Illicit Trade

# Why Do Countries Import Fakes?

## LINKAGES AND CORRELATIONS WITH MAIN SOCIO-ECONOMIC INDICATORS

OECD

EUIPO
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INTELLECTUAL PROPERTY OFFICE

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# Preface

Illicit trade in counterfeit and pirated products is a major global challenge. It harms economic growth, puts consumers' health and safety at risk and fuels organised crime, which, ultimately, undermines trust in the rule of law. The COVID-19 crisis has intensified these risks by shifting consumer demand and breaking supply chains, thus providing new opportunities for the bad actors that drive illicit trade networks. Policymakers need solid empirical evidence to act against illicit trade. To meet this need, the OECD, and the EU Intellectual Property Office (EUIPO) have joined forces to carry out a series of analytical studies that gauge illicit trade in counterfeit and pirated goods.

We are very pleased to provide a unique insight into the factors that may make countries more likely to import counterfeit and pirated goods. We are confident that the results will enhance our understanding of the dynamics of illicit trade in counterfeits and facilitate the development of innovative policy options to respond to these challenges.

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Executive Director,
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# Foreword

Trade in counterfeit and pirated goods poses a serious and growing risk to economic growth, undermining good governance, the rule of law and citizens' trust in government. In addition, the harmful impact of illicit trade in counterfeit and pirated goods on consumers' health and safety and on the environment should not be underestimated.

To provide policymakers with reliable empirical evidence about this threat, the OECD, and the EU Intellectual Property Office (EUIPO) have collected evidence on various aspects of this risk. The results have been published in a set of reports, including *Trade in Counterfeit and Pirated Goods: Mapping the Economic Impact* (2016), *Trends in Trade in Counterfeit and Pirated Goods* (2019) and *Global Trade in Fakes: A Worrying Trend* (2021). The results show that trade in counterfeit and pirated goods amounted to up to 2.5 % of world trade in 2019; when considering only imports into the EU, fake goods amounted to up to 5.8 % of imports. These amounts are similar to those calculated for previous years, and illicit trade in fakes remains a serious risk to modern, open, and globalised economies. Counterfeit and pirated products tend to be shipped to virtually all economies on all continents.

This report looks at the profiles of destination economies in the global trade in counterfeit and pirated goods. It employs quantitative analysis to look at the economic features of various countries, including the quantitative relationship between the intensities of counterfeiting, and selected, observable socio-economic factors. The results show that governance, the degree of technological development and certain socio-economic factors, such as education levels, affect an economy's propensity to import counterfeit goods. The evidence in this report can help raise awareness and shape policies to counter the threat of illicit trade in counterfeits and its damaging implications for consumers.

This study was carried out under the auspices of the OECD's Task Force on Countering Illicit Trade, which focuses on evidence-based research and advanced analytics to assist policy makers in mapping and understanding the vulnerabilities exploited and created by illicit trade. This report was approved by the Public Governance Committee via written procedure on 11 July 2023 and prepared for publication by the OECD Secretariat.

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The report was prepared by Piotr Stryszowski, Senior Economist and Morgane Gaudiau, Economist at the OECD Directorate for Public Governance, with Michał Kazimierczak, Economist at the European Observatory on Infringements of Intellectual Property Rights of the EUIPO and Nathan Wajsman, Chief Economist, EUIPO. The authors wish to thank the OECD experts who provided valuable knowledge and insights: Chiara Varazzani from the OECD Public Governance Directorate and Silvia Sorescu from the OECD Trade Directorate.

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The database on customs seizures was provided by the World Customs Organization (WCO) and supplemented with regional data submitted by the European Commission's Directorate-General for Taxation and Customs Union, the US Customs and Border Protection Agency and the US Immigration and Customs Enforcement. The authors express their gratitude for the data and for the valuable support of these institutions.

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# Executive Summary

Trade in counterfeit goods represents a longstanding, global socio-economic risk that threatens effective public governance, efficient business, and the well-being of consumers. At the same time, it is becoming a major source of income for organised criminal groups. It also damages economic growth, by reducing business revenue and undermining businesses' incentive to innovate. Counterfeiting not only has a corrosive impact on the sales and profits of affected firms and on the economy in general, but also poses threats to social welfare and public safety. In addition, in some high-risk sectors, such as that of illicit pharmaceuticals, food or alcohol, the presence of counterfeit goods poses particularly severe health and safety threats for citizens.

Factors that drive imports of counterfeits include those that shape unknown and known demands. Unknown demand is expressed by unaware consumers who are deceived by bad actors, and who buy a fake believing it was genuine product. Known demand is generated by consumers who consciously opt for counterfeits. Existing customs seizures data suggest that around 54% of imported counterfeit and pirated products between 2017 and 2019 were sold to consumers who knew that they were buying fake products. while the remaining 46% was purchased unwittingly. The proportion of consumers who knowingly demand counterfeits differs by product type, ranging from 11% for chemicals to 57.3% for electronic appliances.

Existing microeconomic research identifies several drivers that shape both intentional demand and unintentional propensity to buy fakes. Most of these factors are related to the individual consumer, including his or her general economic situation, knowledge about counterfeiting and piracy and attitude towards it, and concerns related to the purchase and consumption of a counterfeit or pirated good. Other factors are related to the product itself (e.g., its price or perceived quality), and the institutional environment in which the consumer operates.

These factors were determined at an individual level, but the macroeconomic analysis presented in this report attempts to verify these claims at a macroeconomic, country level. Looking at import statistics and seizures data, the analysis confirms some microeconomic patterns. While some links are clear, others are more difficult to determine and interpret, and require further analysis.

Factors that are clearly correlated with the value of imports of fakes include:

- The value of imports of a country. The analysis shows a very strong and positive correlation between the value of fake imports and the value of genuine imports.
- GDP per capita. The analysis finds that, combined with other factors, a higher GDP per capita of a country is associated with fewer imports of fakes to those countries. Importantly, according to numerous studies, GDP per capita is positively correlated with the overall level of respect for intellectual property (IP) in a country. Indeed, countries with a low GDP per capita, which have both economic constraints and weak regulation of intellectual property protection, have a higher propensity to import counterfeit products. Consequently, this finding suggests that strengthening the level of IP protection in a country could lead to a reduction in counterfeit imports.
- The quality of trade and transport infrastructure. The analysis in this report finds that the quality of logistics and transport-related infrastructure tends to facilitate counterfeit imports to the same

extent they facilitate licit trade, in countries with relatively low governance standards related to IP respect and protection. This result corroborates the trends already highlighted by the OECD and the EUIPO that counterfeiters abuse modern logistical solutions designed to facilitate licit trade.

- The share of population aged 65 and over is negatively linked with the amount (in terms of value) of fake imports. There could be several mechanisms to explain that pattern, including a greater awareness of the threat of counterfeiting, relatively lower economic constraints for the elderly compared to younger people, and fewer online purchases by older people.
- The percentage of people using the Internet. The analysis shows that the use of the Internet is positively correlated with the value of fake imports; it confirms prior findings about the rising role of the Internet in facilitating trade in counterfeit goods. It also reflects the overall ease of deception in the online environment.
- Tertiary education. The data show a positive relationship between the gross graduation ratio of tertiary education and the value of imports of counterfeit goods. Several underlying factors can explain such a relationship, including possible lack of awareness about this risk (including the presence of counterfeit goods in all sectors and not only in the fashion or luxury goods sectors), combined with a higher ability to look for bargains online. More research to understand this relationship is needed, however.

While all the factors identified above are important, it should be noted that none of these factors alone can explain the propensity of a given economy to import fakes – rather, it is the combination of numerous factors that shapes the known and unknown demand for fakes, and, consequently, the propensity for importing counterfeit goods. Also, many of the factors presented above can be extremely beneficial for trade in general, and – more broadly – for a country's welfare. These include good logistics facilities and Internet access. It is the *misuse* of these facilities, and the abuse of opportunities they create, that can result in higher flows of trade in fake goods. The degree to which this misuse occurs greatly depends on governance issues, particularly the degree of IP protection. The policy challenge is to reduce the scope for misuse, while ensuring the benefits of trade.

# 1 Why do countries import fakes?

Illicit trade in counterfeit and pirated goods[1] is a general threat that keeps growing in scope and magnitude. Globalisation and the rising economic importance of intellectual property (IP) have been fostering economic growth on the one hand, while on the other opening up new opportunities for criminal networks to expand the scope and scale of their operations. with serious negative consequences for the economy and society. Illicit trade in fakes undermines good governance, the rule of law and citizens' trust in government. Counterfeiting not only has a corrosive impact on the sales and profits of affected firms and on the economy in general, but also poses critical threats to social welfare, and public safety. In addition, in some high-risk sectors, such as that of illicit pharmaceuticals, food or alcohol, the presence of counterfeit goods poses particularly severe health and safety threats for citizens.

Policymakers need solid empirical evidence for acting against this threat. In recent years, the OECD, and the European Union Intellectual Property Office (EUIPO) have been together gathering evidence on various aspects of the problem of illicit trade in IP-infringing goods. The OECD-EUIPO studies have found that imports of counterfeit and pirated goods were worth as much as USD 464 billion in 2019, or up to 2.5% of global trade (OECD/EUIPO, 2019[1]). In 2019, imports of counterfeit and pirated products into the EU amounted to as much as EUR 119 billion (USD 134 billion), which represents up to 5.8 % of EU imports. Results also showed that fakes are destined to all sorts of economies, including OECD countries, and a wide range of non-OECD economies in the Middle East, Southeast Asia, Africa, Latin America, Southeast Europe etc.

This report completes these previous analyses by looking into factors that determine the profiles of destination economies. It focuses on the economic features of destination economies, including the quantitative relationship between the intensities of counterfeiting, and selected, observable socio-economic factors.

## 1. Where do we source our information?

All information concerning trade in fake goods comes from the OECD-EUIPO database on customs seizures that originate from national customs administrations. Specifically, the data come from the WCO (World Customs Organisation), the European Commission's Directorate-General for Taxation and Customs Union (DG TAXUD) and from the United States Department of Homeland Security (DHS). The latter submitted seizure data from US Customs and Border Protection (CBP), the American customs agency, and from the US Immigration and Customs Enforcement (ICE).

In each year analysed (2013 through 2019), the total number of customs seizures of counterfeit and pirated goods worldwide consistently exceeded 130 000. Overall, the unified database on customs seizures of IP-infringing goods includes almost 900 000 observations.

In the context of this report, and for the reasons highlighted in the following section, the focus is on customs seizures of counterfeit goods shipped by small parcels. Specifically, our analysis only relies on customs seizures whose reported quantity is equal or less than ten items, in accordance with the OECD/EUIPO report on misuse of small parcels for trade in counterfeit goods (OECD/EUIPO, 2018[2]). Thus, the analysis

in this report refers only to the trade in counterfeit goods shipped in small packages, unless otherwise stated.

### *Imports vs. transit*

A detailed analysis of the customs seizures data revealed a set of limitations. Some of them have to do with discrepancies between the datasets, others concern product classification levels or outliers in terms of seized goods or provenance economies. All limitations were thoroughly discussed in the (OECD/EUIPO, 2016[3]) and (OECD/EUIPO, 2019[1]) reports, and a methodological way forward was proposed for each limitation. This report also relies on the same methodology presented and discussed in the 2016 and 2019 studies, and it employs the same solutions to the seizure-data limitations.

In the context of this study, the main difficulty was related to determining whether a given economy is the final destination of a good or is a point of transit on its way. In the context of exports, a similar limitation resulted in the coining of the term "provenance economy". This term was used in the OECD-EUIPO report (2016) and in all subsequent reports, following the OECD methodology developed in 2008 (OECD, 2008[4]).

The issue for imports is similar. In most cases, the data do not allow distinguishing whether seized goods were destined for the specific market where the seizure took place, or these were supposed to be shipped further, and the seizure concerned a transit point.

Furthermore, criminals who run illicit trade networks do not document their shipments accurately, to conceal the true destinations of their fake goods. This is particularly the case for modes of transport with larger economies of scale, for example container ships. Consequently, for large shipments of fakes in containers, the final destination indicated on a shipping manifest often refers to an intermediate transit point. These transit points are used for example to re-package the goods, or to change the mode of transport, while the final consumers are not even necessarily in the same country.

To address the problem of discrepancy between the economy of import, and the true destination markets for fakes, this report will rely on seizures of fakes in small parcels. In these cases, absence of economies of scale disincentivizes criminals to abuse small parcels to send fakes to an intermediate point. Consequently, it can be assumed that seizures of fakes in small parcels are carried out in the economies of destination.

Importantly, seizures of counterfeits in small packages constitute most of the total number of seizures. Between 2017 and 2019, 61% of the total number of customs seizures of counterfeit and pirated goods worldwide referred to small packages. However, the value of counterfeits in small packages is logically low and represented 13% of the global seized value during the same period. A study by DG TAXUD of the European Commission states that 76% of fake goods intercepted in the EU in 2017 were courier and postal small shipments (EUIPO, 2022[5])

## 2. What can shape demand for fakes?

### *Intentional vs. unintentional demand*

There are several groups of factors that could shape the countries' import propensity for fakes. These features were discussed in several reports, including (OECD, 2008[4]) and (OECD/EUIPO, 2016[3]). These reports categorized and discussed several demand factors for counterfeit products.

In the context of demand for counterfeit and pirated goods, it is important to bear in mind that two types of demand exist. There is an intentional demand and an unintentional one. In the context of a macroeconomic, country-level analysis, it implies that the total intentional demand for counterfeits in an economy is smaller than the total volume of imports of counterfeits by the economy. This is because a certain volume of

counterfeit products is purchased by consumers who believe they buy genuine goods, in other terms, by deceived consumers.

Global customs data seizures that around 54% of global counterfeit and pirated products imported through small parcels between 2017 and 2019 were sold to consumers who knew they were buying fake products with the remaining 46% purchased unwittingly. Table 1.1, which identifies the share of secondary market for counterfeit products, shows that the share of fakes destined for secondary markets varies significantly by sector, ranging from 11% for chemicals to 57.3% for electronics appliances. Few consumers buy fakes knowingly for product categories with a potential health or safety issue (such as chemicals and pharmaceuticals).

Annex A of this report provides more details on methodology used to estimate the share of secondary market. The notion of consumer deception has been introduced in the (OECD, 2008[4]) study that analysed how markets for fakes operated. The study used the distinction between primary markets, where buyers of counterfeit goods are deceived and believe that they are purchasing legitimate items, and secondary markets where consumers willingly purchase infringing products.

### Table 1.1. Share of secondary markets for counterfeit products imported in small parcels, 2017-2019

| Sector | Share of secondary market |
|---|---|
| Chemical and allied products; except pharmaceuticals, perfumery, and cosmetics | 10.9% |
| Pharmaceutical and medicinal chemical products | 18.0% |
| Basic metals and fabricated metal products (except machinery and equipment) | 39.4% |
| Household cultural and recreation goods; including toys and games, books, and musical instruments | 47.8% |
| Furniture, lighting equipment, carpets, and other manufacturing n.e.c | 48.0% |
| Motor vehicles and motorcycles | 50.9% |
| Textiles and other intermediate products (e.g. plastics; rubbers; paper; wood) | 51.6% |
| Perfumery and cosmetics | 53.6% |
| Clothing, footwear, leather, and related products | 54.6% |
| Watches and jewelry | 54.9% |
| Electrical household appliances, electronic and telecommunications equipment | 55.4% |
| Food, beverages, and tobacco | 57.1% |
| Machinery, industrial equipment; computers and peripheral equipment; ships and aircrafts | 57.3% |

Source: OECD/EUIPO calculations.

Factors that drive imports of counterfeits are those that shape intentional demand in secondary markets, and demand expressed by unaware consumers in primary markets. These factors are related to: (i) the individual consumer characteristics (e.g. attitude towards counterfeiting and piracy, awareness about the risks), (ii) the institutional environment in which the consumer operates, and (iii) the product itself (e.g., its price or perceived quality).

Regarding the individual consumer, factors that drive the demand for counterfeit or pirated goods include his or her general economic situation and, consequently, budget constraints. They also include any concerns related to the purchase and consumption of a counterfeit or pirated good a consumer might have. These concerns could be either ethical or associated with any health and safety risks related to consumption of a counterfeit or pirated (i.e., potentially substandard) product. These factors could be shaped by consumers age, peer group, education levels, etc.

Several factors that refer to the individual consumer, also affect the likelihood of individual deception. Consequently, these factors also influence the total demand for fakes i.e., demand generated by unaware

consumers. These factors reflect the overall likelihood of a consumer being deceived by counterfeiters and refer to the overall awareness of consumers about the risk which can be proxied by the education levels, and demographic factors.

Product features include the cost of acquisition of the legitimate good and its general quality, as perceived by the demander. The importance of product features for consumer decisions of whether to buy counterfeit products was confirmed in several empirical economic studies that relied on hedonic price regressions. These regressions assume that the price of a product reflects its embodied features valued by some implicit pricing (Rosen, 1974[6]). Furthermore, apart from the price itself, the cost of acquisition of a counterfeit good is another factor that shapes the propensity to demand fakes. These factors could refer for example to availability of counterfeit goods online, and broader access to Internet, and availability and affordability of express delivery services in a country.

The last set of factors that affect demand for counterfeit products refers to the socio-economic environment in which the demander operates. It encompasses the risk of discovery, prosecution, and penalty with respect to the intentional consumption of counterfeit or pirated goods, in jurisdictions that impose penalties for consumers of these goods. It also captures the overall presence of traded goods in an economy. Since most fake products are traded internationally, the relative openness of a country to imported goods is also likely to affect the presence of fakes in local markets.

### *Focus on intentional demand for fakes*

This section aims to provide insights on the intentional demand of fakes. More specifically, it seeks to show what are the different factors that motivate consumers to deliberately turn to the illicit market. The insights discussed in the following paragraphs rely on a literature review in this field.

By purchasing counterfeit products, consumers strive to obtain prestige associated with branded original goods for much lower price (Penz, E., & Stöttinger, B., 2008[7]). However, voluntary participation in these types of transaction endorses illegal activity (Cordell, V. V., Wongtada, N., & Kieschnick Jr, R. L., 1996[8]). The sheer scale of counterfeit trade suggests than counterfeit goods may attract buyers who otherwise are unlikely to support or engage in other types of illegal deeds. Therefore, the factors driving demand for counterfeit have been a subject of academic investigations involving scholars representing different strands of research. Extant literature divides factors shaping demand for counterfeit into three groups: individual, psychographic factors; product or transaction related features and socio-demographic factors (Wee, C.-H., Ta, S.-J., & Cheok, K.-H., 1995[9]). The delimitations between those three broadly sketched groups of factors is not clear-cut. For instance, predominant psychological traits may be influenced by the cultural norms prevailing in a country and those may be subject of changes during periods of rapid economic transformations.

In the academic literature most attention is given to the individual psychological attributes of consumers and the way they may influence decisions to buy counterfeit goods. Among the features most investigated in the research papers were:

- Personal integrity, with higher importance of moral values negatively correlated with propensity to buy counterfeit (Cordell, V. V., Wongtada, N., & Kieschnick Jr, R. L., 1996[8]); (Hoon Ang, S., Sim Cheng, P., Lim, E. A., & Kuan Tambyah, S., 2001[10]); (Koklic, M. K., et al., 2011[11]); (Turkyilmaz, C. A., & Uslu, A., 2014[12])). Some scholars highlight the positive correlation between higher education level and their ethical behaviour ( (Craft, 2013[13])), which may discourage educated people from buying counterfeit goods ( (Elsantil, Y. G., & Hamza, E. G. A., 2021[14]));
- Value consciousness. Consumers who are after good deal terms (are more value conscious) are more likely to purchase counterfeit goods ( (Agarwal, S., & Panwar, S., 2016[15]); (Hoon Ang, S., Sim Cheng, P., Lim, E. A., & Kuan Tambyah, S., 2001[10]); (Penz, E., & Stöttinger, B., 2012[16]); (Turkyilmaz, C. A., & Uslu, A., 2014[12]);

- Value attached to status (Bian, X., & Veloutsou, C., 2007[17]); (Eisend, M., Hartmann, P., & Apaolaza, V., 2017[18]); (Grossman, G. M., & Shapiro, C., 1988[19]). Some individuals may be inclined to improve their social position by purchasing goods conferring high status or recognition among peers. Counterfeit goods may be for some of them more attractive that non-branded alternatives which are deprived of those signalling qualities (Geiger-Oneto, S., Gelb, B. D., Walker, D., & Hess, J. D., 2013[20])

Among features related to qualities of specific transactions, most indicated are:

- Perceived risk related to transaction (Liao, C.-H., & Hsieh, I., 2013[21]). Partially it depends on individual psychological traits as there may be quite large differences in risk susceptibility between individuals (Wee et al., 1995). However, willingness to buy counterfeits by individual consumers may be also affected by the type of counterfeit good. Ceteris paribus people who may be leaning towards buying counterfeit handbag, may be more diligent while assessing the risks of buying counterfeit toys or pharmaceuticals;
- Perceived financial value of transaction. The bigger the price difference between genuine good and counterfeit the higher likelihood to purchase counterfeit good ( (Bian, X., Wang, K.-Y., Smith, A., & Yannopoulou, N., 2016[22]); (Cordell, V. V., Wongtada, N., & Kieschnick Jr, R. L., 1996[8]); (Hoon Ang, S., Sim Cheng, P., Lim, E. A., & Kuan Tambyah, S., 2001[10]); (Penz, E., Schlegelmilch, B. B., & Stöttinger, B., 2008[23]). This factor may be moderated however by the perception of original brand, as it affects to a greater extent brands with negative image (Poddar, A., Foreman, J., Banerjee, S. S., & Ellen, P. S., 2012[24]) ;
- Perceived quality of counterfeit goods (Cordell, V. V., Wongtada, N., & Kieschnick Jr, R. L., 1996[8]); (Gentry, J. W., Putrevu, S., & Shultz, C. J., 2006[25]) ; (Hoon Ang, S., Sim Cheng, P., Lim, E. A., & Kuan Tambyah, S., 2001[10]) and perceived similarity between counterfeit and original goods (Penz, E., & Stöttinger, B., 2008[7]).

Those individual and transaction-related features are however unlikely to explain differences in the demand for counterfeits between countries. Certainly, they are unable to explain the involuntary transactions, where buyers are misled as regards origin of the purchased product. Also, willingness to purchase counterfeit goods is necessary but not sufficient condition of counterfeit transaction. This depends also on relative ease of access to counterfeit goods in the local market.

Availability of counterfeit goods depend on whether some entrepreneurial individuals decide to engage in production or import of those commodities instead of engaging in alternative legal activity. This may be driven by specific country-level factors setting up pay-offs systems which are not sufficient to discourage socially unproductive entrepreneurship like IPR infringement (Baumol, 1990[26]). Country level differences in the counterfeit imports may be therefore most likely explained by specific socio- demographic and socio-economic contrasts that can be summarized in country level statistical indicators. Some of those indicators that have been investigated in the literature so far are:

- Economic wealth ( (Elsantil, Y. G., & Hamza, E. G. A., 2021[14]); (Wee, C.-H., Ta, S.-J., & Cheok, K.-H., 1995[9]). Beyond the fact that it directly influences purchasing power, countries with lower GDP per capita tend to put less emphasis on IPR protection (Maskus, 2000[27]). Economic wealth has been previously confirmed in empirical studies to be important factor for explanation of software piracy rates (Husted, 2000[28]); (Moores, 2008[29]);
- Age distribution. Young people are more likely to buy counterfeits ( (Bian, X., & Veloutsou, C., 2007[17]); (Li, T., & Seaton, B., 2015[30]) ; (Rod, 2015[31]); (Tom, G., Garibaldi, B., Zeng, Y., & Pilcher, J., 1998[32]). They are relatively less well-off, and their threshold of acceptable risk behaviour is in general lower than in case of older people;
- Probability of punishment. This factor concerns not only formal punishments stipulated in the national laws, but also informal sanctions, such as social ostracism or embarrassment (Penz, E.,

Schlegelmilch, B. B., & Stöttinger, B., 2008[23]). Although the risk is evaluated on the individual level, it will differ depending on country and culture specific system of formal and informal sanctions related to illegal transactions involving counterfeit goods. This may be important element in the cost-benefit analysis performed by potential importers of counterfeit goods before engaging in criminal activity (Becker, 1968[33]); (Reardon, J., McCorkle, D., Radon, A., & Abraha, D., 2019[34])Reardon et al., 2019). Lenient legal penalties associated with IPR related crimes coupled with high potential returns from such criminal activity may directly encourage people to trade with counterfeit goods.

There are some factors that are potentially relevant antecedents of the import of counterfeit goods that were not given sufficient attention in the extant economic research. For instance, availability of counterfeit goods in a country may be related to flows of genuine imports and import facilities in general, as the counterfeiters often use the same facilities as original brands' owners to deliver goods to their customers. This may include existence of large port infrastructure, but also access to high-quality Internet connections in case of online purchase of counterfeit goods. The latter has been confirmed to be important in context of music piracy (Bhattacharjee, S., Gopal, R. D., & Sanders, G. L., 2003[35]).

### *Scope of the study*

This report builds on the individual-level analysis, and analyzes the imports of fakes at a macroeconomic, economy-level perspective.

Specifically, the analysis considers both intentional and unintended demand looking at an-economy level manifestations of specific drivers identified by the microeconomic literature and discussed above. Conceptually, whenever it is possible the country-specific factors are aggregates of individual characteristics identified by the microeconomic studies. For example, the microeconomic analysis finds that ease of access of fakes at an individual level is considered as an individual driver. Since today many fakes can be found in the on-line environment, on a country-level a corresponding measure could be related to the availability and intensity of use of the Internet.

The factors taken into consideration to explain the imports of fakes are the following:

- economic factors (GDP per capita)
- demographics (age structure)
- education (% of tertiary education)
- use of Internet

logistical and trade performance (Logistics Performance Index - quality of transport infrastructure). All factors used in this analysis are described in Annex B.

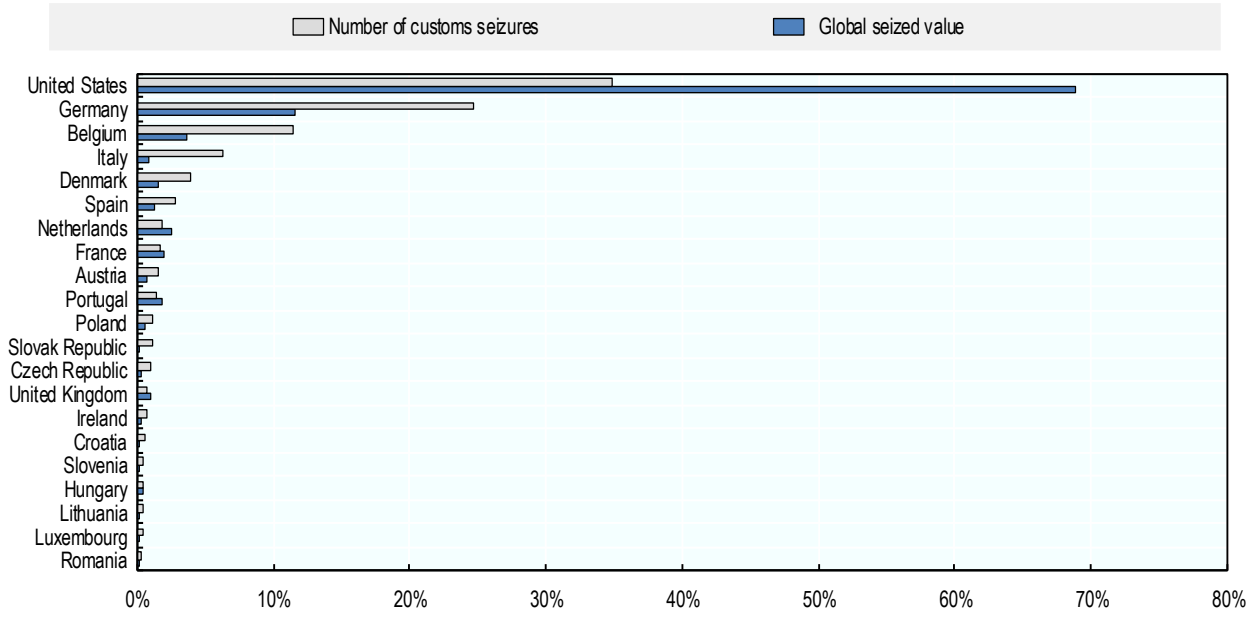
## 3. What has our research told us so far?

A preliminary check of data that refer to seizures carried out in small parcels indicates the economies that import fakes the most. Consequently, information presented in this report is skewed towards OECD member countries, where affordable small parcels services and e-commerce are widely available.

Data on global customs seizures show that most of counterfeit goods sent in small parcels were destined to developed countries with the United States representing 35% of total global customs seizures (see Figure 1.1). They were followed by European countries such as Germany (25%), Belgium (11%) and Italy (6%)

## Figure 1.1. Top destination economies of counterfeit goods shipped in small parcels

In terms of number and value of customs seizures, 2017-2019

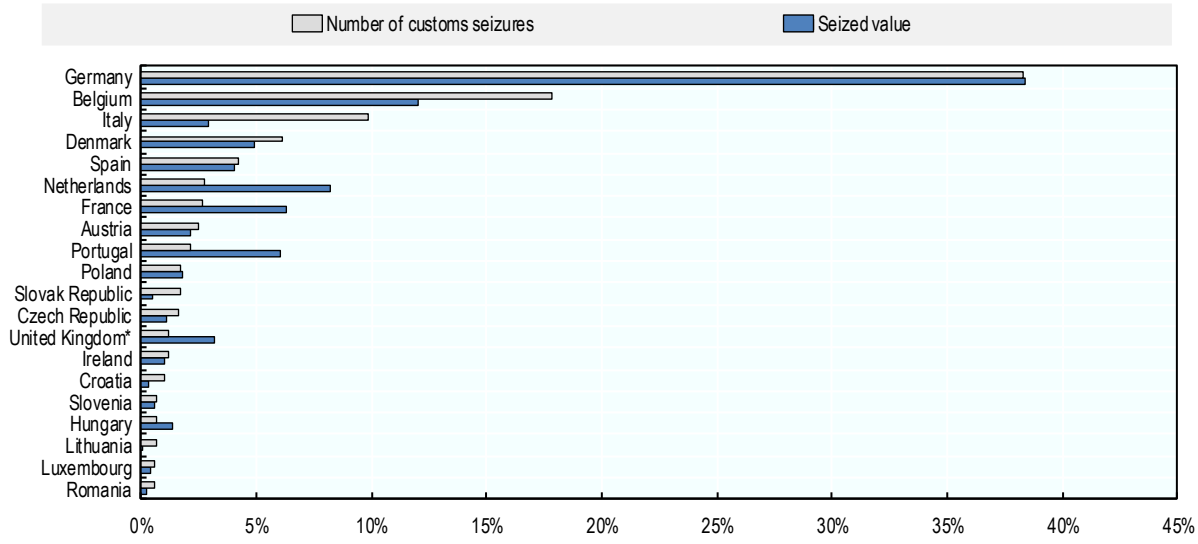



Source: OECD/EUIPO global customs seizures database.

Among EU member states, Germany is the main importer of counterfeit products shipped in small parcels in terms of both number of seizures and seized value (see Figure 1.2). Almost 40% of seizures of fake goods imported into the EU through small packages were destined to Germany between 2017-2019.

### Figure 1.2. Top destination economies of counterfeit goods shipped in small parcels to the EU

In terms of number and value of customs seizures, 2017-2019




Note: *United Kingdom is included in EU countries as the analysis refers to the period prior to the Brexit.
Source: OECD/EUIPO global customs seizures database.

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## Note

[1] Goods that infringe trademarks, copyrights, patents, or design rights.

# 2 Factors that shape imports of fakes

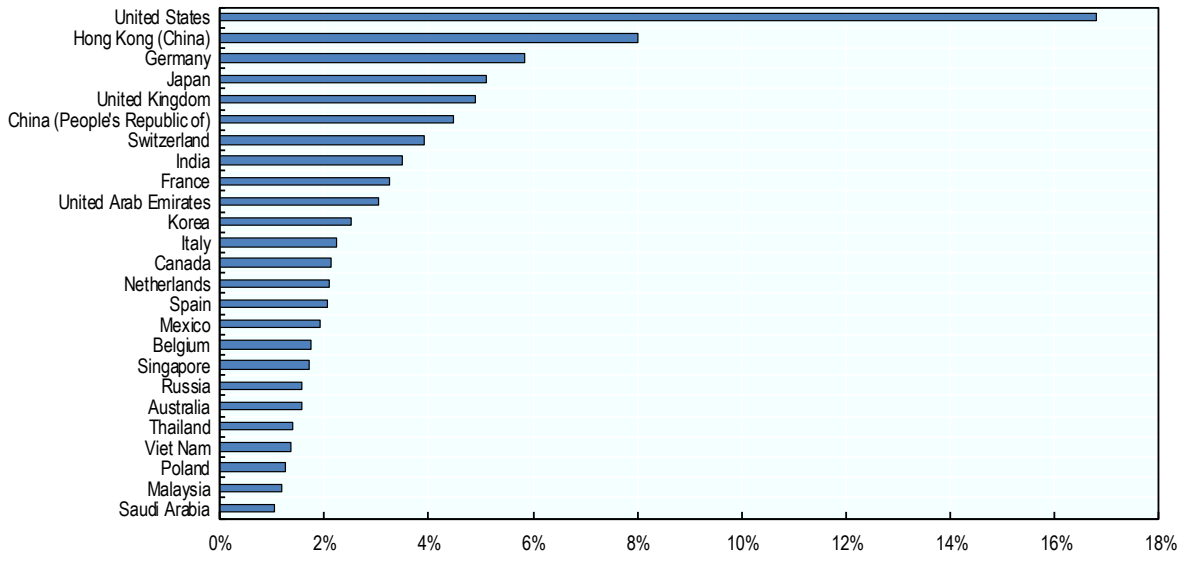
This section focuses on the factors that impact the value of fake imports. The value of imports of fake goods was calculated using data from customs seizures of small parcels to which the OECD methodology described in (OECD/EUIPO, 2016[3]) and (OECD/EUIPO, 2019[1]) was applied.

## 1. Imports of fakes in small packages: what does this trade look like?

### *Which countries import counterfeit goods?*

Figure 2.1 shows that when considering the estimated value of fake imports, the United States remains by far the first importer of counterfeit goods shipped in small packages. However, the picture differs somehow from the one based on raw customs seizures data. One can note that in addition to European countries, importers of small parcels of counterfeit goods are in different regions such as Asia, Gulf region, South America, and Oceania. Overall, fake imports were mostly destined to countries quite well integrated in international trade in absolute terms.

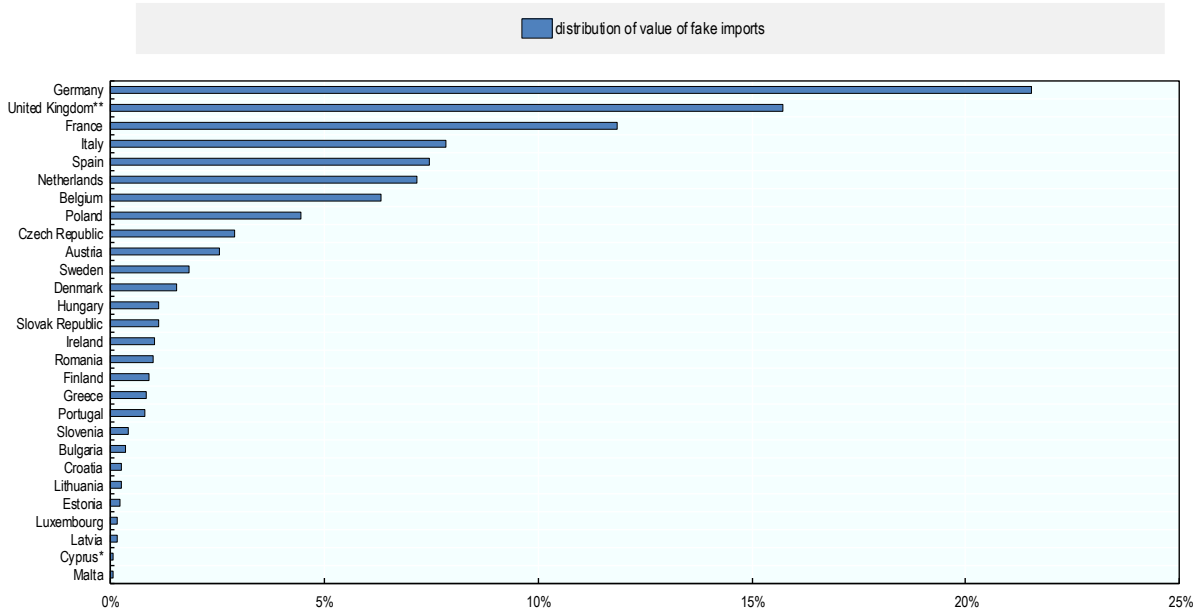
**Figure 2.1. Distribution of the value of fake imports, by destination economies, 2019**




Source: OECD/EUIPO calculations

Figure 2.2 shows the distribution of the value of fake imports into the EU by destination economies. Germany was the country with the highest value of fake imports in 2019. It was followed by United Kingdom, France, and Italy.

## Figure 2.2. Distribution of the value of fake imports in the EU, by destination economies, 2019




* Note by Türkiye: the information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Türkiye recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Türkiye shall preserve its position concerning the "Cyprus" issue. Note by all the European Union Member States of the OECD and the European Union: the Republic of Cyprus is recognised by all members of the United Nations with the exception of Türkiye. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.
** United Kingdom is included in EU countries as the analysis refers to the period prior to the Brexit.
Source: OECD/EUIPO calculations.

Table 2.1 shows that United Kingdom and France appear as main importers of fakes among EU member states in both absolute and relative terms. It also indicates that Spain, Poland, and the Czech Republic are among the largest importers of counterfeit goods in the EU in relative terms.

## Table 2.1. Top 15 destination economies of counterfeit imports destined to the EU countries, 2017-19

| Rank | Value of fake imports | Share of fakes in total imports |
|---|---|---|
| 1 | Germany | United Kingdom* |
| 2 | United Kingdom* | Spain |
| 3 | France | Poland |
| 4 | Italy | France |
| 5 | Spain | Czech Republic |
| 6 | Netherlands | Germany |
| 7 | Belgium | Italy |
| 8 | Poland | Netherlands |
| 9 | Czech Republic | Denmark |

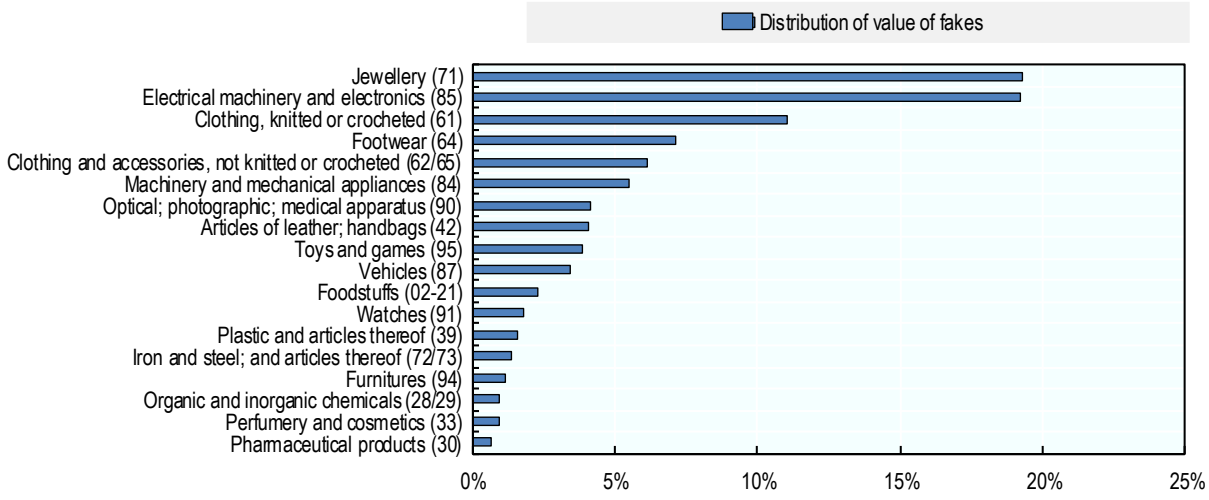
| Rank | Value of fake imports | Share of fakes in total imports |
|---|---|---|
| 10 | Austria | Greece |
| 11 | Sweden | Austria |
| 12 | Denmark | Belgium |
| 13 | Hungary | Slovak Republic |
| 14 | Slovak Republic | Finland |
| 15 | Ireland | Estonia |

Note: * United Kingdom is included in EU countries as the analysis refers to the period prior to the Brexit.
Source: OECD/EUIPO calculations.

### *What counterfeit products are imported?*

Figure 2.3 shows the distribution of the value of fake imports by product categories. It indicates that the range of fake goods traded is very wide including common goods (footwear, ready-to-wear items), luxury goods but also potentially dangerous fakes such as toys and games, spare parts, cosmetics, and pharmaceuticals. Jewellery and electronics were the two product categories associated with the highest value of imported fake products in 2019. They were followed by clothing and footwear.

### Figure 2.3. Distribution of the value of fake imports, by product categories, 2019

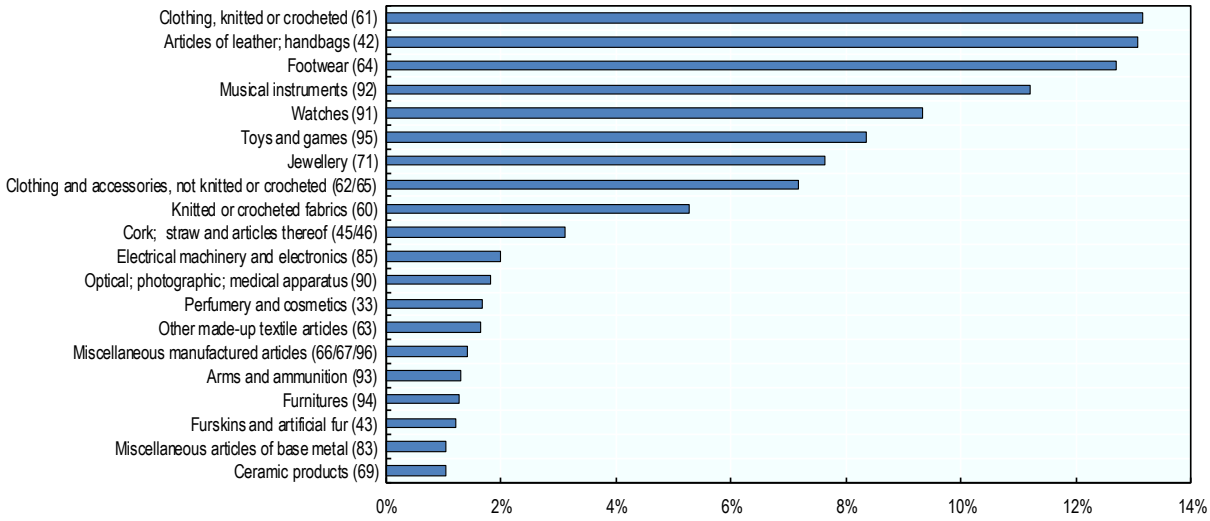



Source: OECD/EUIPO calculations.

Fake clothing, leather goods and footwear are the product categories in which fakes are most often imported in relative terms (see Figure 2.4). This figure also indicates that the share of fakes in total imports is significant for musical instruments while its associated value is limited. It is also the case – but in a lesser extent – for fake watches and toys and games.

## Figure 2.4. Top product categories of counterfeit goods shipped in small parcels, in relative terms, 2019

Share of fakes in total imports by product categories




Source: OECD/EUIPO calculations.

Tables 2.2 – 2.7 focus on imports of counterfeit products by sector. Special attention was paid to sectors where fakes can pose direct health and safety risks such as food, pharmaceuticals, cosmetics and toys and games. The case of common products frequently seized like clothing and electronics was also analysed.

Table 2.2 indicates that the value of fake imports, in relative terms (e.g., in terms of fake imports of food in total imports of food), Asian and African countries were the main importers of counterfeit food products. In absolute terms, China and OECD countries dominate, however.

## Table 2.2. Top 15 importers of counterfeit food products

| Rank | Value of fake imports | Share of fakes in total imports |
|---|---|---|
| 1 | United States | Macau (China) |
| 2 | China (People's Republic of) | Comoros |
| 3 | Japan | Afghanistan |
| 4 | Germany | Mongolia |
| 5 | Netherlands | Lao People's Democratic Republic |
| 6 | France | Hong Kong (China) |
| 7 | United Kingdom | Thailand |
| 8 | Hong Kong (China) | Benin |
| 9 | Spain | Madagascar |
| 10 | Korea | Indonesia |
| 11 | Italy | Cambodia |
| 12 | Russia | Myanmar |
| 13 | Belgium | Côte d'Ivoire |
| 14 | Canada | Mauritania |
| 15 | Saudi Arabia | Kuwait |

As for imports of counterfeit medicines, six African countries are among the 15 top importers in relative terms.

### Table 2.3. Top 15 importers of counterfeit pharmaceuticals

| Rank | Value of fake imports | Share of fakes in total imports |
|---|---|---|
| 1 | Argentina | Argentina |
| 2 | United States | Afghanistan |
| 3 | Germany | Brunei Darussalam |
| 4 | Belgium | Palestinian Authority* |
| 5 | Switzerland | Yemen |
| 6 | China (People's Republic of) | Georgia |
| 7 | Japan | Burundi |
| 8 | United Kingdom | Lao People's Democratic Republic |
| 9 | Italy | Zambia |
| 10 | France | Gambia |
| 11 | Netherlands | Madagascar |
| 12 | Spain | Rwanda |
| 13 | Russia | Cambodia |
| 14 | Canada | Nigeria |
| 15 | Korea | Aruba |

In absolute terms, the United States, China, and Hong Kong (China) were the largest importers of counterfeit cosmetics. In relative terms, Afghanistan, Yemen, and India were the top destination countries for fake cosmetics, associated with the highest shares of fake imports in this sector.

### Table 2.4. Top 15 importers of counterfeit cosmetics

| Rank | Value of fake imports | Share of fakes in total imports |
|---|---|---|
| 1 | United States | Afghanistan |
| 2 | China (People's Republic of) | Yemen |
| 3 | Hong Kong (China) | India |
| 4 | Germany | Indonesia |
| 5 | United Kingdom | Lao People's Democratic Republic |
| 6 | Japan | Belize |
| 7 | France | Viet Nam |
| 8 | Singapore | Philippines |
| 9 | United Arab Emirates | Mauritania |
| 10 | Russia | Comoros |
| 11 | Thailand | Ecuador |
| 12 | Saudi Arabia | Gambia |
| 13 | India | Rwanda |
| 14 | Canada | Burundi |
| 15 | Netherlands | Pakistan |

The main importers of counterfeit toys and games are developed countries with the United States, Japan, Germany, and United Kingdom being those with the highest value of fake imports in this field. In relative terms, the United States and Japan also appear as large importers, but the largest ones were Yemen, Pakistan, and Uzbekistan.

## Table 2.5. Top 15 importers of counterfeit toys and games

| Rank | Value of fake imports | Share of fakes in total imports |
|---|---|---|
| 1 | United States | Yemen |
| 2 | Japan | Pakistan |
| 3 | Germany | Uzbekistan |
| 4 | United Kingdom | Afghanistan |
| 5 | Hong Kong (China) | Myanmar |
| 6 | France | Lao People's Democratic Republic |
| 7 | Canada | Ecuador |
| 8 | Spain | Brazil |
| 9 | Australia | Mauritania |
| 10 | Netherlands | United States |
| 11 | Mexico | Egypt |
| 12 | Russia | Hong Kong (China) |
| 13 | Poland | Indonesia |
| 14 | Korea | Cambodia |
| 15 | Italy | Japan |

The United States, Germany and Japan were the three first destination economies for fake clothing in terms of value of fake clothing imported. When considering the share of fake imports of clothing among genuine imports, Yemen, Rwanda, and Afghanistan were the three economies most affected by imports of fake ready to wear articles.

## Table 2.6. Top 15 importers of counterfeit clothing

| Rank | Value of fake imports | Share of fakes in total imports |
|---|---|---|
| 1 | United States | Yemen |
| 2 | Germany | Rwanda |
| 3 | Japan | Afghanistan |
| 4 | United Kingdom | Pakistan |
| 5 | France | Gambia |
| 6 | Spain | Palestinian Authority* |
| 7 | Hong Kong (China) | Kyrgyzstan |
| 8 | Netherlands | Madagascar |
| 9 | Italy | Azerbaijan |
| 10 | Canada | Egypt |
| 11 | Australia | Burundi |
| 12 | Korea | Chile |
| 13 | Poland | Belize |
| 14 | Russia | Jordan |
| 15 | Belgium | Armenia |

Table 2.7 shows that counterfeit electronics were mostly destined to countries well integrated in the international trade with Hong Kong (China), the United States and China being the three main destinations of counterfeit electronics, in terms of value of fakes. When considering the share of fake imports of electronics, one third of the main importers are African countries, while Asian countries also figure prominently. This means that Africa and Asia can be seen as specific targets for counterfeit electronics.

### Table 2.7. Top 15 importers of counterfeit electronics

| Rank | Value of fake imports | Share of fakes in total imports |
|---|---|---|
| 1 | Hong Kong (China) | Pakistan |
| 2 | United States | Macau (China) |
| 3 | China (People's Republic of) | Yemen |
| 4 | Germany | Afghanistan |
| 5 | Japan | Kyrgyzstan |
| 6 | Korea | Democratic Republic of the Congo |
| 7 | Mexico | Togo |
| 8 | India | Côte d'Ivoire |
| 9 | Viet Nam | Cambodia |
| 10 | Singapore | Hong Kong (China) |
| 11 | Netherlands | Kenya |
| 12 | United Kingdom | Nigeria |
| 13 | Malaysia | India |
| 14 | France | Myanmar |
| 15 | United Arab Emirates | Indonesia |

## 2. What are the main drivers of imports of fakes?

The purpose of this section is to highlight the relations that exist between some factors and the value of imports of fakes. The analysis is carried out at a country level for a one-year period (2019). The selected factors are in principle country-level reflections of specific microeconomic drivers of intentional and unintentional demand discussed in the sections above. These factors include indices of economic development, demographics, education, use of Internet, and logistical and trade performance.

### *Modelling the value of fake imports*

While some links between these indices and the imports of fakes are obvious a priori, some results can be more difficult to determine and require further analysis. For example, economic development can determine the ease of Internet access, but on the other hand it can be also linked to the overall level of quality of governance framework, including IP enforcement.

To better understand the role of each of the factors impacting the demand for fakes, a multiple regression model was used. This statistical method is designed to model relationships between an independent variable and various predictors. It also provides the magnitude of the effects of each predictor on the independent variable.

The factors impacting the value of fake imports are described and the results of the multiple linear regression model are discussed below. Table 2.8 presents the results of the best multiple linear regression in terms of adjusted R2, significance of coefficients, normality of errors and absence of multicollinearity between independent variables.

## Table 2.8. Multiple regression of the value of fakes (in log)

| Multiple regression of the value of fakes (in log) | |
|---|---|
| Imports (in log) | 1.006*** |
| | (0.0412) |
| Infrastructure | 0.367*** |
| | (0.0902) |
| Population aged 65 + | -0.063*** |
| | (0.0111) |
| Individuals using Internet | 0.015** |
| | (0.00491) |
| Tertiary education | 0.013** |
| | (0.00415) |
| GDP per capita (in log) | -0.349** |
| | (0.105) |
| constant | -3.336** |
| | (0.988) |
| | |
| Adjusted R-squared | 0.960 |
| N | 61 |

Note: Standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001.
Source: OECD/EUIPO calculations.

As can be seen in Table 2.8, the variable to be explained in our model is the log of the value of imports of fakes. The use of logarithmic specification is linked to improving model fit. The model comprises six explanatory variables and a constant term, including:

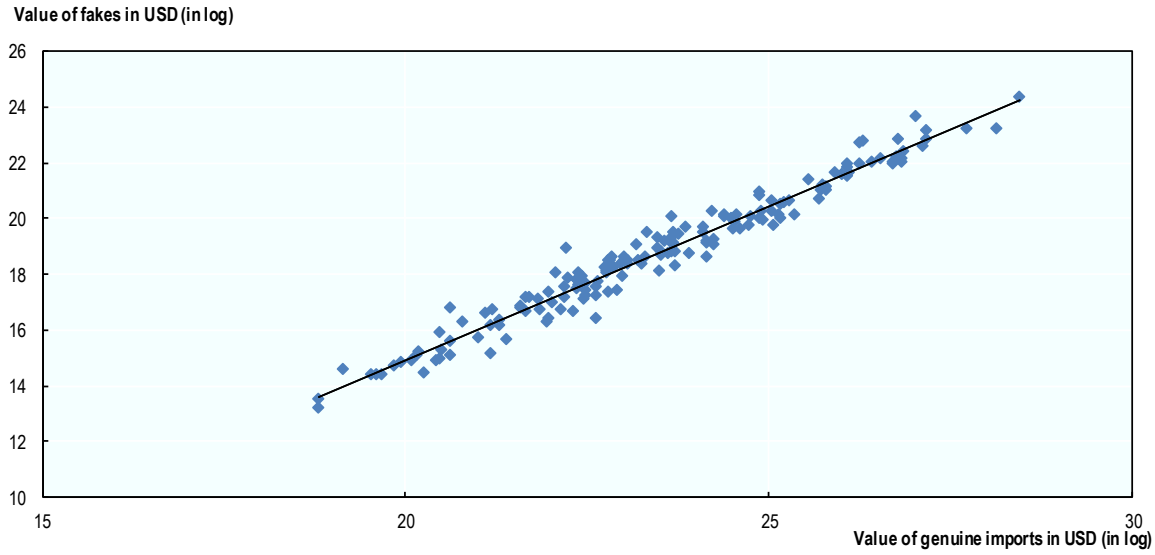
- The value of imports by country (in USD). For model performance reasons, this variable is expressed in log;
- The quality of trade and transport-related infrastructure. This index reflects professionals' perceptions of quality of trade and transport-related infrastructure of each country and ranges from 1 to 5: the higher the score the better the performance;
- The population aged 65 and above as a share of total population;
- The share of individuals using Internet of each country;
- The gross graduation ratio of tertiary education;
- The GDP per capita in USD, which is expressed in log for a better model fit.

The detailed data descriptions can be found in Appendix B of this report.

### *Imports*

Figure 2.5 indicates a very strong and positive correlation between the value of fake imports and the value of genuine imports. The higher the imports of a country, the higher the value of fake imports.

## Figure 2.5. Link between the value of fake imports and total value of imports




Note: This graph should be interpreted carefully. To avoid any confusion, it is important to point out that for each country, the value of imports of fake goods is lower than the total value of imports (official trade data) but both values are high in absolute terms. On this graph, these two values may appear close due to the log entry, but they differ in reality. Indeed, the y-values of large x-values are closer together in the case of a logarithmic function, whereas the y-values of small x-values are further apart.
Each point corresponds to one country for 2019.
Source: UN Comtrade database and OECD/EUIPO calculations.

The statistical model confirms that genuine imports are an important driver of fake imports, as Table 2.8 shows an increase in value of genuine imports is associated to a significantly increase of the value of fakes imports.

This result is somehow straightforward, particularly when considering that the regression uses the value of imports of fakes as the dependant variable. In this context the value of imports to an economy, in addition to its straightforward explanatory power, captures the scale effect, when a large economy is a more significant importer of fakes only because of its large volumes of trade.

### *Infrastructure*

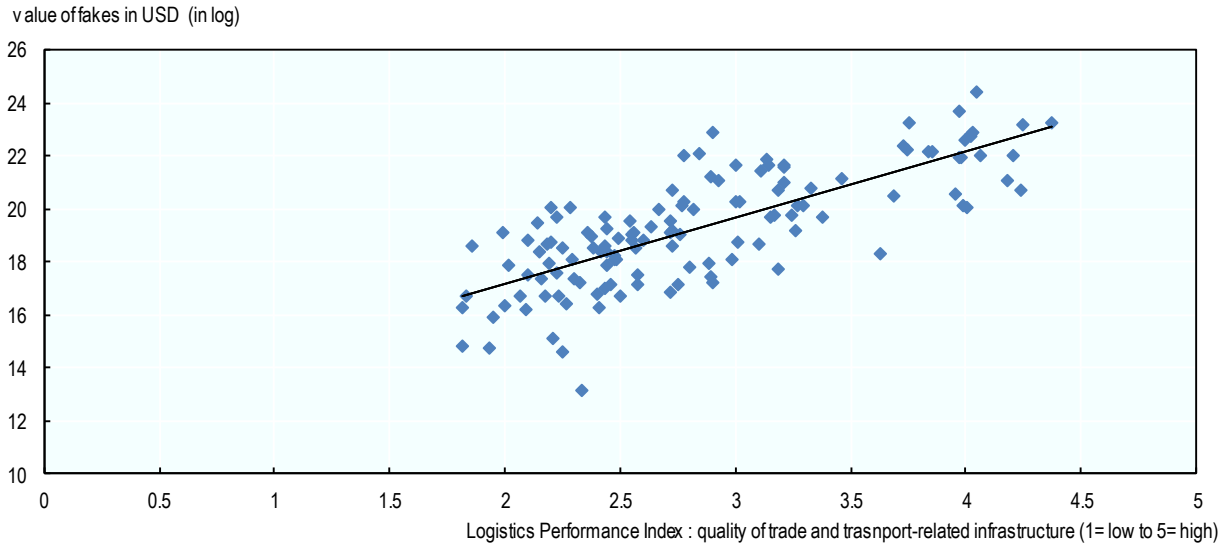
As highlighted in previous OECD-EUIPO studies, good quality trade infrastructure tends to facilitate counterfeit imports to the same extent it facilitates licit trade. This is particularly the case for countries with relatively low governance standards related to IP respect and protection.

To verify if economies with efficient logistics are more likely to import counterfeit and pirated products, the study uses the Logistics Performance Index (LPI) provided by the World Bank and Turku School of Economics. The LPI is an interactive benchmarking tool updated every two years; it ranks 160 countries on the efficiency of their international supply chains. It is based on a worldwide survey of logistics professionals on the ground who provide feedback on the logistics friendliness of the countries in which they operate and those with which they trade. LPI is the combination of country scores on six dimensions : the ability to track and trace consignments, the level of competence and quality of logistics services (e.g. transport operators, customs brokers), the ease of arranging competitively priced shipments, the efficiency of customs clearance processes (i.e. speed, simplicity and predictability of formalities), how often the shipments to the assessed country reach the consignee within the scheduled or expected delivery time and the quality of trade and transport-related infrastructure (e.g. ports, railroads, roads, information

technology). Scores are averaged across all respondents and all indices range from 1 to 5: the higher the score the better the performance.

In this study, the focus is the infrastructure quality dimension as it seems to be a determinant of imports of fakes. Indeed, Figure 2.6 shows a strong and positive correlation between the quality of trade and transport infrastructure and the value of fake imports.

### Figure 2.6. Link between value of fake imports and quality of trade and transport infrastructure




Note: Each point corresponds to one country for 2019.
Source: World Bank (Logistics Performance Index) and OECD/EUIPO calculations.

Table 2.8 indicates that infrastructure is an important driver of counterfeit and pirated imports as the two columns show that an increase in quality of trade and transport related infrastructure significantly increase the value of fake imports. The quality of logistics and transport related infrastructure tends to facilitate counterfeit imports and in the framework of small parcels, infrastructure such as big airports are clearly considered as facilitating both genuine and illicit trade.

This result corroborates the trends already highlighted by the OECD and the EUIPO on counterfeiters' strategies. Their strategies are multifaceted and consist in misusing all facilitation of international trade. For example, the misuse of containerized maritime, small parcels, free trade zones and online environment was already described in several publications[1].

### *GDP per capita*

*A priori,* the economic wealth of consumers can influence the purchase of counterfeit goods in several ways. It is important to recall that demand of fakes is specific as we distinguish two types of consumers. There are consumers who deliberately buy fake goods and those who buy fakes thinking the goods are genuine. On the one hand, people with low wealth may be motivated by lower prices in the illicit market. On the other hand, for people who are deceived, the purchase of counterfeit goods is not motivated by the price and consequently the role of economic wealth is less marked in this case.

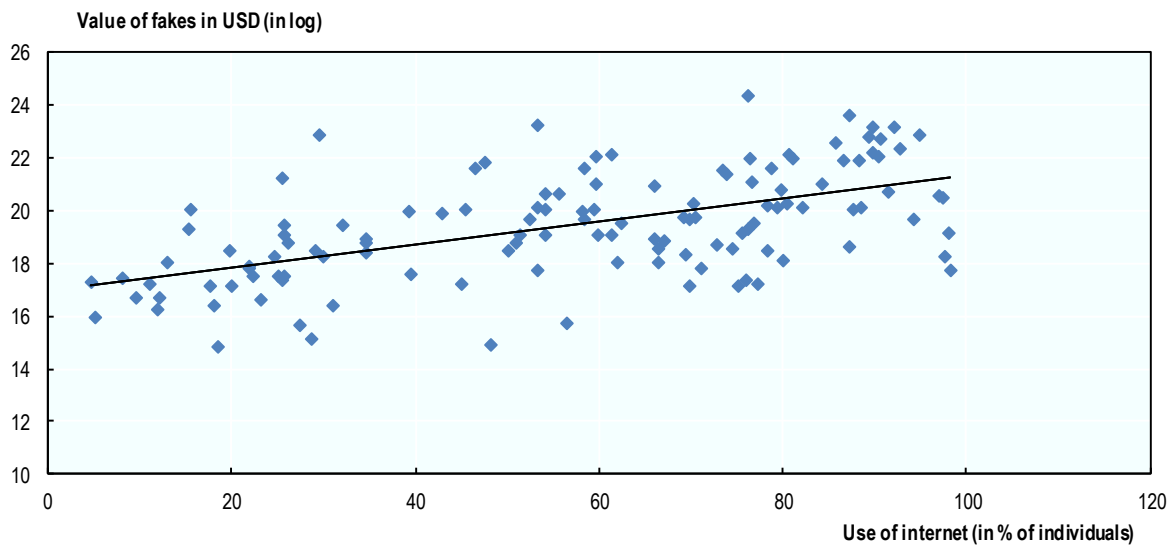
The results of the multiple regression model (see Table 2.8) indicate that higher wealth per capita tend to reduce the value of fake imports. *Ceteris paribus,* an increase of the GDP per capita leads to a decrease of the value of counterfeit goods imported.

This result indicates that countries where wealth is lower are more likely to consume counterfeit and pirated goods which are often more attractively priced. Moreover, it can also be linked to the fact that countries with lower GDP per capita tend to pay less attention to IPR protection. In fact, as shown by several empirical studies, GDP capita is usually positively correlated with the overall quality of respect for IP in a country[2] Consequently, this finding indirectly shows that countries that enjoy a higher respect for IP and stronger IP protection levels, also report lower volumes of import of fake goods.

### *Use of internet*

Figure 2.7 shows a positive correlation between the percentage of people using the Internet and the value of imports of counterfeit goods. Such a relationship is logical given the growing importance of online shopping for both genuine and counterfeit purchases. As highlighted in (OECD/EUIPO, 2021[36]), 56% of seizures made by European customs between 2017 and 2019 were related to online sales.

**Figure 2.7. Link between the share of individuals using Internet and the value of fake imports**




Note: Each point corresponds to one country for 2019.
Source: World Economic Forum and OECD calculations.

The regression model confirms (see Table 2.8) the positive relationship between the use of Internet and the value of fake imports. This result is not surprising since the online business is a complex and fast-moving environment where the consumer can be easily deceived. It is also a common way to serve the intentional demand for counterfeit goods through social media where the promotion and sale of replicas is made.

### *Population aged 65 and more*

The relation between age and imports of fakes is *a priori* difficult to determine. On the one hand the relationship could be negative as studies show that young people are more likely to use counterfeit

products than older people. On the other hand, the ageing countries are often developed countries that are well integrated in world trade and have a high import value.

The econometric model presented in Table 2.8 indicates that the age of the population is also a factor that impacts the value of imports of counterfeit goods. The results of the multiple regression indicate that an increase in the share of the elderly population (aged 65 and more) significantly decreases the value of imports of fakes. This result confirms the hypothesis that young people can be considered as the suitable target for bad actors supplying counterfeit goods.

The exact mechanism that reduces the overall propensity to import fakes with the share of elderly populations cannot be determined at this stage. In fact, several mechanisms could act independently. A greater awareness on the threat represented by counterfeiting as well as lower economic constraints for elderly (compared to younger people) may be elements of explanation. Last, less intense use of the Internet - which is a major source of counterfeit goods - by older people for their purchases may also explain such a relationship between the age of population and the value of imported fake goods.

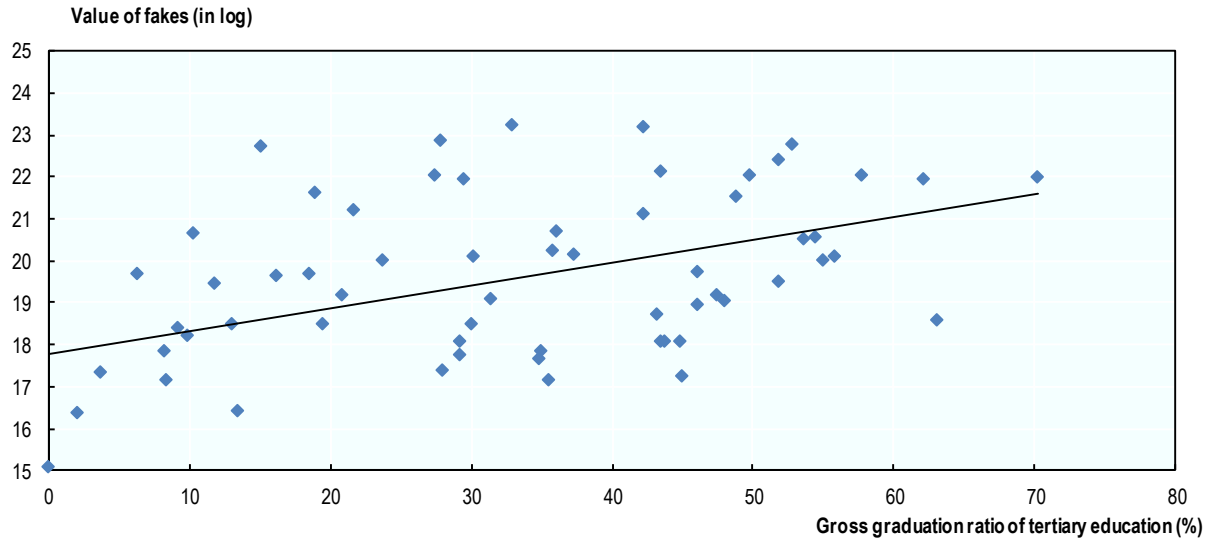
### *Education*

The data show a positive relationship between the gross graduation ratio of tertiary education and the value of imports of counterfeit goods. The multiple regression model confirms that an increase of the share of graduates from tertiary education leads to an increase in the value of fake imports (see Table 2.8).

More in-depth analysis is needed to explain this pattern, as several underlying facts could potentially explain such a relationship. Possible explanatory factors, include for example lack of awareness about this risk (including the presence of counterfeit goods in all sectors and not only in the fashion or luxury goods sectors), or higher digital skills that might result in a higher ability to look for bargains online

In addition, the evidence highlighted by the OECD in several previous reports indicate that criminals are very creative and use all possible means to deceive consumers. The specific case of fake medicines is illustrative. *A priori*, the purchase of fake medicines is less demand-driven than other sectors like clothing or leather items (see Table 1.1). However, a survey conducted by the FDA (Food and Drug Administration) in 2020 reveals that nearly half of Americans (42%) are currently purchasing medications online and 45% of Americans erroneously believe all websites offering healthcare services/prescription medications to Americans via the Internet have been approved by the FDA or state regulators. This means that for some sectors the risk of counterfeiting is not so well-known, and the purchase of counterfeit goods can potentially be made by all people, those with high digital skills to look for good offers online.

## Figure 2.8. Link between tertiary education and the value of fake imports




Note: Number of graduates from first degree programmes (at ISCED 6 and 7) expressed as a percentage of the population of the theoretical graduation age of the most common first-degree programme.
Each point corresponds to one country for 2019.
Source: World Bank and OECD/EUIPO.

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## Notes

[1] (OECD/EUIPO, 2018[44]), (OECD/EUIPO, 2018[2]), (OECD/EUIPO, 2021[43]), (OECD/EUIPO, 2021[36]).

[2] (Gould, 1996[40]); (Besley T, 2010[42]) Besley T, Ghatak M (2010) Property rights and economic development. In: Rodrick D, Rosenzweig M (eds) Handbook of development economics, 5th edn. Elsevier, North Holland, pp 4525–4595; (Haydaroğlu, 2015[41]).

# 3 What factors make countries more likely to import counterfeit goods?

This report enhances information about the quantifiable socio-economic conditions that determine the propensity of economies to import counterfeit goods. These findings shed more light on links between the value of imports of fakes and indicators of trade, quality of infrastructure, level of education, individuals' wealth as well as the use of Internet.

The main finding is that integration into global trade, without adequate IP protection and transparency measures becomes a key element in the imports of counterfeit goods. The report indicates that the quality of trade infrastructure plays an important role in importing fakes since the better the quality of trade and transport-related infrastructure the higher the value of fake imports.

This finding also reinforces from the imports perspective findings made in several previous studies, that counterfeiters misuse logistical trade infrastructure used for trade in licit goods. While free trade is a great engine for economic growth and development, lack of transparency creates conditions for bad actors to thrive, creating significant health, security, and environmental risks.

This finding supports the call for continued monitoring of the strategies used by counterfeiters to distribute their goods and raising awareness to build solutions designed to enhance the security of trade.

The report also underscores a link between the use of Internet and the value of imports of fakes. E-commerce is a tremendous tool to facilitate trade but at the same time it is a privileged distribution channel for counterfeiters as it is easy to deceive consumers in the online environment.

The report also highlights the important role played by socio-economic characteristics in shaping demand for fakes. Young people are more likely to demand fakes, perhaps due to economic constraints and less awareness on counterfeiting-related risks. This report also shows that tertiary education graduation ratio is a factor that is correlated positively with the value of imports of fakes. This result, surprising at first sight, could be linked to the unintentional demand of fake goods, combined with higher digital competences and the resulting propensity to shop online. In addition to consumers that deliberately purchase counterfeit goods, there are also consumers who are deceived by purchasing illicit goods unknowingly whatever their educational level or financial constraints.

These results show a strong need to further education campaigns, and to raise awareness on counterfeiting-related risks. Particularly, it is important to inform consumers, and notably young people, on (i) the scale and magnitude of illicit trade including the wide range of counterfeit products available (ii) the risks incurred by counterfeiting (health, safety, environment, and economic) and (iii) the counterfeiters' practices to help them detect potential fraudulent products.

Even though all the factors outlined in the quantitative analysis are relevant, it is important to highlight that none of these elements can explain *alone* the propensity of imports of fakes to a given economy. In fact, it is the *combination* of numerous factors that shapes the intentional and unintentional demand for fakes, and consequently the propensity of imports of counterfeit goods. In addition, this report does not claim to establish causality between the value of fake imports and its significant determinants, but it shows

correlations and sheds light on potential underlying explanations. What is also important to note is that many of the factors presented above can be extremely beneficial for trade in general, and – more broadly – for a country's welfare. This includes such elements as good logistics facilities, or Internet access. It is the misuse of these facilities, and abuse of opportunities they create that can result in higher flows of trade in fake goods. The degree to which this misuse occurs greatly depends on governance issues, particularly the degree of IP protection. The policy challenge is to reduce the scope for misuse, while keeping open the possibility of benefiting from trade.

## Next steps

The quantitative analysis presented in this report has identified several research areas that might merit further analysis. A more in-depth investigation of these areas could be beneficial for developing efficient enforcement and governance frameworks to counter the substantial risks posed by trade in counterfeit goods:

- The joint OECD-EUIPO studies, of which the present study is the most recent, have focused on international trade in counterfeit goods. These studies have shown that the scale of the problem is huge. In parallel, EUIPO has carried out a series of sectorial studies which estimate the losses suffered by legitimate industry, and the derived loss of government revenue, as a result of the presence of counterfeits in the marketplace in the EU. Takes together, these studies consider the scale and impact of counterfeiting on the level of the entire economy or individual sectors. They also focus mostly on what happens on the supply side, with the exception of the present study. However, this study also takes at a macro perspective, with the country or territory as the unit of analysis.
- In order to complete its understanding of the phenomenon, the EUIPO has initiated a "Demand for Counterfeits" workstream. One of the main questions this workstream is designed to address is: what drives consumer purchases of counterfeit goods? The analyses in this workstream take a micro perspective, looking at consumer characteristics as well as product- and situation-specific factors. The methods employed include experimental methods such as discrete choice experiments, using large samples of consumers in several countries. The outputs of such micro-level studies can be a useful extension of the macro-level studies such as the present one.
- Some findings in this report are complex, puzzling, and – to some extent – counterintuitive. This includes the positive correlation between the education level and the volumes of imports of fakes. A more in-depth investigation of these quantitative relations is needed. Robust information on transmission channels would offer invaluable information for design effective awareness campaigns and educational policies and help to identify "low hanging fruit" in terms of policy solutions to counter the risk of counterfeiting. It would also be interesting to explore in more detail the sectoral specificities of demand for counterfeits. Such an analysis will obviously be dependent on the availability of sectoral data.
- Several previous OECD-EUIPO highlighted that good governance is essential for effective action against illicit trade in counterfeits. Poor governance, corruption and weak IPR enforcement enable counterfeiters to misuse logistics and trade facilities. Further investigation about the existing channels of transmission from good governance frameworks and prevention of trade in counterfeit goods is needed. Such study could make a deep dive into country- or economy-specific aspects of imports of fakes to determine the crucial elements, such as enhancing transparency at various levels of governance or the incentive context for customs and enforcement agencies.

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# Annex A. Estimating the share of fake goods sold in the primary and secondary markets

To distinguish fake products counterfeiters intended to sell on the primary market from those intended for sale on the secondary market, the price gap between both types of fakes is calculated. For each seizure specified in the database, the customs authorities report the declared value of goods, the quantity seized, the product's HS code, and the infringed trademark. This allows the unit value of each seized "product type-brand" pair (brand would include the associated trademark) to be determined. These unit values can then serve as a proxy for the retail prices of the fake goods. For each type of product associated with a given trademark, the prices of seized goods are used to estimate a confidence interval that contains the actual retail price of the corresponding genuine item. Counterfeit items whose unit price, calculated as described above, are higher than or included in this interval are then classified as intended for sale on the primary market. Those whose price is below this interval are classified as targeting the secondary market. Formally, let $s_c$ and $\bar{s}_c$denote, respectively, the import value and quantity of any custom seizure of counterfeit products, with $c \in \{1, \dots, N\}$ the range of customs seizures, and N their total number. $p_c = s_c/\bar{s}_c$ then refers to the unit value of each custom seizure and can serve as a proxy for their unit price. Let $p_{bp} = \sum_{c \in \{bp\}} p_c / N_{bp}$ } defines the (unweighted) price average of any type of product p associated with the brand b, with $N_{bp}$the total number of custom seizures reported for this "product category - brand" combination. The standard deviation of this price is denoted $\sigma_{bp}$.

$X_c$ is defined as a dichotomous (binary) variable that takes the value of 0 if the fake goods included in the seized shipment were intended to be sold on the primary market, or 1 if they were intended to be sold on the secondary market. In accordance with the arguments mentioned in the main text, $X_c$ is assumed to be defined as follows:

$$X_c = \begin{cases} = 0 \; if \; p_c \in \left[ p_{bp} - \dfrac{1.96 \times \sigma_{bp}}{\sqrt{N_{bp}}} ; max_{c \in \{bp\}} \, p_c \right] \\ = 1 \; if \; p_c \in \left[ min_{\, c \in \{bp\}} \, p_c \; ; \; p_{bp} - \dfrac{1.96 \times \sigma_{bp}}{\sqrt{N_{bp}}} \right] \end{cases} \quad \forall \, c \in \{bp\}$$

It follows that the share of products sold on the primary market can be calculated by product category, $\tau_p^1$ and/or for the entire mass of fake imports, and is given by:

$$\tau_p^1 = \sum_b \sum_c X_c s_c \Big/ \sum_b \sum_c s_c \; ; \; \forall \, c \in \{bp\}$$

# Annex B. Description of data

| Variable | Variable description | Source | Source description |
|---|---|---|---|
| **Variable to be explained** | | | |
| Value of fake imports in log | Estimated value of fake imports by destination economy based on seizures of small packages. | OECD/EUIPO global customs database | |
| **Explanatory variables** | | | |
| Value of imports in log | Value of imports by country in USD | UN Comtrade database | The United Nations Comtrade database aggregates detailed global annual and monthly trade statistics by product and trading partner. Data compiled by the United Nations Statistics Division covers approximately 200 countries and represents more than 99% of the world's merchandise trade |
| Quality of trade and transport-related infrastructure | Logistics professionals' perception of country's quality of trade and transport related infrastructure (e.g. ports, railroads, roads, information technology), on a rating ranging from 1 (very low) to 5 (very high). Scores are averaged across all respondents | Logisitc Performance Index Surveys (World Bank and Turku School of Economics | The LPI is based on a worldwide survey of operators on the ground (global freight forwarders and express carriers), providing feedback on the logistics "friendliness" of the countries in which they operate and those with which they trade. They combine indepth knowledge of the countries in which they operate with informed qualitative assessments of other countries where they trade and experience of global logistics environment. Feedback from operators is supplemented with quantitative data on the performance of key components of the logistics chain in the country of work |
| Population aged 65 and + | Population ages 65 and above as a percentage of the total population. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship | World Bank | |
| Individuals using Internet | Percentage of individuals using the Internet | International Telecommunication Union, ITU World Telecommunication/ICT Indicators Database | |
| GDP per capita | GDP per capita by country in USD | World Bank national accounts data | |
| Gross graduation ratio (labelled "education" in our model) of tertiary education | Number of graduates from first degree programs (at ISCED 6 and 7) expressed as a percentage of the population of the theoretical graduation age of the most common first degree program. | UNESCO Institute for Statistics *via* the World Bank databank | |

Illicit Trade

# Why Do Countries Import Fakes?

## LINKAGES AND CORRELATIONS WITH MAIN SOCIO-ECONOMIC INDICATORS

This report looks at the demand for counterfeit goods and identifies its key drivers. It discusses the specificity of the demand for counterfeit goods, including both deliberate and unintentional demand. Indeed, some consumers will deliberately buy counterfeit and pirated goods while others will be deceived into buying illicit products, thinking they are genuine. The report also examines the profiles of destination economies in the global trade of counterfeit and pirated goods. It uses quantitative analysis to study the economic characteristics of various economies, including the quantitative relationship between counterfeit intensity and certain observable socioeconomic factors. The identification of socio-economic factors, in particular, influencing the demand for counterfeit and pirated goods is crucial to help policymakers develop appropriate policies, including better targeting of consumer awareness campaigns.

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