

## Chapter 2.

### *The effects of trade in fake goods on the UK economy*

*This chapter presents the quantitative assessment of effects of counterfeit trade on the UK economy, based on the methodology presented in Chapter 1. It quantifies: 1) the impacts on the UK of imported fake products; and 2) impacts of worldwide trade in goods that infringe the IP of UK rights holders. For both these impact pathways it quantifies the effect on consumers, sales, jobs and government revenues. It also outlines global trends in trade in counterfeits of products of relevance to the United Kingdom.*

This chapter presents the quantitative assessment of effects of counterfeit trade on the UK economy, based on the methodology presented in Chapter 1. There are two contexts for the assessment:

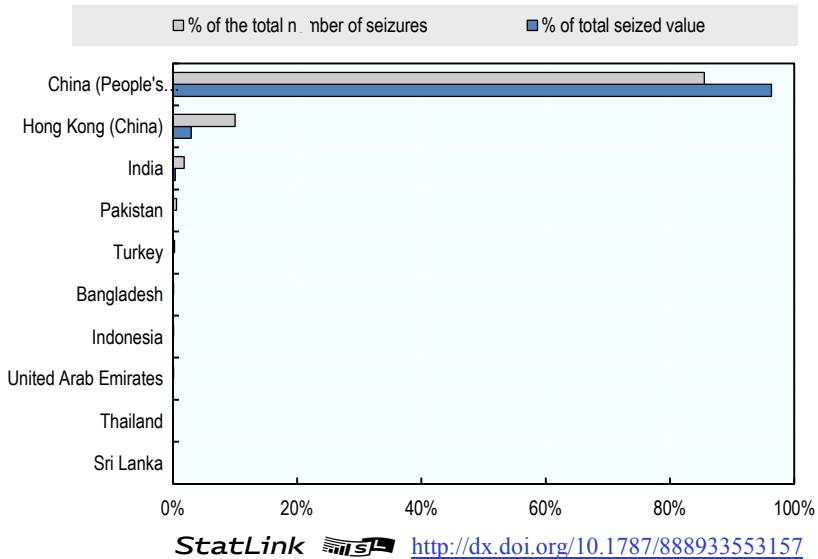
1. Impacts on the UK of imported fake products
2. Impacts of worldwide trade in goods that infringe the IP of UK rights holders.

### **What are the direct impacts in the UK of imported fake products?**

The first step consists of quantifying the volume of counterfeit and pirated goods imported by the UK economy. This assessment draws on a unified database on customs seizures of products whose customs forms indicate the UK as the destination.<sup>1</sup> The data were received from the European Commission's customs officers (DG TAXUD) for the period 2011-2013. Because the value of counterfeit and pirated products seized by customs authorities is likely to represent only a fraction of the actual value of fakes imported by the UK, this section uses the GTRIC methodology developed in OECD-EUIPO (2016) and described in detail in the first step of Chapter 1 to provide a reasonable estimate of the full value of imported fakes.

#### ***Where do fake products arriving in the UK mainly come from?***

A review of the data on customs seizures shows that Asian economies were the main provenance of counterfeit and pirated products imported by the UK over the period 2011-2013 (Figure 2.1.). In particular, China, Hong-Kong (China) and India were the top three provenance economies of fake UK imports, representing respectively around 85%, 10% and 2% of all customs seizures of products referring to the UK as final destination.

**Figure 2.1. Top provenance economies of counterfeit imports to the UK, 2011-2013**

In order to compare the propensities of each provenance country to be a source of counterfeit and pirated goods sold in the UK, these data on customs seizures need to be compared with data on each of the country's UK imports of genuine products. This was done using the GTRIC-e index, which compares customs seizures intensities of counterfeit and pirated products shipped from a given provenance economy with the share of that provenance economy in UK imports. GTRIC-e assigns a high score to an economy which is a source of a high value of counterfeit products in absolute terms, or when a large share of UK imports from that economy is counterfeit.

Table 2.1 shows the top ten economies most likely to be a provenance of counterfeit and pirated products for the UK over the period 2011-2013 (see Table B.1 in Annex B for a complete list). Clearly, some of these provenance economies appear to be huge sources of infringing items, led notably by China and Hong Kong, China. Note that this could be because they are either important producers of counterfeit and pirated goods, or because they are strategic points of transit.

**Table 2.1. The 15 economies most likely to export counterfeit and pirated products to the UK**

GTRIC-e average; 2011-2013

Provenance economy	GTRIC-e
Hong Kong (China)	1.000
China (People's Republic of)	1.000
Pakistan	0.900
India	0.644
Syrian Arab Republic	0.590
Bangladesh	0.358
Malaysia	0.325
United Arab Emirates	0.307
Indonesia	0.265
Turkey	0.26
Singapore	0.236
Thailand	0.224
Italy	0.186
Egypt	0.173
Poland	0.167

*Notes:* A high GTRIC-e score indicates that an economy has a high propensity to be a source of counterfeits and pirated products imported into the UK, either in absolute terms, or as a share of UK imports. The results for all provenance economies over the period 2011-2013 are reported in Table B.1 in Annex B.

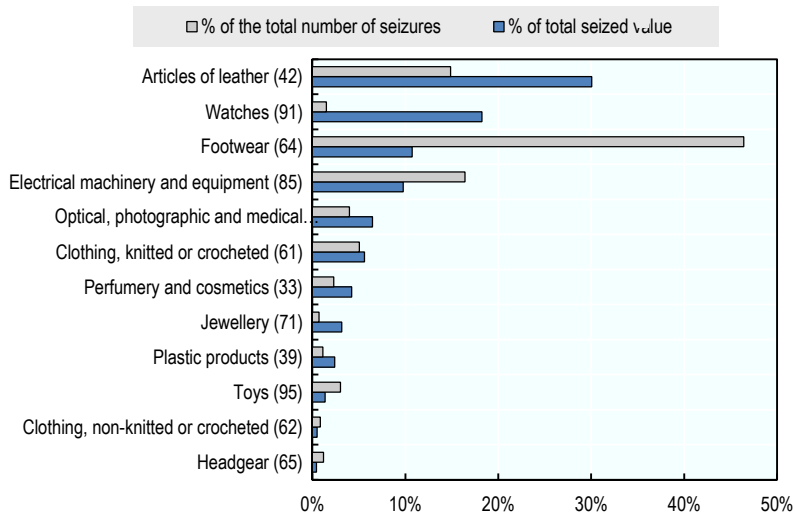
### ***Which imported products are most likely to be counterfeit or pirated?***

The unified dataset on customs seizures of counterfeit and pirated goods can also be used to quantify infringed product categories within UK imports. It should be noted that over the period 2011-2013, a large range of product categories imported into the UK was subject to counterfeiting (see Figure 2.2). This means that any type of product for which IP adds economic value to rights holders, and thus creates price differentials, becomes a target for counterfeiters and a potential threat to the UK economy and society.

While a broad range of goods among UK imports are sensitive to infringement, the intensity of counterfeiting varies significantly across product categories. This is supported by seizures statistics shown in Figure 2.2, which are concentrated in a relatively limited

number of product categories, including footwear (HS 64), electrical machinery and equipment (HS 85), and articles of leather and handbags (HS 42).

**Figure 2.2. The main product categories likely to be counterfeit within UK imports, 2011-2013**



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In order to obtain a meaningful measure of the propensity for different types of infringing products to be shipped to the UK, the GTRIC-p index was used. This index compares the likelihood of goods in each product category to be counterfeit. Similar to GTRIC-e, this is done by comparing global customs seizures intensities of a given product category with the share of this product category in UK imports. The result is a ranking of products imported to the UK according to the likelihood that they will be counterfeit (See Table B.2. in Annex B).

**Table 2.2. The 15 UK import product categories most likely to be counterfeit**

HS category	GTRIC-p
Articles of leather; handbags (42)	1.000
Footwear (64)	1.000
Watches (91)	1.000
Perfumery and cosmetics (33)	0.999
Clothing, knitted or crocheted (61)	0.994
Optical; photographic; medical apparatus (90)	0.977
Miscellaneous manufactured articles (66/67/96)	0.946
Toys and games (95)	0.760
Electrical machinery and electronics (85)	0.708
Plastic and articles thereof (39)	0.681
Tools and cutlery of base metal (82)	0.657
Pharmaceutical products (30)	0.474
Clothing and accessories, not knitted or crocheted (62/65)	0.367
Other made-up textile articles (63)	0.336
Jewellery (71)	0.329

*Notes:* A high GTRIC-p score implies a product category that is more likely to be counterfeit, i.e. it contains high values of counterfeit imports in GBP, or a large share of UK imports of that product category is counterfeit. The results for all product categories over the period 2011-2013 are reported in Table B.2. in Annex B.

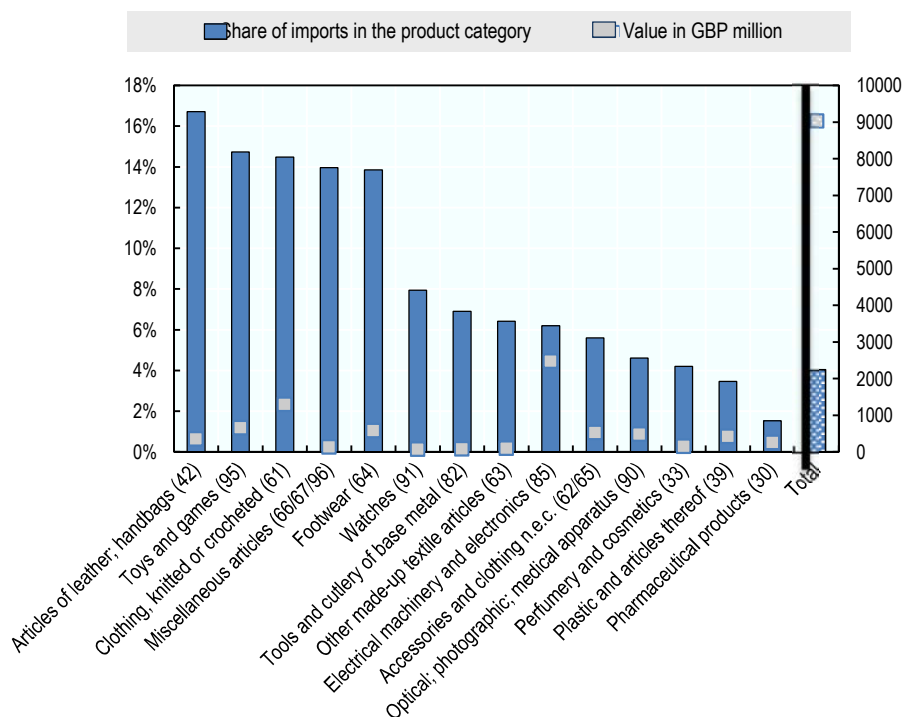
### ***What is the total value of counterfeit imports to the UK?***

The best estimates – based on the data provided by customs authorities and on the GTRIC methodology – indicate that **counterfeit and pirated imports to the UK accounted for as much as GBP 9.3 billion in 2013, the equivalent of 4% of UK imports.** The term “as much as” is crucial in this context as it refers to the upper boundary of counterfeit and pirated UK imports. World trade and its structure are very dynamic, especially in the aftermath of the 2008-2009 global financial crisis, so this percentage cannot be directly applied to values for other years. In addition, this amount concerns only tangible goods and does not include domestically produced and consumed counterfeit products.

The analysis also reveals that the intensity of counterfeiting and piracy within UK imports varies considerably across product categories. In absolute terms, electronic and electrical equipment (HS 85) was by far the most counterfeit imported type of goods, with an estimated value of GBP 2.4 billion of fakes imported to the UK in

2013. In relative terms, articles of leather and handbags (HS 42), toys and games (HS 95) and clothing (HS 61) were most targeted by counterfeiters, with fakes accounting for 16.7%, 14.7% and 14.5% respectively of imports from these product categories (Figure 2.3).

**Figure 2.3. Estimates of counterfeit and pirated imports to the UK**



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Note: The estimates for all product categories over the period 2011-2013 are reported in Table B.3. in Annex B.

### ***What do we know about primary and secondary markets for counterfeit products in the UK?***

Table 2.3 identifies the primary and secondary markets within the UK for each product category. This shows that nearly half (47.7%) of counterfeit and pirated imports to the UK over the period 2011-2013 were destined for sale in the secondary market (for consumers looking for fake products). The other half were therefore unwittingly bought by consumers. The share of fakes destined for secondary markets varies significantly by product,

ranging from 11.1% for foodstuff (HS 02-21) to 61% for optical, photographic and medical instruments (HS 90).

**Table 2.1. Share of counterfeit and pirated imports sold on secondary markets within the UK, 2011-2013**

HS category	Share of customs seizures destined for secondary market
Foodstuff (02-21)	11.11%
Pharmaceutical products (30)	29.81%
Tanning or dyeing extracts; putty and inks (32)	48.00%
Perfumery and cosmetics (33)	55.95%
Plastic and plastic products (39)	32.57%
Articles of leather; handbags (42)	35.54%
Wood and paper products (47/48)	49.10%
Printed articles (49)	33.33%
Special woven fabrics; tapestries; embroidery (58)	25.00%
Knitted or crocheted fabrics (60)	43.14%
Clothing, knitted or crocheted (61)	55.47%
Clothing and accessories, non-knitted or crocheted (62/65)	23.65%
Other made-up textile articles (63)	51.61%
Footwear (64)	48.29%
Ceramic products (69)	52.00%
Glass and glassware (70)	16.67%
Jewellery (71)	42.86%
Tools and cutlery of base metal (82)	40.28%
Miscellaneous articles of base metal (83)	45.95%
Machinery and mechanical appliances (84)	58.00%
Electronic and electrical equipment (85)	58.21%
Vehicles and parts (87)	20.59%
Optical, photographic and medical instruments (90)	61.03%
Watches (91)	34.24%
Furniture (94)	33.33%
Toys (95)	41.18%
Miscellaneous manufactured articles (96/66/67)	27.64%
<b>Total</b>	<b>47.71%</b>

Given that to the extent of our knowledge no academic research has so far tried to empirically estimate these figures, the plausibility of these results can only be tested by comparing them with the few



consumer surveys available. These corroborate these findings. The Gallup Organisation, for instance, conducted consumer surveys on behaviours towards counterfeiting in 2007 on 2 800 residents in 14 EU countries aged 18 and over and 1 304 US adults. It found that of those who had bought a counterfeit good, only 52.6% were aware that the product was a fake before they bought it (The Gallup Organisation, 2007). This result is very close to the estimated 47.7% share of the secondary market in this study.

The Gallup consumer survey also confirms that the share of the secondary market varies substantially across product categories (Table 2.4.). For instance, the share of consumers having knowingly bought counterfeit products is 51% for brand name fashion clothing (compared to 55.4% in this study), while it is significantly lower for brand name watches, at 39.2% of consumers (42.7% in this study).

**Table 2.4. Share of consumers in the EU and the US having knowingly bought counterfeit products, 2007**

Product type	Share of the secondary market
Brand name fashion clothing	50.80%
Brand name watches	39.20%
Music CDs or audio cassettes	51.10%
Movies (VHS, VCDs, DVDs)	45.10%
Computer operating systems	58.90%
Computer application software	49.40%
Video games	38.40%
Pharmaceuticals or medicines	46.80%
Alcoholic beverages	28.50%
Tobacco	61.60%
Tools and auto parts	39.50%
Jewellery	53.40%
<b>Total</b>	<b>52.60%</b>

*Note:* The exact question was: “Prior to purchasing, were you aware it was an imitation or counterfeit product?”

*Source:* The Gallup Organisation (2007), Global Consumer Awareness, Attitudes, and Opinions on Counterfeiting and Piracy.

### ***To what extent are consumers overpaying for fake products?***

While consumers who knowingly purchase fake products are prepared to accept any trade-off between cost and quality, consumers

who unwittingly purchase fake goods end up paying an excess price for a low quality product. As explained in Step 3 in Chapter 1, this “consumer detriment” can be estimated by the price premium earned by counterfeiters from both markets, times the volume of fake goods sold on primary markets.

The estimates for consumer detriments in the UK were calculated in two steps: first, for each sector the difference between average prices on primary and secondary markets was calculated. These differences represent the individual consumer detriment from an individual purchase. Second, this individual detriment was multiplied by the total volume of transactions on primary market in a given industry.

The estimates for consumer detriments in the UK are presented in Table 2.5. In 2013, the highest detriments were recorded for “clothing, footwear, leather and related products” (GBP 54.1 million) and watches and jewellery (GBP 25.8 million). The total detriment due to consumer deception in 2013 amounted to almost GBP 100 million.

**Table 2.5. Estimates of consumers’ detriment by sector, 2011-2013**

In GBP million

Year	2011	2012	2013
<b>Class</b>			
Food, beverages and tobacco	0.00	0.06	0.06
Chemical and allied products; except pharmaceuticals, perfumery and cosmetics	0.09	0.01	0.03
Pharmaceutical and medicinal chemical products	1.10	0.59	0.59
Perfumery and cosmetics	1.99	2.84	1.69
Textiles and other intermediate products (e.g. plastics; rubbers; paper; wood)	3.56	3.96	3.65
Clothing, footwear, leather and related products	52.1	47.9	54.1
Watches and jewellery	16.1	16.9	25.8
Non-metallic mineral products (e.g. glass and glass products, ceramic products)	0.00	0.00	0.01
Basic metals and fabricated metal products (except machinery and equipment)	0.14	0.46	0.3
Electrical household appliances, electronic and telecommunications equipment	5.34	8.05	10.2

**Table 2.5. Estimates of consumers' detriment by sector, 2011-2013** (*continued*)

In GBP million				
	Year	2011	2012	2013
<b>Class</b>				
Machinery, computers and peripheral equipment; ships and aircrafts		2.23	0.05	2.83
Motor vehicles and motorcycles		0.22	0.09	0.21
Household cultural and recreation goods		0.29	0.34	0.37
Furniture, lighting equipment, carpets and other manufacturing n.e.c		0.07	0.14	0.11
<b>Total</b>		<b>83.23</b>	<b>81.4</b>	<b>99.96</b>

### *How are fake goods affecting sales in the UK retail and wholesale sector?*

The sales lost to counterfeit and pirated imports for the retail and wholesale sector are calculated using the methodology presented in Step 4 in Chapter 1. Table 2.6. summarises the results for three scenarios for consumers' substitution rates between the fake goods and their genuine equivalent (c.f. Table 1.1. in Chapter 1). The estimated losses for the three scenarios are very close, which confirms the robustness of all the results presented below.

The highest sale losses to the UK wholesale and retail industries in absolute terms were for “clothing, footwear, leather and related products” (GBP 1.53 billion foregone sales in 2013 for Scenario 1), followed by “electrical household appliances, electronics and telecommunications” (GBP 1.20 billion in foregone sales in 2013 for Scenario 1). These two sectors also experienced the highest losses in relative terms – more than 10% and 5% respectively of foregone sales due to counterfeit and pirated imports.

Overall, the total volume of foregone sales in the UK wholesale and retail sector due to counterfeit and pirated imports in 2013 was GBP 4.218 billion for Scenario 1. This is equivalent to 1.37% of total sales in the UK wholesale and retail sector in that year.

**Table 2.6. Lost sales for the UK retail and wholesale sector due to counterfeit and pirated imports, 2013**

Sector \ Unit	Scenario 1		Scenario 2		Scenario 3	
	Value in GBP mn	Share of sales	Value in GBP mn	Share of sales	Value in GBP mn	Share of sales
Food, beverages and tobacco	21.3	0.05%	19.3	0.04%	16.1	0.02%
Chemical and allied products	4.3	0.14%	4.0	0.13%	3.8	0.12%
Pharmaceuticals	77.1	0.73%	66.6	0.63%	56.2	0.53%
Perfumery and cosmetics	72.8	1.52%	65.7	1.38%	59.7	1.25%
Textiles and other intermediate products	252.0	2.06%	250.0	2.05%	247	2.03%
Clothing, footwear, leather and related products	1530.0	5.06%	1400.0	4.63%	1350	4.49%
Watches and jewellery	141.0	4.20%	132.1	3.95%	134	4.01%
Non-metallic mineral products	10.2	0.20%	9.2	0.18%	8.1	0.16%
Basic metals and fabricated metal products	62.9	0.81%	60.4	0.78%	58.0	0.75%
Electrical appliances, electronics and telecom.	1240.1	10.10%	1160.0	9.38%	1070.0	8.66%
Machinery; computers and peripheral equipment; ships and aircrafts	187.0	0.67%	185.0	0.66%	183.0	0.65%
Motor vehicles and motorcycles	74.8	0.17%	73.8	0.17%	72.7	0.17%
Household cultural and recreation goods	374.0	3.60%	356.0	3.44%	339.1	3.27%
Furniture, lighting equipment, and other n.e.c	171.1	0.49%	167.1	0.48%	164.0	0.47%
<b>Total</b>	<b>4218.4</b>	<b>1.37%</b>	<b>3951</b>	<b>1.28%</b>	<b>3766.8</b>	<b>1.22%</b>

*Note:* In scenario 1, a substitution rate of 39 % has been chosen for product category related to clothing and footwear, 49% for products related to the perfumery and cosmetics sector, 27% for products belonging to the watch and jewellery industries, and 32% for all other fake products sold on secondary markets. Scenario 2 assumes substitution rates 10 percentage points lower, and scenario 3 assumes the substitution rates to be 20 percentage points lower than in the scenario 1.

***How are fake goods affecting jobs in the UK retail and wholesale industry?***

Lower sales in the retail and wholesale industries reduce demand for labour, and consequently lead to job losses. The basic econometric model presented in Chapter 1 (Step 5) allows us to estimate these losses. This is done by combining the estimated lost sales presented above with the industry-specific elasticities of employment linked to sales displayed in Table 1.2.

Table 2.7. below presents the main results for various branches of the wholesale and retail sector. In absolute terms, the highest job losses (19 700 in 2013) were found for the sales of textiles and other intermediate products. In relative terms, the highest job losses were in the clothing, footwear, leather and related products retail and wholesale sector, with 5.3% of employees affected by counterfeiting and piracy.

The total job losses in the retail and wholesale sector due to counterfeiting and piracy in 2013 amounted to more than 40 000, equivalent to more than 3% of all people employed in the sector.

**Table 2.7. Lost jobs in the UK retail and wholesale sectors due to counterfeit and pirated imports, 2013**

Sector \ Unit	Scenario 1		Scenario 2		Scenario 3	
	Number of employees	Share of employees	Number of employees	Share of employees	Number of employees	Share of employees
Food, beverages and tobacco	2045	1.13%	1991	1.03%	1977	0.97%
Chemical and allied products	1012	2.87%	955	2.54%	899	2.21%
Pharmaceuticals	432	0.65%	373	0.56%	315	0.47%
Perfumery and cosmetics	4778	2.38%	4314	2.67%	3920	2.06%
Textiles and other intermediate products	19709	3.37%	19543	3.28%	19379	3.18%
Clothing, footwear, and leather	7842	5.30%	7184	5.19%	6955	5.15%
Watches and jewellery	493	1.01%	464	0.95%	471	0.91%
Non-metallic mineral products	240	0.27%	215	0.24%	192	0.21%
Basic metals and fabricated metal products	936	0.95%	899	0.91%	863	0.87%
Electrical household appliances, electronics and telecommunications	640	2.24%	615	2.22%	691	2.21%
Machinery; computers and peripheral equipment; ships and aircrafts	10	0.00%	9	0.00%	9	0.00%
Motor vehicles and motorcycles	98	0.02%	96	0.02%	95	0.02%
Household cultural and recreation goods;	112	0.55%	106	0.51%	102	0.49%
Furniture, lighting equipment, and n.e.c.	2048	0.32%	2006	0.31%	1965	0.30%
<b>Total</b>	<b>40395</b>	<b>1.08%</b>	<b>37741</b>	<b>0.95%</b>	<b>36238</b>	<b>0.89%</b>

*Note:* In scenario 1, a substitution rate of 39 % has been chosen for product category related to clothing and footwear, 49% for products related to the perfumery and cosmetics sector, 27% for products belonging to the watch and jewellery industries, and 32% for all other fake products sold on secondary markets. Scenario 2 assumes substitution rates 10 percentage points lower, and scenario 3 assumes the substitution rates to be 20 percentage points lower than in the scenario 1.

### ***What does the sale of fake goods mean for losses in government revenues?***

Lower sales in the wholesale and retail sector due to counterfeit and pirated imports mean lower tax revenues for the government from value-added tax (VAT) revenue, corporate income tax (CIT), personal income tax revenues and social security contributions (see Step 6 in Chapter 1).

Table 2.8. presents these foregone tax revenues by types of taxes, which amounted to GBP 2.41 billion in 2013. Within this overall figure, the largest component was the foregone corporate income tax, amounting to GBP 1.44 billion.

**Table 2.8. Public revenue losses due to counterfeit and pirated imports, 2013**

	Scenario 1	Scenario 2	Scenario 3
Personal income taxes	48.8	45.8	43.8
Social security contributions	67.3	62.9	60.2
Corporate taxes	1451.4	1353.1	1292.7
Value-added taxes	843.4	789.4	753.3
<b>Total</b>	<b>2411</b>	<b>2251.1</b>	<b>2150.1</b>
<b>Share of governmental taxes</b>	<b>0.57%</b>	<b>0.54%</b>	<b>0.51%</b>

*Note:* In scenario 1, a substitution rate of 39 % has been chosen for product category related to clothing and footwear, 49% for products related to the perfumery and cosmetics sector, 27% for products belonging to the watch and jewellery industries, and 32% for all other fake products sold on secondary markets. Scenario 2 assumes substitution rates 10 percentage points lower, and scenario 3 assumes the substitution rates to be 20 percentage points lower than in the scenario 1.

### **What are the impacts of worldwide trade in fakes on UK IPR holders?**

The first step in answering this question is to estimate the value of counterfeit and pirated goods traded worldwide that infringe IP rights of UK right holders. This assessment was done using a unified

database of customs seizures associated with trademarks and patents whose holders' location address was registered in the UK during the period 2011-2013. In order to gauge the value of global counterfeiting and piracy infringing UK-related IP rights from this database, we relied on the GTRIC methodology developed in OECD/EUIPO (2016) adapted for exports and domestic sales, as explained in Step 7 of Chapter 1.

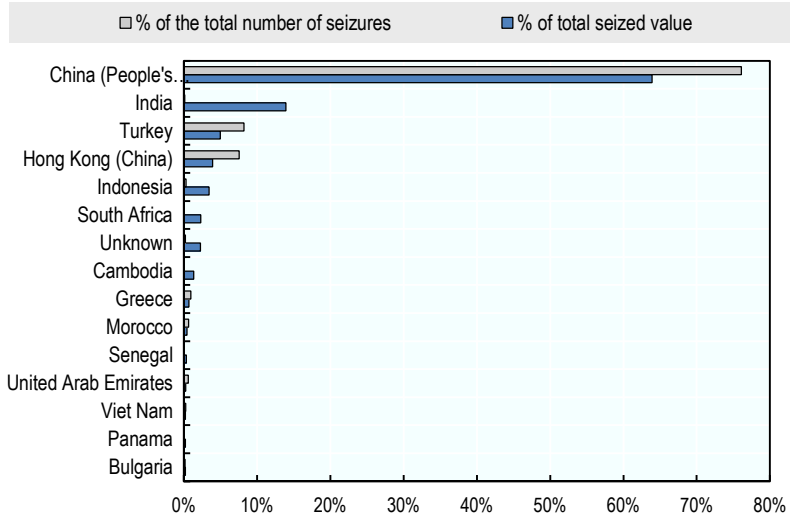
Interestingly, a review of the data on customs seizures highlights that the UK itself was the top destination for counterfeit and pirated products that infringe the IP rights of UK residents (Figure 2.4., Graph B), in terms of the number of customs seizures and the second destination in terms of seized value. This is followed by other northern European economies, including the Netherlands, Germany, Belgium; and Eastern European economies, such as the Czech Republic and Hungary (Figure 2.4., Graph B). Asian economies, particularly China, India and Turkey, were the main provenance of counterfeit and pirated goods that infringed IPs of UK residents over the period 2011-2013 (see Figure 2.4., Graph A).

In order to obtain a meaningful measure of the propensity for each economy to be a destination for counterfeit and pirated products whose IP rights are held by UK residents, these data on customs seizures need to be compared with data on UK exports of genuine products, and with data on UK domestic sales (for cases when these fake goods are going to be sold in the UK.) The GTRIC-e index was used, which compares customs seizures intensities of counterfeit and pirated products shipped to a given economy with the share of this economy in UK domestic production (exports plus domestic sales).

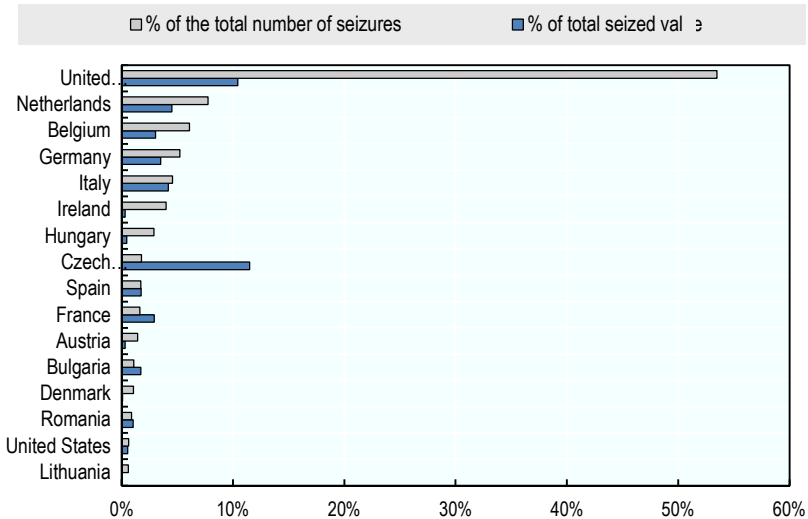


**Figure 2.4. Top provenance and destination economies for fake UK-IP registered products, 2013**

**A. Provenance economies**



**B. Destination economies**



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Table 2.9. lists the top 15 economies most likely to be a destination for counterfeit and pirated products infringing IP rights of UK holders over the period 2011-2013 (see Table B.5. in Annex B for a complete list). Interestingly, the most sensitive destination economies for this type of products are small Eastern and Southern European economies, including the Czech Republic, Malta, Bulgaria, Slovenia, San Marino, Portugal, Romania, Latvia and Estonia, as well as developing African economies such as the Democratic Republic of the Congo, Burkina Faso, Morocco and Togo.

**Table 2.9. Top 15 economies most likely to import products infringing UK residents' rights**

GTRIC-e, average 2011-2013

Destination economy	GTRIC-e
Czech Republic	0.970
Malta	0.966
Bulgaria	0.957
Slovenia	0.894
Democratic Republic of the Congo	0.882
San Marino	0.856
Portugal	0.822
Burkina Faso	0.820
Romania	0.815
Jordan	0.797
Comoros	0.791
Morocco	0.777
Latvia	0.738
Togo	0.723
Estonia	0.716
Italy	0.714

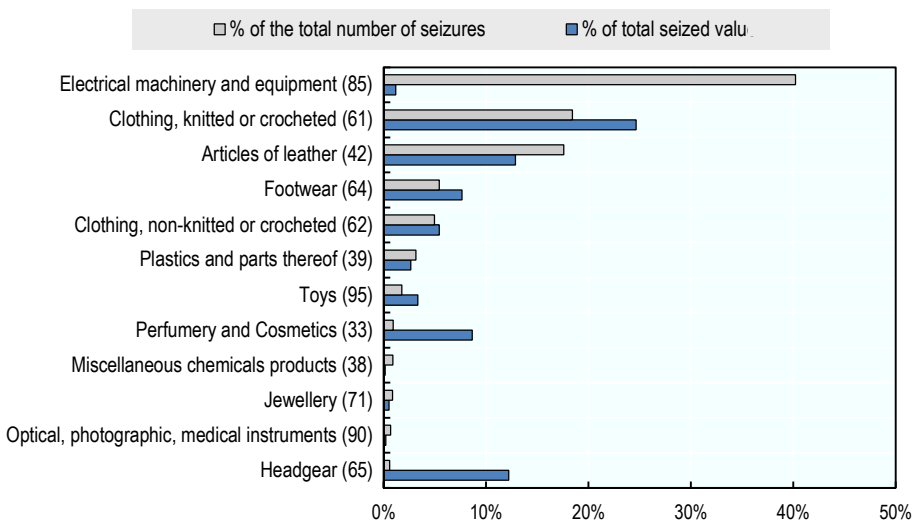
*Note:* A high GTRIC-e score indicates that an economy has a high propensity to import UK-IP registered products, either in absolute terms, or as a share of their imports. The results for all destination economies over the period 2011-2013 are reported in Table B.5. in Annex B.

### *Which types of UK-patented products are most susceptible to counterfeiting?*

The unified dataset on customs seizures of counterfeit and pirated goods can also be used to understand for which product categories trademarks and patents of UK residents are the most vulnerable to global counterfeiting and piracy. Over the period 2011-2013, UK residents' IP rights were subject to counterfeiting and piracy for a large range of product categories, from basic common goods to luxury or intermediary products (see Figure 2.5).

Although the scope of goods that are sensitive to IP infringement is broad, the intensity of counterfeiting and piracy targeting Trademarks and patents of UK residents varies significantly across product categories. Seizures statistics reported in Figure 2.5. indicate that UK-related IP rights infringements worldwide are especially concentrated in a limited number of industries. In terms of the number of customs seizures, these include electronics and electrical equipment (HS 85), clothing (HS 61 and 62) and articles of leather and handbags (HS 42). In terms of seized value, they also include footwear (HS 64), perfumery and cosmetics (HS 33) and headgear (HS 65).

**Figure 2.5. Top product categories for fake UK products, 2011-2013**



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The GTRIC-p index was then used to compare which product categories are most to be vulnerable to counterfeiting and piracy. This compares for each product category, global customs seizures intensities of fakes infringing UK-related IP rights with the share of this product category in UK production (exports plus domestic sales). The result is a general ranking of industries according to their propensity to contain UK trademarks or patents that are sensitive to counterfeiting and piracy (Table 2.10.; see Table B.5. in Annex B for a complete list). A high GTRIC-p score implies either that a given product category contains high values of UK trademarks or patents that are sensitive to global counterfeiting and piracy in absolute terms (e.g. in GBP), or that a large share of the production of goods associated with a UK trademark or patent registered in this product category is counterfeit.

**Table 2.10. The 15 product categories most sensitive to global counterfeiting in violation of UK trademarks or patents**

GTRIC-p, average 2011-2013

HS category	GTRIC-p
Articles of leather; handbags (42)	1.000
Clothing, knitted or crocheted (61)	1.000
Clothing and accessories, not knitted or crocheted (62/65)	1.000
Footwear (64)	1.000
Tobacco (24)	1.000
Toys and games (95)	0.999
Knitted or crocheted fabrics (60)	0.951
Perfumery and cosmetics (33)	0.919
Watches (91)	0.870
Miscellaneous manufactured articles (66/67/96)	0.722
Pharmaceutical products (30)	0.719
Plastic and articles thereof (39)	0.542
Foodstuff (02-21)	0.359
Electrical machinery and electronics (85)	0.312
Other made-up textile articles (63)	0.302

*Note:* A high GTRIC-p score implies a product category that is more likely to be counterfeit, i.e. it contains high values of UK-IP registered products in monetary terms, or a large share of world imports of UK-IP registered goods of that product category is counterfeit. The results for all product categories over the period 2011-2013 are reported in Table B.5. in Annex B.

***What is the value of global trade in counterfeit products that infringe UK IPRs?***

The best estimates based on the data provided by customs authorities worldwide, and on the GTRIC methodology, indicate that **global trade in counterfeit products infringing UK trademarks and patents amounted to as much as GBP 13.4 billion in 2013, equivalent to 3% of total UK manufacturing sales (domestic plus exports)**. Table 2.11. below breaks this amount down by product category and type of markets.

In absolute terms (i.e in GBP million), Trademarks and patents of UK residents related to pharmaceutical products (HS 30), vehicles and parts (HS 87) and jewellery (HS 71) were particularly targeted by counterfeiters and pirates in global trade. In relative terms, footwear (HS 64), clothing (HS 61) and tobacco (24) were the most often faked type of products worldwide, with fakes making up more than 10% of counterfeit goods within each category.

The last four columns of Table 2.11. break down the sales of UK IPR-infringing fake products into those made in the UK territory itself and those made in other provenance economies worldwide. Interestingly, GBP 5.8 billion of the estimated total GBP 13.4 billion were due to imports into the UK itself. The remaining share, GBP 7.6 billion, was due to world shipments of UK IPR-infringing fakes that were imported by third economies worldwide. This means that the majority of traded goods that infringe Trademarks and patents of UK residents are neither exported from nor imported by the UK.

**Table 2.11. Estimates of trade in counterfeit products infringing UK residents' IP rights, 2013**

Product type  HS category\Unit	All products		Products sold on the UK territory		Products sold outside the UK territory	
	Value in GBP million	Share of total sales	Value in GBP million	Share of domestic sales	Value in GBP million	Share of exports
Foodstuff (02-21)	1030	4.14%	813	4.17%	217	4.04%
Beverages (22)	263	1.43%	174	1.54%	89	1.25%
Tobacco (24)	28	10.16%	0	0.00%	28	10.16%
Mineral fuels (27)	339	0.82%	0	4.17%	217	4.04%
Pharmaceutical products (30)	2280	7.47%	712	7.67%	1568	7.38%
Perfumery and cosmetics (33)	719	9.03%	361	9.26%	358	8.81%
Soap; glues; explosives (34-37)	36	0.78%	31	0.79%	5	0.70%
Miscellaneous chemical products (38)	178	3.17%	24	3.44%	154	3.13%
Plastic and articles thereof (39)	1160	6.01%	680	6.02%	480	6.00%
Rubber and article thereof (40)	136	2.83%	68	2.83%	68	2.83%
Articles of leather; handbags (42)	84	9.84%	18	9.73%	66	9.87%
Pulp and paper (47/48)	45	2.53%	0	0.00%	45	2.53%
Printed articles (49)	221	2.43%	159	2.51%	62	2.23%
Finishing of textiles (58)	17	3.03%	13	2.98%	4	3.20%
Knitted or crocheted fabrics (60)	22	9.67%	11	9.48%	11	9.86%
Clothing, knitted or crocheted (61)	220	10.07%	0	0.00%	220	10.07%
Clothing and accessories, not knitted or crocheted (62/65)	84	8.54%	0	0.00%	84	8.54%
Other made-up textile articles (63)	59	3.35%	36	3.55%	23	3.08%
Footwear (64)	157	10.42%	24	9.73%	133	10.55%

**Table 2.11. Estimates of trade in counterfeit products infringing UK residents' IP rights, 2013** (*continued*)

Product type	All products		Products sold on the UK territory		Products sold outside the UK territory	
	Value in GBP million	Share of total sales	Value in GBP million	Share of domestic sales	Value in GBP million	Share of exports
Ceramic products (69)	8	0.74%	5	0.76%	3	0.69%
Glass and glassware (70)	46	1.59%	34	1.60%	12	1.57%
Jewellery (71)	1250	1.77%	120	2.89%	1130	1.70%
Iron and steel (72/73)	97	0.74%	62	0.83%	35	0.61%
Tools and cutlery of base metal (82)	62	3.20%	36	3.36%	26	3.00%
Miscellaneous metal articles (83)	80	1.76%	65	1.78%	15	1.66%
Machinery; mechanical appliances (84)	998	1.30%	458	1.53%	540	1.16%
Electrical machinery; electronics (85)	1110	3.43%	439	3.66%	671	3.29%
Vehicles and parts (87)	1670	2.37%	934	2.55%	736	2.18%
Optical; photo.; medical apparatus (90)	536	2.57%	244	2.82%	292	2.38%
Watches (91)	34	6.11%	3	8.91%	31	5.96%
Musical instruments (92)	0.7	0.81%	0.2	0.85%	0.5	0.80%
Furnitures (94)	62	0.80%	47	0.83%	15	0.72%
Toys and games (95)	182	9.95%	54	9.73%	128	10.04%
Miscellaneous (66/67/96)	145	7.74%	138	7.70%	7	8.56%
<b>Total</b>	<b>13359</b>	<b>3.02%</b>	<b>5765</b>	<b>3.12%</b>	<b>7594</b>	<b>3.05%</b>

### *What do we know about primary and secondary markets for counterfeit UK products?*

The next step consists of comparing the share of UK IPR-infringing fakes that are sold on primary markets worldwide with those that are sold on secondary markets. This is done using the methodology described in Step 2 (Chapter 1).

Table 2.12. identifies these markets by product category. The results indicate that between 2011 and 2013, 47.7% of UK IPR-infringing fakes that were traded worldwide were offered on primary markets, i.e. they were sold to unsuspecting consumers. This share varies between product categories, ranging from 30% for soap, albuminoidal substances, glues, and explosives (HS 34 to 37) to 87% for foodstuff (HS 02 to 21).

**Table 2.12. Share of secondary markets for counterfeit products infringing UK patents and trademarks, 2011-2013**

HS code	Share of customs seizures
Foodstuff (02-21)	13.10%
Beverages (22)	31.20%
Tobacco (24)	50.30%
Pharmaceutical products (30)	28.21%
Perfumery and cosmetics (33)	45.16%
Soap; albuminoidal substances; explosives (34-37)	69.93%
Miscellaneous chemical products (38)	56.08%
Articles of leather; handbags (42)	56.26%
Pulp and paper (47-48)	16.67%
Printed articles (49)	41.67%
Finishing of textiles (58)	47.30%
Knitted or crocheted fabrics (60)	41.18%
Clothing, knitted or crocheted (61)	57.78%
Clothing and accessories, non-knitted or crocheted (62/65)	61.74%
Other made-up textile articles (63)	71.43%
Footwear (64)	52.73%
Ceramic products (69)	65.90%
Glass and glassware (70)	22.76%
Jewellery (71)	47.18%
Iron and steel, and articles thereof (72/73)	62.80%
Tools and cutlery of base metal (82)	32.46%
Miscellaneous articles of base metal (83)	44.70%
Machinery and mechanical appliances (84)	47.50%
Electronic and electrical equipment (85)	66.91%
Vehicles and parts (87)	41.38%
Optical; photographic; medical apparatus (90)	61.85%
Watches (91)	53.33%
Musical instruments (92)	51.31%
Furniture (94)	37.75%
Toys (95)	44.57%
Miscellaneous manufactured articles (96/66/67)	54.06%
<b>Total</b>	<b>53.27%</b>



### *What does counterfeiting mean for lost sales by UK IPR owners?*

What value of sales were never realised by UK right owners due to counterfeiting of their products? This was calculated following the methodology described in Step 7 (Chapter 1). As for the case of the retail and wholesale sector, three scenarios were estimated based on different assumed consumers' substitution rates (Table 2.13.).

**The total volume of foregone sales by UK companies due to infringement of their IP rights in 2013 amounted to GBP 8.6 billion, or 1.95% of their total sales in that year.** The manufacturing industries for pharmaceutical products and motor vehicles and motorcycles incurred the highest losses (respectively, GBP 1.51 and 1.25 billion of foregone sales in 2013). In terms of shares of sales, the highest losses were recorded by the perfumery and cosmetics industry, who would have lost 6.92% of their sales.

**Table 2.13. Lost sales for UK right owners due to global trade in fake products infringing their IP rights, 2013**

Sector \ Unit	Scenario 1		Scenario 2		Scenario 3	
	Value in GBP million	Share of sales	Value in GBP million	Share of sales	Value in GBP million	Share of sales
Food, beverages and tobacco	1058	2.54%	932	2.26%	917	2.08%
Chemical and allied products	90	0.97%	11.4	0.12%	7.8	0.08%
Pharmaceutical and medicinal chemical products	1508	5.26%	1500	5.25%	1450	5.07%
Perfumery and cosmetics	517	6.90%	517	6.92%	451	6.03%
Textiles and other intermediate products	915	3.62%	847	3.34%	842	3.32%
Clothing, footwear, leather	364	5.31%	364	5.31%	322	4.69%
Watches and jewellery	771	1.28%	772	1.28%	708	1.18%
Non-metallic mineral products	53	1.38%	523	1.38%	49	1.28%
Basic metals and fabricated metal products	111	0.61%	100	0.55%	98	0.54%
Electrical household appliances, electronics and telecommunications	834	1.73%	835	1.73%	774	1.61%

**Table 2.13. Lost sales for UK right owners due to global trade in fake products infringing their IP rights, 2013 (continued)**

Sector \ Unit	Scenario 1		Scenario 2		Scenario 3	
	Value in GBP million	Share of sales	Value in GBP million	Share of sales	Value in GBP million	Share of sales
Machinery, computers and peripheral equipment; ships and aircrafts	594	0.90%	593	0.90%	574	0.87%
Motor vehicles and motorcycles	1237	1.86%	1240	1.86%	1220	1.83%
Household cultural and recreation goods	281	2.70%	280	2.69%	268	2.57%
Furniture, lighting equipment, carpets and other manufacturing n.e.c	158	1.72%	158	1.72%	155	1.68%
<b>Total</b>	<b>8599.6</b>	<b>1.95%</b>	<b>8209.9</b>	<b>1.86%</b>	<b>7858.8</b>	<b>1.78%</b>

*Note:* In scenario 1, a substitution rate of 39 % has been chosen for product category related to clothing and footwear, 49% for products related to the perfumery and cosmetics sector, 27% for products belonging to the watch and jewellery industries, and 32% for all other fake products sold on secondary markets. Scenario 2 assumes substitution rates 10 percentage points lower, and scenario 3 assumes the substitution rates to be 20 percentage points lower than in the scenario 1.

Table 2.14. breaks down these sales losses by domestic market and exports. In 2013 UK IP right owners appeared to incur on average greater losses in export markets (GBP 4.9 billion) than in the UK itself (GBP 3.7 billion).

**Table 2.14. Losses for UK IPR holders in domestic and export sales, 2013***Scenario 1*

Sector \ Unit	Lost domestic sales		Lost exports	
	Value in GBP million	Share of domestic sales	Value in GBP million	Share of exports
Food, beverages and tobacco	723	2.35%	335	3.11%
Chemical and allied products	10	0.21%	80	1.71%
Pharmaceutical and medicinal chemical products	378	4.07%	1130	5.81%
Perfumery and cosmetics	208	5.35%	309	8.62%
Textiles and other intermediate products	479	3.40%	436	3.88%

**Table 2.14. Losses for UK IPR holders in domestic and export sales, 2013**  
*Scenario 1(continued)*

Sector \ Unit	Lost domestic sales		Lost exports	
	Value in GBP million	Share of domestic sales	Value in GBP million	Share of exports
Clothing, footwear, leather and related products	67	4.33%	297	5.59%
Watches and jewellery	82	1.86%	690	1.24%
Non-metallic mineral products	39	1.42%	14	1.26%
Basic metals and fabricated metal products	63	0.51%	49	0.81%
Electrical household appliances, electronics, telecom.	366	1.78%	468	1.70%
Machinery; computers and peripheral equipment; ships and aircrafts	200	0.67%	394	1.09%
Motor vehicles and motorcycles	774	2.11%	463	1.55%
Household cultural and recreation goods	155	2.24%	126	3.58%
Furniture, lighting equipment and n.e.c	140	1.90%	18	0.99%
<b>Total</b>	<b>3682.9</b>	<b>1.99%</b>	<b>4916.7</b>	<b>1.91%</b>

*Note:* In scenario 1, a substitution rate of 39 % has been chosen for product category related to clothing and footwear, 49% for products related to the perfumery and cosmetics sector, 27% for products belonging to the watch and jewellery industries, and 32% for all other fake products sold on secondary markets.

### ***What does counterfeiting mean for lost jobs in the UK manufacturing industry?***

Lower sales of genuine UK-patented and trademarked products translates into fewer jobs in the affected UK manufacturing sectors. In order to estimate the amount of jobs lost due to infringement of Trademarks and patents of UK residents in global trade, the basic econometric model presented in Chapter 1 was used. This drew on the estimates of the transmission rates (elasticities) between lost sales and lost jobs (Table 1.3.).

Table 2.15. displays the total job losses in various branches of the UK manufacturing industry. **Overall, the total number of jobs lost in the UK industries due to infringement of UK-related IP-rights in global trade amounted to more than 20 000, equivalent to 1.29% of the total number of employees in the UK manufacturing sector.**

**Table 2.15. Estimates of lost jobs in UK manufacturing industries, 2013**

Sector \ Unit	Scenario 1		Scenario 2		Scenario 3	
	Number of employees	Share of employees	Number of employees	Share of employees	Number of employees	Share of employees
Food, beverages and tobacco	7413	2.48%	7409	2.47%	6887	2.30%
Chemical and allied products	53	0.13%	16	0.04%	9	0.02%
Pharmaceuticals	--	--	--	--	--	--
Perfumery and cosmetics	688	3.84%	582	3.25%	510	2.85%
Textiles and other intermediate products	4864	2.00%	3993	1.64%	3968	1.63%
Clothing, footwear, leather and related products	496	1.61%	422	1.37%	389	1.26%
Watches and jewellery	10	1.22%	8	0.92%	7	0.85%
Non-metallic mineral products	185	0.29%	198	0.31%	181	0.28%
Basic metals and fabricated metal products	836	0.18%	779	0.17%	666	0.15%
Electrical household appliances, electronics and telecommunications	2121	1.23%	1745	1.01%	1606	0.93%
Machinery, computers and peripheral equipment; ships and aircrafts	1933	0.50%	1689	0.44%	1575	0.41%
Motor vehicles and motorcycles	231	1.22%	211	1.11%	207	1.09%
Household cultural and recreation goods	12	1.10%	10	0.91%	8	0.73%
Furniture, lighting equipment and other manufacturing n.e.c	1397	1.04%	1298	0.96%	1272	0.94%
<b>Total</b>	<b>20239</b>	<b>1.29%</b>	<b>18361</b>	<b>1.17%</b>	<b>17285</b>	<b>1.10%</b>

*Note:* In scenario 1, a substitution rate of 39 % has been chosen for product category related to clothing and footwear, 49% for products related to the perfumery and cosmetics sector, 27% for products belonging to the watch and jewellery industries, and 32% for all other fake products sold on secondary markets. Scenario 2 assumes substitution rates 10 percentage points lower, and scenario 3 assumes the substitution rates to be 20 percentage points lower than in the scenario 1.

### ***What do infringements of UK IPRs mean for government revenues?***

Lower sales and lower profits for UK right holders mean they pay lower corporate income tax to the government. In addition, fewer employees mean lower personal income tax revenues and lower social security contributions. In 2013, this foregone tax revenue amounted to GBP 1.43 billion (Table 2.16.). The largest component was the foregone corporate income tax, amounting to GBP 630 million.

**Table 2.16. Public revenue losses due to UK IPR-infringements in global trade, 2013**

	Scenario 1	Scenario 2	Scenario 3
Social security contributions	338.8	308.3	284.1
Personal income taxes	458.1	455.9	454
Corporate taxes	630.3	627.2	624.6
<b>Total</b>	<b>1 427.2</b>	<b>1 391.3</b>	<b>1 362.7</b>
<b>Share of governmental taxes</b>	<b>0.34%</b>	<b>0.33%</b>	<b>0.32%</b>

*Note:* In scenario 1, a substitution rate of 39 % has been chosen for product category related to clothing and footwear, 49% for products related to the perfumery and cosmetics sector, 27% for products belonging to the watch and jewellery industries, and 32% for all other fake products sold on secondary markets. Scenario 2 assumes substitution rates 10 percentage points lower, and scenario 3 assumes the substitution rates to be 20 percentage points lower than in the scenario 1.

### **What is the impact on the UK overall?**

This study has assessed quantitatively the value and scope of trade in counterfeit and pirated products in the UK context and gauged some of its impact on consumers, jobs, sales and tax revenue.

The previous two sections have quantified: (1) the impacts of imports of counterfeit and pirated products in the UK; and (2) the harmful effects of global trade in UK IPR-infringing products.

Adding together the results of these two investigations gives the overall impact of counterfeit trade on UK consumers, right holders and government.<sup>2</sup>

Concerning the total impact of counterfeit trade in the UK, the best available statistics show that the total consumer detriment due to consumer deception by counterfeiters in 2013 amounted to almost GBP 100 million. The sales losses to the UK wholesale and retail industries in 2013 amounted to GBP 4.22 billion, or 1.37% of total sales in that year. The total volume of foregone sales by the UK right owners due to infringement of their IP rights in 2013 amounted to GBP 8.6 billion pounds, or 1.95% of their total sales in that year. These sale losses translate in turn into lost jobs and lower tax returns (Table 2.17.).

**Table 2.17. Total direct impact of counterfeit trade in the UK context (lost sales, jobs and taxes), 2013**

Total lost sales (wholesale and retail)		Total lost sales (UK IP right owners)		Total lost jobs		Total lost taxes	
GBP 4.2 billion	1.37% of UK sales	GBP 8.6 billion	1.95% of UK firms' sales	60 334 jobs	1.15% of UK employment	GBP 3.8 billion	0.91% of governmental taxes

In particular, the best available estimates based on the customs data indicate that global counterfeiting and piracy in 2013 resulted in 60 thousand lost jobs in the UK, including 40 thousand in the retail and wholesale sector, and 20 thousand in the manufacturing sector.

For the same year, counterfeit trade resulted in almost 3 billion pounds of foregone tax revenue for the UK government, with 2 411 million due to counterfeit imports to the UK and 583 million due to illicit trade in goods that infringe IPR of UK residents.

### Notes

1. Note that these data thus include customs seizures of both (1) counterfeit and pirated imports reported directly by the UK customs authorities; and (2) fake goods in transit to the UK in a third European country, and reported to DG TAXUD by other European customs officers.
2. Note that the methodology takes into account the “double-counting” issue which arises from the existence of imports of fake products to the UK that infringe the IPR of UK residents. This is done by breaking down the seizure dataset and identifying the economy of residence of rights holders whose IP rights were infringed. In addition, the framework looks only at areas where quantification was possible. The impact should definitely not be interpreted as the total impact of counterfeit trade in the UK.

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