

# 1 Introduction

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This first section provides background information on the Swiss economy as well as the main characteristics that make the Swiss economy highly vulnerable to the risk of counterfeiting. Particular attention is then paid to the different datasets used for analytical purposes. Finally, it presents the main steps of the OECD methodology underpinning the report and which allows the assessment of the value of trade in fakes and the economic impacts on sales, jobs and tax revenues.

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## Why is Switzerland vulnerable to counterfeiting?

Trade in counterfeit and pirated goods<sup>1</sup> is a growing threat that is worth approximately USD 0.5 trillion a year or around 2.5% of global imports.<sup>2</sup> It is becoming a longstanding problem that appears to be growing in scope and magnitude. Counterfeiting and piracy have negative impacts on the sales and profits of affected firms, as well as on the revenue, economy, health, safety and security of both governments and consumers. In addition, organised criminal groups play an increasingly important role in these activities, benefitting significantly from highly profitable counterfeiting and piracy operations.

Switzerland is an advanced economy with gross domestic product (GDP) of CHF 626 billion (USD 633 billion) in 2019. That same year, GDP per capita was about CHF 72 675 (USD 73 114), one of the highest levels for any OECD country apart from Ireland and Luxembourg (OECD, 2019<sup>[1]</sup>).

Switzerland is also an open economy. Swiss industries are highly globalised and its exports of goods and services represented 66% of GDP in 2019, way above the OECD average (29.8%). Switzerland is one of the OECD countries with the highest export intensity, reflecting the openness of its economy. Switzerland had one of the largest current account surpluses (6.7% of GDP) in the OECD in 2019, followed by the Netherlands, Denmark and Germany (OECD, 2020<sup>[2]</sup>).

The Swiss economy is well integrated into the global economy through its active participation in global value chains. Especially dynamic are those Swiss intellectual property rights (IPR)-intensive manufacturing industries that rely on service-related activities (e.g. design, research and development [R&D]). It allows these industries to upgrade their products, ensure higher quality and eventually capture more value. This includes industries such as watch manufacturing, chemicals, machinery, electrical equipment and textiles.

Switzerland is the most innovative country in the world.<sup>3</sup> The Swiss economy is characterised by high IPR intensity, way above the OECD average.<sup>4</sup> The country has outstanding research capacities and innovation potential.

Switzerland leads many R&D-related ranks. First, Switzerland had one of the highest expenditures on R&D-to-GDP ratios (OECD, 2020<sup>[3]</sup>) in the OECD in 2017,<sup>5</sup> at just under 3.2% – after Israel<sup>6</sup>, Korea and Sweden. Second, it has very high shares of graduates, doctorates (3.6% in 2009, more than double the European Union [EU] average) and researchers in its overall employees. According to the European Commission (EC), it also has the highest share of scientific publications within the 10% most-cited scientific publications worldwide (15.2% in 2014 versus 11.1% for the EU average), as well as a high number of international scientific co-publications per million people.

Switzerland ranked tenth for intellectual property (IP) filing activity in 2019 (WIPO, 2019<sup>[4]</sup>). Its ranking varies according to the type of IP concerned: it came 8<sup>th</sup> for patents but 14<sup>th</sup> and 11<sup>th</sup> for trademarks and designs respectively. The World Intellectual Property Organization (WIPO) report also mentions that Switzerland is one of the countries with the highest number of patent applications per million people, just behind Japan and Korea.

The knowledge-based and innovative character of the Swiss economy, its high IP intensity and its high degree of integration within the global economy make the Swiss industry potentially vulnerable to the threat of counterfeiting and piracy. This can have damaging effects on Swiss rights owners, consumers and the Swiss government.

Indeed, the Swiss economy has been hit very hard by counterfeiting and several OECD studies document that Swiss companies are among the worst affected by this problem.<sup>7</sup>

This report explores the scope of the problem for Switzerland. Following a summary of the methodology used for this quantitative analysis (below), the report then provides an overview of the issue (Chapter 2), assessing the scope and volume of counterfeiting of Swiss products, the sectors and products most affected, the value of the trade in fake Swiss products and the impacts on sales, jobs and government

revenue. It then turns to an industry analysis (Chapter 3), exploring the problem in-depth for four affected sectors: watchmaking, electrical and mechanical engineering, the FMCG sector and the pharmaceutical industry. Chapter 4 concludes with some general pointers for tackling the issue.

It must also be stressed that the quantitative analysis refers to the period before the COVID-19 pandemic. The pandemic has largely reshaped both – licit trade and trade in counterfeit goods – and, consequently, some initial effects on counterfeiting have already been observed. However, other lasting results on counterfeiting are expected to emerge gradually.

Given the fast pace of changes, a precise quantitative analysis of these effects has not yet been possible; however, some results have been coined in a set of discussions with enforcement officials and industry delegates and following the ongoing enforcement actions. The main changes are the accelerated transition to e-commerce and the related booming offers of counterfeits online.

The impact of the COVID-19 pandemic on the Swiss industry is discussed in more detail in Chapters 2 and 3.

## **Data and methodology**

Quantitative analysis in this report relies principally on two sources of statistical information: i) trade statistics; and ii) seizure data; both are discussed below. These data have been complemented with additional, relevant industrial and economic data that shaped the Swiss economy's overall background. Last, the quantitative analysis was completed with qualitative research based on literature review and structure interviews with industry experts.

### ***Trade statistics***

The trade statistics are based on the United Nations (UN) 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 six-digit Harmonised System (HS)<sup>8</sup> basis, meaning that the level of detail is high. 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.

### ***Seizure data***

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

## Methodology

Estimating the scale and impacts of trade in fake goods that infringe Swiss IP involved a number of steps (the methodology is described in detail in Annex A):

1. **Estimating the value of counterfeit goods traded worldwide that infringe IPRs held by Swiss rights owners.** This involved selecting observations in the various customs seizure databases that refer to IPRs registered in Switzerland. As a result, our data sample is the customs seizures reported worldwide related to counterfeit products that infringe Swiss IPRs. Our sample is about 23 000 observations; for each one, we have a range of information such as the provenance economy, the destination economy, the type of counterfeit product, the value, the infringed brand, as well as the size and the transport mode. Based on this sample, a descriptive statistics analysis is carried out in Section 2.1. Note that rights holders' locations were identified using the Global Brand Database (WIPO, 2016<sup>[5]</sup>) and the PATENTSCOPE database (WIPO, 2017<sup>[6]</sup>), both provided by WIPO.

This process allowed the value of global counterfeiting targeting the IPR of Swiss industry to be assessed by product and economy. This was done by adapting the General Trade-Related Index of Counterfeiting (GTRIC) for economies, a methodology developed in the OECD/EUIPO report (2016<sup>[7]</sup>) for exports (see Annex A). The indices included in the GTRIC matrix calculate the likelihood that a given type of counterfeit product of a brand or patent registered in Switzerland will be sold in a given destination economy.

2. **Estimating the sales losses to the Swiss manufacturing industry.** This step determines what share of these counterfeit products is traded on either primary or secondary markets worldwide. We assume that there are at least two submarkets for counterfeit goods, referred to as the primary and secondary markets. In the primary market, consumers do not know that they are buying fakes whereas, in the secondary market, consumers knowingly buy fakes. Based on the estimates of flows of imports of counterfeits infringing Swiss IPR, the values of those products sold in the primary and secondary markets are estimated for each industry. This is done on the 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 purchase of a non-genuine product displaces a legal sale (OECD, 2017<sup>[8]</sup>). The estimates for substitution rates in the secondary market used in this analysis are presented in Table A.1. For more information about the primary and secondary markets, see Annex A.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

*Note:* With respect to watches and jewellery, a substitution rate of 27% has been determined. This means that every USD 1 spent on fake watches and jewellery in the secondary market translates into USD 0.27 in lost sales for the manufacturing industry.

*Source:* Anti-Counterfeiting Group (2007<sup>[9]</sup>), *Consumer Survey*, [www.wipo.int/ip-outreach/en/tools/research/details.jsp?id=691](http://www.wipo.int/ip-outreach/en/tools/research/details.jsp?id=691); Tom, G. et al. (1998<sup>[10]</sup>), "Consumer demand for counterfeit goods", *Psychology & Marketing*, Vol. 15/5, pp. 405-421.

Within secondary markets, these substitution rates are applied. For each industry, this yields the lost sales of Swiss rights' holders. In other words, the estimated value of products sold worldwide that are fake versions of these Swiss brands is 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 Swiss rights' holders is calculated 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.

3. **Estimating job and tax losses.** This step estimates the job losses in the Swiss manufacturing sector in response to lost sales on export markets and domestically as a result of counterfeiting. This is done by applying the econometric model presented in detail in the OECD report on the United Kingdom (UK) economy (OECD, 2017<sup>[8]</sup>).

The estimates of the sales elasticity of employment for each Swiss manufacturing industry are reported in Table 1.2. Again, a decrease in sales does not translate into the same proportion of lost jobs in each sector. For instance, a 1% decline in sales in the food, beverage and tobacco industry induces a 0.79% decline in the number of employees within this sector, whereas a 1% decline in sales in the clothing, footwear and leather industry would see a 0.52% decrease in employees. These sales-jobs transmission rates can be used to estimate the share of lost jobs due to the counterfeiting of Swiss products. For each Swiss manufacturing sector, this is done by multiplying the transmission rate by the share of lost sales for Swiss IPR owners.

**Table 1.2. Elasticity of employment linked to sales in the Swiss manufacturing sector**

Sector	Sales elasticity of employment
Food, beverages and tobacco	0.787
Chemical and allied products; except pharmaceuticals, perfumery and cosmetics	0.631
Pharmaceutical and medicinal chemical products	0.691
Textiles and other intermediate products (e.g. plastics; rubbers; paper; wood)	0.824
Clothing, footwear, leather and related products	0.523
Watches and jewellery	0.673
Non-metallic mineral products (e.g. glass and glass products, ceramic products)	0.647
Basic metals and fabricated metal products (except machinery and equipment)	0.820
Electrical household appliances, electronic and telecommunications equipment	0.768
Machinery, industrial equipment; computers and peripheral equipment; ships and aircraft	0.813
Motor vehicles and motorcycles	0.472
Household cultural and recreation goods, including toys and games, books and musical instruments	0.181
Furniture, lighting equipment, carpets and other manufacturing n.e.c.*	0.697

*Note:* All the figures refer to the elasticity of employment for each industry following a 1% decline in sales. For instance, a 1% decline in sales in the food, beverage and tobacco industry induces a 0.79% decline in the number of employees within this sector.

\* Not elsewhere classified.

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

It is worth noting that our study only focuses on job losses in Switzerland but ignores the job losses in other countries where Swiss rights holders may hold a factory.

Theoretically, four types of tax revenue losses occur in Switzerland due to infringement of Swiss IP: value-added taxes (VAT); corporate income taxes (CIT) of rights holders; personal income taxes (PIT); and social security contributions (SSC) paid by employers and employees. Lower sales of genuine products due to counterfeit and pirated imports reduce mainly the latter three sources of revenue for the Swiss government:

- CIT that would have been collected from firms in the wholesale and retail industry.
- SSC that would have been paid by employees and employers in the retail and wholesale industry.
- PIT of employees and employers that would have been collected in the manufacturing industry.

These three sources of lost revenues are calculated for each manufacturing sector in order to estimate the results as accurately as possible. The overall national result was obtained by adding the estimated amounts of tax revenues foregone for each sector.

Government taxes lost from CIT are calculated by multiplying the average profit rates for each category of the manufacturing industry by the average rate of corporation tax, taking into account the estimated value of lost sales.

SSC losses are calculated by multiplying the share of the actual average amount of SSC paid by employees and employers per unit of employment by the number of estimated jobs lost due to counterfeit and pirated imports.

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

Although VAT losses are not fully experienced by the Swiss government since most fake Swiss goods are purchased abroad, an estimation of VAT losses is provided. This illustrates the amount of VAT losses that might be reached if Swiss counterfeit products were purchased domestically. Lost VAT is calculated by applying the VAT rates to the estimated amount of total lost sales due to counterfeit and pirated imports.

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## Notes

<sup>1</sup> Counterfeit and pirated products are defined as goods that infringe trademarks, copyrights, patents or design rights.

<sup>2</sup> See OECD/EUIPO (2016<sup>[7]</sup>).

<sup>3</sup> See [http://www.wipo.int/econ\\_stat/en/economics/gii/](http://www.wipo.int/econ_stat/en/economics/gii/).

<sup>4</sup> See OECD (2015), *OECD Science, Technology and Industry Outlook 2014*, "OECD Science, Technology and Industry Outlook 2014", *OECD Science, Technology and R&D Statistics (database)*, <https://doi.org/10.1787/139a90c6-en> and OECD (2013), *Supporting Investment in Knowledge Capital, Growth and Innovation*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264193307-en>.

<sup>5</sup> Latest data available for Switzerland.

<sup>6</sup> The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

<sup>7</sup> See OECD/EUIPO (2019<sup>[11]</sup>) and OECD/EUIPO (2016<sup>[7]</sup>).

<sup>8</sup> The Harmonised System (HS) is an international commodity classification system, developed and maintained by the World Customs Organization (WCO).



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