

## Chapter 2. An overview of ten industry sectors

*This chapter provides the findings of the investigation into the routes and means through which fake products are transported from producer economies to the final markets. It summarises the intellectual property intensity and propensity to be faked for ten key product categories, maps out the main producer economies and transit points, and reveals the main transport modes and shipment sizes.*

## Introduction

The complex network of trade routes for counterfeits was analysed for ten main product categories. The ten categories identified span a wide-range of IP-intense, tradable goods ranging from consumer products like cosmetics and confectionary products (including shampoo and candy bars) to business to business (b2b) products, such as spare parts and micro-processors. Altogether, the trade in fakes in these ten sectors accounts for USD 284 billion (EUR 208 billion), more than half of the global estimated trade in fakes.

Each product category is briefly reviewed, with examples of what goods in that particular sector are most likely to be counterfeited. For each of the ten sectors, the top provenance economies are highlighted. A quantitative analysis that cross-references provenance economies with production and trade statistics splits these provenance economies into two main categories: i) likely transit points and ii) likely producers of fakes. The identification of source and transit economies provides the information that is used to map the trade routes for fakes for each product category.

## Trade routes for fake foodstuff

### Summary

*Globally, China, India and several other smaller Asian economies (Pakistan, Indonesia, Viet Nam and Thailand) are the main producers of counterfeit foodstuff. They export directly to the US, the EU, Japan, Western Africa (Benin, Senegal, Nigeria), Northern Africa (Morocco, Algeria) and Yemen; or indirectly, through Saudi Arabia, the UAE and Yemen, to other Gulf region economies.*

*Regionally, Turkey is a relatively significant producer of counterfeit food products, and exports them to the EU countries and to Serbia, Yemen, or (indirectly) to Saudi Arabia. Ethiopia and Kenya are also identified as producers of fake food products for export to Saudi Arabia and Yemen.*

*Most counterfeit foodstuff is shipped in large quantity shipments, either in containers by sea or by air.*

### Overview of foodstuff IP intensity and counterfeiting

The foodstuff industry covers all Harmonized System (HS) product categories related to manufactured and non-manufactured food products, including dairy produce, eggs, honey and other products of animal origin (HS 04 and HS 05); vegetable products (HS 06 to 15); preparations of meat, fish or crustaceans (HS 16); sugars and sugar confectionery (HS 17); cocoa and cocoa preparations (HS 18); preparations of cereals, flour, starch or milk, and pastry cooks' products (HS 19); preparations of vegetables, fruit, nuts or other parts of plants (HS 20); and miscellaneous edible preparations (HS 21).

In 2013, the global trade value of this industry was USD 1 010 billion, around 4.9% of total world trade in that year.

The foodstuff industry is relatively intense in terms of intellectual property rights. According to the data provided by the World Intellectual Property Office (WIPO, 2017), the number of trademark applications for the industry was 266 581 in 2013,<sup>5</sup> around 6.8%

of all world trademark applications registered that year. This made the foodstuff industry the third-most intense in terms of IP, with over 45 industries registered in the Nice product classification.<sup>6</sup>

The high trademark intensity of the foodstuff industry and its high degree of integration with the global economy make it particularly vulnerable to counterfeiting. According to calculations for the OECD-EUIPO (2016) study, global trade in counterfeit food products was worth up to USD 12 billion (EUR 8.7 billion) in 2013. This represents more than 1.2% of the total trade in food products, and places the foodstuff industry in the top 15 industries to be most affected by global counterfeiting and piracy in terms of value (OECD-EUIPO, 2016).

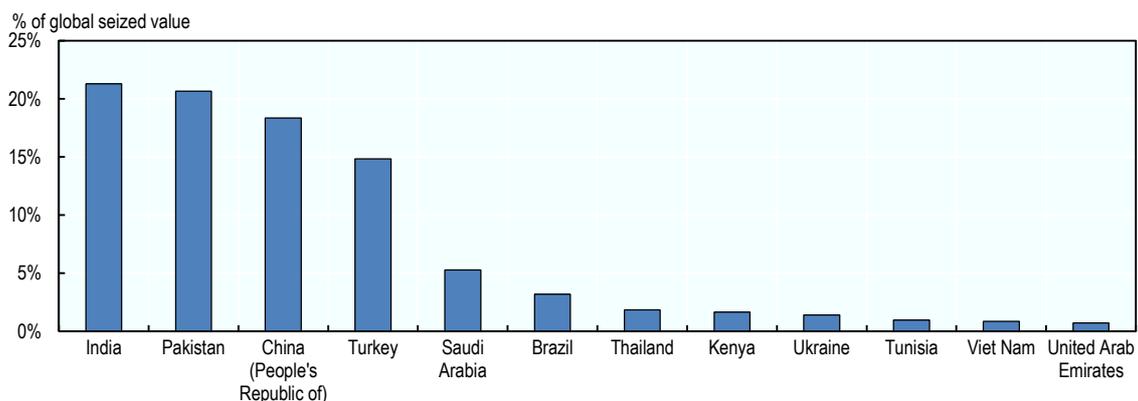
There are various examples of counterfeit food products. The most common seizures concern counterfeit manufactured food products, such as cookies, sweets and ice cream. There are also seizures of counterfeit non-manufactured food products that are IP-infringing, such as fruit (e.g. watermelon, strawberries and apples), meat and fish (e.g. chicken, beef, tuna), and tea and coffee.

Counterfeit and pirated foodstuff, particularly manufactured food products, can have adverse effects on the health and safety of consumers. Counterfeiters have limited or no interest in ensuring the proper quality or safety of their products. However, because data are not collected systematically, most evidence on negative health and safety effects is anecdotal, and more work is needed to measure the effects more broadly.

### *Provenance and destination economies*

According to the data gathered in the OECD-EUIPO database on global customs seizures, India, Pakistan, China and Turkey were the main provenance economies of counterfeit manufactured and non-manufactured food products worldwide between 2011 and 2013 (Figure 2.1). However, the data also indicate that a number of smaller provenance economies of counterfeit foodstuff can be found on almost all continents. As the scope of this analysis is on trade, it does not include domestically produced and consumed counterfeit products, and there are currently no datasets for most developing countries that could be used to analyse this phenomenon.

**Figure 2.1. Top provenance economies for counterfeit foodstuff, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529217>

Note: The EU members (i.e. Italy, Germany and Belgium) are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

The general trade-related index of counterfeiting for economies (GTRIC-e) for food products compares the customs seizures intensities of infringing food products with licit trade intensities for each provenance economy. GTRIC-e confirms that counterfeit manufactured and non-manufactured food products are most likely to be exported around the world from China, India and some smaller Asian economies (Pakistan, Indonesia, Viet Nam, Thailand); several Middle East economies (United Arab Emirates, Saudi Arabia, Iran); Turkey; and some African economies (Egypt, Ethiopia, Kenya) (Table 2.1).

**Table 2.1. Relative likelihood of an economy to be a source of fake foodstuff**

GTRIC-e for foodstuff; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
United Arab Emirates	0.677
Turkey	0.608
Egypt	0.552
Ethiopia	0.488
Saudi Arabia	0.408
Iran	0.384
Kenya	0.345
India	0.332
Pakistan	0.281
Indonesia	0.256
Viet Nam	0.241
Thailand	0.233

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

China, India, Turkey, Egypt and the United Arab Emirates are also the most likely provenance economies for imports of counterfeit food products into the EU (Table 2.2). However, the list of top provenance economies specific to the EU also includes Singapore, Tunisia, Russia, and Israel. The smaller Asian economies listed as important sources of world imports of counterfeit foodstuff, as well as Ethiopia and Kenya (Table 2.1), are most likely gateways for the African continent.

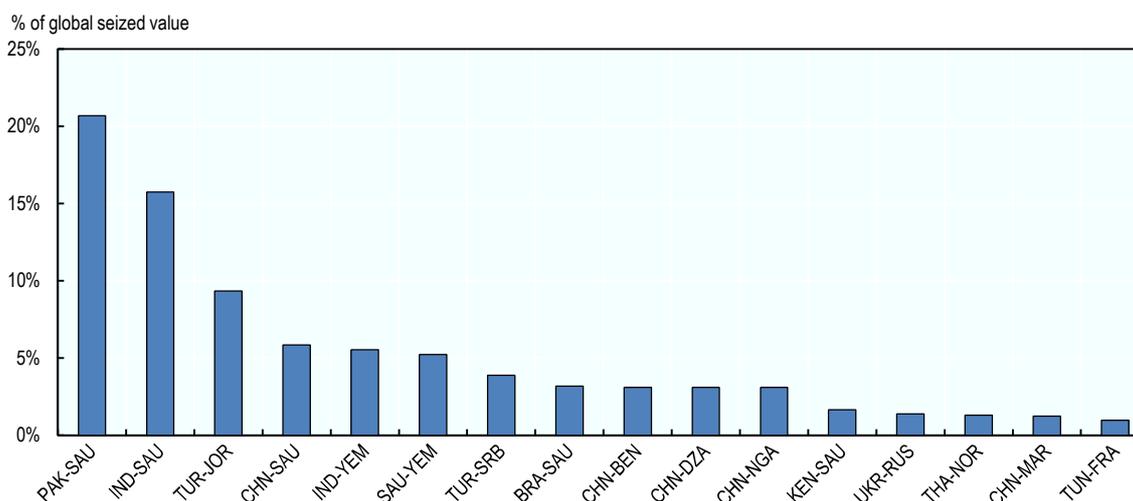
**Table 2.2. Relative likelihood of an economy to be a source of fake foodstuff imported into the EU**  
GTRIC-e for foodstuff; average 2011-2013

Economy	GTRIC UE
Egypt	1.000
China (People's Republic of)	0.833
Turkey	0.782
Tunisia	0.761
United Arab Emirates	0.661
Singapore	0.269
Russia	0.248
India	0.231
Israel	0.216

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

While provenance economies of counterfeit food products can be clearly identified, the trade routes of these products are much more complex and diverse. Descriptive statistics on the most intensive trade routes (Figure 2.2) indicate that a large share of counterfeit manufactured and non-manufactured food products are exported from Asian economies (e.g. China, India or Pakistan), Turkey and some African economies to European economies and Middle Eastern economies (e.g. Saudi Arabia, United Arab Emirates or Yemen). Large trade flows of counterfeit food products are also registered from these Middle Eastern countries to EU member countries and the US.

**Figure 2.1. Top provenance-destination economies for counterfeit foodstuff, 2011-2013**



*Statlink:* <http://dx.doi.org/10.1787/888933529236>

*Note:* See Annex C for a full list of ISO codes of countries and territories.

### *Producers and transit points*

Comparing the GTRIC-e indices with the indices on relative comparative advantage for production (RCAP-e) and relative comparative advantage for being a transit point (RCAT-e) confirms the patterns suggested in the descriptive statistics on the most intensive trade routes for counterfeit foodstuff (see Annex B for methodology, and Annex C for complete lists of RCAT-e and RCAP-e indices). China, India and other smaller Asian economies (Pakistan, Indonesia, Viet Nam and Thailand) appear to be producers of counterfeit food products, which they appear to export directly to the US, the EU, Japan, West Africa (Benin, Senegal, Nigeria), North Africa (Morocco, Algeria) and Yemen; and indirectly through Saudi Arabia (see Table 2.3).

Turkey also seems to be a notable producer of counterfeit food products, shipping them either directly to EU countries, Serbia, Yemen, and (indirectly) to Saudi Arabia. Finally, Ethiopia and Kenya are also identified as producers, and export their counterfeit food products to Saudi Arabia and Yemen.

**Table 2.3. Economies producing counterfeit foodstuff, 2011-2013**

Producing economy	Destinations	Transport mode
China	EU	Road
	US	Unknown
	Japan	Air
	Chile	Sea
	Western Africa (Benin, Senegal, Nigeria)	Sea
	Northern Africa (Morocco, Algeria)	Sea
	Saudi Arabia <i>[transit point]</i>	Air - sea
Yemen <i>[transit point]</i>	Air - sea	
Turkey	EU	Road
	Serbia	Road
	Saudi Arabia <i>[transit point]</i>	Air - sea
	Yemen <i>[transit point]</i>	Air - sea
India, Pakistan, Indonesia, Viet Nam and Thailand	Saudi Arabia <i>[transit point]</i>	Air - sea
	Yemen <i>[transit point]</i>	Air - sea
Ethiopia and Kenya	Saudi Arabia <i>[transit point]</i>	Sea
	Yemen <i>[transit point]</i>	Sea

Saudi Arabia is one of the main identifiable transit points for counterfeit foodstuff in global trade (Table 2.4). In addition, while Yemen is an additional provenance economy for counterfeit food products and descriptive statistics suggest that it is an important transit point; available indicators cannot confirm this claim with a high degree of certainty.

Finally, the RCAP-e and RCAT-e indicators do not allow the precise role of the United Arab Emirates and Iran to be clearly defined; both are listed among the top provenance economies for counterfeit food products according to the GTRIC-e indices. In

addition, in the case they are transit points, the available data do not allow identifying potential producers that export fake foodstuff to these economies. Thus, their position in the global trade of counterfeit foodstuff remains undetermined.

**Table 2.4. Key transit points for counterfeit foodstuff, 2011-2013**

Producing economy	Transit point	Destinations	Transport mode from transit to destination
China		Yemen <i>[transit point]</i>	Road
Turkey		Qatar	Road
India			
Pakistan	Saudi Arabia		
Viet Nam			
Thailand			
Ethiopia			
Kenya			
<hr/>			
Saudi Arabia <i>[transit point]</i>			
China			
Turkey			
India			
Pakistan	Yemen	?	
Viet Nam			
Thailand			
Ethiopia			
Kenya			

*Notes:* The positions of the United Arab Emirates and Iran in the global trade of counterfeit foodstuff remain undetermined. The United Arab Emirates exports counterfeit foodstuff to Saudi Arabia, Morocco and South Sudan. Iran exports counterfeit food products to Saudi Arabia. In both cases, the RCAP-e and RCAT-e indicators do not specify if they are producers or not.

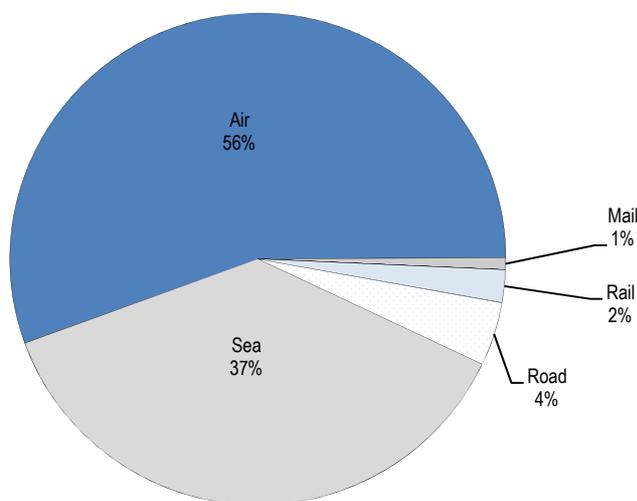
### ***Transport modes and size of shipments***

The main transport modes in the global trade of counterfeit foodstuff for the period 2011 to 2013 were air and sea (Figure 2.3). Shipments of counterfeit food products by air represented 56% of the total number of customs seizures registered in the database, and 37% for sea. Road shipments came third, representing around 4% of all customs seizures of infringing food products.

A list of the main transport modes used from producing economy to transit points, and from transit points to destination economy, is provided in Tables 2.3 and 2.4. Sea and/or air transport appear to dominate in almost all the most intensive trade routes for counterfeit food products. The only exceptions are shipments from Turkey and China to Europe, and those between Middle Eastern economies, which are done by road.

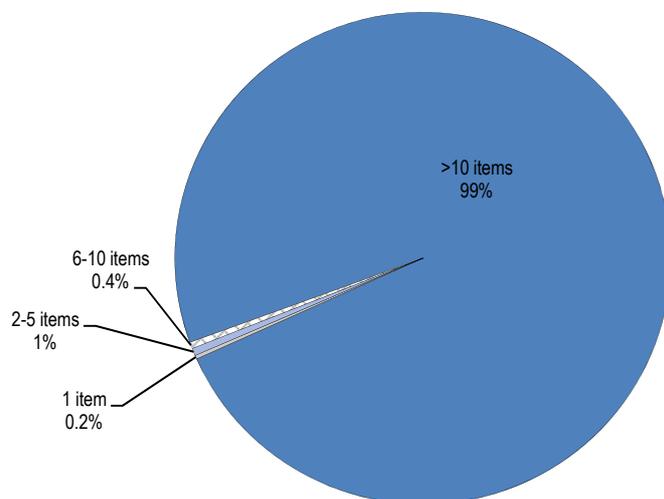
Individual shipments of counterfeit food products appear to be very large, with almost all customs seizures registered in the database reporting more than 10 items per shipment (Figure 2.4).

**Figure 2.3. Conveyance methods for counterfeit foodstuff, 2011-2013**  
As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529255>

**Figure 2.4. Size of shipments of counterfeit foodstuff, 2011-2013**  
As a percentage of total seizures



Statlink: <http://dx.doi.org/10.1787/888933529274>

## Trade routes for fake pharmaceutical products

### Summary

*India and China are the largest identified producers of counterfeit pharmaceuticals. They are shipped all around the globe, with a special focus on African economies, Europe and the US. In addition, Singapore is also indicated as a potential producer of fake pharmaceuticals.*

*Hong Kong (China) is one of the most important transit points for counterfeit pharmaceuticals, mainly exporting them by post to the US, Europe, Japan and some South American economies in small parcels.*

*Other relevant transit points for fake pharmaceuticals include Yemen, the United Arab Emirates and Iran. From these countries, fake pharmaceuticals are reshipped either to African economies such as Egypt or Ethiopia by air and sea, or to Europe and the US by mail.*

### Overview of IP intensity and counterfeiting

The pharmaceutical industry refers to the HS 30 product category (Annex B). This category includes notably medicines, whether or not in measured doses or packed for retail sale; and other pharmaceutical goods, such as sterile surgical catgut, suture materials, first aid boxes and kits, and dental cements and fillings.

In 2013, the global trade value of pharmaceutical products was USD 486 billion, around 2.4% of total world trade in that year.

The pharmaceutical industry is relatively IP intense. According to the data provided by WIPO (WIPO, 2017), the number of trademark applications for the industry was 182 296 in 2013,<sup>7</sup> around 4.7% of all world trademark applications registered that year. The number of patent applications for the pharmaceutical sector was 79 278, around 3.8% of all world patent applications. This made the pharmaceutical industry the 6th most intense in terms of trademarks out of 45 industries registered in the Nice product classification, and the 8th in terms of patents, out of the 35 types of technologies recorded by the WIPO.

The high IP-intensity of the pharmaceutical industry and its high degree of integration in the global economy make it particularly vulnerable to counterfeiting. According to calculations for the OECD/EUIPO (2016) study, global trade in counterfeit pharmaceuticals was up to USD 16.2 billion (EUR 11.9 billion) in 2013. This represents more than 3.3% of total trade in pharmaceutical products, and makes the pharmaceutical industry the eighth most affected by global counterfeiting and piracy in terms of value.

Examples of counterfeit pharmaceutical products recorded in the database of customs seizures developed for the OECD/EUIPO (2016) study are various and striking. Over the period 2011-2013, customs authorities worldwide notably recorded seizures of counterfeit medicines for the treatment of malaria, HIV/AIDS and cancer. These pose a very serious threat to consumer health.

Two important issues should be kept in mind when analysing the issue of fake pharmaceuticals. First, for the purpose of this report the term "counterfeit" refers only to

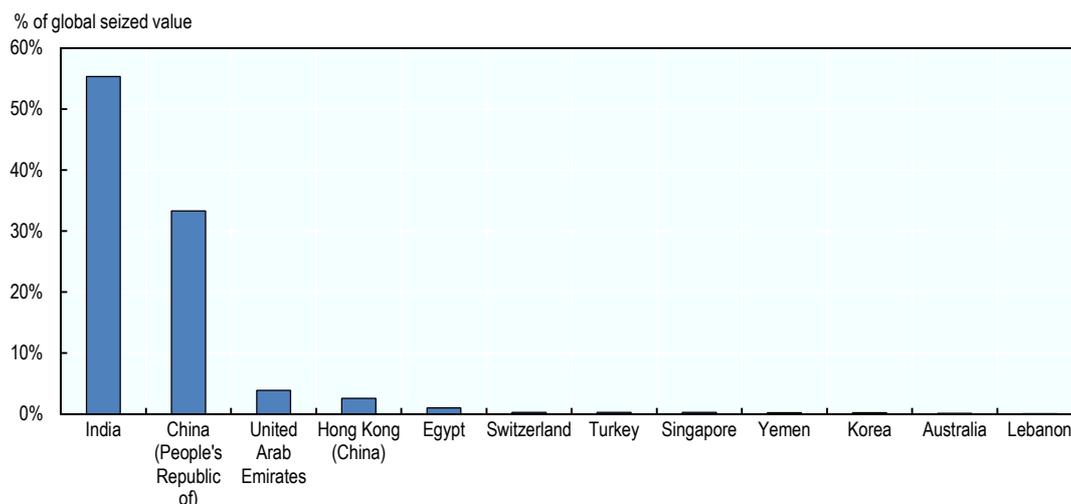
trademark infringing pharmaceuticals. However, the existing literature recognises other types of illicit pharmaceuticals, sometimes called "fake" (OECD, 2016). For example the World Health Organization uses the term "counterfeit pharmaceuticals" for products without active ingredients, products with incorrect quantities of active ingredients, and products with the wrong ingredients etc. that do not necessarily infringe the trademarks (WHO, 2015).

Second, beyond the significant adverse economic consequences of the illicit trade in pharmaceutical counterfeiting, several additional adverse impacts must also be taken into account. It is important to fully recognise the environmental, social, public health and fiscal implications, including serious, adverse effects on patient health and safety (OECD, 2008).

### *Provenance and destination economies*

According to the data gathered in the OECD-EUIPO database on global customs seizures, between 2011 and 2013, India was by far the main provenance economy of counterfeit pharmaceuticals, being the origin of 55% of the total seized value of counterfeit pharmaceutical products worldwide (Figure 2.5). It was followed by China (33%), the United Arab Emirates (4%) and Hong Kong (China) (3%).

**Figure 2.5. Top provenance economies for counterfeit pharmaceuticals, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529293>

*Note:* The EU members are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

The GTRIC-e indices for pharmaceutical products, which compare customs seizures intensities of infringing pharmaceuticals with licit trade intensities for each provenance economy, confirms that India, China and Hong Kong (China) are the economies most likely to export counterfeit pharmaceuticals (Table 2.5). They are followed by some Middle Eastern economies (Yemen, Iran, Lebanon and the United Arab Emirates), as well as Singapore and Albania.

**Table 2.5. Relative likelihood of an economy to be a source of fake pharmaceutical products**

GTRIC-e for pharmaceuticals; average 2011-2013

Economy	GTRIC world
India	1.000
China (People's Republic of)	0.938
Hong Kong (China)	0.788
Yemen	0.503
Iran	0.461
Singapore	0.391
Albania	0.334
Lebanon	0.233
United Arab Emirates	0.232
Belize	0.226

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

An almost identical list of provenance economies has been identified for imports of counterfeit pharmaceutical products by the EU (Table 2.6). The list of top provenance economies specific to the EU also includes the Philippines, Thailand and Turkey; but does not include Yemen or the United Arab Emirates.

**Table 2.6. Relative likelihood of an economy to be a source of fake pharmaceuticals imported into the EU**

GTRIC-e for pharmaceuticals to the EU; average 2011-2013

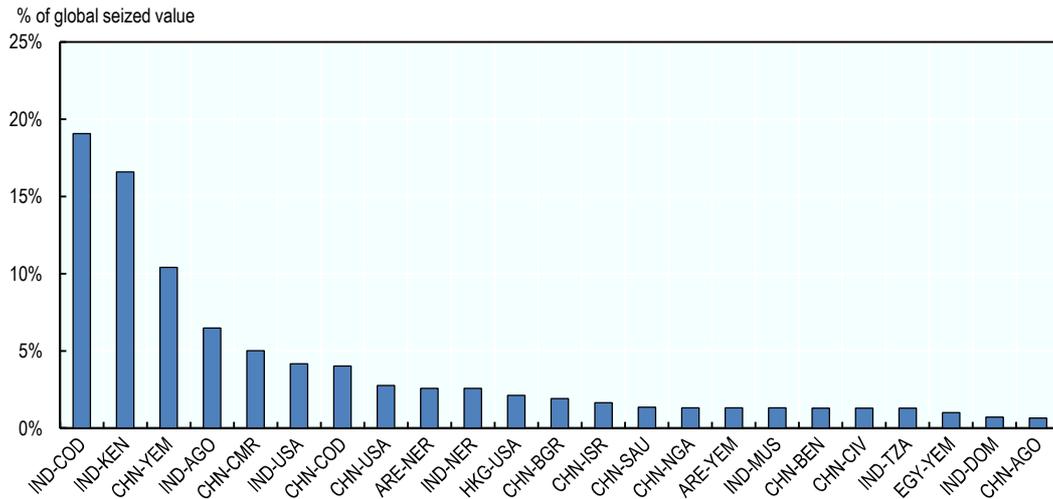
Economy	GTRIC UE
Hong Kong (China)	1.000
India	0.737
China (People's Republic of)	0.697
Singapore	0.440
Philippines	0.262
Switzerland	0.234
Iran	0.229
Thailand	0.111
Turkey	0.099
Lebanon	0.098

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods

Descriptive statistics on the most intensive trade routes presented in Figure 2.6 indicate that the largest share of counterfeit pharmaceuticals are exported from India and China to African economies (e.g. Democratic Republic of the Congo, Kenya, Niger, Angola, Nigeria, Cameroun, Côte d'Ivoire, Benin, Tanzania). Large trade flows of

counterfeit pharmaceutical products are also registered from India, China and Hong Kong (China) to the US and European economies; as well as from Middle Eastern countries, such as the United Arab Emirates, to African economies or to countries located in the Middle East.

**Figure 2.6. Top provenance-destination economies for counterfeit pharmaceuticals, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529312>

Note: See Annex C for a full list of ISO codes of countries and territories.

### ***Producers and transit points***

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices confirms the above results (See Annex C for complete lists of RCAT-e and RCAP-e indices). China and India appear to be the largest producers of counterfeit pharmaceutical products (Table 2.7), which are exported all around the globe, with a special focus on African economies, Europe and the US. Singapore is also indicated as an important producer of counterfeit pharmaceuticals.

**Table 2.7. Producers of counterfeit pharmaceuticals, 2011-2013**

Producing economy	Destinations	Transport mode
India	Africa (i.e. Democratic Republic of the Congo, Kenya, Angola, Niger, Tanzania, Mauritius, Cameroon, Madagascar)	Sea
	Europe	Mail
	US	Mail
	Canada	Mail
	South America (Belize, Guyana, Uruguay, Mexico, Suriname)	Air
	The Caribbean (Dominican Republic, Haiti, Jamaica...)	Air
	Saudi Arabia <i>[transit point]</i>	Sea - Air - Rail
Yemen <i>[transit point]</i>	Sea - Air	
China	Africa (Cameroon, Democratic Republic of the Congo, Nigeria, Benin, Côte d'Ivoire, Angola, Madagascar, South Africa, Morocco)	Sea
	Europe	Mail
	US	Mail - Sea
	Japan	Mail - Air
	Israel	Sea
	Jordan	Sea
	Iraq	Sea
Saudi Arabia <i>[transit point]</i>	Sea - Air - Rail	
Yemen <i>[transit point]</i>	Sea - Air	
Singapore	EU	Mail
	US	Mail
	Yemen <i>[transit point]</i>	Sea

Yemen appears to be an important transit points for counterfeit pharmaceuticals (Table 2.8). It receives the fake pharmaceuticals from India, China and Singapore and re-exports them to African economies, such as Egypt and Ethiopia.

Other Middle Eastern economies, such as the United Arab Emirates and Iran, also appear to be key transit points for counterfeit pharmaceutical products. Fake pharmaceuticals are reshipped from them either to African economies by air and sea, or to Europe and the US by mail. However, it not possible to determine where these fakes originally come from.

Note that the position of another economy in the area, Saudi Arabia, is undetermined. While the descriptive statistics suggest that it may be an important transit point, the RCAP-e and RCAT-e indicators are inconclusive on whether it is a producer or not.

Finally, Hong Kong (China) also appears to be one of the most important key transit points for counterfeit pharmaceuticals, mainly exporting the fakes to the US, Europe, Japan and some South American economies by small postal parcels. It is however not possible to determine where these fakes originate. In addition, based on interviews with customs officials, Switzerland is likely to be a transit country used as an entry point to the

EU, it is not possible to determine where these fakes originally come from to Switzerland due to data shortages.

**Table 2.8. Key transit points for counterfeit pharmaceuticals, 2011-2013**

Provenance economy	Transit point	Destinations	Transport mode from transit to destination
India			
China			
Singapore	Yemen	North and east Africa (Egypt, Ethiopia)	Air
Saudi Arabia <i>[transit point]</i>			
United Arab Emirates <i>[transit point]</i>			
?	Iran	EU	Mail
		US	Mail
?	Hong Kong (China)	EU	Air - Mail
		US	Mail - Air
		South America	Air - Mail
		Japan	Air - Mail - Sea
?	United Arab Emirates	Saudi Arabia <i>[transit point]</i>	Road
		Yemen	Road - Air - Sea
		Qatar	Road - Air - Sea
		Western Africa (Niger)	Sea

*Notes:* Based on interviews with customs officials, Switzerland is likely to be a transit country used as an entry point to the EU. The status of Lebanon, which receives fake pharmaceuticals directly from China and India and indirectly from Yemen and United Arab Emirates, is undetermined. The indicators do not reveal if Lebanon is a producer or not.

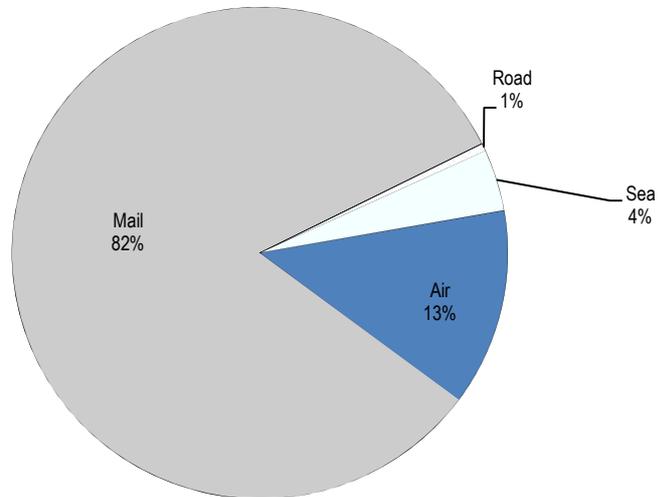
### ***Transport modes and size of shipments***

Mail and courier services were the main modes of transport for counterfeit pharmaceuticals (Figure 2.7). More than 80% of seizures of fake pharmaceuticals concerned shipments by mail and express services, followed by air transport (13%) and sea transport (4%).

Correspondingly, shipments of counterfeit pharmaceutical products appear to be large. More than 80% of customs seizures registered in the database report more than 10 items per shipment (Figure 2.8).

**Figure 2.7. Conveyance methods for counterfeit pharmaceuticals, 2011-2013**

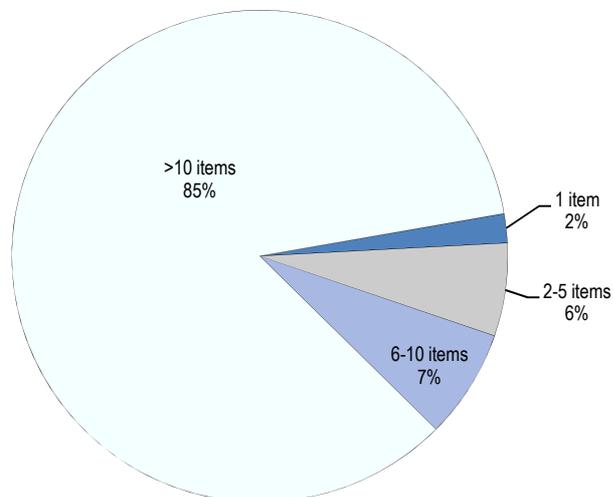
As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529331>

**Figure 2.8. Size of shipments of counterfeit pharmaceuticals, 2011-2013**

As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529350>

## Trade routes for fake perfumery and cosmetics

### Summary

*Generally, China is the key producer of counterfeit perfumes and cosmetics preparations that are shipped throughout the globe. Counterfeit perfumes and cosmetics produced in Malaysia, Thailand, India and Singapore are generally exported to the EU, the US, Saudi Arabia and Kuwait. Finally, Turkey is a regional producer exporting counterfeit perfumery and cosmetics almost exclusively to the EU.*

*Trade routes for counterfeit perfumery and cosmetics are very complex. Hong Kong (China) is the key transit hub for the fakes produced in China, which are then exported throughout the world. The United Arab Emirates and Kuwait receive counterfeit perfumes and cosmetics mainly from China, and re-export them notably to the EU and to Africa. Regionally, Albania is an important transit point for the fake perfumes and cosmetic on the way from Turkey to the EU.*

*Fake perfumes and cosmetics produced in China, Malaysia, Thailand, India, and Singapore are shipped to the OECD countries mostly by postal parcels. Shipments to the Middle East and African economies are carried mostly by sea or air. Lastly, counterfeit perfumery and cosmetics exported from Turkey to the EU are transported by road.*

### Overview of IP intensity and counterfeiting

The perfumery and cosmetics industry refers to the HS 33 product category. In 2013, the global trade value of the industry was USD 111 billion, around 1% of total world trade in that year.

According to the data provided by WIPO (WIPO, 2017), the number of trademark applications for the industry was 134 636 in 2013,<sup>8</sup> around 3.5% of all world trademark applications registered that year. This made the perfumery and cosmetics industry the eighth most intense in terms of trademarks among 45 industries registered in the Nice product classification.

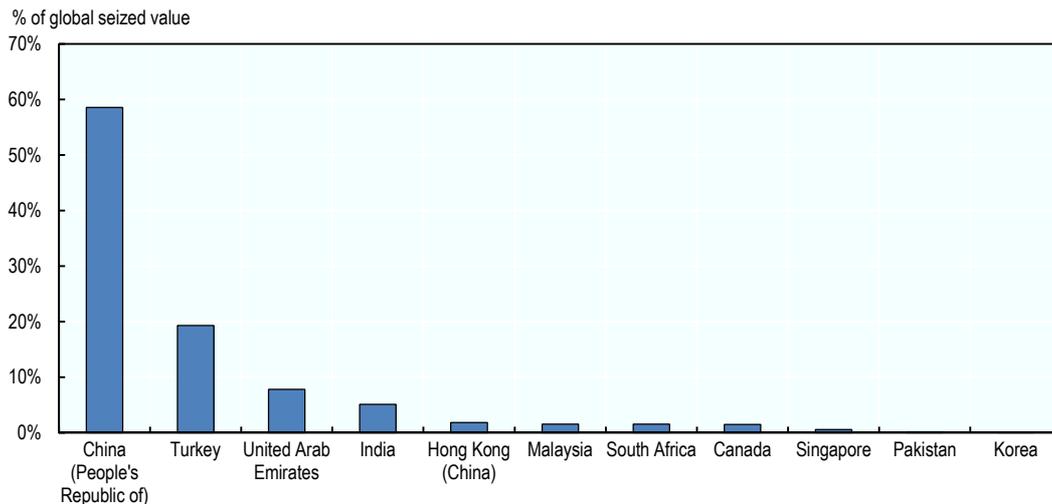
The high IP-intensity of the perfumery and cosmetics industry and its high degree of integration in the global economy make it particularly vulnerable to counterfeiting. According to calculations in the OECD-EUIPO (2016) study, global trade in counterfeit perfumery and cosmetics was valued at up to USD 5.3 billion (EUR 3.8 billion) in 2013. This represents 4.7% of global trade in perfumes and toilet preparations, and places the industry in the top 15 most affected by global counterfeiting and piracy in terms of value.

There are various examples of counterfeit perfumery and cosmetics recorded in the database of customs seizures. Of particular note over the period 2011-2013 are seizures of counterfeit make-up, creams, aftershaves, shampoos, luxury perfumes, nail sets, and even toothpastes and toothbrushes. In some cases, these fakes can pose a serious health threat to consumers.

### *Provenance and destination economies*

According to the OECD-EUIPO database on global customs seizures, China was by far the largest provenance economy for counterfeit perfumery and cosmetics between 2011 and 2013, being the origin of 59% of the total seized value of counterfeit perfumes and cosmetics preparations worldwide (Figure 2.9). It was followed by Turkey (19%), the United Arab Emirates (8%), India (5%) and Hong Kong (China) (2%).

**Figure 2.9. Top provenance economies for counterfeit perfumery and cosmetics, 2011-2013**



*Statlink:* <http://dx.doi.org/10.1787/888933529369>

*Note:* The EU members are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

The GTRIC-e indices for the industry of perfumery and cosmetics compare the customs seizures intensities of infringing perfumes and cosmetic preparations with licit trade intensities for each provenance economy. These confirm that China, Hong Kong (China), the United Arab Emirates and Turkey are the most likely economies to export counterfeit perfumes and cosmetics (Table 2.9). The list also includes some East European economies (Albania, Ukraine, Belarus), a group of Far East Asian economies (Malaysia, Thailand, India, and Singapore), Kuwait and Panama.

Interestingly, the list of top provenance economies for counterfeit perfumes and cosmetics imported into the EU is almost exactly the same as the list for world imports (see Table 2.10). The only exception is the inclusion of Morocco in the top provenance economies, and the exclusion of India.

**Table 2.9. Relative likelihood of an economy to be a source of fake cosmetics and perfumery**

GTRIC-e for perfumes and cosmetics; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
Hong Kong (China)	0.597
United Arab Emirates	0.374
Turkey	0.372
Ukraine	0.264
Albania	0.217
Singapore	0.141
Kuwait	0.120
Malaysia	0.116
Panama	0.114
Thailand	0.113
Belarus	0.096
India	0.091

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods

**Table 2.10. Relative likelihood of an economy to be a source of fake perfumery and cosmetics imported into the EU**

GTRIC-e for perfumes and cosmetics to the EU; average 2011-2013

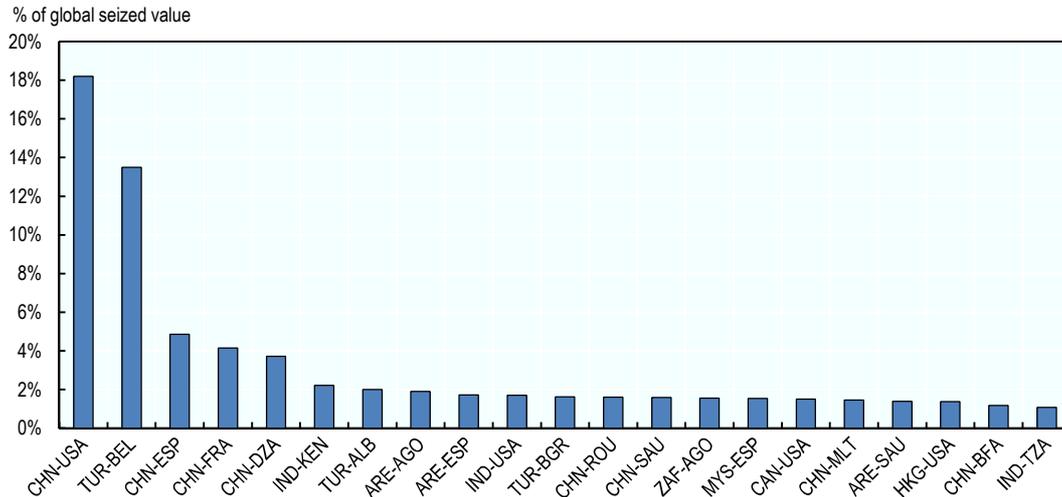
Economy	GTRIC EU
China (People's Republic of)	1.000
Hong Kong (China)	0.626
Turkey	0.409
United Arab Emirates	0.264
Kuwait	0.253
Malaysia	0.171
Singapore	0.164
Ukraine	0.142
Morocco	0.115
Albania	0.112
Thailand	0.111
Belarus	0.073

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods

Descriptive statistics on the most intensive trade routes presented in Figure 2.10 indicate that the largest share of counterfeit perfumes and cosmetics are exported from China, India and Hong Kong (China) to the US, and from China and Turkey to member countries and economies of the EU and Southeast Europe (mainly Albania). Large trade

flows of counterfeit perfumery and cosmetics are also registered from China to West and North Africa (e.g. Algeria, Burkina Faso), from India to East Africa (e.g. Kenya, Tanzania) and from the United Arab Emirates to all over the African continent.

**Figure 2.10. Top provenance-destination economies for counterfeit perfumes and cosmetics, 2011-2013**



Stalink: <http://dx.doi.org/10.1787/888933529388>

Note: See Annex C for a full list of ISO codes of countries and territories.

### ***Producers and transit points***

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices indicates that China, Turkey, India, Malaysia, Thailand and Singapore are important producers of counterfeit perfumery and cosmetics (Table 2.11. See Annex C for complete lists of RCAT-e and RCAP-e indices). Whereas China exports counterfeit perfumes and cosmetics preparations across the globe, the fakes produced by the other Asian economies (Malaysia, Thailand, India and Singapore) are exported more generally to the EU, the US, and Middle East economies, notably Saudi Arabia and Kuwait. Finally, Turkey exports its counterfeit perfumery and cosmetics almost exclusively to the EU, notably using Southeast European economies as transit points.

**Table 2.11. Producers of counterfeit perfumery and cosmetics, 2011-2013**

Producing economy	Destinations	Transport mode
China	EU	Mail - Sea
	Southeast Europe <i>[transit point]</i>	Mai - Road
	US	Mail - Sea
	Canada	Mail - Sea
	Australia and New Zealand	Sea - Air
	Japan	Mail - Sea
	North Africa (Algeria, Morocco, Egypt, Libya)	Sea
	Western Africa (Mauritania, Guinea, Burkina Faso, Nigeria, Cameroon)	Sea
	Central America and the Caribbean (Belize, Dominican Republic, Venezuela)	Sea - Air
	Middle East (Saudi Arabia, Yemen, Kuwait <i>[transit point]</i> , and Qatar)	Sea
Hong Kong (China) <i>[transit point]</i>	Road	
Malaysia and Thailand	EU	Mail - Sea
	US	Mail - Sea
	Saudi Arabia	Sea - Road - Air
	Kuwait <i>[transit point]</i>	Sea - Road - Air
India	EU	Mail - Sea
	US	Mail - Sea
	East Africa (Kenya, Mauritius, Tanzania)	Sea
Singapore	EU	Mail - Sea
	US	Mail - Sea
	Saudi Arabia	Sea
Turkey	EU	Mail - Air - Road
	Southeast Europe <i>[transit point]</i>	Road

Identifying key transit points by comparing the GTRIC-e and RCAT-e indices reveals the complexity of the trade routes for counterfeit perfumes and cosmetics. Hong Kong (China) appears to be an important hub for the fakes produced in China, which are then exported throughout the world (Table 2.12). The United Arab Emirates and Kuwait receive counterfeit perfumes and cosmetics from China and the smaller producer Asian economies, and re-export them notably to the EU and to Africa. Albania is an important transit point for the fake perfumes and cosmetic preparations received notably from Turkey. They are then re-exported across the EU.

**Table 2.12. Key transit points for counterfeit perfumery and cosmetics, 2011-2013**

Provenance economy	Transit point	Destinations	Transport mode from transit to destination
		EU	Mail - Sea
		Southeast Europe <small>[transit point]</small>	?
China	Hong Kong (China)	US	Mail
		Australia	Mail
		Japan	Air - Sea
		Central America	Air - Sea
?	United Arab Emirates	EU	Sea - Air
		Southeast Europe <small>[transit point]</small>	Sea - Air
		Africa (Angola, Côte d'Ivoire, Senegal, Gabon, Ghana, Guinea, Djibouti, Libya, Morocco)	?
		Middle East (Saudi Arabia, Jordan, Yemen, Kuwait <small>[transit point]</small> )	?
China		EU	?
Thailand	Kuwait	East Africa	?
United Arab Emirates			
Turkey			
China			
Hong Kong (China) <small>[transit point]</small>	Albania	EU	Road
United Arab Emirates <small>[transit point]</small>			
?	Ukraine	Northeast Europe (Russia, Lithuania, Estonia, and Germany)	Road

*Notes:* The position of Panama, Belarus and Saudi Arabia in the global trade of counterfeit perfumery and cosmetics is undetermined. Panama exports counterfeit perfumery and cosmetics to the US and other South American economies (e.g. Venezuela). Belarus exports counterfeit perfumery and cosmetics to Latvia and Lithuania. In both cases, the indicators are not clear on whether these economies are producers or not, and no data were received from Panamanian and Belarusian customs authorities in order to identify potential provenance economies as transit points. Finally, Saudi Arabia appears to be a central transit point in the global trade of counterfeit perfumery and cosmetics, but it has not been identified once as a provenance economy in the database.

### ***Transport modes and size of shipments***

Over the period 2011-2013, the largest share of shipments of counterfeit perfumery and cosmetics was by mail, accounting for 51% of the total number of global customs seizures of infringing perfumes and cosmetic preparations (Figure 2.11). However, the shares of shipments by road (28%), sea (15%) and air (6%) were also significant.

Looking at the details, one can see that postal parcels were mostly used by counterfeiters located in producing economies – China, Malaysia, Thailand, India, Singapore and Turkey – and those located in Hong Kong (China) to reach Europe, the US, Canada, Australia, New Zealand and Japan (Tables 2.11 and 2.12).

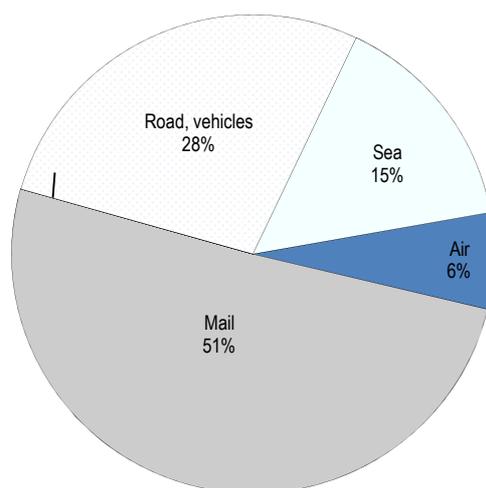
Counterfeit perfumes and cosmetic preparations exported from the Far East Asian economies to Middle East and African economies were carried mostly by sea or air.

Those same transport modes were used for goods transiting from Middle East economies to Africa.

Finally, counterfeit perfumery and cosmetics exported from Turkey to the EU, or those transiting by economies from the Southeast Europe, were transported by road.

**Figure 2.11. Conveyance methods for counterfeit perfumery and cosmetics, 2011-2013**

As a percentage of total seizures.

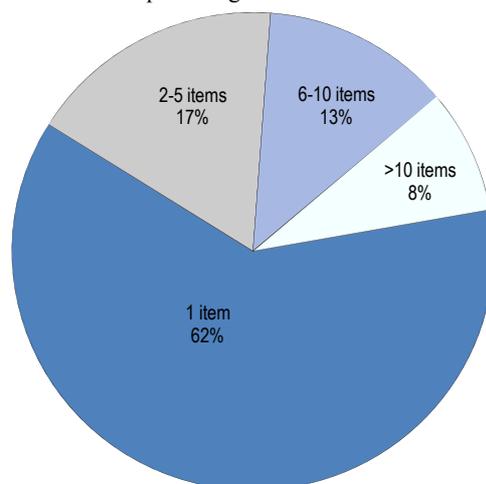


*Statlink:* <http://dx.doi.org/10.1787/888933529407>

The dominance of postal parcels in the global trade of counterfeit perfumes and cosmetic preparations implies that the average size of shipments tends to be very small. As reported in Figure 2.12, 62% of total shipments of counterfeit perfumery and cosmetics between 2011 and 2013 contained only one item, and 17% contained two and five articles.

**Figure 2.12. Size of shipments of counterfeit perfumes and cosmetics, 2011-2013**

As a percentage of total seizures.



*Statlink:* <http://dx.doi.org/10.1787/888933529426>

## Trade routes for fake leather articles and handbags

### Summary

*China is the main producer of counterfeit leather articles and handbags. Fakes are exported across the globe either directly, or using several large trade hubs, such as Hong Kong (China) and Macau (China) and Kuwait. Other regional producers of counterfeit leather articles and handbags include Cambodia, the Philippines, Thailand, Indonesia and Malaysia. They export fakes directly to the EU and the US. Finally, Turkey and Tunisia are also indicated as important producers that particularly target the EU.*

*Postal parcels were the main conveyance method for fake leather goods used by counterfeiters in producing economies and transit points to ship goods to the US and the EU. Air and sea transport were used for sending counterfeit leather articles and handbags from producing economies to transit points.*

### Overview of IP intensity and counterfeiting

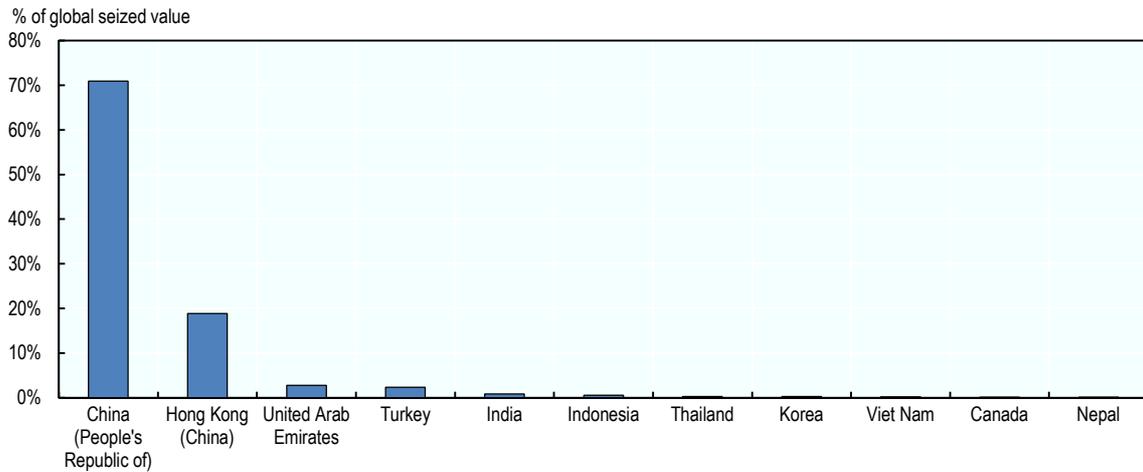
The leather articles and handbag industry refers to the HS 42 product category. This category notably includes articles of apparel and clothing accessories made of leather or of composition leather; but also trunks; suits, cameras, jewellery, cutlery cases; travel, tool and similar bags wholly or mainly covered by leather, composition leather, plastic sheeting, or textile materials.

In 2013, the global trade value of leather articles and handbags was USD 74.1 billion, around 0.5% of total world trade in that year. In addition, the industry is relatively IP intense. According to the data provided by WIPO (WIPO, 2017), the number of trademark applications for the leather articles and handbag industry was 87 004 in 2013,<sup>9</sup> around 2.2% of all trademark applications registered that year. This put this industry in the top 30% of intensity in trademarks among 45 industries registered in the Nice product classification.

The high trademark-intensity of the leather articles and bag industry and its high degree of integration in the global economy make it particularly vulnerable to counterfeiting. According to calculations for the OECD-EUIPO (2016) study, global trade in counterfeit articles of leather and handbags was up to USD 8.6 billion (EUR 6.2 billion) in 2013. This represents more than 11.5% of the total trade in leather articles and handbags, and makes the industry the most affected by global counterfeiting and piracy in terms of trade percentage.

### Provenance and destination economies

According to the OECD-EUIPO database on global customs seizures, China was by far the main provenance economy of IP-infringing articles of leather and handbags between 2011 and 2013, being the origin of 71% of the total seized value of this product type (Figure 2.13). It was followed by Hong Kong (China) (19%), the United Arab Emirates (3%) and Turkey (2%).

**Figure 2.13. Top provenance economies for counterfeit leather articles and handbags, 2011-2013**

Statlink: <http://dx.doi.org/10.1787/888933529445>

*Note:* The EU members are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

The GTRIC-e indices for the leather articles and handbag industry compare the customs seizures intensities of infringing products with licit trade intensities for each provenance economy. These confirm that China is the most likely economy to export counterfeit leather products and bags (Table 2.13). It is followed by large Asian trade hubs (Hong Kong (China), Macau (China) and Singapore); a group of Far East Asian economies (Philippines, Thailand, Cambodia); some Middle East economies, such as United Arab Emirates and Kuwait; Turkey and Albania; and a group of North African economies (Egypt, Morocco, Tunisia).

**Table 2.13. Relative likelihood of an economy to be a source of fake leather articles and handbags**

GTRIC-e for leather articles and handbags; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
Macau (China)	0.701
Albania	0.695
Hong Kong (China)	0.687
Turkey	0.580
United Arab Emirates	0.433
Egypt	0.420
Singapore	0.400
Philippines	0.384
Tunisia	0.383
Thailand	0.361
Morocco	0.357

**Table 2.13. Relative likelihood of an economy to be a source of fake leather articles and handbags** (*continued*)

Kuwait	0.346
Cambodia	0.335

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

Interestingly, the list of top provenance economies for counterfeit leather products and bags imported into the EU is almost exactly the same as the list for world imports (Table 2.14). The key role played by Turkey for the EU, and the inclusion of Iran in the list of top provenance economies, need however to be noticed.

**Table 2.14. Relative likelihood of an economy to be a source of fake leather articles and handbags imported into the EU**

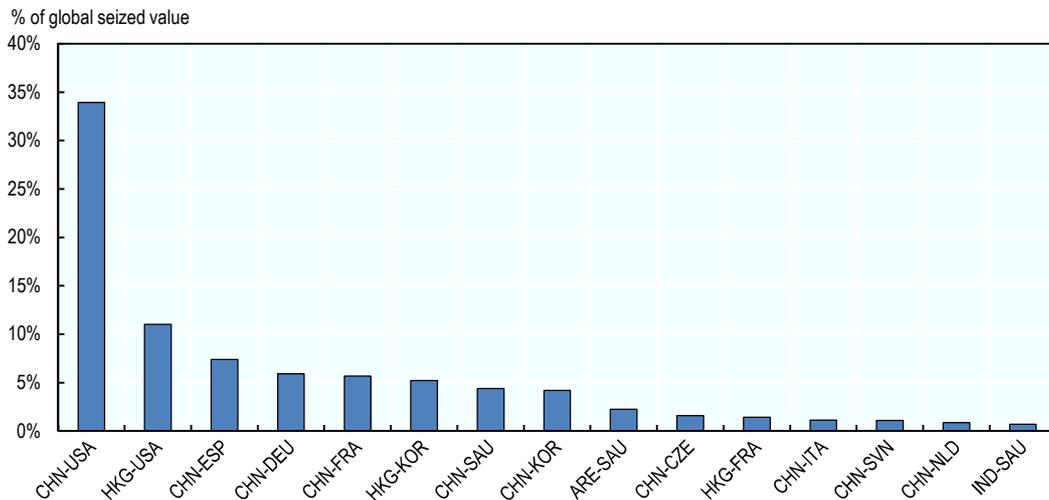
GTRIC-e for leather articles and handbags to the EU; average 2011-2013

Economy	GTRIC UE
China (People's Republic of)	1.000
Hong Kong (China)	0.710
Turkey	0.589
United Arab Emirates	0.579
Philippines	0.507
Singapore	0.507
Macau (China)	0.464
Egypt	0.462
Albania	0.426
Thailand	0.423
Morocco	0.371
Iran	0.362
Tunisia	0.315
Malaysia	0.311

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

Descriptive statistics on the most intensive trade routes presented in Figure 2.14 indicate that the largest share of counterfeit leather articles and bags are exported from China and Hong Kong (China) to the US and the EU. There are also important trade flows from those provenance economies and India to the Middle East, including Saudi Arabia and the United Arab Emirates.

**Figure 2.14. Top provenance-destination economies for counterfeit leather articles and handbags, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529464>

Note: See Annex C for a full list of ISO codes of countries and territories.

### ***Producers and transit points***

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices indicates that China is the main producer of counterfeit leather articles and handbags (Table 2.15. See Annex C for complete lists of RCAT-e and RCAP-e indices). It exports the fakes across the globe directly, but also uses the large Asian trade hubs of Hong Kong (China) and Macau (China) and some Middle East economies (e.g. Kuwait) as transit points.

A group of Far East Asian economies also appear to be important producers of counterfeit leather articles and handbags. These include Cambodia, the Philippines, Thailand, Indonesia and Malaysia. They mainly export the fakes directly to the EU and the US, but also use the large Asian trade hubs as transit points.

Finally, Turkey and Tunisia are also indicated as important producers. Compared to the other producing economies, they appear to particularly target the EU. Note also that Turkey uses some Southeast European economies, such as Albania, to reach the EU.

**Table 2.15. Producers of counterfeit leather articles and bags, 2011-2013**

Producing economy	Destinations	Transport mode
China	EU	Mail
	Southeast Europe (incl. Bosnia and Herzegovina <sup>[transit point]</sup> and Albania <sup>[transit point]</sup> )	Sea - Mail
	US	Mail - Sea
	Canada	Mail
	Australia	Sea - Air
	New Zealand	Sea
	Japan	Sea - Air - Mail
	Korea	Sea
	North, West and Central Africa (incl. Morocco <sup>[transit point]</sup> and Egypt <sup>[transit point]</sup> )	Sea - Air
	Israel	Sea - Air
	Jordan	Sea - Road
	Kuwait <sup>[transit point]</sup>	Sea
	Saudi Arabia	Sea - Air
	Qatar	Sea - Air
Hong Kong (China) <sup>[transit point]</sup>	Road	
Macau (China) <sup>[transit point]</sup>	Road	
Cambodia, Philippines, Thailand, Indonesia, Malaysia	EU	Mail - Air - Sea
	US	Mail - Air
	Australia	Air - Sea
	Hong Kong (China) <sup>[transit point]</sup>	Road
	Macau (China) <sup>[transit point]</sup>	Road
	Singapore <sup>[transit point]</sup>	Road
	Saudi Arabia	Sea - Air
Turkey	EU	Mail - Road - Air
	Albania <sup>[transit point]</sup>	Road
	US	Mail - Air
	Morocco <sup>[transit point]</sup>	Air
	Saudi Arabia	Air - Sea
Tunisia	EU	Mail
	US	Mail

The identified transit points are listed in Table 2.16. It is noticeable that the large Asian trade hubs, i.e. Hong Kong (China), Macau (China) and Singapore, appear to be the main transit points in the global trade of leather articles and handbags. They receive these counterfeit products from China and the other Far East Asian producers previously identified, and re-export them across the globe.

Some Middle Eastern economies, such as Kuwait, and some North African economies, such as Egypt and Morocco, also appear to be important transit points for the

fake leather articles and bags exported from Far East Asia. Finally, some economies in Southeast Europe, such as Albania and Bosnia and Herzegovina, appear to be EU gateways for fakes received notably from Turkey by road.

**Table 2.16. Key transit points for counterfeit leather articles and handbags, 2011-2013**

Provenance economy	Transit points	Destinations	Transport mode from transit to destination
China		EU	Mail - Air - Sea
Cambodia		US	Mail - Air - Sea
Philippines		Canada	Mail - Air
Indonesia		Australia	Mail - Air - Sea
Malaysia	Hong Kong (China)	Japan	Air - Mail - Sea
Thailand		Korea	Mail - Sea
		Central and South America	Mail - Air
		Kuwait	Air - Sea
		Saudi Arabia	Air - Sea
		Qatar	Air - Sea
China		US	Mail
Cambodia			
Philippines	Macau (China)		
Malaysia			
Thailand			
China		EU	Mail
Cambodia		US	Mail
Malaysia	Singapore	Japan	Mail - Sea
Philippines		Korea	Mail - Sea
Thailand			
Indonesia			
China		EU	Mail
Hong Kong (China)	Kuwait		
Thailand			
United Arab Emirates			
?	Egypt	EU	Mail - Air
		Yemen	Road - Air
China	Morocco	EU	Mail - Air
Turkey			
Turkey		EU	Road
United Arab Emirates	Bosnia and Herzegovina, and Albania		
China			

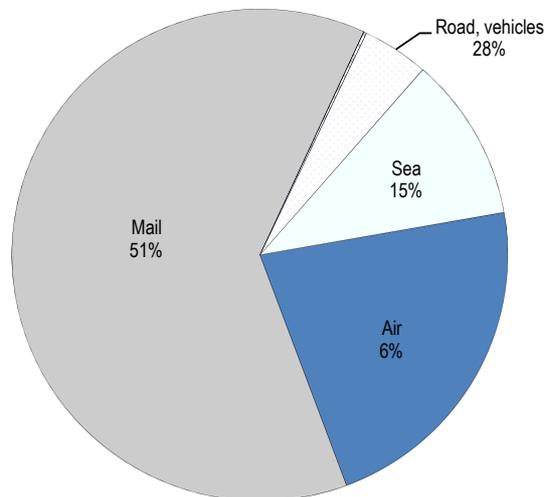
### *Transport modes and size of shipments*

Over the period 2011-2013, the largest share of shipments of counterfeit articles of leather and handbags was sent by mail, at 63% of the total number of global customs seizures (Figure 2.15). However, the share of shipments by air (22%), sea (11%) and road (4%) was also significant.

By looking at the details, one can see that postal parcels were mostly used by counterfeiters located in producing economies and those located in transit points to reach developed economies, notably the US and those located in the EU (see Tables 15 and 16). Air and sea transports were used for trade flows of counterfeit leather articles of handbags that went from producing economies to transit points.

**Figure 2.15. Conveyance methods for counterfeit leather articles and handbags, 2011-2013**

As a percentage of total seizures.

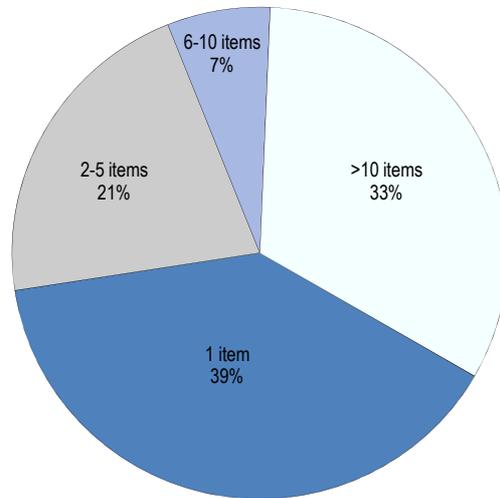


Statlink: <http://dx.doi.org/10.1787/888933529483>

The size of shipments of counterfeit articles of leather and handbags ranged between one and more than ten items (Figure 2.16). The small shipments were mainly parcels mailed directly from producers to the final destination economies, while counterfeit articles of leather and bags were mainly sent in large shipments from the producing economies to their transit points.

**Figure 2.16. Size of shipments of counterfeit leather articles and handbags, 2011-2013**

As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529502>

## Trade routes for fake clothing and fabrics

### Summary

*China is the main producer of counterfeit clothes and textile fabrics. In addition, Viet Nam, Thailand, Cambodia and Malaysia also appear as important producers, exporting them across the globe, either directly, or via Hong Kong (China) and Singapore. India, Pakistan and Bangladesh are also important producers of counterfeit textile articles, which they ship to the EU, the US, Kuwait and Saudi Arabia. Finally, Turkey, Tunisia and Morocco are also indicated as important producing economies, mostly destined for the EU.*

*The main transit hubs for the trade in fake clothes and fabrics include Hong Kong (China), Singapore and the United Arab Emirates.*

*Fake clothes and fabrics enter the EU and the US from producing economies and transit hubs mostly in the post. Air and sea transport are used for exporting fake clothes and fabrics from producing economies to transit points. Finally, road transport is used for trafficking fake clothes and fabrics from Middle Eastern transit economies to the EU.*

### Overview of IP intensity and counterfeiting

The clothing and fabrics (knitted or crocheted) industry refers to the HS 60 and HS 61 product categories, and mainly includes shirts, blouses, coats and suits. In 2013, the global trade value of the industry was USD 252 billion, around 1.2% of total world trade in that year.

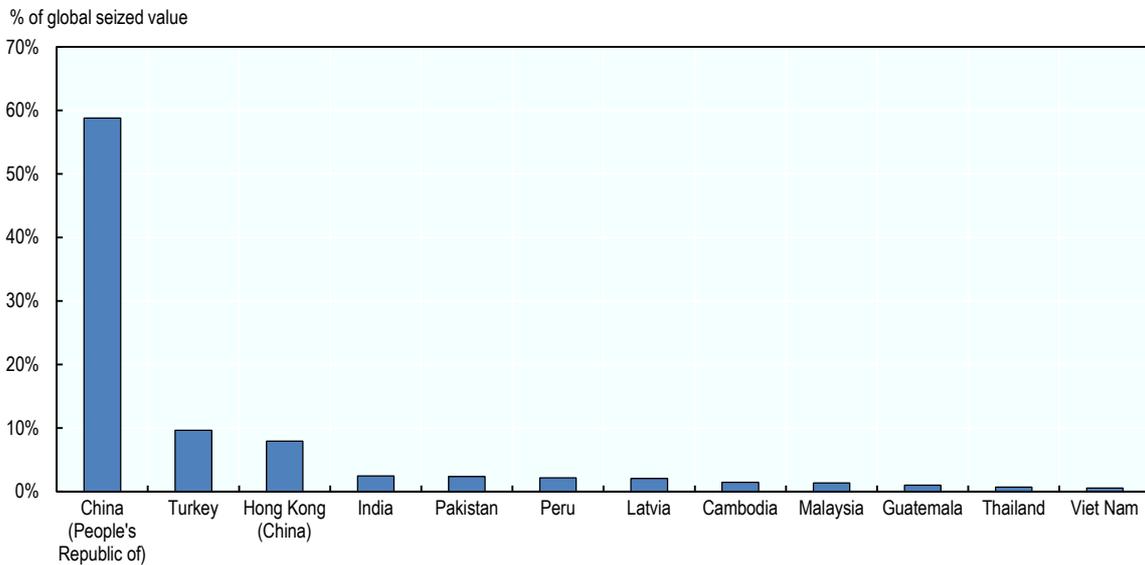
According to the data provided by WIPO (WIPO, 2017), the number of trademark applications for the clothing and footwear industries combined was 254 167 in 2013,<sup>10</sup> around 5.5% of all world trademark applications registered that year. This made these industries the fourth most intense in terms of trademarks out of 45 industries registered in the Nice product classification.

The high IP-intensity of the clothing industry and its high degree of integration in the global economy make it particularly vulnerable to counterfeiting. According to calculations for the OECD-EUIPO (2016) study, global trade in counterfeit clothing and fabrics was up to USD 27.7 billion (EUR 20.3 billion) in 2013. This represents more than 11% of global trade in clothing and textile fabrics, and ranks the industry as third-most affected by global counterfeiting and piracy in relative terms (i.e. as a percentage of world imports within the product category) and fifth in terms of value.

### Provenance and destination economies

According to the OECD-EUIPO database on global customs seizures, China was by far the main provenance economy for counterfeit clothing and textile fabrics between 2011 and 2013, being the origin of 59% of the total seized value of this product type (Figure 2.17). It was followed by Turkey (10%) and Hong Kong (China) (8%).

**Figure 2.17. Top provenance economies for counterfeit clothing and textile fabrics, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529521>

Note: The EU members are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

The GTRIC-e indices for counterfeit textiles, which compare these customs seizures intensities of infringing products with licit trade intensities for each provenance economy, confirm that China, Turkey and Hong Kong (China) are the most likely to export counterfeit clothing and textile fabrics (Table 2.17). Other implicated economies include Singapore, a group of developing Far East Asian economies (e.g. Thailand and Viet Nam), the United Arab Emirates, a group of countries located in the frontier of Europe (e.g. Ukraine, Azerbaijan), a group of Latin American economies (e.g. Panama, Honduras and Peru), India and Morocco.

**Table 2.17. Relative likelihood of an economy to be a source of fake clothing and textile fabrics, 2011-2013**

GTRIC-e for clothing and textile fabrics; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
Turkey	0.698
Hong Kong (China)	0.626
Singapore	0.456
Thailand	0.393
Ukraine	0.352
United Arab Emirates	0.341
Azerbaijan	0.329
Panama	0.328

**Table 2.17 Relative likelihood of an economy to be a source of fake clothing and textile fabrics, 2011-2013 (continued)**

Honduras	0.280
Viet Nam	0.256
India	0.247
Peru	0.243
Morocco	0.232

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods

As for most other product categories, the top provenance economies for counterfeit clothing and textile fabrics imported to the EU are very similar to those for world imports (Table 2.18). The only differences are the inclusion of Senegal, and the exclusion of Latin America.

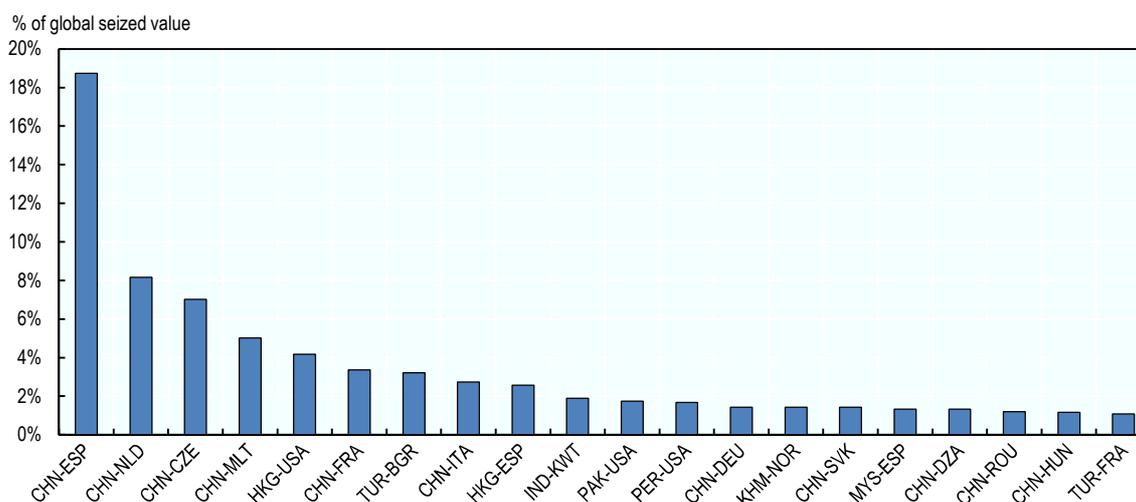
**Table 2.18. Relative likelihood of an economy to be a source of fake clothing and textile fabrics imported into the EU, 2011-2013**

GTRIC-e for clothing and textile fabrics to the EU; average 2011-2013

Economy	GTRIC EU
China (People's Republic of)	1.000
Turkey	0.869
Singapore	0.828
Hong Kong (China)	0.787
Thailand	0.623
Senegal	0.535
United Arab Emirates	0.526
Morocco	0.387
India	0.339
Viet Nam	0.311

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods

Descriptive statistics on the most intensive trade routes in Figure 2.18 indicate that the largest share of counterfeit clothing and textile fabrics are exported from China and Hong Kong (China) to the US and the EU. Important trade flows are also noticeable from Turkey to Europe, and from Pakistan and Peru to the US.

**Figure 2.18. Top provenance-destination economies for counterfeit clothing and textiles, 2011-2013**

Statlink: <http://dx.doi.org/10.1787/888933529540>

Note: See Annex C for a full list of ISO codes of countries and territories.

### ***Producers and transit points***

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices indicates that China is the main producer of counterfeit clothing and textiles fabrics (Table 2.19. See Annex C for complete lists of RCAT-e and RCAP-e indices). Viet Nam and Thailand also appear to be important producers. It is interesting to note that these economies export the counterfeit textile articles directly worldwide, as well as using the large Asian trade hubs of Hong Kong (China) and Singapore as transit points.

India also appears to be an important producer of counterfeit textile articles. Counterfeiters located in India tend to export directly to Europe, the US and some southeast European economies. Finally, Turkey is also indicated as an important producing economy, targeting the EU in particular.

**Table 2.19. Producers of counterfeit clothing and textile fabrics, 2011-2013**

Producing economy	Destinations	Transport mode
China	EU	Mail
	Southeast Europe <sup>[transit point]</sup>	Mail - Air - Sea - Road
	US	Mail - Sea
	Australia	Mail - Sea
	New Zealand	Mail - Sea
	Japan	Mail - Sea
	Korea	Mail - Sea
	South America (Chile, Brazil, Colombia, Venezuela, Mexico, Belize)	Mail - Sea
	North Africa (Algeria, Morocco, Libya)	Air - Sea
	Western Africa (Guinea, Nigeria, Congo)	Sea
	Israel	Sea
	Jordan	Sea - Road
	Kuwait	Sea - Air
	Saudi Arabia	Sea - Air
	Yemen	Sea
	Hong Kong (China) <sup>[transit point]</sup>	Road
Singapore <sup>[transit point]</sup>	Road	
Viet Nam and Thailand	EU	Air - Mail
	US	Air - Mail
	Hong Kong (China) <sup>[transit point]</sup>	Road
	Singapore <sup>[transit point]</sup>	Road
	Saudi Arabia	Sea
India	EU	Air - Mail
	Southeast Europe <sup>[transit point]</sup>	Air - Sea
	US	Air - Mail - Sea
Turkey	EU	Mail - Air - Road
	Southeast Europe <sup>[transit point]</sup>	Road
	US	Air
	Kuwait	Air

Hong Kong (China) and Singapore appear to be central transit points for the global trade in counterfeit clothing and textile fabrics (Table 2.20). These large Asian trade hubs receive indeed counterfeit clothing and textiles from China and the smaller Far East Asian producing economies (Thailand, Viet Nam), and re-export them mostly to the US and Europe. Note that, compared to Singapore, the scope of destination economies for fakes re-exported from Hong Kong (China) is larger, extending to Oceania, Latin American, African and the Middle East.

The United Arab Emirates also appears to be important transit point in the global trade of counterfeit textile articles. While it is not possible to identify where these fakes originate, they appear to be being re-exported to Europe, the US, other economies in the Middle East (e.g. Kuwait and Qatar) and northeast Africa.

**Table 2.20. Key transit points for counterfeit clothing and textile fabrics, 2011-2013**

Provenance economy	Transit point	Destinations	Transport mode from transit to destination
China		EU	Mail - Air
Thailand		Southeast Europe <i>(transit point)</i>	Air - Mail
Viet Nam		US	Mail - Air
	Hong Kong (China)	Australia	Mail
		Japan	Air - Sea
		West, North and South Africa	Air
		Latin America	Air - Mail - Sea
		Kuwait	Air
China		EU	Mail
Thailand		Southeast Europe <i>(transit point)</i>	Mail - Air
Viet Nam	Singapore	US	?
Cambodia			
Malaysia			
		EU	Mail - Air - Sea
		Southeast Europe <i>(transit point)</i>	Air - Road
?	United Arab Emirates	US	?
		Kuwait	Sea - Road
		Qatar	Sea - Road
		Northeast Africa	Sea
?	Ukraine and Azerbaijan	Russia, Lithuania, Germany	Road

*Notes:* The situation of Honduras, Panama and Guatemala, which (re)export counterfeit clothing and textile fabrics to the US, is undetermined. The indicators do not confirm if they are producers or not, and no data were received from their respective customs authorities to identify potential source countries for these fake goods in the case that they are transit points.

### ***Transport modes and size of shipments***

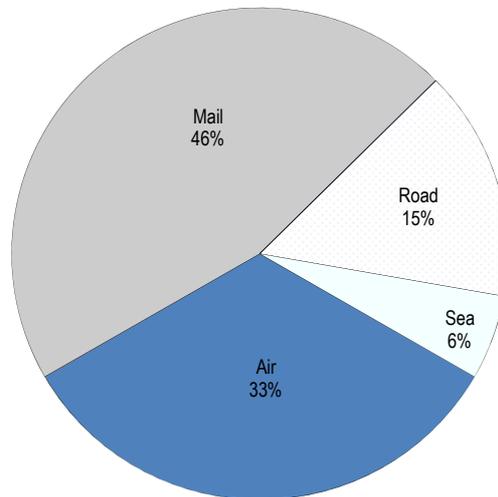
Over the period 2011-2013, most counterfeit clothing and textile fabrics were sent either by mail or air, at 46% and 33% of the total number of global customs seizures reported in the database, respectively (Figure 2.19). A smaller share went by road (15%), and sea (6%).

Looking at the details, one can see that postal parcels were mostly used by counterfeiters in both producing economies and transit points to reach developed economies, notably the US and within the EU (Tables 2.19 and 2.20). Air and sea transport were mainly used for sending counterfeit clothing and textile fabrics from

producing economies to transit points. Finally, road transport was used mainly for traffic between Middle East economies, and from Southeast Europe to the EU.

**Figure 2.19. Conveyance methods for counterfeit clothing and textile fabrics, 2011-2013**

As a percentage of total seizures.

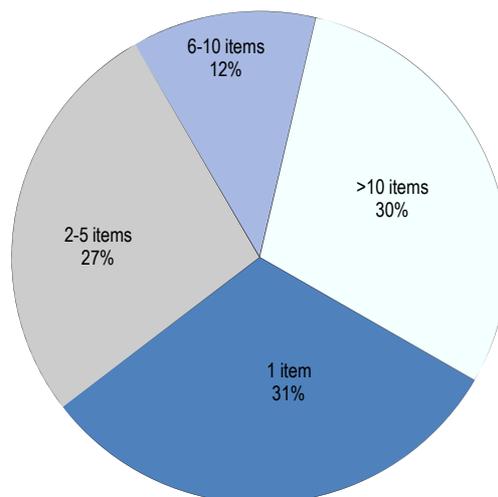


Statlink: <http://dx.doi.org/10.1787/888933529559>

The size of shipments of counterfeit clothing and textile fabrics reflects these different trade patterns, being either very small (i.e. between one and five items) or very large (i.e. more than 10 items). Small shipments correspond notably to postal parcels shipped from both producing economies and transit points to the final destination (e.g. the EU or US), while large shipments correspond to the trade flows of counterfeit textile articles from producing economies to their transit points.

**Figure 2.20. Size of shipments of counterfeit clothing and textile fabrics, 2011-2013**

As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529578>

## Trade routes for fake footwear

### Summary

*China is the main producer of counterfeit footwear, followed by the Philippines, Thailand, Viet Nam and Malaysia. Fake footwear is shipped from these economies directly to the EU, the US, Kuwait, Saudi Arabia, Qatar, Australia, Japan, Korea and numerous economies located throughout the African and the South American continents. They are also shipped to some trade hubs, such as Hong Kong (China) and Singapore. In addition India and Pakistan also appear to be important producers of counterfeit footwear, which is shipped directly to the EU, the US, Kuwait and Saudi Arabia. Finally, Turkey and Morocco are also indicated as important producers of fake footwear, targeting the EU.*

*Hong Kong (China), Singapore and the United Arab Emirates are the main global transit points. Regionally, Albania, Bosnia and Herzegovina, and Morocco are important transit points for counterfeit footwear shipped to the EU, while Panama is an important transit point for fake footwear en route to the US.*

*Most counterfeit footwear is shipped by mail in small consignments of up to five items.*

### **Overview of IP intensity and counterfeiting**

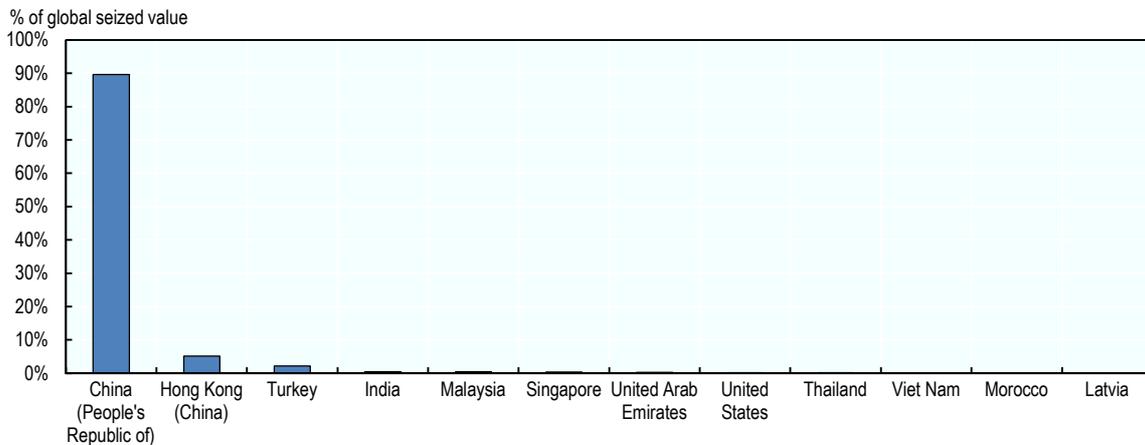
The footwear industry refers to the HS 64 product category. In 2013, the global trade value of the industry was USD 123 billion, around 0.6% of total world trade in that year.

According to the data provided by WIPO (WIPO, 2017), the number of trademark applications for the footwear and clothing industries combined was 254 167 in 2013,<sup>11</sup> around 5.5% of all world trademark applications registered that year. This made those industries the fourth-most intense in terms of trademarks out of 45 industries registered in the Nice product classification.

The high IP-intensity of the footwear industry and its high degree of integration in the global economy make it particularly vulnerable to counterfeiting. According to calculations for the OECD-EUIPO (2016) study, global trade in counterfeit footwear, was up to USD 13.3 billion (EUR 9.7 billion) in 2013. This represents 10.5% of global trade in footwear, and makes the industry the fifth-most affected by global counterfeiting and piracy in relative terms (i.e. as a percentage of world imports within the product category) and tenth in terms of value.

### **Provenance and destination economies**

According to the OECD-EUIPO database on global customs seizures, China was by far the main provenance economy for counterfeit footwear between 2011 and 2013, being the origin of almost 90% of the total seized value of IP-infringing footwear (Figure 2.21). Hong Kong (China) (5%) and Turkey (2%) came a very distant second and third.

**Figure 2.21. Top provenance economies for counterfeit footwear, 2011-2013**

Statlink: <http://dx.doi.org/10.1787/888933529597>

Note: The EU members are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

The GTRIC-e indices for counterfeit footwear, which compare these customs seizures intensities of infringing products with legitimate trade intensities for each provenance economy, confirm that China, Hong Kong (China) and Turkey are the most likely to export counterfeit footwear (Table 2.21). Other implicated economies include Singapore; a group of developing Far East Asian economies (e.g. the Philippines, Thailand and Malaysia); Azerbaijan and Armenia; the United Arab Emirates and Iran; Panama; Senegal; and Morocco.

**Table 2.21. Relative likelihood of an economy to be a source of fake footwear, 2011-2013**

GTRIC-e for footwear; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
Hong Kong (China)	0.679
Turkey	0.679
Azerbaijan	0.547
Singapore	0.496
Philippines	0.496
Armenia	0.442
United Arab Emirates	0.260
Senegal	0.216
Iran	0.212
Panama	0.209
Morocco	0.202
Thailand	0.193
Malaysia	0.189

Note: A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

The list of top provenance economies for counterfeit footwear imported to the EU is almost exactly the same as the list for world imports (Table 2.22). Note however that the roles of Turkey, Iran and Senegal as provenance economies are considerably larger in EU imports.

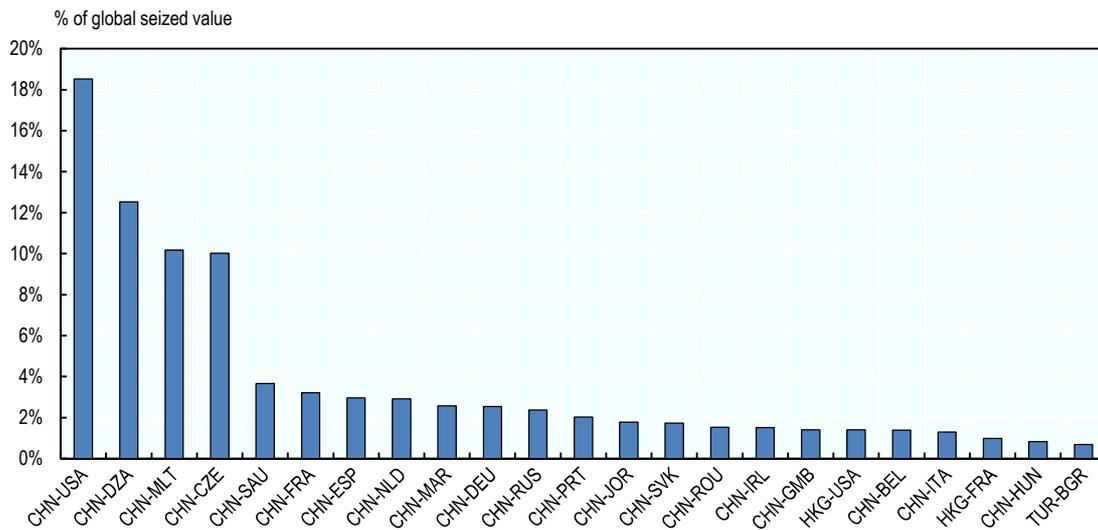
**Table 2.22. Relative likelihood of an economy to be a source of fake footwear imported into the EU, 2011-2013**

GTRIC-e for footwear to the EU; average 2011-2013

Economy	GTRIC EU
China (People's Republic of)	0.995
Turkey	0.857
Hong Kong (China)	0.839
Philippines	0.790
Singapore	0.761
Iran	0.748
Senegal	0.589
Malaysia	0.427
Morocco	0.349
United Arab Emirates	0.344
Armenia	0.280
Thailand	0.242
Viet Nam	0.160

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

Descriptive statistics on the most intensive trade routes presented in Figure 2.22 indicate that the largest share of counterfeit footwear is indeed exported from China to the US and the EU, as well as to Saudi Arabia, Jordan and Africa (e.g. Algeria or Gambia). Important trade flows are also noticeable from Hong Kong (China) to the US and the EU, and from Turkey to Southeast Europe (e.g. Bulgaria).

**Figure 2.22. Top provenance-destination economies for counterfeit footwear, 2011-2013**

Statlink: <http://dx.doi.org/10.1787/888933529616>

Note: See Annex C for a full list of ISO codes of countries and territories.

### ***Producers and transit points***

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices indicates that China is the main producer of counterfeit footwear (Table 2.23. See Annex C for complete lists of RCAT-e and RCAP-e indices). The Philippines, Thailand, Viet Nam and Malaysia also appear as important producers of counterfeit footwear. Counterfeiters located in these five economies export directly to Europe and the US, as well as via large Asian trade hubs (e.g. Hong Kong (China) and Singapore) and Middle East economies (e.g. Kuwait, Saudi Arabia, Qatar). Compared to the other Asian economies, the scope of destination economies for the fake footwear exported from China is larger, and also includes Australia, Japan, Korea and numerous economies located throughout the African and the South American continents.

India also appears as an important producer of counterfeit footwear. Counterfeiters located in India tend to export directly to the EU; the US; some Middle Eastern economies, such as Kuwait and Saudi Arabia; and Northeast Africa (e.g. Somalia).

Finally, Turkey and Morocco are also indicated as important producers, targeting the EU and Southeast Europe in particular.

**Table 2.23. Producers of counterfeit footwear, 2011-2013**

Producing economy	Destinations	Transport mode
China	EU	Mail - Sea
	Southeast Europe (incl. Albania <sup>[transit point]</sup> and Bosnia and Herzegovina <sup>[transit point]</sup> )	Sea
	US	Mail - Sea
	Australia	Mail - Sea
	Japan	Mail - Sea - Air
	Korea	Mail - Sea - Air
	Africa (incl. Morocco <sup>[transit point]</sup> and Senegal <sup>[transit point]</sup> )	Air - Sea
	South and Central America (incl. Panama <sup>[transit point]</sup> )	Sea - Air
	Kuwait	Sea
Hong Kong (China) <sup>[transit point]</sup>	Road	
Singapore <sup>[transit point]</sup>	Road	
Philippines, Thailand, Malaysia, Viet Nam	EU	Mail - Air
	US	Mail - Air
	Kuwait	Sea
	Saudi Arabia	Sea
	Qatar	Sea
	Hong Kong (China) <sup>[transit point]</sup>	Road
	Singapore <sup>[transit point]</sup>	Road
India	EU	Mail - Air
	US	?
	Kuwait	Sea
	Saudi Arabia	Sea - Air
	Somalia	Sea
Turkey	EU	Mail - Road - Air - Sea
	Southeast of Europe (incl. Albania <sup>[transit point]</sup> and Bosnia and Herzegovina <sup>[transit point]</sup> )	Road
	North Africa (Morocco, Algeria)	Sea
	Saudi Arabia	Road - Air
Morocco	EU	Sea - Air - Mail

The list of key transit points for counterfeit footwear identified using the methodology developed in this study indicates that the trade routes for fake footwear are very complex and diverse (Table 2.24).

Hong Kong (China) and Singapore appear to be central transit points for the global trade in counterfeit footwear (Table 2.24). These large Asian trade hubs receive fakes from China, as well as from the smaller Far East Asian producing economies (the Philippines, Thailand, Viet Nam and Malaysia), and re-export them mostly to the US and Europe. Note that, compared to Singapore, the scope of destination economies for the IP-

infringing footwear re-exported from Hong Kong (China) is larger, and also includes notably Australia, Japan, Korea, South American economies, and Kuwait.

The United Arab Emirates also appears to be an important transit point in the global trade of counterfeit footwear. While it is not possible to identify where the fakes originate, it appears that they are re-exported to the EU, Northeast Africa (e.g. Libya, and Somalia) and other Middle Eastern economies, such as Kuwait. Located in the same geographical area, Iran is also identified as a key transit point for counterfeit footwear, notably for those en route to the EU.

Morocco appears to be an important transit point for footwear exported to the EU. These originate mainly in Turkey, but also from China and Hong Kong (China).

Azerbaijan and Armenia are also identified as transit points for counterfeit footwear destined for Russia and Northeast Europe. It is however impossible to determine where these fakes originate.

Finally, Panama appears to be an important transit point for fake footwear exported to the US, as well as for those shipped to the Caribbean and South America. Once again the origin economies cannot be identified.

**Table 2.24. Key transit points for counterfeit footwear, 2011-2013**

Provenance economy	Transit point	Destinations	Transport mode from transit to destination
China		EU	Mail - Air
Philippines		Southeast Europe (incl. Albania <sup>[transit point]</sup> and Bosnia and Herzegovina <sup>[transit point]</sup> )	Mail - Air
Thailand		US	Mail - Air
Malaysia		Australia	Mail - Sea
Viet Nam	Hong Kong (China)	Japan	Sea - Air
		Korea	Sea - Air
		South America (Mexico, Venezuela, Guatemala, Honduras)	Air - Mail
		The Caribbean (Dominican Republic)	Air - Mail
		Kuwait	Air
China		EU	Mail
Philippines		US	Mail
Thailand	Singapore		
Malaysia			
Viet Nam			
		EU	Mail - Air
?	United Arab Emirates	Northeast Africa (Somalia, Libya)	Sea
		Kuwait	Sea - Road
		Qatar	Sea - Road
?	Iran	EU	Mail - Air
China	Morocco	EU	Sea - Air

**Table 2.24 Key transit points for counterfeit footwear, 2011-2013 (continued)**

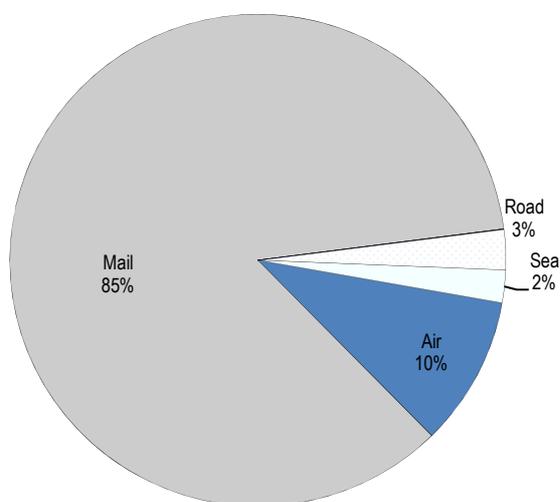
Turkey			
?	Azerbaijan	Russia	Road
?	Armenia	EU	Air - Mail
		Russia	Air
China	Senegal	EU	Air
?	Panama	US	Air - Sea
		South America and the Caribbean	Sea

### *Transport modes and size of shipments*

Over the period 2011-2013, the largest share of counterfeit footwear was sent by mail (85%) (Figure 2.23). Air accounted for the second-largest share (10%). The dominance of mail reflects mostly the large share of counterfeit footwear exported from China and Hong Kong (China) to the EU and US in parcels (Table 2.23 and 2.24). This also implies that the size of each shipment of counterfeit footwear tends to be very small (up to five items) (Figure 2.24).

**Figure 2.23. Conveyance methods for counterfeit footwear, 2011-2013**

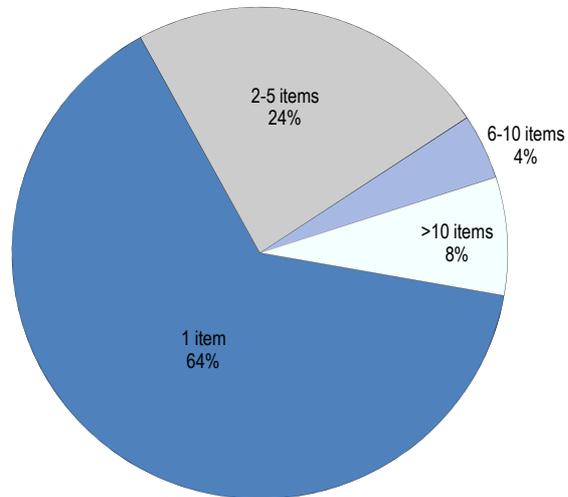
As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529635>

**Figure 2.24. Size of shipments of counterfeit footwear, 2011-2013**

As a percentage of total seizures



*Statlink:* <http://dx.doi.org/10.1787/888933529654>

## Trade routes for fake jewellery

### Summary

*China is the main producer of fake jewellery, followed by Indonesia, Malaysia, Thailand and Viet Nam. Counterfeit jewellery is shipped from these economies directly to Europe, the US, Kuwait, Saudi Arabia, Qatar and to large trade hubs: Hong Kong (China), Macau (China) and Singapore. The destination economies for the fake jewellery exported from China include Australia, Japan, Korea and numerous economies located throughout the African and the South American continents.*

*The main transit points for trade in counterfeit jewellery are Hong Kong (China), Macau (China) and Singapore. Other important transit points for this type of product include Saudi Arabia and the United Arab Emirates. Lastly, Morocco is an important transit point for fake jewellery transported to the EU.*

### Overview of IP intensity and counterfeiting

The jewellery industry refers to the HS 71 product category. This category includes notably jewellery of precious metal, gold, silver or base metal; as well as imitation jewellery, pearls, diamonds and other precious stones.

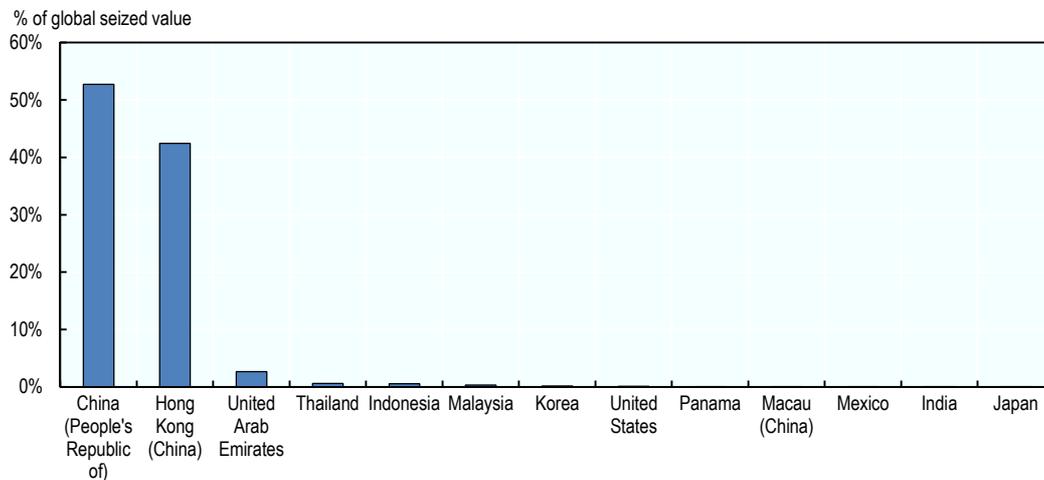
In 2013, the global trade value of jewellery was USD 847 billion, around 4.1% of total world trade in that year.

According to data provided by WIPO (WIPO, 2017), the number of trademark applications for the jewellery industry was 60 538 in 2013,<sup>12</sup> around 1.6% of the total number of world trademark applications registered that year. This put this industry in the top 50% of the most intense in terms of trademarks among 45 industries registered in the Nice product classification.

The high trademark-intensity of the jewellery industry and its high degree of integration in the global economy make it particularly vulnerable to counterfeiting. According to calculations for the OECD-EUIPO (2016) study, global trade in counterfeit jewellery articles was USD 40.9 billion (EUR 30 billion) in 2013. This represents more than 4.8% of the total trade in jewellery, and makes the industry the second-most affected by global counterfeiting and piracy in terms of value.

### Provenance and destination economies

According to the data gathered in the OECD/EUIPO database on global customs seizures, China and Hong Kong (China) were the main provenance economies for counterfeit jewellery between 2011 and 2013. Altogether they were the origin of more than 90% of the total seized value of fake jewellery over that period (Figure 2.25). These two large provenance economies were followed by the United Arab Emirates and a group of Far East Asian economies, including Thailand, Indonesia and Malaysia.

**Figure 2.25. Top provenance economies for fake jewellery, 2011-2013**

Statlink: <http://dx.doi.org/10.1787/888933529673>

The GTRIC-e indices for counterfeit jewellery also confirm that China and Hong Kong (China) are the most likely to export fake jewellery (see Table 2.25). Other implicated economies include two other large Asian trade hubs, Macau (China) and Singapore, as well as a group of developing Far East Asian economies (Viet Nam, Thailand, Indonesia, and Malaysia), the United Arab Emirates, Morocco, Ukraine, Panama, Armenia and Turkey.

**Table 2.25. Relative likelihood of an economy to be a source of counterfeit jewellery, 2011-2013**

GTRIC-e for jewellery; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
Hong Kong (China)	0.575
Macau (China)	0.494
Viet Nam	0.237
Singapore	0.226
Morocco	0.150
Ukraine	0.147
United Arab Emirates	0.147
Thailand	0.125
Indonesia	0.086
Armenia	0.085
Turkey	0.084
Malaysia	0.075
Panama	0.074

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

The list of top provenance economies for counterfeit jewellery imported to the EU is similar to the list for world imports (Table 2.26). Macau (China) and Panama are however not included in EU list, as they appear to target the US more specifically (see below). On the other hand, Switzerland, Saudi Arabia and Egypt are included, while Morocco's role as a provenance economy of counterfeit jewellery increases considerably in the EU list.

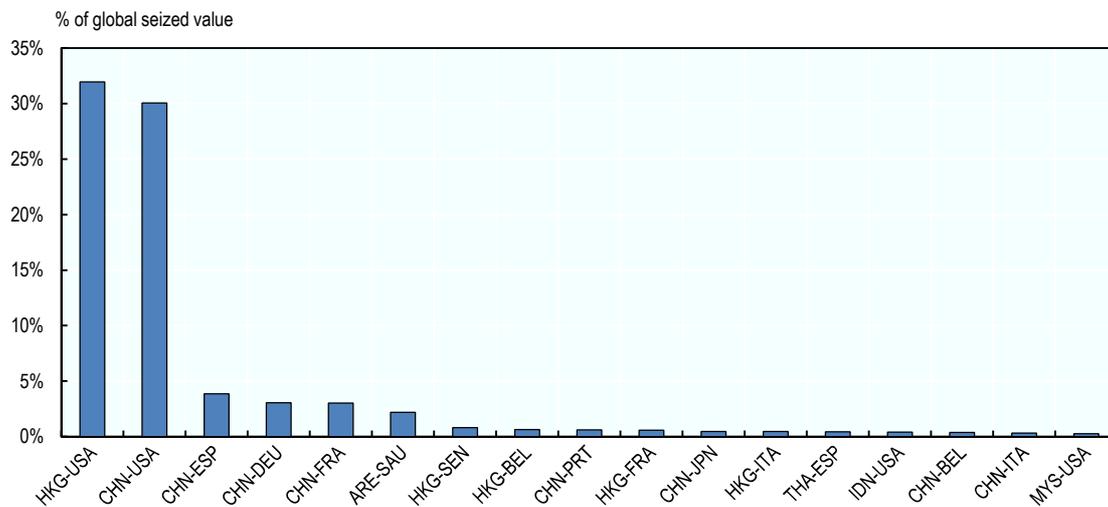
**Table 2.26. Relative likelihood of an economy to be a source of fake jewellery imported into the EU, 2011-2013**

GTRIC-e for jewellery to the EU; average 2011-2013

Economy	GTRIC UE
China (People's Republic of)	1.000
Hong Kong (China)	0.473
Morocco	0.198
Singapore	0.176
Switzerland	0.169
Thailand	0.131
Viet Nam	0.122
Saudi Arabia	0.118
United Arab Emirates	0.114
Turkey	0.091
Egypt	0.078
Ukraine	0.073
Indonesia	0.054

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods

Descriptive statistics on the most intensive trade routes presented in Figure 2.26 indicate that over the period 2011-2013, the largest share of fake jewellery was exported from China and Hong Kong (China) to the US. Large trade flows of counterfeit jewellery were also noticeable from China to the EU.

**Figure 2.26. Top provenance-destination economies for counterfeit jewellery, 2011-2013**

Statlink: <http://dx.doi.org/10.1787/888933529692>

Note: See Annex C for a full list of ISO codes of countries and territories.

### ***Producers and transit points***

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices indicates that China is the main producer of fake jewellery (Table 2.27. See Annex C for complete lists of RCAT-e and RCAP-e indices). Indonesia, Malaysia, Thailand and Viet Nam also appear as important producers. Counterfeiters located in these five economies export the counterfeit jewellery direct to Europe, the US, large Asian trade hubs (e.g. Hong Kong (China), Macau (China) and Singapore) and Middle East economies (e.g. Kuwait, Saudi Arabia, Qatar). Compared to the other Asian economies, however, the scope of destination economies for the fake jewellery exported from China is broader, and also includes Australia, Japan, Korea and numerous economies located throughout the African and the South American continents.

Armenia is also indicated as a producing economy of counterfeit jewellery, though counterfeiters in Armenia appear to export the fakes exclusively to the EU and Northeast Europe (e.g. Russia).

**Table 2.27. Producers of counterfeit jewellery, 2011-2013**

Producing economy	Destinations	Transport mode
China	Europe	Mail - Air - Sea
	US	Mail - Air - Sea
	Canada	Mail
	Australia	Mail
	Japan	Mail - Air - Sea
	South America (e.g. Colombia, Brazil, Mexico)	Mail - Air - Sea
	the Caribbean (e.g. Dominican Republic)	Sea
	Saudi Arabia <i>[transit point]</i>	Air - Sea
	Kuwait	Sea
	Hong Kong (China) <i>[transit point]</i>	Road
	Macau (China) <i>[transit point]</i>	Road
Singapore <i>[transit point]</i>	Road	
Thailand, Indonesia, Malaysia and Vietnam	EU	Mail - Air - Sea
	US	Mail - Air
	Hong Kong (China) <i>[transit point]</i>	Road - Sea
	Macau (China) <i>[transit point]</i>	Road - Sea
	Singapore <i>[transit point]</i>	Road - Sea
Armenia	EU	Mail
	Russia	Air - Road

The three large Asian trade hubs – Hong Kong (China), Macau (China) and Singapore – appear to be key transit points in the global trade of fake jewellery (Table 2.28). These receive the fakes from China, as well as from the smaller Far East Asian producing economies (Indonesia, Malaysia, Thailand and Viet Nam), and re-export them mostly to the US and to European economies. Note that Macau (China) is indicated in the database as a provenance economy only for the US. On the other hand, the scope of destination economies for the fake jewellery re-exported from Hong Kong (China) is much broader, and includes notably Canada, Australia, Japan, the South American economies, and East and West Africa.

Saudi Arabia and the United Arab Emirates are also indicated as key transit points in the global trade of fake jewellery. The former receives the fakes from China through large containers by air or sea (Table 2.28) and re-exports them by mail to Europe, by road to other Middle East economies, such as Kuwait, and to Morocco.

Morocco is also indicated as a key transit point for fake jewellery transported to the EU. Some of these fakes are notably received from Saudi Arabia. Finally, Ukraine is also indicated as a transit point for fake jewellery transiting to northeast Europe (e.g. Germany, Lithuania and Russia), but it is not possible to identify in the data the economy where these fakes originated.

Table 2.28. Key transit points for counterfeit jewellery, 2011-2013

Provenance economy	Transit points	Destinations	Transport mode from transit to destination
China		Europe	Mail - Air - Sea
Indonesia		US	Mail - Air
Malaysia		Canada	Mail
Thailand	Hong Kong (China)	Australia	Mail - Air
Viet Nam		Japan	Air
		South America (e.g. Colombia, Brazil, Mexico)	Mail - Air
		The Caribbean (e.g. Dominican Republic)	Sea
		West and East Africa (e.g. Senegal, Nigeria, Mauritius)	Air
China		EU	Mail
Indonesia		US	Mail
Malaysia	Singapore		
Thailand			
Viet Nam			
China	Macau (China)		
Indonesia			
Malaysia		US	Mail
Thailand			
Viet Nam			
		Europe	Mail - Air
?	United Arab Emirates	Saudi Arabia <sup>[transit point]</sup>	Air - Sea
		Kuwait	Air - Sea
		Qatar	Air - Sea
China	Saudi Arabia	EU	Mail
		Kuwait	Road - Sea
		Morocco <sup>[transit point]</sup>	?
Saudi Arabia <sup>[transit point]</sup>	Morocco	EU	Air - Sea
?	Ukraine	Northeast Europe (e.g. Germany, Lithuania, Russia)	Mail

*Notes:* The status of Panama, which (re)exports counterfeit jewellery to the US; and Turkey, which (re)exports counterfeit jewellery to Europe; are not determined. The indicators do not confirm if they are producers or not, and no data were received from their respective customs authorities to identify potential source economies if they are transit points.

### *Transport modes and size of shipments*

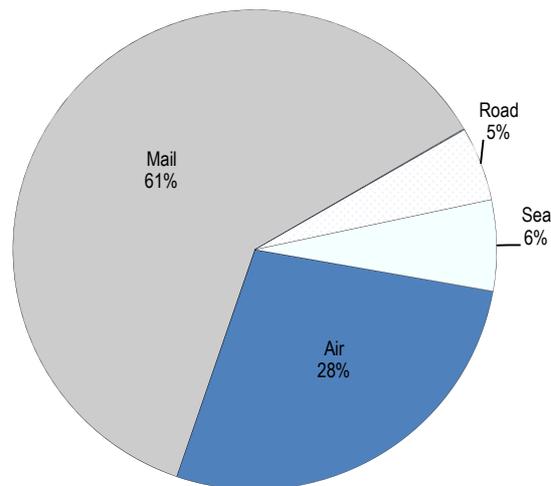
Over the period 2011-2013, the largest share of counterfeit jewellery was shipped by mail (61%), followed by air (28%) (Figure 2.27). Sea (6%) and road (5%) made up smaller shares.

Looking at the details reveals that postal parcels were used almost exclusively by counterfeiters located in producing and transit economies to reach their final destination, particularly in the EU (see Tables 2.27 and 2.28). In several cases, however, air shipments were also used.

Note finally that, unlike the other product categories, large shipments of fake jewellery including at least ten items tend to predominate in the database (Figure 2.28).

**Figure 2.27. Conveyance methods for counterfeit jewellery, 2011-2013**

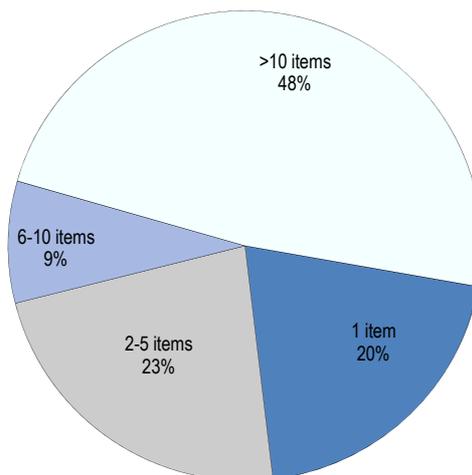
As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529711>

**Figure 2.28. Size of shipments of counterfeit jewellery, 2011-2013**

As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529730>

## Trade routes for fake electronics and electrical equipment

### Summary

*China is the main producer of counterfeit electronics and electrical equipment, which it exports throughout the globe. Other minor producers include Thailand, Korea, India and Singapore. Mexico is a regional producer of fake electronic equipment targeting the US market.*

*Hong Kong (China) is the largest transit point for counterfeit electronics and electrical equipment produced in China and Thailand and re-exported throughout the globe. The United Arab Emirates is also a central transit point for re-exports to Africa through large containers by sea, but also by road to other Middle East economies and by mail and air to the EU.*

*Regionally, Egypt and Turkey are transit points for fake electronics being shipped to the EU. Belize, Guatemala and Panama are key transit points for counterfeit electronic and electrical goods targeting the US.*

*Parcels were mostly used by counterfeiters located in producing economies and in Hong Kong (China) to reach OECD countries. Air and sea transport were used for trade flows of counterfeit electronics and electrical products transported from producing economies to transit points, or from some transit points to the EU.*

### Overview of IP intensity and counterfeiting

The electronics and electrical equipment industry refers to the HS 85 product category. This category includes notably electric motors and generators; primary and secondary batteries; electro-mechanical domestic appliances; lighting or visual signalling equipment; sound or video recording and reproducing apparatus; discs, tapes, solid-state non-volatile storage devices and smart cards; television and other transmission and reception apparatus; and electronic integrated circuits.

In 2013, the global trade value of electronics and electrical equipment was USD 2 302 billion, around 11% of total world trade in that year. This implies that electronics and electrical equipment are the most traded product category worldwide.

The industry is also strongly IP intense. According to data provided by WIPO (WIPO, 2017), the number of trademark applications for the electronics and electrical equipment industry was 274 106 in 2013,<sup>13</sup> around 7% of all world trademark applications registered that year. The number of patent applications for the sector was 408 098,<sup>14</sup> around 18% of all world patent applications. This made the industry the second-most intense in terms of trademarks among 45 industries registered in the Nice product classification, and the first in terms of patents.

The high IP-intensity of electronic products and electrical equipment and their high degree of integration in the global economy make the industry strongly vulnerable to counterfeiting. According to calculations for the OECD-EUIPO (2016) study, global trade in counterfeit electronic devices and electrical equipment was valued at USD 121 billion (EUR 88.6 billion) in 2013. This represents more than 5.3% of the total trade in those products, making this industry the top-most affected by global counterfeiting and piracy in terms of value.

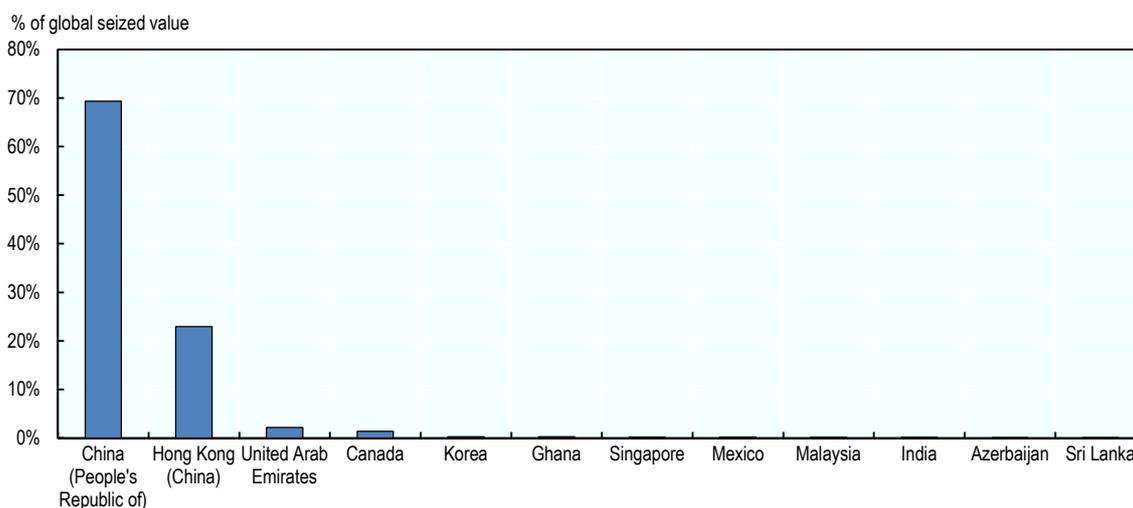
Examples of counterfeit electronic goods and electrical products recorded in the database of customs seizures are various. Over the period 2011-2013, customs authorities worldwide notably recorded seizures of counterfeit memory cards and sticks; earphones, headphones and headsets; mobile phones; batteries; chargers; microphones; speakers; and even electronic integrated circuits.

The sector of electronics and electrical equipment covers some, although not all, information and communication technology (ICT) goods. Hence findings for this sector parallel the findings of an OECD 2017 study on counterfeit trade in ICT goods (OECD, 2017). According to this study, world trade in counterfeit ICT goods accounted for as much as USD 143 billion in 2013, and 6.5% of ICT products traded worldwide were fake.

### *Provenance and destination economies*

According to the OECD/EUIPO database on global customs seizures, China was by far the main provenance economy for counterfeit electronics and electrical equipment, being the origin of almost 70% of the global seized value of these products between 2011 and 2013 (Figure 2.29). It was followed by Hong Kong (China) (23%) and the United Arab Emirates (2%).

**Figure 2.29. Top provenance economies for counterfeit electronics and electrical equipment, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529749>

Note: The EU members are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

The GTRIC-e indices for counterfeit electronics and electronic equipment, which compare these customs seizures intensities with legitimate trade intensities for each provenance economy, confirm that China, Hong Kong (China) and the United Arab Emirates are the most likely to export fake electronic and electrical devices (see Table 2.29). Those are followed notably by Singapore, Korea and India.

**Table 2.29. Relative likelihood of an economy to be a source of fake electronics and electrical equipment, 2011-2013**

GTRIC-e for electronics and electrical equipment; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
Hong Kong (China)	0.790
United Arab Emirates	0.314
Singapore	0.271
Korea	0.221
India	0.199
Belize	0.189
Cambodia	0.183
Thailand	0.174
Egypt	0.169
Azerbaijan	0.159
Nigeria	0.149
Mexico	0.148

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

The top four provenance economies for counterfeit electronic and electrical equipment – China, Hong Kong (China), Singapore and the United Arab Emirates – are the same for both global trade and EU imports (Table 2.30). However, the role played by North African economies, such as Egypt, Algeria and Morocco, as provenance economies for fake electronics and electrical devices imported by the EU is far larger than for world trade.

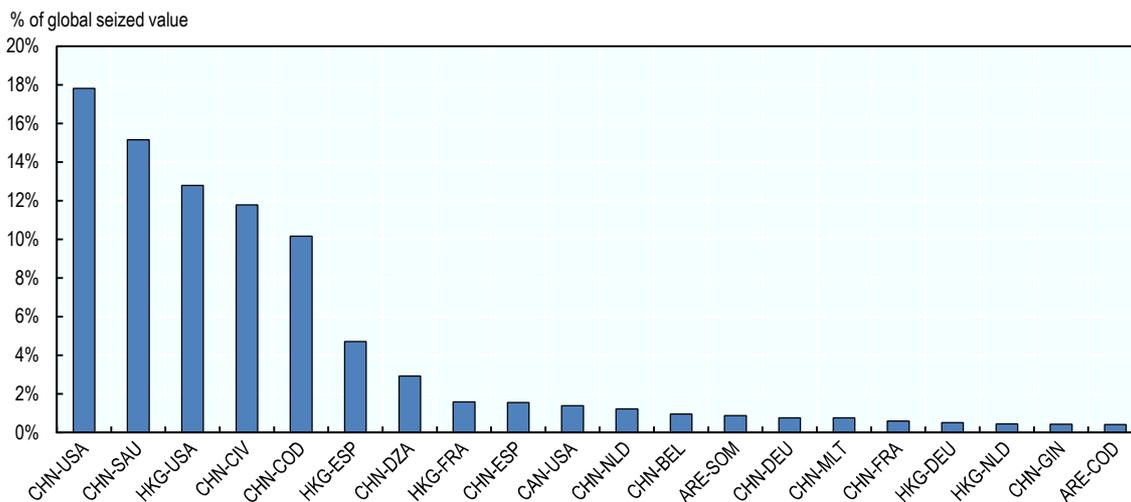
**Table 2.30. Relative likelihood of an economy to be a source of fake electronics and electrical equipment imported into the EU, 2011-2013**

GTRIC-e for electronics and electrical equipment to the EU; average 2011-2013

Economy	GTRIC EU
China (People's Republic of)	1.000
Hong Kong (China)	0.967
Singapore	0.549
United Arab Emirates	0.443
Thailand	0.337
Egypt	0.324
Nigeria	0.298
Turkey	0.272
Algeria	0.252
Morocco	0.238
Cambodia	0.225

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

Descriptive statistics on the most intensive trade routes presented in Figure 2.30 indicate that over the period 2011-2013, the largest shares of fake electronic and electrical good were exported from China and Hong Kong (China) to the US and the EU. Large trade flows of counterfeit electronic and electrical goods were also noticeable from China to Saudi Arabia; and from China and Saudi Arabia to African economies, such as Côte d'Ivoire, the Democratic Republic of Congo, Guinea and Somalia.

**Figure 2.30. Top provenance-destination economies for fake electronics, 2011-2013**

*Statlink:* <http://dx.doi.org/10.1787/888933529768>

*Note:* See Annex C for a full list of ISO codes of countries and territories.

### *Producers and transit points*

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices confirms that China is the main producer of counterfeit electronics and electrical equipment (Table 2.31. See Annex C for complete lists of RCAT-e and RCAP-e indices), and exports them across the globe.

Singapore also appears as an important producer of counterfeit electronics, as well as being an additional potential transit point for China. Other producers of fake electronic and electrical goods are also located in Asia, including Thailand, Korea and India.

Finally, Mexico also appears to be a producer of fake electronics and electrical equipment. Compared to the other producing economies, the fake products tend to be exported almost exclusively to the US.

**Table 2.31. Producers of counterfeit electronics and electrical equipment, 2011-2013**

Producing economy	Destinations	Transport mode
China	Europe	Mail - Sea - Air
	US	Mail - Sea - Air
	Canada	Mail
	Australia	Mail - Air - Sea
	New Zealand	Mail - Sea
	Japan	Mail - Air - Sea
	Korea	Mail - Sea
	Africa (incl. Nigeria <sup>[transit point]</sup> , Cameroon <sup>[transit point]</sup> and Ghana <sup>[transit point]</sup> )	Sea
	Central America (incl. Belize <sup>[transit point]</sup> , Guatemala <sup>[transit point]</sup> , Panama <sup>[transit point]</sup> )	Sea
	Latin America	Mail - Air - Sea
	Israel	Sea
	Jordan	Road - Sea
	Kuwait	Sea - Air
	Qatar	Sea - Air
	Saudi Arabia	Sea - Air
	Yemen	Sea - Air
Hong Kong (China) <sup>[transit point]</sup>	Road	
Singapore <sup>[transit point]</sup>	Road	
Singapore	EU	Mail
	US	Mail
	Central America (incl. Belize <sup>[transit point]</sup> , Guatemala <sup>[transit point]</sup> , Panama <sup>[transit point]</sup> )	Sea
	Latin America	Mail - Sea
	Japan	Mail
	Qatar	Sea - Air
Saudi Arabia	Sea - Air	
Korea	EU	Mail - Air

	US	Mail - Sea
	Japan	Mail - Air
	Kuwait	Sea - Air
	Qatar	Sea - Air
	Saudi Arabia	Sea - Air
	EU	Mail - Air
	US	Mail
	Japan	Mail - Air
Thailand	Kuwait	Air
	Saudi Arabia	Sea
	Hong Kong (China) <i>[transit point]</i>	Road
	Singapore <i>[transit point]</i>	Road
	EU	Mail - Air
	US	Mail - Air
India	Latin America	Air
	Saudi Arabia	Sea - Air
	Somalia	Sea
	US	Road - Mail
Mexico	Saudi Arabia	Sea

Hong Kong (China) is the largest transit point for counterfeit electronics and electrical equipment produced in China and Thailand and re-exported throughout the globe (Table 2.32). As noted previously, Singapore is itself a producer of counterfeit electronic and electrical goods, and is also a key transit point for the fakes produced in China.

The United Arab Emirates is another central transit point in the global trade of counterfeit electronics and electrical devices. It mainly exports the fakes to Africa by sea in large containers, but also by road to other Middle East economies and by mail and air to the EU. Egypt and Turkey are also indicated as key transit points for counterfeit electronic and electrical products transiting to Middle Eastern economies and the EU. Note that for these three economies, it is not possible to determine where these fakes originated.

On the African continent, Nigeria, Cameroon and Guinea are transit points for fake electronics and electrical equipment produced in China for re-export to other Western African economies and the EU.

Finally, on the American continent, Belize, Guatemala and Panama are key transit points for counterfeit electronic and electrical goods produced in China and Singapore targeting the US. Note that some of these goods were already in transit in Hong Kong (China).

**Table 2.32. Key transit points for counterfeit electronics and electrical equipment, 2011-2013**

Provenance economy	Transit points	Destinations	Transport mode from transit to destination
China		EU	Mail - Sea - Air
Thailand		US	Mail - Sea - Air
		Canada	Mail
		Australia	Mail
	Hong Kong (China)	New Zealand	Mail - Air
		Japan	Air - Mail
		Central and Latin America (incl. Belize <sup>[transit point]</sup> , Guatemala <sup>[transit point]</sup> , Panama <sup>[transit point]</sup> )	Air - Mail
		Kuwait	Air
		Qatar	Air
		Saudi Arabia	Air - Sea
China		EU	Mail
		US	Mail
		Central America (incl. Belize <sup>[transit point]</sup> , Guatemala <sup>[transit point]</sup> , Panama <sup>[transit point]</sup> )	Sea
	Singapore	Latin America	Mail - Sea
		Japan	Mail
		Qatar	Sea - Air
		Saudi Arabia	Sea - Air
?	United Arab Emirates	Africa (Somalia, Democratic Republic of the Congo, Djibouti, Mali, Guinea, Gabon)	Sea
		EU	Mail - Air
		Middle East (Bahrain, Jordan, Kuwait, Qatar, Saudi Arabia, Yemen)	Road - Air
?	Egypt	EU	Air
		Saudi Arabia	Sea - Air - Rail
		Yemen	Air
?	Turkey	EU	Air - Mail
		Qatar	Air - Sea
		Saudi Arabia	Sea
		Yemen	Sea
China	Nigeria, Cameroon and Ghana	EU	Sea - Air
		Western Africa	Road
China			
Hong Kong (China)	Belize, Guatemala, Panama	US	Sea - Air
Singapore			

*Notes:* The status of Algeria and Morocco, which export counterfeit electronics and electrical equipment to the EU, and Cambodia, which exports counterfeit electronics and electrical equipment to both the EU and the US, are undetermined. The indicators do not confirm if they are producers or not, and no data were received from their respective customs authorities to identify potential source economies in the case they are transit points.

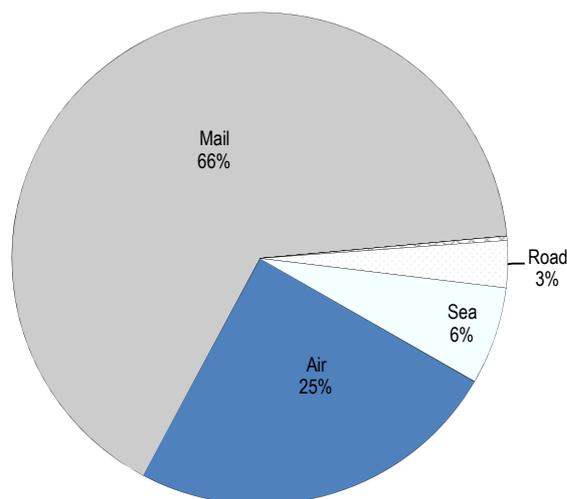
### *Transport modes and size of shipments*

Over the period 2011-2013, the largest share of counterfeit electronics and electrical equipment was sent by mail, representing 66% of all global customs seizures of these products reported in the database (Figure 2.31). Shipments by air (25%) and sea (6%) were also significant.

Looking at the details, one can see that postal parcels were mostly used by counterfeiters located in producing economies and in Hong Kong (China) to reach developed economies, notably the US and those located in the EU (see Tables 2.31 and 2.32). Air and sea transport were used for counterfeit electronics and electrical products transported from producing economies to transit points, or from some transit points to the EU.

**Figure 2.31. Conveyance methods for counterfeit electronics and electrical equipment, 2011-2013**

As a percentage of total seizures.

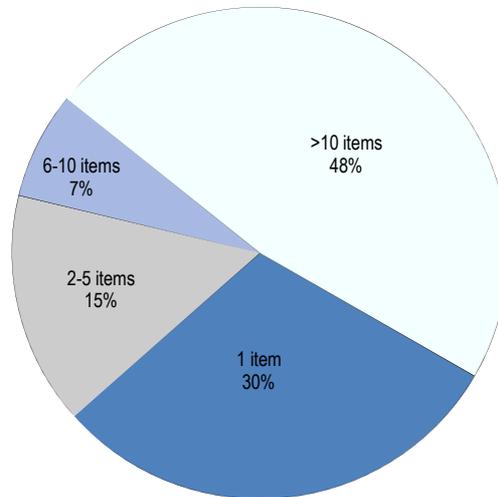


Statlink: <http://dx.doi.org/10.1787/888933529787>

Despite the predominance of postal parcels, around half the seized shipments of counterfeit electronic and electrical goods between 2011 and 2013 included more than 10 items (Figure 2.32).

**Figure 2.32. Size of shipments of counterfeit electronics and electrical equipment, 2011-2013**

As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529806>

## Trade routes for fake optical, photographic and medical equipment

### Summary

*China is the key producer of fake optical, photographic and medical equipment. Several East Asian economies – Bangladesh, Cambodia, Indonesia, Malaysia, Pakistan, Thailand and Viet Nam – also appear to be significant producers. Turkey produces counterfeit optical and photographic equipment targeted exclusively at the EU and Saudi Arabia.*

*Large Asian trade hubs – Hong Kong (China) and Singapore – are the main transit points for exporting counterfeit optical, photographic and medical equipment worldwide, while Morocco, Algeria, Albania and Mongolia are identified as transit points for fake sunglasses, optical products and medical equipment en route to the EU. Uruguay and the Dominican Republic appear to be important transit points for counterfeiters located in China and Hong Kong (China) to the US.*

*The lion's share of shipments of counterfeit sunglasses, photographic apparatus, and medical equipment is sent by mail and express services.*

### Overview of IP intensity and counterfeiting

The optical, photographic and medical equipment industry refers to the HS 90 product category. It includes notably cameras; photographic image projectors; or instruments and appliances used in medical, surgical, dental or veterinary sciences.

In 2013, the global trade value of optical, photographic and medical instruments was USD 561 billion, around 3% of total world trade in that year.

The industry is also very IP-intensive. According to data provided by WIPO (WIPO, 2017), the number of patent applications for the sector was 277 406<sup>15</sup> in 2013, around 12% of all world patent applications. This made the optical, photographic and medical equipment industry the second-most intense in terms of patents.

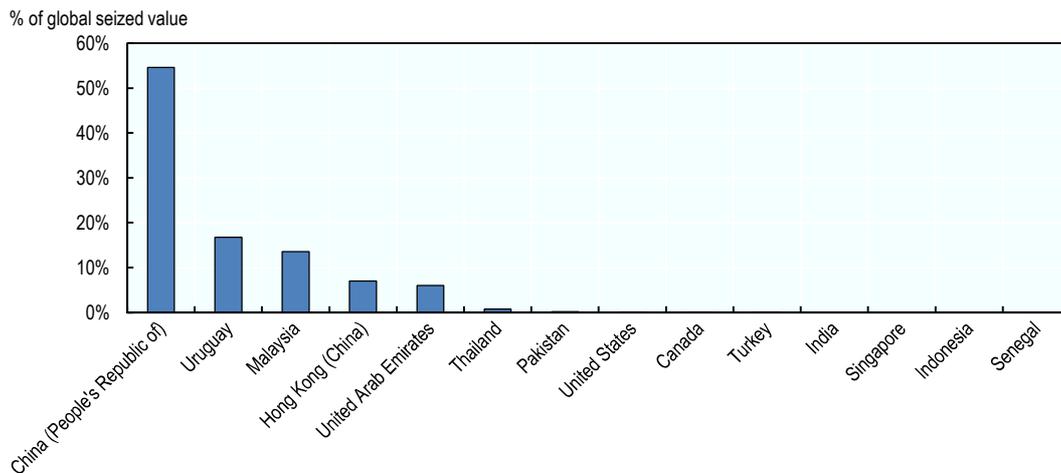
The high IP-intensity of optical, photographic and medical apparatus and their high degree of integration in the global economy make the industry highly vulnerable to counterfeiting. According to calculations for the OECD-EUIPO (2016) study, global trade in counterfeit electronic devices and electrical equipment was worth USD 29.2 billion (EUR 21.4 billion) in 2013. This represents more than 5.2% of all trade in these products, and makes this industry the fourth-most affected by global counterfeiting and piracy in terms of value.

Examples of counterfeit optical, photographic and medical products recorded in the database of customs seizures are various. Over the period 2011-2013, customs authorities worldwide notably recorded seizures of counterfeit sunglasses, contact lenses, bulbs and tubes, lasers, telescopes, microscopes, veterinary instruments and apparatus, and medical supplies.

### *Provenance and destination economies*

According to the data gathered in the OECD/EUIPO database on global customs seizures, China was by far the main provenance economy for counterfeit sunglasses, photographic products and medical equipment, being the origin of almost 55% of the global seized value of these products between 2011 and 2013 (Figure 2.33). It was followed by Uruguay (17%), Malaysia (14%), Hong Kong (China) (7%), the United Arab Emirates (6%) and Thailand (1%).

**Figure 2.33. Top provenance economies for fake optical, photographic and medical equipment, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529825>

Note: The EU members are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

**Table 2.34. Relative likelihood of an economy to be a source of fake optical, photographic and medical equipment, 2011-2013**

GTRIC-e for optical, photographic and medical equipment; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
Hong Kong (China)	0.624
Mongolia	0.500
Morocco	0.270
Singapore	0.190
Thailand	0.181
Greece	0.160
Bangladesh	0.154
Kuwait	0.153
Turkey	0.146
Cambodia	0.142

**Table 2.33 Relative likelihood of an economy to be a source of fake optical, photographic and medical equipment, 2011-2013 (continued)**

Pakistan	0.137
Albania	0.133
Malaysia	0.132
Viet Nam	0.130
Saudi Arabia	0.129

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

The GTRIC-e indices, which compare these customs seizures intensities with licit trade intensities for each provenance economy, confirm that China is the most likely to export fake sunglasses, photographic and medical apparatus (Table 2.33). Other implicated economies include the two large Asian trade hubs of Hong Kong (China) and Singapore, a group of developing Asian economies (Bangladesh, Cambodia, Indonesia, Malaysia, Pakistan Thailand, and Viet Nam), as well as Mongolia, Morocco, Greece, Kuwait, Turkey and Albania.

Interestingly, the list of top provenance economies for counterfeit optical, photographic and medical apparatus imported to the EU is very close to the list for world imports (Table 2.34), although Morocco and Turkey play a stronger role in the EU trade, and Senegal is also involved.

**Table 2.34. Relative likelihood of an economy to be a source of fake optical, photographic and medical equipment imported into the EU, 2011-2013**

GTRIC-e for optical, photographic and medical equipment to the EU; average 2011-2013

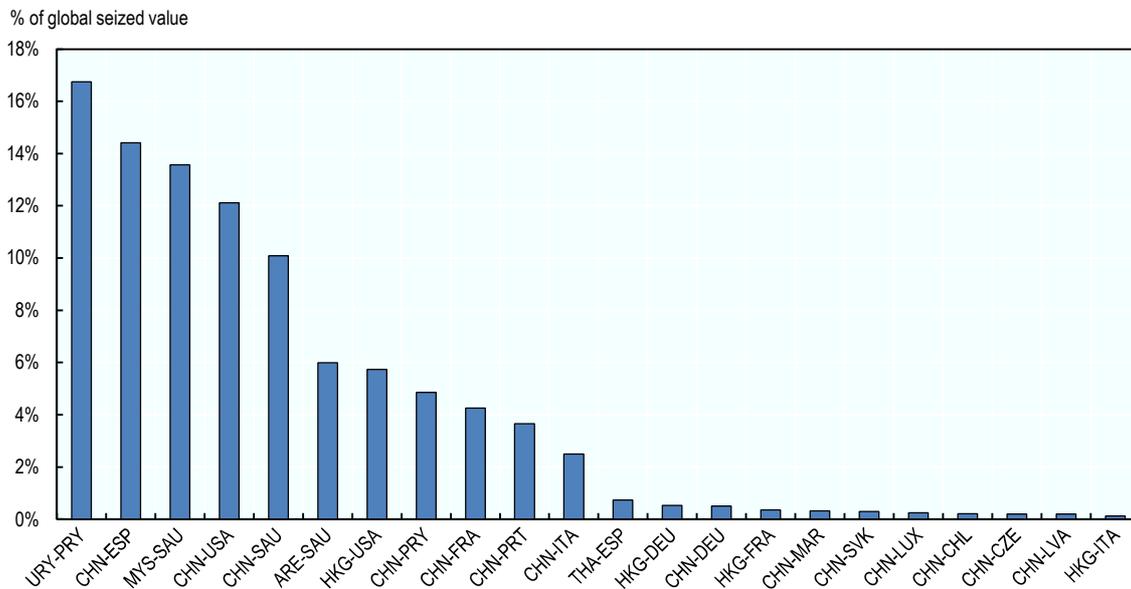
Economy	GTRIC EU
China (People's Republic of)	1.000
Mongolia	0.740
Hong Kong (China)	0.707
Morocco	0.374
Singapore	0.233
Thailand	0.221
Turkey	0.219
Senegal	0.177
Pakistan	0.145
Greece	0.131
Malaysia	0.126

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

Descriptive statistics on the most intensive trade routes presented in Figure 2.34 indicate that over the period 2011-2013, the largest share of fake sunglasses, photographic and medical equipment was exported from China and Hong Kong (China) to the US, the EU and Saudi Arabia. Large trade flows of counterfeit sunglasses,

photographic and medical equipment were also apparent from Malaysia and the United Arab Emirates to Saudi Arabia, and from China and Uruguay to Paraguay.

**Figure 2.34. Top provenance- destination economies for fake optical, photographic and medical equipment, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529844>

Note: See Annex C for a full list of ISO codes of countries and territories.

### ***Producers and transit points***

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices indicates clearly that China is the main producer of fake optical, photographic and medical equipment (Table 2.35. See Annex C for complete lists of RCAT-e and RCAP-e indices). The group of developing East Asian economies – Bangladesh, Cambodia, Malaysia, Pakistan, Thailand, and Viet Nam – also appear as important producers. Counterfeiters in China and these six developing economies export counterfeit sunglasses, photographic apparatus and medical equipment direct to Europe, the US, and Middle East (e.g. Kuwait, Saudi Arabia, Qatar). Some of them may also use Singapore or Hong Kong (China) as transit points (see below). Finally, note that, compared to the other Asian producing economies, the scope of destination economies for the fake sunglasses, photographic and medical apparatus exported from China is broader, and includes Japan, Korea, North African economies, such as Morocco and Algeria, and numerous economies throughout the Middle East, the Caribbean and South America.

Finally, Turkey is also indicated as a producing economy of counterfeit sunglasses, optical and photographic equipment, mainly targeted at the EU and Saudi Arabia.

**Table 2.35 Producers of counterfeit optical, photographic and medical equipment, 2011-2013**

Producing economy	Destinations	Transport mode
China	Europe	Mail - Air - Sea
	US	Mail - Sea
	Canada	Mail
	Japan	Mail - Sea
	Korea	Mail - Sea
	South America (incl. Uruguay <sup>[transit point]</sup> )	Mail - Sea - Air
	The Caribbean (incl. Dominican Republic <sup>[transit point]</sup> )	Sea
	Morocco <sup>[transit point]</sup>	Air - Sea
	Algeria <sup>[transit point]</sup>	Air - Sea
	Jordan	Sea
	Kuwait <sup>[transit point]</sup>	Air - Sea
	Saudi Arabia	Sea - Air - Rail
	Qatar	Air - Sea
Hong Kong (China) <sup>[transit point]</sup>	Road	
Bangladesh, Cambodia, Malaysia, Pakistan Thailand, and Viet Nam	EU	Mail - Air
	US	?
	Saudi Arabia	Sea
	Singapore	Road
Turkey	EU	Air - Mail - Road
	Saudi Arabia	Sea

Hong Kong (China) and Singapore are indicated as the main transit points for exporting counterfeit optical, photographic and medical worldwide (Table 2.36). They receive the fakes from China and some of the smaller Asian producer economies, and re-export them throughout the globe, most notably to the EU, the US, Kuwait and Saudi Arabia.

The methodology used in this study also clearly identifies Kuwait as a key transit point in the global trade of counterfeit optical, photographic and medical equipment. It receives fake from China and Hong Kong (China) for re-export to the EU, the US and North Africa, notably Morocco and Algeria, which are also indicated as onward transit points for the EU.

Alongside Morocco and Algeria, Albania and Mongolia are other transit points for the fake sunglasses, optical products and medical equipment transported to the EU. Finally, Uruguay and the Dominican Republic appear to be important transit points for counterfeiters sending fakes from China and Hong Kong (China) to the South American continent and the US.

**Table 2.36. Key transit points for optical, photographic and medical equipment, 2011-2013**

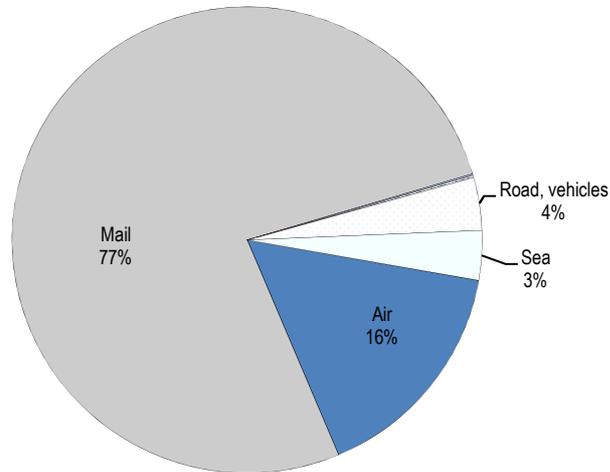
Provenance economy	Transit point	Destinations	Transport mode from transit to destination
China	Hong Kong (China)	EU	Air - Mail
		US	Mail - Air
		Canada	Mail
		Australia	Mail
		South America (incl. Uruguay <sup>[transit point]</sup> )	Mail - Air
		Algeria <sup>[transit point]</sup>	Air
		Kuwait <sup>[transit point]</sup>	Air
China	Singapore	EU	Mail - Air
Cambodia		US	Mail - Air
Indonesia		Saudi Arabia	Sea
Malaysia		Kuwait <sup>[transit point]</sup>	Sea
Viet Nam			
Thailand			
China	Kuwait	EU	Road
Hong Kong (China) <sup>[transit point]</sup>		US	?
		North Africa (incl. Algeria <sup>[transit point]</sup> and Morocco <sup>[transit point]</sup> )	Sea - Road
?	Albania	EU	Road - Sea
China	Morocco and Algeria	EU	Air - Sea
Hong Kong (China) <sup>[transit point]</sup>			
?	Mongolia	EU	Mail
China	Dominican Republic	US	?
China	Uruguay	South America (e.g. Paraguay)	Road
Hong Kong (China)			

### *Transport modes and size of shipments*

Over the period 2011-2013, the largest share of counterfeit sunglasses, photographic apparatus and medical equipment was sent by mail (77% of all global customs seizures of these products reported in the database; Figure 2.35). The share of air shipments (16%) was also significant. The average size of shipments was not particularly small (Figure 2.36).

**Figure 2.35. Conveyance methods for counterfeit sunglasses, photographic and medical apparatus, 2011-2013**

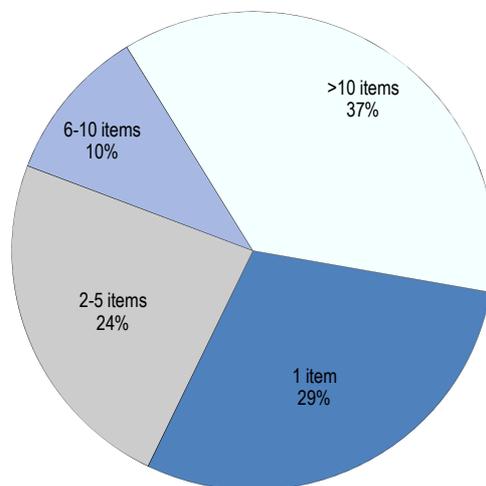
As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529863>

**Figure 2.36. Size of shipments of counterfeit optical, photographic and medical equipments, 2011-2013**

As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529882>

## Trade routes for fake toys, games and sports equipment

### Summary

*China is the main producing economy of fake toys, games and sports equipment. It produces and exports them throughout the world, using a significant number of transit points, such as Hong Kong (China), Singapore and Macau (China). Other producing economies include India and Pakistan. Regionally, Turkey and Morocco are producers shipping to the EU; Mexico is also identified as a potential producer targeting the US.*

*Apart from Hong Kong (China), Singapore and Macau (China), there are several other transit points for trade in fake toys, including Saudi Arabia, Kuwait and Bahrain. They receive the fakes direct from China, India, and Pakistan, and indirectly from Hong Kong (China), and re-export them to the EU, the US, and North and Central Africa.*

*On a regional scale, Morocco, Lebanon, and Armenia also appear as important transit points for the fake toys, games and sports equipment en route from China, Hong Kong (China) and Turkey to Europe. Finally, Uruguay and Paraguay are transit points for products made in China and Hong Kong (China) targeted to the US market.*

### Overview of IP intensity and counterfeiting

The toys, games and sports equipment industry refers to the HS 95 product category. This category includes notably tricycles, scooters, pedal cars and similar wheeled toys; dolls; reduced-size (scale) models; puzzles of all kinds; video game consoles and machines; pintables, billiards, special tables for casino games; festive, carnival or other entertainment articles; gymnastics, athletics, other sports (including table tennis) or outdoor games equipment; and fishing rods, fish-hooks and other line fishing tackle.

In 2013, the global trade value of toys, games and sports equipment was USD 88.3 billion, around 0.5% of total world trade in that year.

The industry is also relatively IP intense. According to data provided by WIPO (WIPO, 2017), the number of trademark applications for the toys, games and sports equipment industry was up to 70 718 in 2013,<sup>16</sup> around 2% of all world trademark applications registered that year. This placed the industry in third place for trademark intensity.

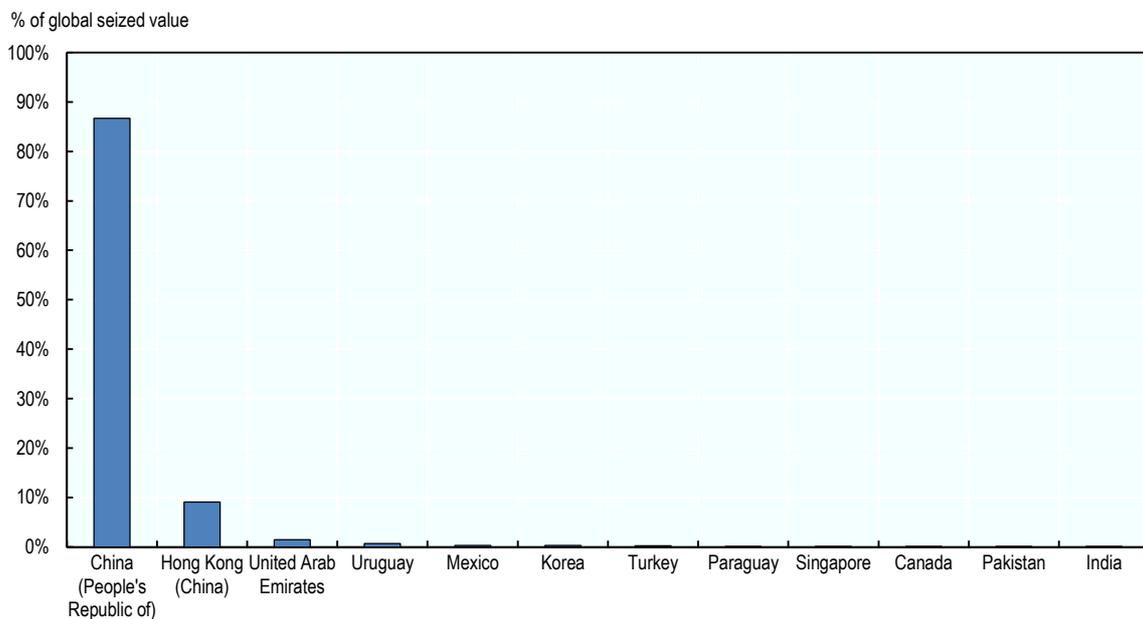
The high IP-intensity of the industry of toys, games and sports equipment and its high degree of integration in the global economy make it particularly vulnerable to the threat of counterfeiting. According to calculations for the OECD-EUIPO (2016) study, global trade in counterfeit toys, games and sports equipment was worth USD 9.72 billion (EUR 7.12 billion) in 2013. This represents more than 11% of all trade in those products, making this industry the second-most affected by global counterfeiting and piracy in relative terms (i.e. as a percentage of trade within the product category).

Examples of counterfeit toys, games and sports equipment recorded in the database of customs seizures are various. Over the period 2011-2013, customs authorities worldwide mainly seized counterfeit video game consoles and controllers, balls and balloons, bicycles, boxing gloves, car models, cards, exercise equipment, figures, plastic toys sticks, skateboards, robots and dolls.

### *Provenance and destination economies*

According to the OECD/EUIPO database on global customs seizures, China was by far the main provenance economy of counterfeit toys, games and sports equipment, being the origin of almost 85% of the global seized value of these products between 2011 and 2013 (Figure 2.37). It was followed by Hong Kong (China) (9%) and the United Arab Emirates (2%).

**Figure 2.37. Top provenance economies for counterfeit toys and games, 2011-2013**



Statlink: <http://dx.doi.org/10.1787/888933529901>

*Note:* The EU members are the points of entry of fake goods to the EU, and consequently are excluded from further analysis.

The GTRIC-e indices, which compare these customs seizures intensities with licit trade intensities for each provenance economy, confirm that China is the most likely to export fake toys, games and sports equipment (Table 2.37). Also implicated are the three large Asian trade hubs – Hong Kong (China), Singapore and Macau (China); three economies from the Middle East (Bahrain, Saudi Arabia and the United Arab Emirates); three South American economies (Uruguay, Ecuador and Paraguay); and some economies located close to the EU frontier: Armenia, Morocco and Turkey.

**Table 2.37. Relative likelihood of an economy to be a source of fake toys, games and sports equipment, 2011-2013**

GTRIC-e for toys, games and sports equipment; average 2011-2013

Economy	GTRIC world
China (People's Republic of)	1.000
Hong Kong (China)	0.555
Singapore	0.358
Bahrain	0.341
Saudi Arabia	0.262
Uruguay	0.257
Ecuador	0.250
United Arab Emirates	0.228
Armenia	0.178
Macau (China)	0.175
Paraguay	0.152
Greece	0.136
India	0.102
Morocco	0.095
Turkey	0.092

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

The list of top provenance economies for the EU identified from the GTRIC-e methodology is reported in Table 2.38. China, Hong Kong (China), Singapore and the United Arab Emirates are also the most likely to be provenance economies for counterfeit toys, games, and sports equipment arriving in the EU. They are followed by Armenia, Turkey, and Lebanon; a group of developing Asian economies (India, Pakistan, Philippines and Thailand); and Morocco.

**Table 2.38. Relative likelihood of an economy to be a source of fake toys, games and sports equipment imported into the EU, 2011-2013**

GTRIC-e for toys, games and sports equipment to the EU; average 2011-2013

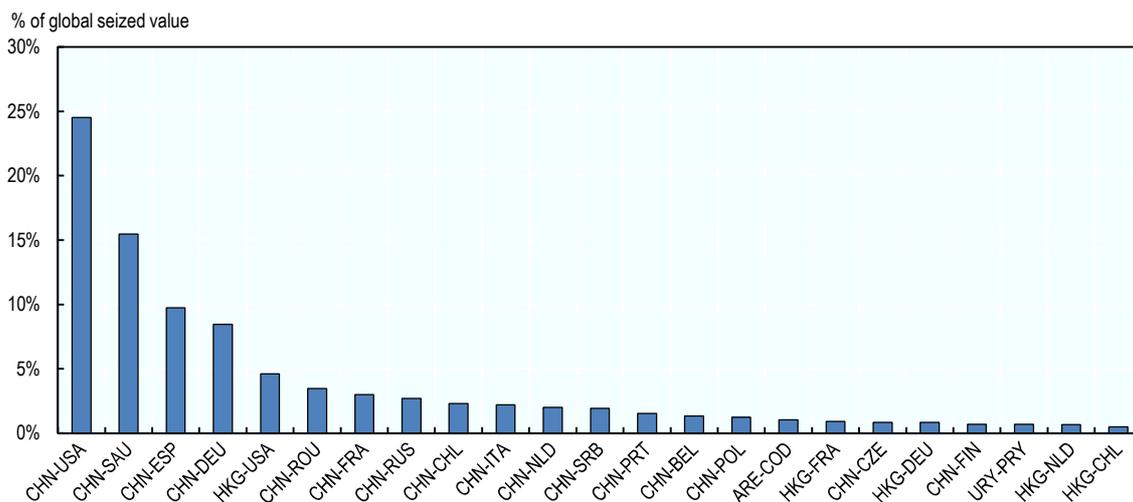
Economy	GTRIC EU
China (People's Republic of)	1.000
Hong Kong (China)	0.603
Singapore	0.484
United Arab Emirates	0.302
Armenia	0.204
Lebanon	0.173
Turkey	0.159
Greece	0.155

**Table 2.38 Relative likelihood of an economy to be a source of fake toys, games and sports equipment imported into the EU, 2011-2013 (continued)**

Thailand	0.121
Morocco	0.115
Pakistan	0.094
India	0.092
Philippines	0.092

*Note:* A higher score on the GTRIC Index corresponds to a greater likelihood that the economy in question is a source of counterfeit goods.

Descriptive statistics on the most intensive trade routes presented in Figure 2.38 indicate that over the period 2011-2013, the largest share of fake toys, games and sports equipment was exported from China and Hong Kong (China) to the US, the EU and Saudi Arabia.

**Figure 2.38. Top provenance-destination economies for counterfeit toys and games, 2011-2013**

*Statlink:* <http://dx.doi.org/10.1787/888933529920>

*Note:* See Annex C for a full list of ISO codes of countries and territories.

### ***Producers and transit points***

Comparing the GTRIC-e indices with the RCAP-e and RCAT-e indices indicates clearly that China is the main producing economy of fake toys, games and sports equipment (Table 2.39. See Annex C for complete lists of RCAT-e and RCAP-e indices). It produces and exports these fakes throughout the world, using a significant number of transit points.

India and Pakistan are also identified as key producing economies, mainly for export to the US, EU, Mexico, Saudi Arabia and Kuwait. Turkey and Morocco are also indicated as producers of counterfeit toys, games and sports equipment, mainly targeted at Europe.

**Table 2.39. Producers of counterfeit toys, games and sports equipment, 2011-2013**

Producing economy	Destinations	Transport mode
China	Europe	Mail - Sea - Air - Road
	US	Mail - Sea - Air
	Australia	Sea
	New Zealand	Sea
	Japan	Mail - Sea - Air
	Korea	Sea
	South America (incl. Mexico <sup>[transit point]</sup> , Uruguay <sup>[transit point]</sup> , Paraguay <sup>[transit point]</sup> )	Mail - Sea - Air
	the Caribbean	Sea
	North and West Africa (incl. Morocco <sup>[transit point]</sup> )	Sea
	Kuwait	Sea
	Lebanon <sup>[transit point]</sup>	Sea
	Qatar	Sea
	Saudi Arabia <sup>[transit point]</sup>	Sea - Rail
	Yemen	Sea
Hong Kong (China) <sup>[transit point]</sup>	Road	
Macau (China) <sup>[transit point]</sup>	Road	
India and Pakistan	EU	Mail - Sea
	US	Sea - Mail
	Mexico <sup>[transit point]</sup>	Sea
	Kuwait	Sea
	Saudi Arabia <sup>[transit point]</sup>	Sea - Rail
Turkey	EU	Road
Morocco	EU	?

Hong Kong (China), Singapore and Macau (China) are indicated as the main transit points for counterfeit toys, games and sports equipment worldwide (Table 2.40). They re-export them throughout the globe, especially to the EU and the US. Unlike the other trade hubs, counterfeiters in Hong Kong (China) appear to use several transit points in South America (Mexico, Uruguay and Paraguay) to reach the US; the use Saudi Arabia to reach other Middle Eastern economies, North Africa, the EU and the US; and they also use Greece and Latvia to reach the EU.

The methodology used in this study clearly identifies Saudi Arabia, Kuwait and Bahrain as key transit points in the global trade of counterfeit toys, games and sports equipment. They receive the fakes directly from China, India, and Pakistan, and indirectly from Hong Kong (China), and re-export them to the EU, the US, and North and Central Africa.

Morocco, Lebanon and Armenia also appear as important transit points for the fake toys, games and sports equipment that transit from China, Hong Kong (China) and Turkey en route to Europe. Finally, Mexico and Paraguay are transit points for fakes en route from China and Hong Kong (China) to the US.

**Table 2.40. Transit points for counterfeit toys, games, and sports equipment, 2011-2013**

Provenance economy	Transit point	Destinations	Transport mode from transit to destination
China	Hong Kong (China)	Europe	Mail - Air
		US	Mail - Air
		Australia	Mail - Air
		Japan	Air - Sea
		Korea	Sea
		South America (incl. Mexico <sup>[transit point]</sup> , Uruguay <sup>[transit point]</sup> , Paraguay <sup>[transit point]</sup> )	Sea - Air
		Saudi Arabia <sup>[transit point]</sup>	Sea
		West Africa	Sea - Air
China	Macau (China)	US	?
?	Singapore	EU	Mail - Air - Sea
		US	Mail - Air
China	Saudi Arabia	EU	?
Hong Kong (China) <sup>[transit point]</sup>		US	?
India		North Africa	Road
Pakistan		Qatar	Road
United Arab Emirates <sup>[transit point]</sup> Bahrain <sup>[transit point]</sup>			
?	United Arab Emirates	EU	Sea
		North and Central Africa	Sea
		Kuwait	Sea - Road
		Saudi Arabia <sup>[transit point]</sup>	Road
?	Bahrain	Kuwait	Road
		Saudi Arabia <sup>[transit point]</sup>	Road
China	Morocco	EU	?
Morocco			
China	Lebanon	EU	?
?	Armenia	Europe	Road
China Hong Kong (China) <sup>[transit point]</sup>	Paraguay and Mexico	US	Road - Sea

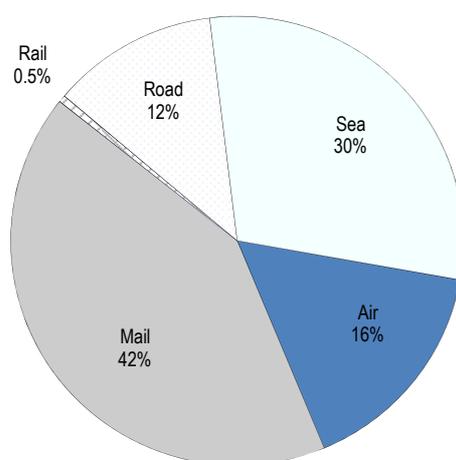
*Notes:* The situation of Ecuador, which exports counterfeit toys, games and sports equipment to Korea and some EU countries (e.g. Netherlands and Italy), is undetermined. The indicators cannot confirm its production status, and the data are not able to identify the economies from which the fake toys and games are first imported in the case it is a transit point.

### *Transports modes and size of shipments*

Over the period 2011-2013, the largest share of counterfeit toys, games and sports equipment was sent by mail (accounting for 42% of all global customs seizures of these products reported in the database; Figure 2.39). However, the shares of shipments by sea (30%), air (16%) and road (12%) were also very significant. Consequently, the average size of shipments of fake toys, games and sports equipment tends to be either very small (e.g. one item) or very large (more than 10 items) (Figure 2.40).

**Figure 2.39. Conveyance methods for counterfeit toys and games, 2011-2013**

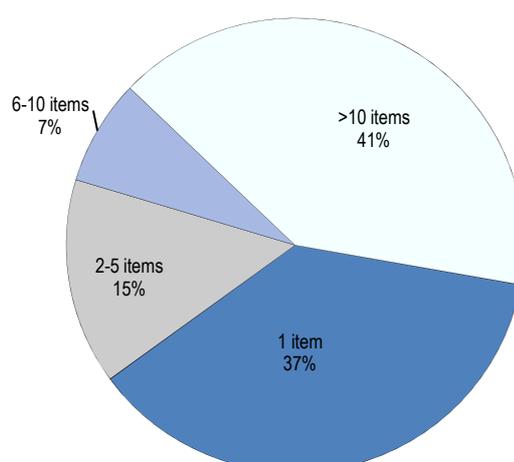
As a percentage of total seizures.



Statlink: <http://dx.doi.org/10.1787/888933529939>

**Figure 2.40. Size of shipments of counterfeit toys and games, 2011-2013**

As a percentage of total seizures.



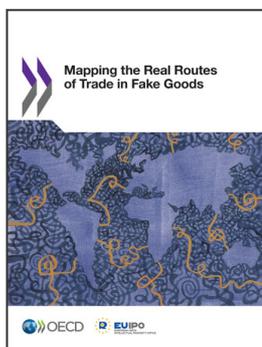
Statlink: <http://dx.doi.org/10.1787/888933529958>

### *References*

OECD/EUIPO (2016), *Trade in Counterfeit and Pirated Goods: Mapping the Economic Impact*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264252653-en>

WHO (2015), General information on counterfeit medicines, World Health Organization, Geneva.

WIPO (2017), *WIPO Statistics Database on Trademarks Applications*, World Intellectual Property Office, <https://www3.wipo.int/ipstats/index.htm?tab=patent>, accessed in May 2017



**From:**  
**Mapping the Real Routes of Trade in Fake Goods**

**Access the complete publication at:**  
<https://doi.org/10.1787/9789264278349-en>

**Please cite this chapter as:**

OECD/European Union Intellectual Property Office (2017), "An overview of ten industry sectors", in *Mapping the Real Routes of Trade in Fake Goods*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264278349-6-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).