

MAGNITUDE OF COUNTERFEITING AND PIRACY OF TANGIBLE PRODUCTS: AN UPDATE

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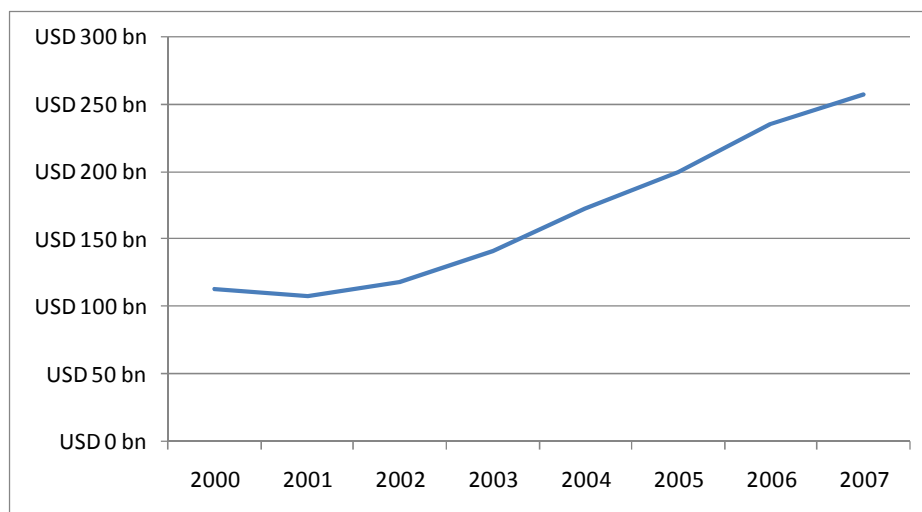


The growing importance of intellectual property (IP) in knowledge-based economies has generated concerns about the potential adverse effects of counterfeiting and piracy on governments, rights holders and consumers. A recent OECD study on counterfeiting and piracy (OECD, 2008)¹ attempted to quantify the scale of the effects due to these illicit activities. This study focused on the infringement, through counterfeiting and piracy, of trademarks, copyrights, patents and design rights, to the extent that they involved physical products.

Based on the framework developed in OECD (2008) this short report updates the quantitative results of that study by utilising more recent international trade statistics for the calendar years 2000 to 2007. This report does not, however, update the customs interception data on which the original framework was constructed and relies on the same, aggregated customs interception data (*i.e.* for 1999-2005). A methodological note describing the updating process in more detail is attached below.

The OECD (2008) study concluded that international trade in counterfeit and pirated goods could have accounted for up to USD 200 billion in 2005. The updated estimates, based on the growth and changing composition of trade between 2005 and 2007, suggest that counterfeit and pirated goods in international trade grew steadily over the period 2000 – 2007 and could amount to up to USD 250 billion in 2007 (Figure 1). The share of counterfeit and pirated goods in world trade is also estimated to have increased from 1.85% in 2000 to 1.95% in 2007. As in the original study, these figures do not include domestically produced and consumed products, or non-tangible pirated digital products.

Figure 1: Evolution of trade in counterfeit and pirated products (upper limit)



¹ OECD (2008), *The Economic Impact of Counterfeiting and Piracy*, OECD, Paris, see www.oecd.org/sti/counterfeiting

Methodological Note

This report updates the quantitative results of OECD (2008), based on the framework developed in that study. The update involves applying detailed indices of counterfeiting (called GTRIC, presented below) to international trade statistics for the calendar years 2000 – 2007.

To build the foundation on which the magnitude of counterfeiting and piracy in world trade could be analysed for the 2008 study, the OECD conducted a survey in co-operation with the World Customs Organization (WCO). Seventy responses were received from national customs authorities, providing information on interceptions of infringements, recorded at any time during the period 1999 to 2005. Based on these responses two general trade-related indices of counterfeiting and piracy (GTRIC) were constructed:

- A general trade-related index of counterfeiting and piracy of economies (GTRIC-*e*), and
- A general trade-related index of counterfeiting and piracy of products (GTRIC-*p*).

The General Trade-Related Index of Counterfeiting for economies (see Table A1 in the Annex) presents the relative intensity with which a given economy exports counterfeit and pirated products. The term "relative" means that for a given economy GTRIC-*e* indicates the average intensity of its counterfeit exports, taking the economy with the highest share of exports of counterfeit and pirated products as a benchmark. GTRIC-*e* was constructed in three steps. First, for each reporting economy seizures of counterfeit and pirated products are compared to general trade volumes and the respective seizure percentages are calculated. Second, based on these percentages, each exporting economy is assigned a counterfeiting factor. Third, based on these factors the GTRIC-*e* is formed.

A similar exercise was performed for detailed categories of tradable goods, and the results are summarized in Table A2 in the Annex that presents the GTRIC-*p* index. GTRIC-*p* is based on the 2-digit categories of the Harmonized System (HS) ² and establishes the relative likelihood for products in one category to be counterfeit relative to another. This exercise was performed for all 96 HS categories of reporting economies by dividing the seizure percentages of source economies by the economies' respective import share of the reporting economy's total imports (across the 145 known source economies). As with GTRIC-*e*, GTRIC-*p* is a point estimate of the relative counterfeiting propensity for products, which also refers to the baseline.

To generate the final result both indices, GTRIC-*p* and GTRIC-*e* are multiplied and the outcome is the GTRIC matrix of 96 (products) times 134 (economies). Each entry in this matrix corresponds to the relative propensity of a given product category exported from a given economy to contain counterfeited and pirated products.

To measure the magnitude of counterfeiting and piracy in world trade, the GTRIC matrix can be applied to statistics on international trade. The trade statistics used in this report cover the period between 2000 and 2007 and are derived from the UN Comtrade Database. The data is categorized according to the HS and corresponds to the 96 categories used in the GTRIC-*p* index.

As noted in OECD (2008) the estimation of magnitude of counterfeiting and piracy in international trade is not free from certain biases, most of which were discussed in the main report.

² The Harmonized System is a commodity classification system in which articles are grouped largely according to the nature of the materials of which they are made, as has been traditional in customs nomenclatures.

Moreover, even though some smoothing techniques have been applied to both GTRIC-*p* and GTRIC-*e* in order to control for static (*i.e.* time invariant) distortions, these techniques do not address the bias related to the potential time-variance of the GTRIC. The GTRIC relies on aggregated customs data over a seven year period and consequently, the update presented in this report relies on an implicit assumption that the GTRIC does not vary significantly between the period represented in the data collection (1999-2005), and the period analysed in the review (2006-07). While the validity of this assumption is considered to be acceptable for the relatively short period covered in this update, it would rapidly decline the further the trade data used diverge from the GTRIC customs data. It may therefore not be appropriate to update the estimates beyond 2007, especially given the current economic crisis and the considerable structural changes resulting in international trade flows. Further assessments of the share of counterfeiting and piracy in international trade would therefore require a new detailed assessment of customs data on seizures.

To obtain an index of the evolution of trade in counterfeit and pirated products, the GTRIC matrix is multiplied with the corresponding matrix of world exports for each year in the period 2000–2007. This exercise leads to an index of the evolution of trade in counterfeit and pirated products in absolute values. A comparison of this index with an index of the evolution of total world trade permits analysis of the share of trade in counterfeit and pirated goods in total trade volumes. Both are presented in Table 1.

Table 1: The evolution of trade in counterfeit and pirated products

Year	2000	2001	2002	2003	2004	2005	2006	2007
Evolution of trade in counterfeit and pirated products (in absolute values; 2005 = 100)	56.5	53.9	59.1	70.5	86.0	100.0	117.6	128.5
Evolution of trade in counterfeit and pirated products (as a share of total trade; 2005 = 100)	91.9	91.2	95.1	96.7	97.4	100.0	101.0	98.9

Unsurprisingly, given the growth in international trade in 2000-07 these updated results suggest that trade in counterfeit and pirated products grew steadily over the period 2000 – 2007, and in particular, between 2005 and 2007 it grew by more than 25%.

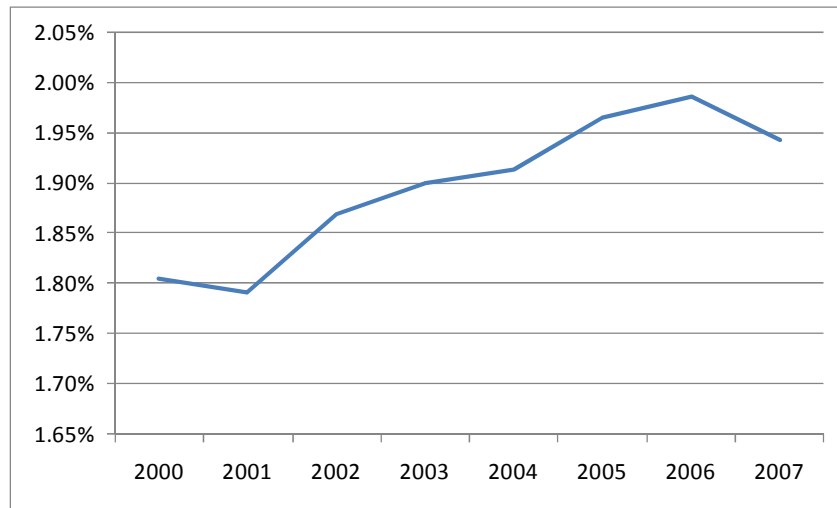
The OECD (2008) study concluded that in 2005 international trade in counterfeit and pirated goods could have accounted for up to USD 200 billion. This result can be now be updated to reflect 2006 and 2007 data by using the index of evolution of trade in counterfeit and pirated products in absolute values (Table 1 and Figure 1) to derive an updated figure. The update suggests that counterfeit and pirated goods in international trade could have amounted for up USD 250 billion in 2007.

Apart from the growing total value of trade in counterfeit and pirated products, the share of counterfeit and pirated goods in world trade also seems to have grown (see Table 1). Between 2000 and 2007, counterfeited and pirated products appear to have increased their share in total world trade from 1.85% in 2000 to 1.95% in 2007. While numerically small this increase is significant, given that world trade more than doubled over that period,

The dip in 2007 (Figure 2) could be explained by overall trade growing at a faster rate than the expected growth of counterfeited and pirated goods. This could be attributed to the rapid growth of trade in commodities (such as raw materials) that are less prone, or not prone at all, to counterfeiting. A detailed analysis of this question goes beyond the scope of this update, but further detail on the composition of trade and the relative likelihood of product categories to be counterfeit can be found in the 2008 report.

Figure 2: Evolution of trade in counterfeit and pirated products

(as a percentage of total trade)



Policies and measures

Counterfeiting and piracy compel strong and sustained action from governments, business and consumers. Measures to address counterfeiting and piracy include developing more effective enforcement and building public support to combat the counterfeiting and piracy. Increased co-operation between governments, and with industry, would be beneficial, as would better data collection. This update, which includes estimates that suggest that the problem of counterfeiting and piracy has continued to grow, serves to reiterate the call on governments to consider improving legal and regulatory frameworks, enhance enforcement and deepen the evaluation of policies, programmes and practices.

At the national governmental level, two of the principal challenges in combating counterfeiting and piracy are: 1) to find ways to enhance enforcement; and 2) to raise awareness of counterfeiting and piracy issues. Domestically, governments may consider improving legal and regulatory frameworks, enhancing enforcement and deepening the evaluation of policies, programmes and practices. Ways to strengthen the existing framework and practices could be explored multilaterally.

While the 2008 OECD study and this update have been able to provide insights into the situation, we also repeat the conclusions drawn in the 2008 report that the information base needs to be further strengthened. Governments, business and other interested stakeholders should continue to collect and analyse information that is essential for designing and implementing effective strategies for combating counterfeiting and piracy. Improved information would enable more far-reaching analyses to be carried out on the magnitude and effects of counterfeiting and piracy on economies. In turn, this would provide governments and other stakeholders with a firmer basis for developing more informed and effective policies and programmes to address these practices.

ANNEX

Table A1: General trade-related index of counterfeiting and piracy of economies (GTRIC-e)

<i>Economy</i>	<i>GTRICe</i>	<i>Economy</i>	<i>GTRICe</i>	<i>Economy</i>	<i>GTRICe</i>
Afghanistan	2.351017	Germany	0.039872	Pakistan	1.657459
Albania	1.221637	Ghana	0.445089	Panama	1.02897
Algeria	0.23113	Greece	0.190079	Papua New Guinea	0.000372
Angola	0.048601	Guatemala	0.253155	Paraguay	1.54626
Argentina	0.103271	Haiti	0.396415	People's Rep. of Korea	1.939676
Armenia	0.772296	Honduras	0.347135	Peru	0.677267
Australia	0.094092	Hungary	0.117529	Philippines	1.116753
Austria	0.024619	India	0.641394	Poland	0.109972
Azerbaijan	0.001417	Indonesia	0.50952	Portugal	0.152092
Bahamas	0.360889	Iran	0.897601	Qatar	0.001902
Bahrain	0.498182	Iraq	0.486533	Rep. of Korea	0.635958
Bangladesh	0.494885	Israel	0.116429	Rep. of Moldova	1.120815
Belarus	0.071216	Italy	0.384653	Romania	0.36342
Belgium	0.064524	Jamaica	0.663663	Russian Federation	0.258173
Bolivia	0.69111	Japan	0.046304	Saudi Arabia	0.139165
Bosnia Herzegovina	0.007447	Jordan	0.65896	Senegal	0.464653
Botswana	0.846791	Kazakhstan	0.39835	Serbia and Montenegro	0.206386
Brazil	0.127407	Kenya	0.94533	Singapore	0.467796
Brunei	0.540795	Kuwait	0.228373	Slovakia	0.003566
Bulgaria	0.37755	Kyrgyzstan	1.770402	Slovenia	0.20471
Cambodia	0.781277	Laos	2.849408	South Africa	0.181244
Cameroon	0.27964	Latvia	0.136714	Spain	0.212384
Canada	0.057086	Lebanon	1.733032	Sri Lanka	1.035163
Chile	0.010157	Libya	0.000801	Suriname	0.082067
China	1.437774	Lithuania	0.784599	Switzerland	0.22732
China, Hong Kong SAR	2.856343	Luxembourg	0.549484	Syria	0.955119
China, Macao SAR	0.960184	Madagascar	0.300687	Tajikistan	0.609951
Chinese Taipei	0.995363	Malaysia	1.296085	TFYR of Macedonia	0.920952
Colombia	0.244002	Maldives	0.598105	Thailand	2.176103
Costa Rica	0.039002	Mali	0.052417	Togo	1.915335
Cote d'Ivoire	0.150357	Malta	0.8876	Tokelau	1.761901
Croatia	0.299896	Mauritius	0.594848	Trinidad and Tobago	0.067655
Cyprus	1.540444	Mexico	0.077074	Tunisia	0.026303
Czech Rep.	0.249195	Mongolia	0.840518	Turkey	1.081725
Dem. Rep. of the Congo	0.155363	Morocco	0.749408	Turkmenistan	0.801172
Denmark	0.094505	Mozambique	0.01625	Ukraine	1.025599
Djibouti	0.728013	Myanmar	0.752559	United Arab Emirates	2.058198
Dominican Rep.	0.286636	Nepal	0.001413	United Kingdom	0.127595
Ecuador	0.382447	Neth. Antilles	0.990316	United States	0.137188
Egypt	0.528218	Netherlands	0.063505	Uruguay	0.004343
Estonia	0.316013	New Zealand	0.042885	Uzbekistan	1.520067
Fiji	0.001902	Nicaragua	0.223638	Venezuela	0.069918
Finland	0.053468	Nigeria	0.21385	Viet Nam	1.366506
France	0.086579	Norway	0.00762	Yemen	1.045195
Georgia	1.024696	Oman	0.532247		

Source: OECD (2008)

Table A2: General trade-related index of counterfeiting and piracy of products (GTRIC-*p*)

<i>HS Category</i>	<i>GTRICp</i>	<i>HS Category</i>	<i>GTRICp</i>
HS-01	0.27631	HS-51	0.27631
HS-02	0.27631	HS-52	0.29623
HS-03	0.27631	HS-53	0.27631
HS-04	0.27631	HS-54	0.30758
HS-05	0.29092	HS-55	0.29055
HS-06	0.28975	HS-56	0.34057
HS-07	0.27631	HS-57	0.32939
HS-08	0.27631	HS-58	0.9097
HS-09	0.27631	HS-59	0.30343
HS-10	0.27631	HS-60	0.3019
HS-11	0.27631	HS-61	0.96895
HS-12	0.27631	HS-62	0.27631
HS-13	0.35636	HS-63	0.5455
HS-14	0.27631	HS-64	0.93326
HS-15	0.27631	HS-65	0.99493
HS-16	0.27744	HS-66	0.9892
HS-17	0.53122	HS-67	0.31971
HS-18	0.27631	HS-68	0.3214
HS-19	0.28227	HS-69	0.2872
HS-20	0.45625	HS-70	0.33226
HS-21	0.28847	HS-71	0.45294
HS-22	0.42519	HS-72	0.27631
HS-23	0.27631	HS-73	0.2959
HS-24	0.99312	HS-74	0.28463
HS-25	0.27631	HS-75	0.27631
HS-26	0.27631	HS-76	0.28383
HS-27	0.27631	HS-77	0.27631
HS-28	0.27631	HS-78	0.27631
HS-29	0.2766	HS-79	0.27631
HS-30	0.3	HS-80	0.29719
HS-31	0.27631	HS-81	0.32127
HS-32	0.28171	HS-82	0.44914
HS-33	0.62998	HS-83	0.53166
HS-34	0.29698	HS-84	0.29958
HS-35	0.38717	HS-85	0.64831
HS-36	0.27631	HS-86	0.27631
HS-37	0.61787	HS-87	0.27937
HS-38	0.27678	HS-88	0.27631
HS-39	0.3278	HS-89	0.27631
HS-40	0.34486	HS-90	0.41986
HS-41	0.29973	HS-91	0.98614
HS-42	0.99358	HS-92	0.27631
HS-43	0.27631	HS-93	0.47165
HS-44	0.29599	HS-94	0.52992
HS-45	0.27631	HS-95	0.86045
HS-46	0.31604	HS-96	0.90066
HS-47	0.27631	HS-97	0.29858
HS-48	0.52389	HS-98	0.27631
HS-49	0.42442	HS-99	0.27631
HS-50	0.30672		

Source: OECD (2008)