPR in global trade and fake imports in Sweden, are provided in Annex B.

⁵ For a more formal presentation of these steps see OECD (2017b) and OECD (2018).

References

- Anti-Counterfeiting Group (2007), *Consumer Survey*, Commissioned from independent survey specialists, <http://www.wipo.int/ip-outreach/en/tools/research/details.jsp?id=691>.
- EUIPO/EPO (2016), *Intellectual Property Rights Intensive Industries and Economic Performance in the European Union*, Industry-Level Analysis Report.
- Eurostat (2018), *Structural Business Statistics*, Statistical Office of the European Union, Luxembourg, http://ec.europa.eu/eurostat/cache/metadata/fr/sbs_esms.htm (last accessed in May 2018)
- OECD (n.d.), *OECD Tax Database*, <http://www.oecd.org/tax/tax-policy/tax-database.htm>
- OECD (2019), *Illicit Trade Trends in Trade in Counterfeit and Pirated Goods*, OECD Publishing, Paris, <https://doi.org/10.1787/g2g9f533-en>
- OECD (n.d.), *Trade in Value Added Database*, <http://www.oecd.org/sti/ind/measuring-trade-in-value-added.htm>
- OECD (2018), *Trade in Counterfeit Goods and the Italian Economy: Protecting Italy's intellectual property*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264302426-en>.
- OECD (2017a), *Trade in Counterfeit ICT Goods*, OECD Publishing, Paris, <http://oe.cd/fakeICTs>.
- OECD (2017b), *Trade in Counterfeit Products and the UK Economy: Fake Goods, Real Losses*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264279063-en>.
- OECD (2016), *OECD Reviews of Innovation Policy: Sweden 2016*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264249998-en>.
- OECD (2008), *The Economic Impact of Counterfeiting and Piracy*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264045521-en>.
- OECD/EUIPO (2016), *Trade in Counterfeit and Pirated Goods: Mapping the Economic Impact*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264252653-en>.
- OHIM/Europol (2015), *2015 Situation Report on Counterfeiting in the European Union*, <https://www.europol.europa.eu/publications-documents/2015-situation-report-counterfeiting-in-european-union>.
- Tom, G. et al. (1998), "Consumer demand for counterfeit goods", *Psychology & Marketing*, Vol. 15/5, pp. 405-421.
- UN (n.d.), *Comtrade (database)*, United Nations, <http://comtrade.un.org/data/>.
- UN Trade Statistics (2017), *Harmonized Commodity Description and Coding Systems (HS)*, United Nations, Geneva, <https://unstats.un.org/unsd/tradekb/Knowledgebase/50018/Harmonized-Commodity-Description-and-Coding-Systems-HS>.
- WIPO (2017), "PATENTSCOPE Database: International and National Patent Collection", <https://patentscope.wipo.int/search/en/search.jsf>.
- WIPO (2016), *Global Brand Database*, <http://www.wipo.int/branddb/en/>.



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