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IMPROVING THE DATA QUALITY OF MERCHANDISE TRADE STATISTICS THE OECD INTERNATIONAL TRADE BY COMMODITY STATISTICS (ITCS) DATABASE: ALLOCATING DATA FROM HS 6 DIGIT TO HS 2 DIGIT

16-18 November 2009, OECD Headquarters, Paris

Item 4.1 of the Agenda.

This document addresses some re-allocation issues for discussing possible improvements in the quality and use of time series in the International Trade by Commodity Statistics (ITCS) database and also reports on the current availability of data in the database. It presents the main methodological issues faced after two years of data collection and dissemination of the HS2007 classification and sets out the “inflation” of some commodity codes as well as important break in series in historical HS classifications.

Delegates are kindly requested to review the information reported, and the Secretariat encourages all member countries to report information that would provide guidance on this correspondence issue.

Contact persons: Eric GONNARD, E-mail: eric.gonnard@oecd.org ; Blandine SERVE, E-mail: blandine.serve@oecd.org ; Colin WEBB, E-mail: colin.webb@oecd.org

IMPROVING THE DATA QUALITY OF MERCHANDISE TRADE STATISTICS
THE OECD INTERNATIONAL TRADE BY COMMODITY STATISTICS (ITCS) DATABASE:
ALLOCATING DATA FROM HS 6 DIGIT TO HS 2 DIGIT

Eric Gonnard, Blandine Serve, Colin Webb

1 - Introduction

1. This document addresses some re-allocation issues faced by the Secretariat as it strives to improve the quality and use of time series in the International Trade by Commodity Statistics (ITCS) database. The OECD trade statistics team is committed to continuously improving the quality of ITCS. Clearly, an improved quality of the ITCS database would facilitate analysis of the impacts of international trade on economic development, and would provide a valuable contribution to the policy dialogue on globalization.

2. This paper describes issues concerning the conversion of data across successive classifications. This includes the increase in the number of commodity codes as well as important breaks in series in the historical HS classifications. International trade in goods data from 2007 are compiled by OECD and UNSD according to the 2007 revision of the Harmonised Commodity Description and Coding System (HS 2007). Continuing with established practice, such data are converted to earlier versions of HS to allow users to extract long time series – the most common requests being for HS 1988 which currently allow users to extract data for the period 1988-2008.

3. Users requiring long-time series and choosing earlier versions of HS for data extraction may get 2-digit data from 2007 onwards that do not match the original 2-digit data according to HS 2007 i.e. there will be a break in series. This is because the HS 2007 to HS 2002 conversion is carried out at the 6-digit level only with the 2-digit data for HS 2002 being calculated as the sum of the transformed 6-digit data. In the current process used by OECD and UNSD, certain codes in HS 2007 (denoting confidential data for example) are not converted to HS 2002 (nor subsequently converted from HS2002 to earlier classifications).

4. After a short presentation of the current methodology used for converting the data to earlier revisions of HS to generate longer series, the authors illustrate the problems and propose solutions that should improve the quality of international trade in goods data distributed by both OECD and UNSD. They also present work currently performed by the OECD Science, Technology and Industry (STI) Directorate aimed on improving the treatment of correspondence of Information, Communication Technology (ICT) goods. Delegates are requested to review the information reported. The Secretariat encourages all Delegates to the WPTGS to report any additional information that would provide further guidance on this issue.

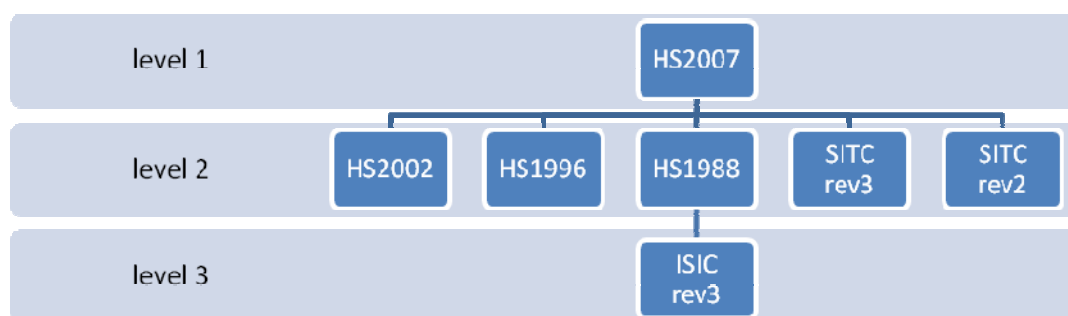
2 – Background information: current methodology used

Cascade of classifications

5. As from 2002, OECD and UNSD have joined forces in the data collection, data processing and dissemination of harmonized trade data. The OECD collects data from its Member Countries on international trade in goods in national currency, with imports expressed in CIF and exports in FOB, following the recommendations of the International Merchandise Trade Statistics (IMTS) Manual Revision 2.

6. In all OECD countries, data are collected using the latest Harmonized Commodity Description and Coding System (HS)¹ or some derived classification. In order to generate long series, the conversion tables, provided by the UNSD, data are used to converted to: i) previous HS classifications; ii) the Standard International Trade Classification (SITC); and iii) the International Standard Industrial Classification of All Economic Activities (ISIC). Chart 1 presents the sequence of conversions implemented by the Secretariat. These re-classifications have been implemented as from the reference HS 2007. Similar logic was used for earlier classifications.

Chart 1: Sequence of conversions across classifications – data from 2007



Confidential data

7. HS trade data are converted from a classification into another at the 6-digits level of detail. More aggregate data, such as 2-digit chapters are computed by summing the more detailed data. However, some non standard codes are not converted across classifications – in particular, Memorandum Items (MI). Memorandum Items are defined as *special codes to process as accurately as possible special transactions*, and complement the HS classification for coding and disseminating every kind of customs/administrative transactions. These memorandum items are particularly important when processing data from EU member countries. Confidential data are often coded in those Memorandum Items.

8. These special transactions², following the recommendation of the IMTS manual, are recorded by reporter countries under a specific HS chapter in order to make some data confidential, or under the

¹ Following the recommendations made by the WCO customs co-operation council/statistical commission for compilation and dissemination of countries international trade statistics, paragraph 95 IMTS rev 2.

² Under these special transactions, countries record confidential items but also a wide range of administrative transactions, for instance, Canada records also under chapter 98 and 99 low value transactions, repairs to equipment,

chapters 98 and 99. If it is not possible, countries are advised “that the goods be included in the appropriate commodity category at as low a level of commodity classification as permitted to countries to report their confidential information. If special codes are not attributed to identify data in each chapter, it is recommended that countries provide appropriate totals at a higher level than 6digits”.

9. In order to harmonize the data across countries, these transactions are recoded under the 6-digit codes ‘hsCF00’ (‘hs’ stands for the specific chapter where the confidential item should be reallocated to) and ‘hsEUxx’ (‘EU’ is referring to Eurostat Combined Nomenclature, and ‘xx’ stands for the previous OECD classification³). The number of chapters with MI varies widely across OECD countries: for example, for the reference year 2007, MI are allocated to only one chapter for 12 countries, and spread across more than 90 chapters for 4 countries⁴.

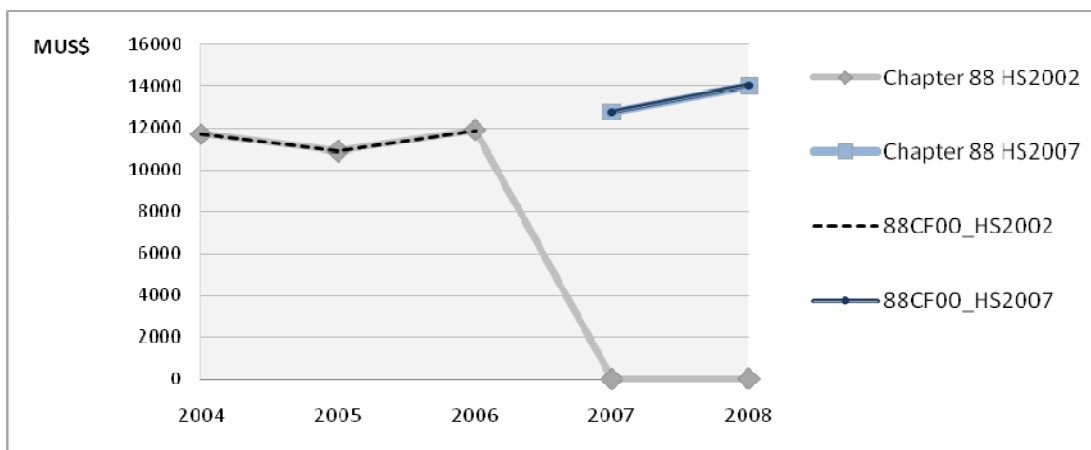
3 - Description of the issues

Drop in long time series, the major issue

10. Long time series are the most used and requested OECD trade statistics. Users of OECD.stat are overwhelmingly downloading datasets which have the longest series (HS 1988 and SITC). The HS 1988 dataset is available free of charge which can explain its popularity. From January to October 2009, the HS 1988 dataset ranked as the 11th most downloaded dataset from OECD.StatExtracts with about 11,000 downloads (cf. Table B in Annex). It is thus crucial to ensure the quality of these series.

11. In order to illustrate the problem of breaks in time series, the evolution of exports values of chapter 88 for United Kingdom is taken as an example. Under HS 2007, for the reference year 2007, confidential trade for chapter 88 represents 99,8% of the total trade of chapter 88. However, the HS 2002 series for chapter 88 drops sharply from 11914 MUS\$ in 2006 to 22 MUS\$ in 2007 and remains low in the following year (Chart 2). Table C in Annex reports the percentage of confidential trade by HS chapter and country for 2007 exports; this also highlights where significant breaks in series occur between 2006 and 2007 under HS 2002. The same breaks in series are observed in HS 1988 data.

Chart 2 – United Kingdom – Exports of chapter 88 “Aircraft, spacecraft, and parts thereof”



goods returned to the country of origin, private donations and gifts, military equipment and supplies, settler’s personal and household effects, articles sent to diplomatic posts and duty-free shop item purchases.

³ For more information regarding the structure of MI, cf. Legoff and Lindner (2005).

⁴ Cf. Table A in Annex: MI codification typology in 2007.

12. In practice, when downloading trade data for chapter 88 and components, users get different values depending on whether data are extracted from HS 2002 or HS 2007 datasets (see Tables 1a and 1b). This problem arises when downloading data from either ITCS or COMTRADE (both are almost identical thanks to the Memorandum of Understanding between OECD and UNSD).

Table 1a – HS 2007 dataset – Query of chapter 88 tree

Year	Commodity	Classification	Partner	Flow	Reporter	Value in USD
2007	88	HS 2007	World	Exports	United Kingdom	12,761,433,532
2007	8804	HS 2007	World	Exports	United Kingdom	21,686,192
2007	88CF00	HS 2007	World	Exports	United Kingdom	12,739,747,340

Table 1b – HS2002 dataset – Query of chapter 88 tree

Year	Commodity	Classification	Partner	Flow	Reporter	Value in USD
2007	88	HS 2002	World	Exports	United Kingdom	21,686,192
2007	8804	HS 2002	World	Exports	United Kingdom	21,686,192

13. The underlying issue driving this problem is that confidential items are not converted across HS classifications but allocated to chapter 99 “*Commodities not specified according to kind*” – creating therefore a counterpart issue: the over-allocation of data to 999999 codes, which is described in the following paragraphs. This could lead to a misleading analysis when using long time series from the HS datasets. Conversely, downloading from SITC datasets does not cause a break in series, since SITC classifications have always been based on the conversion cascade; this implies that all memorandum items have consistently been re-classified in the same section 9. To summarize, information on confidential trade by SITC section is lost and imputed in section 9 but there is no break in the time-series.

Over use of 999999 codes

14. Memorandum Items codes are currently not converted through classifications in the Data Processing System used for the UN/OECD Joint Trade Database (CoprA). For each classification, CoprA is used to adjust different levels of totals with the code 999999. This code was created to fill up the gap between the 6 digit data and the Totals so that $\sum (6 \text{ digits}) = \text{Total}$. The non-conversion of MI overestimates the trade values of commodities allocated to codes 999999 (and then, in chapter 99) in all classifications which are in the second or third level of the conversion cascade (*cf. paragraph 6, Cascade of classifications*).

15. For example, HS 2002 data, when converted from HS 2007, do not include Memorandum Items nevertheless their Totals are the same as Totals in HS 2007. Differences between HS 2007 Totals and HS 2002 Totals are imputed to the 999999 code. As a result, for 8 countries, 2007 exports values of chapter 99 in HS 2002 have been inflated by more than 75% in 2007, due to the non-conversion of HS2007 special transactions in HS2002 (*cf. column %99 added of Table 2*). However, this increase only represents 1% of the total exports of OECD countries.

Table 2 – Effect of the non conversion of MI by country - 2007 exports to world

2007 exports to World	99 values in MUSD HS2007	99 values in MUSD HS2002	99 diff. in values HS02- HS07	%99 added	Total Exports in MUSD	% 99 added over Total exports
Australia	8,562	9,303	741	8.0%	140,990	0.5%
Austria	298	5,173	4,875	94.3%	156,588	3.1%
Belgium	1,685	9,334	7,649	82.0%	430,909	1.8%
Canada	16,473	16,473	0	-	420,234	-
Czech Republic	71	71	0	-	120,900	-
Denmark	1,412	1,412	0	-	101,553	-
Finland	943	998	54	5.5%	90,091	0.1%
France	5	12,197	12,193	100.0%	539,309	2.3%
Germany	72,185	88,477	16,292	18.4%	1,328,841	1.2%
Greece	769	769	0	-	23,504	-
Hungary	165	6,935	6,770	97.6%	94,591	7.2%
Iceland	51	51	0	-	4,783	-
Ireland	3,818	3,818	0	-	122,029	-
Italy	5,532	12,634	7,103	56.2%	500,227	1.4%
Japan	35,597	35,597	0	-	714,327	-
Korea	0	55	55	100.0%	371,477	0.0%
Luxembourg	280	646	366	56.7%	16,184	2.3%
Netherlands	32,582	32,582	0	-	476,843	-
New Zealand	759	759	0	-	26,948	-
Norway	4,861	4,861	0	-	136,354	-
Poland	1,674	1,674	0	-	138,785	-
Portugal	865	3,494	2,629	75.2%	51,266	5.1%
Slovak Republic	56	1,091	1,035	94.9%	58,036	1.8%
Spain	5,223	5,223	0	-	253,754	-
Sweden	10,163	10,163	0	-	169,061	-
Switzerland	0	0	0	-	172,078	-
Turkey	305	1,150	845	73.5%	107,272	0.8%
United Kingdom	1,538	25,117	23,579	93.9%	440,005	5.4%
United States	33,990	37,732	3,742	9.9%	1,162,443	0.3%
Grand Total ⁵	239,861	327,789	87,928	26.8%	8,369,385	1.1%

4 - Possible solutions to improve historical series

Improving the HS cascade

16. In order to eliminate the breaks in series described above, a possible solution would be to introduce a one-to-one mapping between HS 2007 and HS 2002, and earlier revisions of HS, at the 2-digit chapter level. The implementation of this solution is straightforward for all pairs of 2-digit chapters (HS level-1; HS level-2) where all 6-digit codes are mapped within the same pair (i.e. a one-to-one correspondence at the 2-digit level).

⁵ Total excludes Mexico for which, 2007 trade data are still reported in HS2002.

17. However, such a conversion is problematic for a few chapters, notably those where an HS level-1 chapter contains 6-digit codes which are converted into different chapters in HS level-2. That is, from a 2-digit perspective the conversion can be many-to-many. In the case of the current conversion from HS 2007 to HS 2002, there are only 5 commodity codes that are mapped to different 2-digit chapter (see Table 3). For example, all 6-digit commodities belonging to the HS 2007 chapter 30 are mapped to chapter 30 in HS 2002, except commodity 3006.91 which is allocated to HS 2002 chapter 39. All other instances of conversions across 2-digit chapters from HS level-1 to HS level-2 are detailed in the Annex, Tables D1 to D5.

Table 3 – One-to-many correspondence HS2007-HS2002

From HS 2007 6D	To HS 2002 6D	HS2007 2D	HS 2002 2D
300691	392690	30	39
852841	847160	85	84
852851	847160	85	84
852861	847160	85	84
853670	392690	85	39

18. The solution proposed by OECD Secretariat is to transfer confidential codes from HS level-1 to the same chapter in HS level-2 (i.e. transfer HS 2007 xxCF00 to HS 2002 xxCF00, for all two-digit chapters). The assumption being that a confidential code in HS 2007 (for example, 01CF00) contains the same confidential data as the equivalent chapter in HS 2002 (01CF00). Unfortunately not applicable in the case described above.

Conversions across HS 2-digit chapters: no perfect solution

19. In the case of pharmaceutical products (chapter 30), no information is available regarding the correspondence of the “confidential trade content” of the 6-digit item ‘30CF00’ in HS 2007. Should it be allocated to the HS 2002 code ‘39CF00’ (plastic and articles thereof) or to ‘30CF00’ (pharmaceutical products)? As shown in Table 3 above, four chapters (30, 39, 84 and 85) are partially linked to others. Hence, with the exception of these four chapters, the pragmatic solution proposed here is to allocate **all** ‘xxCF00’ in HS 2007 to ‘xxCF00’ in HS 2002. For the four chapters linked to others, the suggested solution is to introduce a specific codification: for example, ‘xxCFH3’⁶, would mean that the confidential item corresponds to the HS 2007 definition.

Table 4 – Coding proposition

From HS2007 6D	To HS2002 6D	To HS2002 2D
30CF00	30CFH3	30
85CF00	85CFH3	85

20. With this approach, data for chapters 30, 39, 84 and 85 in HS2002, at the 2-digit level, can be computed as the sum of the 6-digit data converted under these chapters, *plus* the transferred ‘confidential’ data. For example, the commodity HS30 will be the sum of its 6-digit data, plus 30CFH3). The breaks in series generated between HS 2002 and HS 2007 will then be considerably reduced. Appropriate metadata will explain the method used and inform about the break in series produced, like:

⁶ H3 for HS 2007, H2 for HS 2002, H1 for HS 1996, H0 for HS 1988

Chapter 30 includes all confidential items contained in chapter 30 of the HS2007, therefore includes also confidential items reported in HS2007 related to the code 300691: “Appliances identifiable for ostomy use”.

Chapter 39 excludes confidential items reported under chapter 30 in HS2007 and therefore excludes confidential items related to the code 392690 in HS2002: “Articles of plastics & arts. of oth. mats. of 39.01-39.14, n.e.s. in Ch.39 Appliances identifiable for ostomy use”.

Of course, this specific illustration of the suggested treatment of confidential items in the conversion of chapter 30 is a general issue for converting all HS memorandum items to earlier HS classifications. Consequently, if the suggested solution is agreed, it will be implemented for other HS classifications as well (cf. issues listed in Annex, Tables D1 to D5).

A complementary solution: allocation of the difference between 6-digits and 2-digits totals

21. For all countries that provide 2-digits totals (cf. Table E in Annex), currently differences between 2-digit data codes and 6-digit sums are attributed to code 999999. Instead it the differences could be allocated to code ‘hsCF00’ by calculating $hsCF00 = 2\text{-digit} - \sum 6\text{-digit}$. The calculated hsCF00 would then be transferred to HS 2002 and used in the subsequent sum to 2-digit chapters under HS 2002 (as well as the others classifications). The special treatment, described above, for intercrossing chapters would still have to be applied.

No improvement for series in SITC?

22. As already mentioned, there is no break in series in SITC trade data since all memorandum items have always been allocated to section 9 ‘*Commodities and transactions not elsewhere specified*’. In addition, the conversion between HS chapters and SITC sections is impossible, since one chapter of HS never corresponds to one section in SITC. To correct this situation, the Secretariat envisaged to ask countries to report SITC data at two-digits to the OECD, and then to adjust the conversion made with the reported figures. In fact, countries may not use the same standard conversion tables, which might result in not comparable values across countries (an additional problem is the risk of disclosing confidential values). Reducing the volume of the SITC section 99 by allocating HS 2007 memorandum items in the nearest section of the commodity does not seem achievable.

Possible modification of HS 2007 to HS 2002 conversion for ICT commodities

23. The problem of correspondences (i.e. one-to-many or many-to-many conversion codes) in HS classifications is an issue for analysts who deal with long time series. Colleagues from the OECD Science, Technology and Industry (STI) Directorate have been working on a proposal for conversion that would assure correspondence for ICT goods between HS2007 and older classifications. Definitions of ICT according to ISIC Rev. 4 and CPC Rev. 2 have been agreed by DSTI’s Working Party of Indicators for the Information Society (WPIIS)⁷ In order to monitor global trade in ICT goods, a definition based on HS 2007 is currently being finalized.

24. One of the main differences between HS 2007 and HS 2002 is the treatment of ICT goods: to take account of technological advances over the past decade new groupings of ICT goods have been created. In order to produce long time series, special attention was therefore given to the HS 2007 to HS 2002 conversion with respect to ICT. The main concern is the current conversion table using the ‘many-

⁷ Please see the Guide to Measuring the Information Society at www.oecd.org/sti/measuring-infoeconomy/guide.

to-many' correspondence from HS 2007 to HS 2002 which do not allow having consistent time series for 6-digits items. It becomes quite problematic when these 6-digit items represent major features in the ICT goods, for instance Mobile phones. 8525.20 (HS 2002) includes mobile phones among other goods and represents a value of 10 to 15% of ICT goods trade. This important 6-digit item do not have a direct correspondence in the HS 2007 classification, but is part of a 'many-to-many' correspondence scheme: 8525.20 (HS 2002) is allocated to four different items in HS 2007 : 8517.12 (which is an item including mobile phones only), 8525.60, 8517.61 and 8517.62. The former two HS 2007 items receive allocation from other HS 2002 items as well. It is therefore impossible to isolate and analyse trends for the item 8525.20 (including mobile phones) in the HS 2007 classification. The Working Party of Indicators for the Information Society is exploring different solutions to create consistent time series between HS 2002 and HS 2007 for ICT goods.

25. It should be noted that in the HS 2007-HS 2002 correspondences pertaining to the above commodities, it is often stated that "No consensus for this link by the WCO HS committee"⁸. Therefore, since HS 2007 trade in goods data are now available for 2007 and 2008 for most countries, it may be useful to undertake a review of the many-to-one HS 2007 to HS 2002 conversion key used by OECD and UNSD involving comparative analyses of HS 2002 data to 2006 and the new HS 2007 data.

5 - Summary and choices of improvements

26. Memorandum Items are not currently converted through classifications. For data expressed in earlier revisions of HS, it causes breaks in time series and over-use of 99 commodities codes. For series in SITC, it may cause loss of accuracy in confidential codes.

In order to improve the quality of data, Delegates are invited to express their views on:

- The transfer of Memorandum Items through HS classifications by one-to-one conversions at the 2-digit chapter level in order to minimize breaks in series;
- The creation and transfer of special Memorandum Items to account for the cases where conversion of 6-digit data goes across 2-digit chapters;
- The calculation of confidential trade by chapter using the difference between sum of 6-digit and 2-digit data;
- Conversion of Memorandum Items of HS codes into SITC codes.

⁸ More information on <http://unstats.un.org/unsd/cr/registry/regso.asp?Ci=54&Lg=1&Co=&T=0&p=111>

ANNEX

Table A - MI codification typology in 2007

Country	Number of MI		Number of chapters with MI	
	Imports	Exports	Imports	Exports
Australia	2	3	2	2
Austria	45	45	45	45
Belgium	10	23	8	19
Canada	3	7	1	4
Czech Republic	2	2	1	1
Denmark	1	1	1	1
Finland	5	7	2	2
France	26	32	24	31
Germany	10	17	9	16
Greece	1	1	1	1
Hungary	1	1	1	1
Iceland	2	1	2	1
Ireland	2	2	1	1
Italy	101	101	96	96
Japan	1	1	1	1
Korea	17	4	17	4
Luxembourg	97	97	97	97
Mexico	28	25	27	24
Netherlands	1	1	1	1
New Zealand	1	3	1	1
Norway	12	12	1	1
Poland	3	4	1	1
Portugal	97	96	97	96
Slovak Republic	68	90	67	89
Spain	1	1	1	1
Sweden	3	3	1	1
Switzerland	0	0	0	0
Turkey	7	8	7	8
United Kingdom	20	30	17	29
United States	1	2	1	2

Table B - Downloads and Views of ITCS datasets on the website OECD.SourceExtracts from Google Analytics

Period	Jan 1, 2009 to Oct 1, 2009	Sep 1, 2009 to Oct 1, 2009
Downloads of data		
HS1988	10,778	741
HS1996	82	0
HS2002	132	13
HS2007	63	14
SITC rev 2	430	21
SITC rev 3	3,084	99
Views of dataset page		
HS1988	13,778	1938
HS1996	167	13
HS2002	456	42
HS2007	374	76
SITC rev 2	423	28
SITC rev 3	1,120	92

Table C - Percentage of confidential trade by HS chapter and country – 2007 exports

Notes:

Percentages are computed as: |(HS2002 value – HS2007 value) / HS2007 value * 100|.

Countries are not reported if there is no confidential trade.

Chapters 30, 39, 84 and 85 are not reported since differences are due to inter-crossing issues.

Chapters	Australia	Austria	Belgium	Finland	France	Germany	Hungary	Italy	Korea	Luxembourg	Portugal	Slovak Rep.	Turkey	United Kingdom	USA	Total
01	-	0.0	-	-	-	-	4.3	9.2	-	3.7	26.5	0.0	-	-	-	0.3
02	-	-	-	-	-	-	5.4	2.0	-	9.2	5.8	4.0	-	-	-	0.2
03	-	0.1	-	-	-	-	52.2	3.9	0.0	4.6	3.5	8.4	-	-	-	0.1
04	-	-	-	-	-	-	8.0	2.0	-	1.1	1.9	0.0	-	-	-	0.1
05	-	-	-	-	-	-	3.9	4.1	-	16.3	4.3	4.8	-	-	-	0.3
06	-	-	-	-	-	-	4.6	4.6	-	34.3	12.7	16.8	-	-	-	0.4
07	-	-	-	-	-	-	5.4	4.5	-	19.0	2.7	2.2	-	-	-	0.3
08	-	-	-	-	-	-	7.5	3.2	-	2.1	7.3	0.6	-	-	-	0.4
09	-	0.0	-	-	-	-	3.3	2.8	-	0.6	4.1	0.3	-	-	-	0.4
10	-	-	-	-	-	-	4.7	1.4	-	2.2	4.6	0.0	-	-	-	0.2
11	-	41.0	21.6	-	13.1	-	2.9	4.4	-	0.4	6.8	0.3	-	-	-	5.6
12	-	-	-	-	-	-	5.4	4.4	-	6.2	9.4	0.7	-	-	-	0.2
13	-	-	-	-	54.3	-	2.7	0.7	-	27.6	0.1	5.0	-	-	-	9.2
14	-	-	-	-	-	-	10.1	1.1	-	2.7	49.2	0.3	-	-	-	0.7
15	-	-	-	-	-	-	2.8	2.2	-	18.9	5.0	10.5	-	-	-	0.3
16	-	-	-	-	-	-	5.9	2.1	-	8.7	1.1	1.0	-	-	-	0.2
17	-	19.1	15.9	-	30.2	-	32.8	1.2	-	16.6	0.4	10.2	-	-	-	8.2
18	-	-	-	-	-	-	7.9	1.0	-	23.5	3.9	8.1	-	-	-	0.2
19	-	-	-	-	-	-	5.5	2.5	-	5.0	19.2	0.0	-	-	-	0.5
20	-	6.2	-	-	-	-	2.7	1.5	-	0.5	0.5	2.7	-	-	-	0.4
21	-	-	-	-	9.2	-	3.1	1.6	-	4.9	1.8	0.3	-	-	-	0.9
22	-	-	-	-	-	-	4.8	2.1	-	1.5	2.0	0.0	-	-	-	0.3
23	-	-	22.1	-	-	-	3.1	3.7	-	12.6	4.1	0.7	-	-	-	2.0
24	-	-	-	-	-	0.5	27.7	0.2	11.5	0.1	0.2	73.7	-	-	-	0.5
25	-	0.0	-	-	13.9	-	28.4	2.6	-	0.1	5.1	0.9	9.4	2.2	-	2.1
26	3.2	-	-	-	-	-	53.6	1.5	-	11.8	0.2	41.8	-	-	-	1.7
27	-	0.0	0.6	1.1	0.0	0.0	3.0	0.1	-	0.7	2.4	5.1	-	0.7	-	0.2
28	-	65.4	21.5	-	20.1	-	8.5	1.4	-	4.4	5.0	8.8	64.2	63.1	-	9.7
29	-	29.5	4.0	-	32.8	0.1	37.9	0.4	-	1.7	1.4	29.9	6.0	7.3	-	3.1
31	-	92.5	-	-	3.5	-	10.1	1.8	-	5.5	2.0	22.5	-	43.1	100.0	23.9
32	-	0.1	-	-	1.3	-	4.4	2.4	-	3.2	2.5	0.1	-	5.1	-	0.6
33	-	-	-	-	-	-	3.8	1.9	-	1.0	2.5	0.0	-	-	-	0.1
34	-	-	-	-	-	-	2.8	1.5	-	4.5	3.7	-	-	-	-	0.2
35	-	30.7	-	-	-	-	6.4	1.7	-	17.8	15.2	0.0	-	7.3	-	0.9
36	-	84.8	-	-	19.7	-	58.1	1.2	-	18.3	28.6	7.5	-	69.0	-	9.2
37	-	-	-	-	-	-	40.6	0.8	-	3.2	14.5	0.5	-	-	-	0.1
38	-	8.7	-	-	1.3	-	3.2	1.6	-	23.5	39.3	1.2	-	1.6	-	0.6
40	-	3.5	-	-	4.7	-	3.7	1.3	-	0.7	1.3	0.1	-	8.5	-	1.0
41	-	-	-	-	-	-	7.3	1.8	-	38.9	6.7	1.9	-	-	-	0.6
42	-	-	-	-	-	-	3.4	1.6	-	4.6	10.3	0.0	-	-	-	0.5
43	-	0.0	-	-	-	-	41.0	2.5	-	59.9	4.3	14.4	-	-	-	0.4
44	-	0.6	2.2	-	-	-	4.9	4.0	-	3.1	8.8	0.5	-	-	-	0.5
45	-	-	-	-	-	-	27.4	1.6	-	79.5	3.6	26.4	-	-	-	2.4
46	-	0.8	-	-	-	-	3.4	0.9	-	59.8	45.0	0.4	-	-	-	0.4
47	-	-	-	-	-	-	3.0	5.7	-	1.2	0.8	0.8	-	-	-	0.1
48	-	8.0	-	-	4.4	-	4.6	1.3	-	0.8	46.3	8.7	-	-	-	1.2
49	-	-	-	-	-	-	12.1	1.7	-	1.8	18.3	0.0	-	9.2	-	1.6

Table C - continued

Chapters	Australia	Austria	Belgium	Finland	France	Germany	Hungary	Italy	Korea	Luxembourg	Portugal	Slovakia	Turkey	United Kingdom	USA	Total
50	-	-	-	-	-	-	100.0	1.5	-	83.1	12.7	0.1	-	-	-	0.8
51	-	-	-	-	-	-	3.9	0.9	-	55.2	6.5	5.8	-	-	-	0.4
52	-	-	-	-	-	-	32.9	1.0	-	1.0	8.0	8.5	-	-	-	0.4
53	-	-	-	-	2.9	-	9.8	1.4	-	4.5	18.0	81.0	-	-	-	1.2
54	-	10.1	20.1	-	-	-	6.1	1.6	-	0.1	3.5	4.3	-	31.1	-	2.7
55	-	67.7	-	-	11.9	-	17.5	1.8	-	13.6	6.6	12.3	26.9	18.6	-	7.9
56	-	-	-	-	-	-	3.1	1.3	-	0.6	21.6	0.1	-	-	-	0.5
57	-	0.0	-	-	-	-	5.0	0.6	-	43.5	3.0	0.5	-	-	-	0.1
58	-	-	-	-	-	-	4.4	2.6	-	8.0	2.0	31.3	-	-	-	0.5
59	-	8.7	-	-	-	-	3.6	1.7	-	0.1	7.2	0.4	-	-	-	0.4
60	-	-	-	-	-	-	10.5	2.1	-	53.6	10.1	13.1	-	-	-	0.4
61	-	0.1	-	-	0.0	-	7.1	2.0	-	2.0	4.4	0.0	-	-	-	0.6
62	-	-	-	-	0.0	-	3.5	1.4	-	0.4	5.4	0.0	-	-	-	0.5
63	-	-	-	-	0.0	2.1	4.1	3.1	-	0.2	3.2	0.1	-	-	-	0.6
64	-	0.0	-	-	0.0	-	4.2	1.9	-	3.5	2.4	-	-	-	-	0.8
65	-	0.5	-	-	-	-	1.4	3.1	-	18.6	4.1	-	-	-	-	0.6
66	-	-	-	-	-	-	10.3	5.2	-	32.9	12.9	-	-	-	-	0.9
67	-	-	-	-	-	-	0.8	2.1	-	7.3	35.0	0.2	-	-	-	0.5
68	-	0.0	-	-	-	-	6.7	2.3	-	10.7	5.1	0.1	-	-	-	0.5
69	-	-	-	-	-	0.0	17.2	0.7	-	9.6	2.1	0.4	-	-	-	0.5
70	-	6.7	3.4	-	-	0.0	8.7	1.2	-	3.3	2.0	0.1	-	2.5	-	0.8
71	-	-	-	-	0.1	-	31.6	1.5	-	21.5	7.2	8.4	-	-	-	0.1
72	-	5.5	1.9	-	1.0	-	15.5	1.1	-	0.5	1.9	1.7	-	-	-	0.6
73	-	0.4	2.1	-	6.5	1.2	6.5	1.5	-	0.8	4.8	0.3	-	-	-	1.0
74	-	0.2	-	-	1.0	-	9.5	1.3	-	0.2	4.9	37.3	-	2.3	-	0.5
75	-	-	-	-	-	-	7.6	1.7	-	22.7	0.1	1.4	-	-	-	0.0
76	-	-	-	-	-	0.0	6.1	1.9	-	0.0	2.6	1.4	-	-	-	0.2
78	-	-	-	-	-	-	19.9	0.3	-	45.3	2.5	-	-	13.3	-	1.4
79	-	1.0	77.7	-	50.6	-	4.3	1.4	-	7.0	22.5	0.0	-	2.7	-	12.5
80	-	-	-	-	-	-	2.9	3.4	-	29.4	10.8	1.9	-	-	-	0.2
81	-	60.1	15.3	-	24.7	-	9.5	0.9	-	2.0	-	55.8	-	1.1	-	6.6
82	-	0.8	-	-	-	2.7	4.4	3.4	-	0.1	6.6	0.0	-	-	-	1.0
83	-	-	-	-	-	-	3.9	2.2	-	1.6	4.1	-	-	-	-	0.4
86	-	-	-	-	-	-	6.6	1.6	-	1.2	0.4	6.5	-	-	-	0.4
87	-	0.3	-	-	-	3.8	3.8	0.9	-	4.2	1.4	0.0	0.3	1.6	-	1.0
88	-	-	-	-	-	6.8	76.4	0.4	-	0.1	1.1	72.1	-	99.8	-	8.3
89	-	-	-	-	-	-	6.7	1.0	-	8.0	1.1	6.1	0.1	46.6	-	2.0
90	-	0.3	-	-	-	0.2	15.4	1.5	-	0.7	15.9	1.1	-	0.1	-	0.3
91	-	-	-	-	-	-	12.3	1.0	-	5.9	5.8	0.5	-	-	-	0.1
92	-	37.5	-	-	-	-	3.5	4.1	-	81.5	10.8	2.7	-	-	-	0.9
93	-	74.3	70.6	-	-	-	96.5	1.7	-	29.2	0.4	4.4	16.2	78.4	-	12.8
94	-	0.0	-	-	-	0.0	3.8	2.2	-	0.0	3.8	-	-	-	-	0.5
95	-	1.5	-	-	0.0	-	3.2	2.3	-	4.9	14.8	0.1	-	-	-	0.2
96	-	-	-	-	-	-	4.8	2.9	-	36.1	50.5	0.0	-	-	-	0.7
97	-	-	-	-	-	-	1.8	0.9	-	30.1	20.7	20.7	-	-	-	0.0

Example
taken for
illustration
(paragr. 11)

Table D - Commodities converted in another chapter of HS, many-to-many relationships

D1 - HS2007-HS1996 conversion

From HS2007 6D	To HS1996 6D	HS2007 2D	HS1996 2D
300670	382490	30	38
300691	392690	30	39
846721	850810	84	85
846722	850820	84	85
846729	850880	84	85
852841	847160	85	84
852851	847160	85	84
852861	847160	85	84
853670	392690	85	39

D2 - HS2007-HS1988 conversion

From HS2007 6D	To HS 1988 6D	HS 2007 2D	HS1988 2D
290545	152090	29	15
300670	382390	30	38
300691	392690	30	39
382311	151911	38	15
382312	151912	38	15
382313	151913	38	15
382319	151919	38	15
382370	151930	38	15
846721	850810	84	85
846722	850820	84	85
846729	850880	84	85
852841	847192	85	84
852851	847192	85	84
852861	847192	85	84
853670	392690	85	39

D3 - HS2002-HS1996 conversion

From HS2002 6D	To HS1996 6D	HS2002 2D	HS1996 2D
300670	382490	30	38
382530	901839	38	90
846721	850810	84	85
846722	850820	84	85
846729	850880	84	85

D4 - HS2002-HS1988 conversion

From HS2002 6D	To HS1988 6D	HS2002 2D	HS1988 2D
290545	152090	29	15
300670	382390	30	38
382311	151911	38	15
382312	151912	38	15
382313	151913	38	15
382319	151920	38	15
382370	151930	38	15
382530	901839	38	90
846721	850810	84	85
846722	850820	84	85
846729	850880	84	85

D5 - HS1996-HS1988 conversion

From HS1996 6D	To HS1988 6D	HS1996 2D	HS1988 2D
290545	152090	29	15
382311	151911	38	15
382312	151912	38	15
382313	151913	38	15
382319	151920	38	15
382370	151930	38	15

Table E: Number of digits reported by countries for the year 2007

Countries	HS 2 digits	HS 6 digits	HS 8 digits or more	a yearly-basis list of HS confidential commodities
Australia			X	
Austria			X	
Belgium			X	
Canada			X	
Czech Republic	X		X	
Denmark			X	
Finland	X		X	
France			X	
Germany	X	X		
Greece			X	
Hungary	X		X	
Iceland			X	
Ireland			X	
Italy			X	
Japan	X		X	
Korea		X		
Luxembourg	X		X	
Mexico		X	X	
Netherlands	X		X	
New Zealand	X		X	X
Norway			X	X
Poland			X	
Portugal	X		X	
Slovak Republic			X	X
Spain	X		X	
Sweden	X		X	
Switzerland			X	
Turkey			X	
United Kingdom			X	X
United States			X	

REFERENCES

Guo, D. & Webb, C. & Yamano, N (2009). Towards harmonized trade data for Inter-country Input-Output analysis: statistical issues. DSTI/DOC(2009)4.

Eberth, F. (2007). Meeting user needs – specific analytical extension of ITCS. STD/NAES/TASS/ITS(2007)3.

Legoff, G. (2006). The New and Operational UNSD-OECD Joint Trade Data Collection and Processing System, Methodological Issues. STD/NAES/TASS/ITS(2006)5.

Legoff, G. & Lindner, A. (2005). The OECD ITCS database in the UN/OECD joint trade data collection and processing system. STD/NAES/TASS/ITS