

Explanatory note:  
Export of Value Added Database

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## **1 Introduction**

The relevance of services to competitiveness hinges in part on the strength of economy- wide linkages. The Export of Value Added (EVA) database illustrates the strength of such linkages. It provides data on how value added structures and services linkages to trade have evolved over time. Thanks to repeated updating of the GTAP dataset, we have data for both cross border linkages in recent years, and how these have changed since the early 1990s. This serves as the basis for the database, which builds on Christen, Francois, and Hoekman (2012) and Francois, Manchin, and Tomberger (2012). We work with a panel of global input-output data (a set of global social accounting matrices spanning intermittent years from 1992 to 2011) that covers not only key OECD economies, but also a range of developing countries as well.

## **2 Source data**

We work with multiple versions of the GTAP database, benchmarked to 1992, 1995, 1997, 2001, 2004, 2007 and 2011. It represents a form of social accounting data – a variation on the social accounting matrix or SAM – where incomes or receipts are shown in the rows of the SAM while expenditures or outlays are shown in the columns.

The basic structure of the GTAP dataset is well documented (see McDougall 2001, and McDougall et al 2005). The GTAP website also provides extensive documentation on the underlying data structure, its sources, the GTAP model structure for each release ([www.gtap.org](http://www.gtap.org)). It is produced by a consortium that includes the World Bank, US International Trade Commission, World Trade Organization, OECD, UNCTAD, UNFAO and a number of universities and research institutes. It represents a massive combined effort to produce a shared public good – a database of national input-output tables, organized as social accounting data and linked to each other through trade and investment flows. The project itself, based at Purdue University, has been a massive undertaking. (Hertel 2012). It stands as a critical, open source input to applied policy modeling

ranking from climate change to regional trade agreements and food security. Over time, the dataset has grown to include more countries and more sectors.

The GTAP database has been continuously updated and extended to new countries and sectors over each new release. However, in order to maintain backward compatibility, in our technical paper Francois, J., Manchin, M. and P. Tomberger (2013) we start with the 1992 structure of regions and sectors, and carry this forward in aggregation of more recent iterations of the dataset. This implies that we work with fewer countries and sectors than what is currently available in the dataset; nevertheless, we can maintain consistency. This structure is detailed in

Table 1 below providing a list of regions and sectors included in the dataset. Nevertheless, in the dataset, we include for each year all the available new regions (see the list of countries and the corresponding income groups in Annex III. List of countries with corresponding country group for each year).

**Table 1 Regions and sectors**

	<i>Regions</i>		<i>Sectors</i>
aus	Australia	aff	Agr, Forestry, Fisheries
nzl	New Zealand	pdf	Processed Foods
jpn	Japan	egy	Energy Extraction
kor	Korea	omn	Minerals nec
idn	Indonesia	b t	Beverages and Tobacco Products
mys	Malaysia	tex	Textiles
phl	Philippines	wap	Wearing Apparel
sgp	Singapore	lea	Leather Products
tha	Thailand	lum	Wood Products
chn	China	ppp	Paper Products, Publishing
hkg	Hong Kong	crp	Chemical, Rubber, Plastic Products
twm	Taiwan	nmm	Mineral Products nec
ind	India	i s	Ferrous Metals
ras	Rest of South Asia	nfm	Metals nec
can	Canada	fmp	Metal Products
usa	United States	trn	Transport Equipment
mex	Mexico	mac	Machinery and Equipment nec
cam	Central America, Caribbean	omf	Manufactures nec
arg	Argentina	egw	Electricity, Gas, Water
bra	Brazil	cns	Construction
chl	Chile	tt	Trade and Transport Services
rsm	Rest of South America	osp	Other Private Services
e12	European Community 12	osg	PubAdmin/Defence/Health/Educat
ec3 eea fsu mea ssa row	Austria, Finland, Sweden new EU12 Members Former Soviet Union Rest of Middle East Rest of Sub-Saharan Africa Rest of World	dwe	Dwellings

### 3 Methodology

The structure of the data provides a comprehensive and consistent record of national income accounting relationships between different sectors and regions. It is based on a fundamental, general equilibrium principle of economics – every income (receipt) has a corresponding expenditure (outlay). The strength of this framework is that it provides a comprehensive record of the interrelationships of an economy, including intermediate and final demand linkages. For our purposes, it offers the advantage of linking consumption and external trade patterns explicitly to the inter-industry structure of intermediate demand. This allows for a fuller analysis than is possible when working strictly with input-output tables.

This complex structure of the dataset allows us to obtain the value added content of final output and exports including both direct and indirect value added. In order to obtain these, we first need to calculate intermediate multiplier matrixes which will be then used to multiply exports and final outputs to obtain the corresponding value added shares. The first matrix which is calculated, is the widely used Leontief matrix ( $M$ ) which measures the inputs contained in a unit of final output. This  $M$  matrix contains both direct and indirect inputs. Next, we need to calculate a matrix which has the value added shares of total output (which will be matrix  $\hat{B}$ ). Using these two matrixes as multipliers one can obtain the value added shares of exports and final outputs. This is explained in what follows more formally.

We begin by denoting a representation of intermediate and final demands as follows:

$$Y=Z-AZ \tag{1}$$

In equation (1), the term  $Y$  denotes a final demand vector,  $Z$  denotes a gross output vector, and  $A$  denotes a matrix of intermediate use coefficients. Equation (1) therefore defines final output with respect to intermediate input requirements. With some manipulation we arrive at the Leontief inverse matrix, also known as the multiplier matrix  $M$ .

$$Z=(I-A)^{-1} Y=MY \quad (2)$$

The multiplier matrix  $M$  measures the inputs contained in a unit of final output. In particular, if we assign the sector indexes  $i, j$  to the  $A$  and  $M$  matrices, then a representative element of the  $M$  matrix  $M_{ij}$  gives the direct and indirect inputs (and thus the sector  $i$  receipts) linked to each unit (for example each dollar) of sector  $j$  receipts in the data.<sup>1</sup> This implies real production activities measured by value of output. For our purposes, it provides a means to trace, through these income flows, the flow of gross activity and value added from intermediate to final goods and services, ostensibly across borders as well as sectors. Because linkages will vary by industry, each industry will be characterized by different multipliers. To focus on value added, we note first that in terms of gross output values  $Z$ , some share of this involves value added within each sector. We define  $\hat{B}$  as the diagonal matrix indexed over  $i, j$  with diagonal elements equal to the value added shares of output  $Z$ . We then use  $M$  to provide a breakdown of the flow of value added across activities in the form of the matrix  $V$ .

$$V= \hat{B} M \quad (3)$$

Similar to the Leontief inverse matrix itself, the  $V$  matrix identifies the inputs of value added in each sector related to a unit of final demand. If we multiply  $V$  by the diagonal matrix  $\hat{Y}$  whose non-zero elements are the vector of final outputs, the matrix yields a breakdown of economy-wide value added (the primary component of Gross National Product on a source basis). Similarly, if we multiply  $V$  by the diagonal matrix  $\hat{X}$  whose non-zero elements are the national export vector, we can recover the value added content of exports  $X$  (both direct and indirect).

$$G=V \hat{Y} \quad (4)$$

$$H=V \hat{X} \quad (5)$$

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<sup>1</sup> In multiplier analysis with fixed input coefficients, these values also represent fixed unit input requirements in value terms, though of course in CGE models one can allow for these coefficients to be endogenous.

The G matrix and the H matrix give us the set of linkages, both direct and indirect, between value added across sectors.

## 4 Example

We provide an example for Italy in 2007 in Table 2 below.<sup>22</sup> In the table, we have aggregated Italy into 10 broad sectors. Column A provides the allocation of value added across sectors. Column B then provides the shares of each of the 10 sectors in gross exports by Italy in 2007. From the table, commercial services accounted for 44 percent of value added, but 17 percent of exports. Column C then provides shares for value of exports on a value added basis. In the case of commercial services, this includes not only value added contained in direct exports of commercial services, but also value added contained in commercial services used in the production of other goods and services (like motor vehicles and processed foods and beverages) for export. On this basis, the relative importance of commercial services in exports is close to the importance for the overall domestic economy. Column D provides an alternative view, based on the upstream domestic value added contained in exports. On this basis, we see for example that machinery accounted for 27 percent of the value added contained in Italian exports in 2007. This follows from not only labor and capital in the sector, but also the primary inputs employed in other sectors that provided inputs to the machinery sector, including services.

In order to better explain forward and backward linkages and the construction of Table 2, the matrixes used for constructing this table need to be discussed. The values in Table 2 are themselves based on the G matrix and the H matrix as defined above. These give us the set of linkages, both direct and indirect, between value added across sectors. These underlying matrices are provided for Italy in Table 3 and

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<sup>2</sup> This example is calculated directly from the attached database, using the data of Italy.

Table 4 below. These are based on aggregation of the EVA database to 10 sectors as indicated in the tables. Starting with Table 3, we can see that 43.89 percent of value added was located in various commercial or market service activities (including for example financial services and ICT services). This follows from reading the sum of row S9. Reading the values in row S9 provides the value added in this sector, broken down into the various sectors where these activities fed, ultimately, into final demand. For example, 2.87 percent of market services value added went into other machinery (S6). Thus summing up all the value added of market services (S9) going into the different sectors gives us the total value added of this sector. This is what we call as forward linkage, counting the value added of a given sector which went into other sectors. In other words, the value added in final demand based on forward linkages for the commercial services sector (S9) is 43.89 percent.

At the same time, much of this actually served as intermediate inputs, so that in terms of final demand for commercial services, this accounted for a lower, 33.88 percent of value added (the last row in Table 3 for column S9). Reading the column totals gives us the backward linkages for a given sector. Thus the value added in final demand based on backward linkages for the commercial services (S9) is 33.88 percent. This way of calculating value added takes into account all the value added from other sectors which went into this given sector.

Basically, on a cost basis, 10 percent of value added of the economy as a whole involves commercial services used as intermediate inputs by other sectors (the difference between the row and column totals for S9 in the table). If we focus on other machinery, in terms of sales for final consumption (again the last entry in the Table for column S6) roughly 10.67 percent of total value added goes into output in this sector. However, only 7.07 percent of economy wide value added (or about two-thirds of the total) involves value added in the sector itself (last entry of row for S6). The rest

involved inputs from other sectors. Again, using market or commercial services as an example, it accounts for roughly 26.9 percent of total value added costs in the other machinery sector (as 2.87 is 26.9 percent of 10.67).

**Table 2 Detailed Value Added Composition**

	<i>value added total economy</i>	<i>gross exports share of total value</i>	<i>value added in exports: forward linkages</i>	<i>value added in exports: backward linkages</i>
	A	B	C	D
primary sectors	2.86	4.19	4.39	2.45
processed foods, beverages	2.99	4.58	3.36	4.92
textiles and clothing	3.22	10.19	6.67	10.59
chemicals, petrochemicals	4.35	13.49	9.68	12.76
motor vehicles	1.19	9.21	2.91	8.07
machinery	7.07	26.75	15.83	27.09
other manufacturing	6.12	13.31	13.34	13.19
utilities, construction	9.75	0.70	4.70	0.79
commercial services	43.89	16.95	37.54	19.33
public services	18.55	0.64	1.58	0.83
<b>total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

source: calculated from attached database.

We next turn to the export structure of Italy on a value added basis. From Table 4, market services account for 37.54 percent of Italy's exports, in terms of the activity content of trade (last row entry of S9). In other words, value added content of exports of market services based on forward linkages was 37.54 percent. However, if we focus on the value added contained in exports on a sector basis (for example how much value added was embodied in steel exports), we see that manufacturing is where Italy's exports are concentrated. For example, motor vehicles and machinery account for 35.16 percent (last entries of columns S5 and S6). Like the results for total final demand in Table 3, in terms of exports, 26.9

percent of total value added costs for other machinery exports follow from inputs of market services (S6 entry for row S9 and column total for S6).

**Table 3 Value Added Content of Final Demand G', Italy % share in 2007**

demand sectors	supply sectors										Total
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	
S1 primary production	0.77	0.71	0.16	0.10	0.03	0.13	0.07	0.16	0.64	0.09	2.86
S2 processed foods	0.03	2.05	0.11	0.05	0.02	0.07	0.02	0.05	0.51	0.08	2.99
S3 textiles clothing	0.00	0.02	2.74	0.03	0.05	0.07	0.03	0.04	0.19	0.05	3.22
S4 chemicals petrochems	0.01	0.13	0.15	2.01	0.15	0.36	0.13	0.72	0.43	0.26	4.35
S5 autos	0.00	0.01	0.01	0.01	0.97	0.03	0.01	0.02	0.10	0.06	1.19
S6 other machinery	0.00	0.06	0.07	0.09	0.22	5.42	0.13	0.35	0.50	0.23	7.07
S7 other manufacturing	0.01	0.15	0.12	0.17	0.42	1.27	2.04	0.84	0.82	0.29	6.12
S8 utilities construction	0.00	0.17	0.15	0.24	0.11	0.36	0.23	7.12	0.97	0.40	9.75
S9 market services	0.06	1.10	1.23	0.93	0.89	2.87	0.96	3.06	29.40	3.39	43.89
S10 public services	0.00	0.04	0.04	0.04	0.03	0.10	0.03	0.12	0.32	17.83	18.55
Total	0.88	4.43	4.80	3.66	2.89	10.67	3.63	12.47	33.88	22.68	100

source: calculated from attached database.

**Table 4 Value Added Content of Exports H', Italy % share in 2007**

demand sectors	supply sectors										Total
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	
S1 primary production	1.77	0.77	0.38	0.36	0.10	0.32	0.28	0.01	0.40	0.00	4.39
S2 processed foods	0.05	2.26	0.26	0.16	0.05	0.16	0.08	0.00	0.32	0.00	3.36
S3 textiles, clothing	0.01	0.02	6.04	0.11	0.13	0.15	0.09	0.00	0.12	0.00	6.67
S4 chemicals, petrochemicals	0.05	0.15	0.36	7.01	0.41	0.91	0.48	0.04	0.26	0.01	9.68
S5 autos	0.00	0.01	0.01	0.02	2.70	0.07	0.02	0.00	0.06	0.00	2.91
S6 other machinery	0.03	0.07	0.16	0.31	0.62	13.81	0.51	0.02	0.31	0.01	15.83
S7 other manufacturing	0.03	0.17	0.27	0.59	1.17	3.19	7.36	0.05	0.50	0.01	13.34
S8 utilities, construction	0.19	0.20	0.34	0.83	0.31	0.91	0.84	0.47	0.59	0.01	4.70
S9 market services	0.30	1.23	2.67	3.25	2.49	7.30	3.42	0.18	16.58	0.12	37.54
S10 public services	0.02	0.04	0.08	0.13	0.09	0.26	0.10	0.01	0.19	0.65	1.58
Total	2.45	4.92	10.59	12.76	8.07	27.09	13.19	0.79	19.33	0.83	100

source calculated from attached database.

## 5 References

Christen, E., J. Francois and B. Hoekman (2012), "CGE Modeling of Market Access in Services," in P.B. Dixon and D.W. Jorgenson eds Handbook of Computable General Equilibrium Modeling Elsevier (forthcoming).

Francois, J., Manchin, M. and P. Tomberger (2013), "Services Linkages and the Value Added Content of Trade," working paper, Johannes Kepler University Linz.

Hertel, T. (2012), "The Global Trade Analysis Project," in P.B. Dixon and D.W. Jorgenson eds Handbook of Computable General Equilibrium Modeling Elsevier (forthcoming).

McDougall, R., ed. (2001). The GTAP database – version 5, Global Trade Analysis Center: Purdue University.

McDougall, RA and J. Hagemeyer, "Services Trade Data," in Dimaranan, B.V, and R.A. McDougall (editors), 2005, Global Trade, Assistance, and Production: The GTAP 6 Data Base, Center for Global Trade Analysis, Purdue University.

## Annex I. Reference for the variables and files used in the Export of Value Added Database

The purpose of this annex is to serve as a reference of all the variables and files used in the value added.

### List of variables

#### **Sector\_GMatrix:**

This matrix contains the total domestic value added based on linkages. Depending whether rows or columns are considered its sum corresponds to forward (row) or backward (column) linkages. Thus reading a row for a given sector (sector presented on the y-axis) provides information about how much this sector went into each sector (on the x-axis) as inputs. The matrix corresponds to matrix G as described in the explanatory note and in Francois, Manchin, and Tomberger (2012).

#### **DomVShare:**

This vector denotes the domestic share of value added of gross value of output per sector. The diagonal matrix  $\hat{B}$ , as described in the explanatory note and Francois/Manchin/Tomberger (2012), contains those shares on its diagonal.

#### **GXshare:**

Denotes the share of each sector in total exports per country based on the gross value of exports. See also Table 3 of Francois, Manchin, and Tomberger (2012).

#### **DXshare:**

Denotes the share of each sector's exports of total exports per country based on direct value added, ignoring linkages. See also Table 4 of Francois, Manchin, and Tomberger (2012).

#### **VXsharefwd:**

Denotes the total value added in exports based on forward linkages per sector and country. This vector corresponds to the row-sums of matrix H in the explanatory notes. See also Table 5 of Francois, Manchin, and Tomberger (2012).

#### **VXsharebwd:**

Denotes the total value added in exports based on backward linkages. It is obtained by taking the column-sums of matrix H. See also Table 6 of Francois, Manchin, and Tomberger (2012).

**RCAsstandard:**

This variable is a standard relative comparative advantage index for each of the sectors. See also Table 10 of Francois, Manchin, and Tomberger (2012).

**RelIntfwd:**

This is the relative intensity index for forward linkages. It is calculated similar to the RCA index, but based on value added forward linkages, given the relative intensity of each sector. See also Tables 13, 15, 17 and 19 of Francois, Manchin, and Tomberger (2012).

**RelIntbwd:**

This is the relative intensity index for backward linkages. It is calculated similar to the RCA index, but based on value added backward linkages,

**List of Files**

All files used for the database are available in standard MS Excel format (\*.xlsx), but also as comma-separated value files (\*.csv) and as STATA files (\*.dta).

**services\_VAtrade\_1992\_2011 (.xlsx, .dta, .csv):**

This file contains all the variables for all the sectors and regions available for the years 1992, 1995, 2001, 2004 and 2007.

**services\_VAtrade\_small\_1992\_2011 (.xlsx, .dta, .csv):**

This file contains a reduced version of the presented database. It offers all the variables for all countries and the whole temporal coverage, except the total domestic value added based on linkages ("G-Matrix"). The sector coverage is reduced to the service sectors egw, cns, t\_t, osp and osg.

**services\_VAtrade\_inc\_groups\_1992\_2011 (.xlsx, .dta, .csv):**

This file contains all the variables for income groups instead of single countries for all sectors and the years 1992, 1995, 2001, 2004 and 2007.

**services\_VAtrade\_inc\_groups\_small\_1992\_2011 (.xlsx, .dta, .csv):**

This file includes all the variables for income groups for the whole temporal coverage, except the total domestic value added based on linkages ("G-Matrix"). Furthermore the sector coverage is reduced to the service sectors egw, cns, t\_t, osp and osg.

**services\_VAtrade\_regions\_2004\_2011 (.xlsx, .dta, .csv):**

This file contains all the variables for geographic regions. Also the temporal coverage was reduced to the years 2004, 2007 and 2011.

**services\_VAtrade\_regions\_small\_2004\_2011 (.xlsx, .dta, .csv):**

This file contains all the variables except the total domestic value added based on linkages ("G-Matrix") for geographic regions. Also sector coverage was reduced to the service sectors egw, cns, t\_t, osp and osg.

**References**

Francois, J., Manchin, M. and P. Tomberger (2012), "Services Linkages and the Value Added Content of Trade," working paper, Johannes Kepler University Linz.

## Annex II. Concordance between sectors in the data and ISIC rev. 3.

isicrev3	Isic Rev. 3. description	GTAP sectors	GTAP description
111	Growing of cereals and other crops n.e.c.	primaryagr	Paddy rice
1531	Manufacture of grain mill products	primaryagr	Paddy rice
111	Growing of cereals and other crops n.e.c.	primaryagr	Wheat
111	Growing of cereals and other crops n.e.c.	primaryagr	Cereal grains nec
111	Growing of cereals and other crops n.e.c.	primaryagr	Vegetables, fruit, nuts
112	Growing of vegetables, horticultural specialties and nursery products	primaryagr	Vegetables, fruit, nuts
113	Growing of fruit, nuts, beverage and spice crops	primaryagr	Vegetables, fruit, nuts
1513	Processing and preserving of fruit and vegetables	primaryagr	Vegetables, fruit, nuts
111	Growing of cereals and other crops n.e.c.	primaryagr	Oil seeds
111	Growing of cereals and other crops n.e.c.	primaryagr	Sugar cane, sugar beet
111	Growing of cereals and other crops n.e.c.	primaryagr	Plant-based fibers
112	Growing of vegetables, horticultural specialties and nursery products	primaryagr	Crops nec
113	Growing of fruit, nuts, beverage and spice crops	primaryagr	Crops nec
111	Growing of cereals and other crops n.e.c.	primaryagr	Crops nec
1533	Manufacture of prepared animal feeds	primaryagr	Crops nec
121	Farming of cattle, sheep, goats, horses, asses, mules and hinnies; dairy farming	primaryagr	Bovine cattle, sheep and goats, horses
122	Other animal farming; production of animal products n.e.c.	primaryagr	Animal products nec
1511	Production, processing and preserving of meat and meat products	primaryagr	Animal products nec
121	Farming of cattle, sheep, goats, horses, asses, mules and hinnies; dairy farming	primaryagr	Raw Milk
122	Other animal farming; production of animal products n.e.c.	primaryagr	Wool, silk-worm cocoons
1511	Production, processing and preserving of meat and meat products	primaryagr	Wool, silk-worm cocoons
121	Farming of cattle, sheep, goats, horses, asses, mules and hinnies; dairy farming	primaryagr	Wool, silk-worm cocoons
200	Forestry, logging and related service activities	otherprim	Forestry
500	Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing	otherprim	Fishing
1020	Mining and agglomeration of lignite	energy	Coal
1030	Extraction and agglomeration of peat	energy	Coal
1010	Mining and agglomeration of hard coal	energy	Coal
1110	Extraction of crude petroleum and natural gas	energy	Petroleum Production
1110	Extraction of crude petroleum and natural gas	energy	Natural Gas Production
1320	Mining of non-ferrous metal ores, except uranium and thorium ores	otherprim	Minerals nec
1421	Mining of chemical and fertilizer minerals	otherprim	Minerals nec
1200	Mining of uranium and thorium ores	otherprim	Minerals nec
2411	Manufacture of basic chemicals, except fertilizers and nitrogen compounds	otherprim	Minerals nec
1429	Other mining and quarrying n.e.c.	otherprim	Minerals nec
1310	Mining of iron ores	otherprim	Minerals nec
1110	Extraction of crude petroleum and natural gas	otherprim	Minerals nec
1422	Extraction of salt	otherprim	Minerals nec
1410	Quarrying of stone, sand and clay	otherprim	Minerals nec
1511	Production, processing and preserving of meat and meat products	procfoods	Bovine meat products
1711	Preparation and spinning of textile fibres; weaving of textiles	procfoods	Meat products nec
1514	Manufacture of vegetable and animal oils and fats	procfoods	Meat products nec
1511	Production, processing and preserving of meat and meat products	procfoods	Meat products nec
1532	Manufacture of starches and starch products	procfoods	Vegetable oils and fats
1514	Manufacture of vegetable and animal oils and fats	procfoods	Vegetable oils and fats
1520	Manufacture of dairy products	procfoods	Dairy products
1531	Manufacture of grain mill products	procfoods	Processed rice
1542	Manufacture of sugar	procfoods	Sugar
1533	Manufacture of prepared animal feeds	procfoods	Food products nec
1543	Manufacture of cocoa, chocolate and sugar confectionery	procfoods	Food products nec
1541	Manufacture of bakery products	procfoods	Food products nec
1531	Manufacture of grain mill products	procfoods	Food products nec
1513	Processing and preserving of fruit and vegetables	procfoods	Food products nec

140	Agricultural and animal husbandry service activities, except veterinary activities	procfoods	Food products nec
1532	Manufacture of starches and starch products	procfoods	Food products nec
1544	Manufacture of macaroni, noodles, couscous and similar farinaceous products	procfoods	Food products nec
1549	Manufacture of other food products n.e.c.	procfoods	Food products nec
1512	Processing and preserving of fish and fish products	procfoods	Food products nec
1552	Manufacture of wines	bevtobacco	Beverages and tobacco products
4100	Collection, purification and distribution of water	bevtobacco	Beverages and tobacco products
1600	Manufacture of tobacco products	bevtobacco	Beverages and tobacco products
1551	Distilling, rectifying and blending of spirits; ethyl alcohol production from fermented materials	bevtobacco	Beverages and tobacco products
1553	Manufacture of malt liquors and malt	bevtobacco	Beverages and tobacco products
1554	Manufacture of soft drinks; production of mineral waters	bevtobacco	Beverages and tobacco products
1721	Manufacture of made-up textile articles, except apparel	textiles	Textiles
1730	Manufacture of knitted and crocheted fabrics and articles	textiles	Textiles
1729	Manufacture of other textiles n.e.c.	textiles	Textiles
1723	Manufacture of cordage, rope, twine and netting	textiles	Textiles
2519	Manufacture of other rubber products	textiles	Textiles
1711	Preparation and spinning of textile fibres; weaving of textiles	textiles	Textiles
2430	Manufacture of man-made fibres	textiles	Textiles
1722	Manufacture of carpets and rugs	textiles	Textiles
1820	Dressing and dyeing of fur; manufacture of articles of fur	clothing	Wearing apparel
1810	Manufacture of wearing apparel, except fur apparel	clothing	Wearing apparel
1920	Manufacture of footwear	leather	Leather products
1912	Manufacture of luggage, handbags and the like, saddlery and harness	leather	Leather products
1911	Tanning and dressing of leather	leather	Leather products
2022	Manufacture of builders' carpentry and joinery	lumber	Wood products
2021	Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board and other panels and boards	lumber	Wood products
2029	Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials	lumber	Wood products
2023	Manufacture of wooden containers	lumber	Wood products
3610	Manufacture of furniture	lumber	Wood products
2010	Sawmilling and planing of wood	lumber	Wood products
2219	Other publishing	paperpub	Paper products, publishing
7421	Architectural and engineering activities and related technical consultancy	paperpub	Paper products, publishing
2211	Publishing of books, brochures, musical books and other publications	paperpub	Paper products, publishing
2101	Manufacture of pulp, paper and paperboard	paperpub	Paper products, publishing
2222	Service activities related to printing	paperpub	Paper products, publishing
2212	Publishing of newspapers, journals and periodicals	paperpub	Paper products, publishing
2102	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard	paperpub	Paper products, publishing
2221	Printing	paperpub	Paper products, publishing
2109	Manufacture of other articles of paper and paperboard	paperpub	Paper products, publishing
2310	Manufacture of coke oven products	energy	Petroleum, coal products
2320	Manufacture of refined petroleum products	energy	Petroleum, coal products
2520	Manufacture of plastics products	chemicals	Chemical, rubber, plastic products
2519	Manufacture of other rubber products	chemicals	Chemical, rubber, plastic products
2413	Manufacture of plastics in primary forms and of synthetic rubber	chemicals	Chemical, rubber, plastic products
2421	Manufacture of pesticides and other agro-chemical products	chemicals	Chemical, rubber, plastic products
2424	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	chemicals	Chemical, rubber, plastic products
2422	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	chemicals	Chemical, rubber, plastic products

2511	Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres	chemicals	Chemical, rubber, plastic products
4010	Production, collection and distribution of electricity	chemicals	Chemical, rubber, plastic products
2429	Manufacture of other chemical products n.e.c.	chemicals	Chemical, rubber, plastic products
111	Growing of cereals and other crops n.e.c.	chemicals	Chemical, rubber, plastic products
2411	Manufacture of basic chemicals, except fertilizers and nitrogen compounds	chemicals	Chemical, rubber, plastic products
2330	Processing of nuclear fuel	chemicals	Chemical, rubber, plastic products
2423	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	chemicals	Chemical, rubber, plastic products
3210	Manufacture of electronic valves and tubes and other electronic components	chemicals	Chemical, rubber, plastic products
2412	Manufacture of fertilizers and nitrogen compounds	chemicals	Chemical, rubber, plastic products
2693	Manufacture of structural non-refractory clay and ceramic products	nonmetmin	Mineral products nec
2691	Manufacture of non-structural non-refractory ceramic ware	nonmetmin	Mineral products nec
2694	Manufacture of cement, lime and plaster	nonmetmin	Mineral products nec
2692	Manufacture of refractory ceramic products	nonmetmin	Mineral products nec
2699	Manufacture of other non-metallic mineral products n.e.c.	nonmetmin	Mineral products nec
2695	Manufacture of articles of concrete, cement and plaster	nonmetmin	Mineral products nec
2696	Cutting, shaping and finishing of stone	nonmetmin	Mineral products nec
1711	Preparation and spinning of textile fibres; weaving of textiles	nonmetmin	Mineral products nec
2610	Manufacture of glass and glass products	nonmetmin	Mineral products nec
2710	Manufacture of basic iron and steel	metals	Ferrous metals
2720	Manufacture of basic precious and non-ferrous metals	metals	Metals nec
1429	Other mining and quarrying n.e.c.	fabmetals	Metal products
2812	Manufacture of tanks, reservoirs and containers of metal	fabmetals	Metal products
2811	Manufacture of structural metal products	fabmetals	Metal products
2813	Manufacture of steam generators, except central heating hot water boilers	fabmetals	Metal products
2899	Manufacture of other fabricated metal products n.e.c.	fabmetals	Metal products
2893	Manufacture of cutlery, hand tools and general hardware	fabmetals	Metal products
3430	Manufacture of parts and accessories for motor vehicles and their engines	transpequip	Motor vehicles and parts
3410	Manufacture of motor vehicles	transpequip	Motor vehicles and parts
3420	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	transpequip	Motor vehicles and parts
3520	Manufacture of railway and tramway locomotives and rolling stock	transpequip	Transport equipment nec
3599	Manufacture of other transport equipment n.e.c.	transpequip	Transport equipment nec
3591	Manufacture of motorcycles	transpequip	Transport equipment nec
3592	Manufacture of bicycles and invalid carriages	transpequip	Transport equipment nec
3530	Manufacture of aircraft and spacecraft	transpequip	Transport equipment nec
3512	Building and repairing of pleasure and sporting boats	transpequip	Transport equipment nec
3511	Building and repairing of ships	transpequip	Transport equipment nec
3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods	machinery	Electronic equipment
3220	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	machinery	Electronic equipment
3000	Manufacture of office, accounting and computing machinery	machinery	Electronic equipment
3210	Manufacture of electronic valves and tubes and other electronic components	machinery	Electronic equipment
3150	Manufacture of electric lamps and lighting equipment	machinery	Machinery and equipment nec
3140	Manufacture of accumulators, primary cells and primary batteries	machinery	Machinery and equipment nec
2927	Manufacture of weapons and ammunition	machinery	Machinery and equipment nec
2915	Manufacture of lifting and handling equipment	machinery	Machinery and equipment nec
3110	Manufacture of electric motors, generators and transformers	machinery	Machinery and equipment nec

2919	Manufacture of other general purpose machinery	machinery	Machinery and equipment nec
3120	Manufacture of electricity distribution and control apparatus	machinery	Machinery and equipment nec
3320	Manufacture of optical instruments and photographic equipment	machinery	Machinery and equipment nec
2924	Manufacture of machinery for mining, quarrying and construction	machinery	Machinery and equipment nec
3190	Manufacture of other electrical equipment n.e.c.	machinery	Machinery and equipment nec
3313	Manufacture of industrial process control equipment	machinery	Machinery and equipment nec
3330	Manufacture of watches and clocks	machinery	Machinery and equipment nec
2913	Manufacture of bearings, gears, gearing and driving elements	machinery	Machinery and equipment nec
3130	Manufacture of insulated wire and cable	machinery	Machinery and equipment nec
3210	Manufacture of electronic valves and tubes and other electronic components	machinery	Machinery and equipment nec
2921	Manufacture of agricultural and forestry machinery	machinery	Machinery and equipment nec
3311	Manufacture of medical and surgical equipment and orthopaedic appliances	machinery	Machinery and equipment nec
2922	Manufacture of machine-tools	machinery	Machinery and equipment nec
2926	Manufacture of machinery for textile, apparel and leather production	machinery	Machinery and equipment nec
2912	Manufacture of pumps, compressors, taps and valves	machinery	Machinery and equipment nec
2925	Manufacture of machinery for food, beverage and tobacco processing	machinery	Machinery and equipment nec
2923	Manufacture of machinery for metallurgy	machinery	Machinery and equipment nec
2929	Manufacture of other special purpose machinery	machinery	Machinery and equipment nec
2914	Manufacture of ovens, furnaces and furnace burners	machinery	Machinery and equipment nec
2213	Publishing of recorded media	machinery	Machinery and equipment nec
3312	Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	machinery	Machinery and equipment nec
2911	Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	machinery	Machinery and equipment nec
2930	Manufacture of domestic appliances n.e.c.	machinery	Machinery and equipment nec
9214	Dramatic arts, music and other arts activities	machinery	Machinery and equipment nec
1721	Manufacture of made-up textile articles, except apparel	othermanuf	Manufactures nec
3692	Manufacture of musical instruments	othermanuf	Manufactures nec
3691	Manufacture of jewellery and related articles	othermanuf	Manufactures nec
9302	Hairdressing and other beauty treatment	othermanuf	Manufactures nec
3610	Manufacture of furniture	othermanuf	Manufactures nec
9214	Dramatic arts, music and other arts activities	othermanuf	Manufactures nec
7494	Photographic activities	othermanuf	Manufactures nec
3699	Other manufacturing n.e.c.	othermanuf	Manufactures nec
9211	Motion picture and video production and distribution	othermanuf	Manufactures nec
3693	Manufacture of sports goods	othermanuf	Manufactures nec
3694	Manufacture of games and toys	othermanuf	Manufactures nec
4010	Production, collection and distribution of electricity	energy	Electricity
4020	Manufacture of gas; distribution of gaseous fuels through mains	energy	Gas manufacture, distribution
n.a.		water	

n.a.		construction	
n.a.		distribution	
n.a.		transport	
n.a.		transport	
n.a.		transport	
n.a.		communication	
n.a.		finance	
n.a.		insurance	
n.a.		obscure	
n.a.		consumer	
n.a.		services	
n.a.		services	

### Annex III. List of countries with corresponding country group for each year

iso3	Country names	Income group	year
aus	Australia	higinc	2011
nzl	New Zealand	higinc	2011
xoc	Rest of Oceania	-	2011
chn	China	lominc	2011
hkg	Hong Kong	higinc	2011
jpn	Japan	higinc	2011
kor	Korea	higinc	2011
mng	Mongolia	lominc	2011
twn	Taiwan	higinc	2011
xea	Rest of East Asia	lominc	2011
brn	Brunei Darassalam	higinc	2011
khm	Cambodia	lowinc	2011
idn	Indonesia	lominc	2011
lao	Lao People's Democratic Republ	lominc	2011
mys	Malaysia	upminc	2011
phl	Philippines	lominc	2011
sgp	Singapore	higinc	2011
tha	Thailand	lominc	2011
vnm	Viet Nam	lowinc	2011
xse	Rest of Southeast Asia	-	2011
bgd	Bangladesh	lowinc	2011
ind	India	lominc	2011
npl	Nepal	lowinc	2011
pak	Pakistan	lowinc	2011
lka	Sri Lanka	lominc	2011
xsa	Rest of South Asia	-	2011
can	Canada	higinc	2011
usa	United States of America	higinc	2011
mex	Mexico	upminc	2011
xna	Rest of North America	higinc	2011
arg	Argentina	upminc	2011
bol	Bolivia	lominc	2011
bra	Brazil	upminc	2011
chl	Chile	upminc	2011

col	Colombia	upminc	2011
ecu	Ecuador	upminc	2011
pry	Paraguay	lominc	2011
per	Peru	upminc	2011
ury	Uruguay	upminc	2011
ven	Venezuela	upminc	2011
xsm	Rest of South America	-	2011
cri	Costa Rica	upminc	2011
gtm	Guatemala	lominc	2011
hnd	Honduras	lominc	2011
nic	Nicaragua	lominc	2011
pan	Panama	upminc	2011
slv	El Salvador	lominc	2011
xca	Rest of Central America	lominc	2011
dom	Dominican Republic	upminc	2011
jam	Jamaica	upminc	2011
pri	Puerto Rico	higinc	2011
tto	Trinidad and Tobago	higinc	2011
xcb	Caribbean	-	2011
aut	Austria	higinc	2011
bel	Belgium	higinc	2011
cyp	Cyprus	higinc	2011
cze	Czech Republic	higinc	2011
dnk	Denmark	higinc	2011
est	Estonia	higinc	2011
fin	Finland	higinc	2011
fra	France	higinc	2011
deu	Germany	higinc	2011
grc	Greece	higinc	2011
hun	Hungary	higinc	2011
irl	Ireland	higinc	2011
ita	Italy	higinc	2011
lva	Latvia	upminc	2011
ltu	Lithuania	upminc	2011
lux	Luxembourg	higinc	2011
mlt	Malta	higinc	2011
nld	Netherlands	higinc	2011
pol	Poland	higinc	2011

prt	Portugal	higinc	2011
svk	Slovakia	higinc	2011
svn	Slovenia	higinc	2011
esp	Spain	higinc	2011
swe	Sweden	higinc	2011
gbr	United Kingdom	higinc	2011
che	Switzerland	higinc	2011
nor	Norway	higinc	2011
xef	Rest of EFTA	higinc	2011
alb	Albania	lowinc	2011
bgr	Bulgaria	upminc	2011
blr	Belarus	upminc	2011
hrv	Croatia	upminc	2011
rou	Romania	upminc	2011
rus	Russian Federation	upminc	2011
ukr	Ukraine	lominc	2011
xee	Rest of Eastern Europe	lominc	2011
xer	Rest of Europe	-	2011
kaz	Kazakhstan	upminc	2011
kgz	Kyrgyztan	lowinc	2011
xsu	Rest of Former Soviet Union	-	2011
arm	Armenia	lominc	2011
aze	Azerbaijan	upminc	2011
geo	Georgia	lominc	2011
bhr	Bahrain	higinc	2011
irn	Iran Islamic Republic of	lominc	2011
isr	Israel	higinc	2011
jor	Jordhan	upminc	2011
kwt	Kuwait	higinc	2011
omn	Oman	higinc	2011
qat	Qatar	higinc	2011
sau	Saudi Arabia	higinc	2011
tur	Turkey	upminc	2011
are	United Arab Emirates	higinc	2011
xws	Rest of Western Asia	-	2011
egy	Egypt	lominc	2011
mar	Morocco	lominc	2011
tun	Tunisia	lominc	2011

xnf	Rest of North Africa	lominc	2011
ben	Benin	lowinc	2011
bfa	Burkina Faso	lowinc	2011
cmr	Cameroon	lominc	2011
civ	Cote d'Ivoire	lowinc	2011
gha	Ghana	lowinc	2011
gin	Guinea	lowinc	2011
nga	Nigeria	lowinc	2011
sen	Senegal	lowinc	2011
tgo	Togo	lowinc	2011
xwf	Rest of Western Africa	lowinc	2011
xcf	Central Africa	-	2011
xac	South Central Africa	-	2011
eth	Ethiopia	lowinc	2011
ken	Kenya	lowinc	2011
mdg	Madagascar	lowinc	2011
mwi	Malawi	lowinc	2011
mus	Mauritius	lowinc	2011
moz	Mozambique	lowinc	2011
rwa	Rwanda	lowinc	2011
tza	Tanzania	lowinc	2011
uga	Uganda	lowinc	2011
zmb	Zambia	lowinc	2011
zwe	Zimbabwe	lowinc	2011
xec	Rest of Eastern Africa	-	2011
bwa	Botswana	upminc	2011
nam	Namibia	lowinc	2011
zaf	South Africa	upminc	2011
xsc	Rest of South African Customs	lominc	2011
xtw	Rest of the World	-	2011
aus	Australia	high income	2007
nzl	New Zealand	high income	2007
xoc	Rest of Oceania	-	2007
chn	China	lower middle income	2007
hkg	Hong Kong	high income	2007
jpn	Japan	high income	2007
kor	Korea	high income	2007
mng	Mongolia	lower middle income	2007

twn	Taiwan	high income	2007
xea	Rest of East Asia	lower middle income	2007
khm	Cambodia	low income	2007
idn	Indonesia	lower middle income	2007
lao	Lao People's Democratic Republ	lower middle income	2007
mys	Malaysia	upper middle income	2007
phl	Philippines	lower middle income	2007
sgp	Singapore	high income	2007
tha	Thailand	lower middle income	2007
vnm	Viet Nam	low income	2007
xse	Rest of Southeast Asia	-	2007
bgd	Bangladesh	low income	2007
ind	India	lower middle income	2007
npl	Nepal	low income	2007
pak	Pakistan	low income	2007
lka	Sri Lanka	lower middle income	2007
xsa	Rest of South Asia	-	2007
can	Canada	high income	2007
usa	United States of America	high income	2007
mex	Mexico	upper middle income	2007
xna	Rest of North America	high income	2007
arg	Argentina	upper middle income	2007
bol	Bolivia	lower middle income	2007
bra	Brazil	upper middle income	2007
chl	Chile	upper middle income	2007
col	Colombia	upper middle income	2007
ecu	Ecuador	upper middle income	2007
pry	Paraguay	lower middle income	2007
per	Peru	upper middle income	2007
ury	Uruguay	upper middle income	2007
ven	Venezuela	upper middle income	2007
xsm	Rest of South America	-	2007
cri	Costa Rica	upper middle income	2007
gtm	Guatemala	lower middle income	2007
hnd	Honduras	lower middle income	2007
nic	Nicaragua	lower middle income	2007
pan	Panama	upper middle income	2007
slv	El Salvador	lower middle income	2007

xca	Rest of Central America	lower middle income	2007
xcb	Caribbean	-	2007
aut	Austria	high income	2007
bel	Belgium	high income	2007
cyp	Cyprus	high income	2007
cze	Czech Republic	high income	2007
dnk	Denmark	high income	2007
est	Estonia	high income	2007
fin	Finland	high income	2007
fra	France	high income	2007
deu	Germany	high income	2007
grc	Greece	high income	2007
hun	Hungary	high income	2007
irl	Ireland	high income	2007
ita	Italy	high income	2007
lva	Latvia	upper middle income	2007
ltu	Lithuania	upper middle income	2007
lux	Luxembourg	high income	2007
mlt	Malta	high income	2007
nld	Netherlands	high income	2007
pol	Poland	high income	2007
prt	Portugal	high income	2007
svk	Slovakia	high income	2007
svn	Slovenia	high income	2007
esp	Spain	high income	2007
swe	Sweden	high income	2007
gbr	United Kingdom	high income	2007
che	Switzerland	high income	2007
nor	Norway	high income	2007
xef	Rest of EFTA	high income	2007
alb	Albania	low income	2007
bgr	Bulgaria	upper middle income	2007
blr	Belarus	upper middle income	2007
hrv	Croatia	upper middle income	2007
rou	Romania	upper middle income	2007
rus	Russian Federation	upper middle income	2007
ukr	Ukraine	lower middle income	2007
xee	Rest of Eastern Europe	lower middle income	2007

xer	Rest of Europe	-	2007
kaz	Kazakhstan	upper middle income	2007
kgz	Kyrgyzstan	low income	2007
xsu	Rest of Former Soviet Union	-	2007
arm	Armenia	lower middle income	2007
aze	Azerbaijan	upper middle income	2007
geo	Georgia	lower middle income	2007
bhr	Bahrain	high income	2007
irn	Iran Islamic Republic of	lower middle income	2007
isr	Israel	high income	2007
kwt	Kuwait	high income	2007
omn	Oman	high income	2007
qat	Qatar	high income	2007
sau	Saudi Arabia	high income	2007
tur	Turkey	upper middle income	2007
are	United Arab Emirates	high income	2007
xws	Rest of Western Asia	-	2007
egy	Egypt	lower middle income	2007
mar	Morocco	lower middle income	2007
tun	Tunisia	lower middle income	2007
xnf	Rest of North Africa	lower middle income	2007
cmr	Cameroon	lower middle income	2007
civ	Cote d'Ivoire	low income	2007
gha	Ghana	low income	2007
nga	Nigeria	low income	2007
sen	Senegal	low income	2007
xwf	Rest of Western Africa	low income	2007
xcf	Central Africa	-	2007
xac	South Central Africa	-	2007
eth	Ethiopia	low income	2007
ken	Kenya	low income	2007
mdg	Madagascar	low income	2007
mwi	Malawi	low income	2007
mus	Mauritius	low income	2007
moz	Mozambique	low income	2007
tza	Tanzania	low income	2007
uga	Uganda	low income	2007
zmb	Zambia	low income	2007

zwe	Zimbabwe	low income	2007
xec	Rest of Eastern Africa	-	2007
bwa	Botswana	upper middle income	2007
nam	Namibia	low income	2007
zaf	South Africa	upper middle income	2007
xsc	Rest of South African Customs	lower middle income	2007
xtw	Rest of the World	-	2007
aus	Australia	high income	2004
nzl	New Zealand	high income	2004
xoc	Rest of Oceania	-	2004
chn	China	lower middle income	2004
hkg	Hong Kong	high income	2004
jpn	Japan	high income	2004
kor	Korea	high income	2004
mng	Mongolia	low income	2004
tw	Taiwan	high income	2004
xea	Rest of East Asia	lower middle income	2004
khm	Cambodia	lower middle income	2004
idn	Indonesia	lower middle income	2004
lao	Lao People's Democrati	lower middle income	2004
mys	Malaysia	upper middle income	2004
phl	Philippines	lower middle income	2004
sgp	Singapore	high income	2004
tha	Thailand	lower middle income	2004
vnm	Viet Nam	low income	2004
xse	Rest of Southeast Asia	-	2004
bgd	Bangladesh	low income	2004
ind	India	low income	2004
npl	Nepal	low income	2004
pak	Pakistan	low income	2004
lka	Sri Lanka	lower middle income	2004
xsa	Rest of South Asia	-	2004
can	Canada	high income	2004
usa	United States of Ameri	high income	2004
mex	Mexico	upper middle income	2004
xna	Rest of North America	high income	2004
arg	Argentina	upper middle income	2004
bol	Bolivia	lower middle income	2004

bra	Brazil	upper middle income	2004
chl	Chile	upper middle income	2004
col	Colombia	upper middle income	2004
ecu	Ecuador	lower middle income	2004
pry	Paraguay	lower middle income	2004
per	Peru	lower middle income	2004
ury	Uruguay	upper middle income	2004
ven	Venezuela	upper middle income	2004
xsm	Rest of South America	-	2004
cri	Costa Rica	upper middle income	2004
gtm	Guatemala	lower middle income	2004
hnd	Honduras	lower middle income	2004
nic	Nicaragua	lower middle income	2004
pan	Panama	upper middle income	2004
slv	El Salvador	lower middle income	2004
xca	Rest of Central Americ	lower middle income	2004
xcb	Caribbean	-	2004
aut	Austria	high income	2004
bel	Belgium	high income	2004
cyp	Cyprus	high income	2004
cze	Czech Republic	high income	2004
dnk	Denmark	high income	2004
est	Estonia	high income	2004
fin	Finland	high income	2004
fra	France	high income	2004
deu	Germany	high income	2004
grc	Greece	high income	2004
hun	Hungary	high income	2004
irl	Ireland	high income	2004
ita	Italy	high income	2004
lva	Latvia	upper middle income	2004
ltu	Lithuania	upper middle income	2004
lux	Luxembourg	high income	2004
mlt	Malta	high income	2004
nld	Netherlands	high income	2004
pol	Poland	high income	2004
prt	Portugal	high income	2004
svk	Slovakia	high income	2004

svn	Slovenia	high income	2004
esp	Spain	high income	2004
swe	Sweden	high income	2004
gbr	United Kingdom	high income	2004
che	Switzerland	high income	2004
nor	Norway	high income	2004
xef	Rest of EFTA	high income	2004
alb	Albania	upper middle income	2004
bgr	Bulgaria	upper middle income	2004
blr	Belarus	low income	2004
hrv	Croatia	upper middle income	2004
rou	Romania	upper middle income	2004
rus	Russian Federation	upper middle income	2004
ukr	Ukraine	lower middle income	2004
xee	Rest of Eastern Europe	lower middle income	2004
xer	Rest of Europe	-	2004
kaz	Kazakhstan	upper middle income	2004
kgz	Kyrgyztan	low income	2004
xsu	Rest of Former Soviet	-	2004
arm	Armenia	lower middle income	2004
aze	Azerbaijan	lower middle income	2004
geo	Georgia	lower middle income	2004
bhr	Bahrain	high income	2004
irn	Iran Islamic Republic	lower middle income	2004
isr	Israel	high income	2004
kwt	Kuwait	high income	2004
omn	Oman	high income	2004
qat	Qatar	high income	2004
sau	Saudi Arabia	high income	2004
tur	Turkey	upper middle income	2004
are	United Arab Emirates	high income	2004
xws	Rest of Western Asia	-	2004
egy	Egypt	lower middle income	2004
mar	Morocco	lower middle income	2004
tun	Tunisia	lower middle income	2004
xnf	Rest of North Africa	lower middle income	2004
cmr	Cameroon	low income	2004
civ	Cote d'Ivoire	low income	2004

gha	Ghana	low income	2004
nga	Nigeria	low income	2004
sen	Senegal	low income	2004
xwf	Rest of Western Africa	low income	2004
xcf	Central Africa	-	2004
xac	South Central Africa	-	2004
eth	Ethiopia	low income	2004
ken	Kenya	low income	2004
mdg	Madagascar	low income	2004
mwi	Malawi	low income	2004
mus	Mauritius	low income	2004
moz	Mozambique	low income	2004
tza	Tanzania	low income	2004
uga	Uganda	low income	2004
zmb	Zambia	lower middle income	2004
zwe	Zimbabwe	low income	2004
xec	Rest of Eastern Africa	-	2004
bwa	Botswana	upper middle income	2004
nam	Namibia	lower middle income	2004
zaf	South Africa	upper middle income	2004
xsc	Rest of South African	lower middle income	2004
xtw	Rest of the World	-	2004
AUS	Australia	high income	2001
NZL	New Zealand	high income	2001
XOC	Rest of Oceania	-	2001
CHN	China	low income	2001
HKG	Hong Kong	high income	2001
JPN	Japan	high income	2001
KOR	Korea	high income	2001
TWN	Taiwan	high income	2001
XEA	Rest of East Asia	lower middle income	2001
IDN	Indonesia	low income	2001
MYS	Malaysia	upper middle income	2001
PHL	Philippines	lower middle income	2001
SGP	Singapore	high income	2001
THA	Thailand	lower middle income	2001
VNM	Vietnam	low income	2001
XSE	Rest of Southeast Asia	low income	2001

BGD	Bangladesh	low income	2001
IND	India	low income	2001
PAK	Pakistan	low income	2001
LKA	Sri Lanka	lower middle income	2001
XSA	Rest of South Asia	low income	2001
CAN	Canada	high income	2001
USA	United States	high income	2001
MEX	Mexico	upper middle income	2001
XNA	Rest of North America	high income	2001
BOL	Bolivia	lower middle income	2001
COL	Colombia	lower middle income	2001
ECU	Ecuador	lower middle income	2001
PER	Peru	lower middle income	2001
VEN	Venezuela	upper middle income	2001
ARG	Argentina	upper middle income	2001
BRA	Brazil	upper middle income	2001
CHL	Chile	upper middle income	2001
URY	Uruguay	upper middle income	2001
XSM	Rest of South America	-	2001
XCA	Central America	-	2001
XFA	Rest of FTAA	-	2001
XCB	Rest of the Caribbean	-	2001
AUT	Austria	high income	2001
BEL	Belgium	high income	2001
DNK	Denmark	high income	2001
FIN	Finland	high income	2001
FRA	France	high income	2001
DEU	Germany	high income	2001
GBR	United Kingdom	high income	2001
GRC	Greece	high income	2001
IRL	Ireland	high income	2001
ITA	Italy	high income	2001
LUX	Luxembourg	high income	2001
NLD	Netherlands	high income	2001
PRT	Portugal	high income	2001
ESP	Spain	high income	2001
SWE	Sweden	high income	2001
CHE	Switzerland	high income	2001

XEF	Rest of EFTA	high income	2001
XER	Rest of Europe	-	2001
ALB	Albania	upper middle income	2001
BGR	Bulgaria	upper middle income	2001
HRV	Croatia	high income	2001
CYP	Cyprus	high income	2001
CZE	Czech Republic	high income	2001
HUN	Hungary	high income	2001
MLT	Malta	high income	2001
POL	Poland	high income	2001
ROM	Romania	upper middle income	2001
SVK	Slovakia	high income	2001
SVN	Slovenia	high income	2001
EST	Estonia	high income	2001
LVA	Latvia	upper middle income	2001
LTU	Lithuania	upper middle income	2001
RUS	Russian Federation	upper middle income	2001
XSU	Rest of Former Soviet Unio	-	2001
TUR	Turkey	upper middle income	2001
IRN	Iran Islamic Republic of	upper middle income	2001
XME	Rest of Middle East	-	2001
MAR	Morocco	lower middle income	2001
TUN	Tunisia	lower middle income	2001
XNF	Rest of North Africa	-	2001
BWA	Botswana	upper middle income	2001
ZAF	South Africa	upper middle income	2001
XSC	Rest of South African CU	-	2001
MWI	Malawi	low income	2001
MUS	Mauritius	low income	2001
MOZ	Mozambique	low income	2001
TZA	Tanzania	low income	2001
ZMB	Zambia	lower middle income	2001
ZWE	Zimbabwe	low income	2001
XSD	Rest of SADC	-	2001
MDG	Madagascar	low income	2001
NGA	Nigeria	lower middle income	2001
UGA	Uganda	low income	2001
XSS	Rest of Sub-Saharan Africa	-	2001

aus	Australia	high income	1997
nzl	New Zealand	high income	1997
chn	China	low income	1997
hkg	Hong Kong	high income	1997
jpn	Japan	high income	1997
kor	Korea	high income	1997
twn	Taiwan	high income	1997
idn	Indonesia	lower middle income	1997
mys	Malaysia	upper middle income	1997
phl	Philippines	lower middle income	1997
sgp	Singapore	high income	1997
tha	Thailand	lower middle income	1997
vnm	Vietnam	low income	1997
bgd	Bangladesh	low income	1997
ind	India	low income	1997
lka	Sri Lanka	low income	1997
xsa	Rest of South Asia	low income	1997
can	Canada	high income	1997
usa	United States	high income	1997
mex	Mexico	upper middle income	1997
xcm	Central America, Caribbean	-	1997
col	Colombia	upper middle income	1997
per	Peru	upper middle income	1997
ven	Venezuela	upper middle income	1997
xap	Rest of Andean Pact	-	1997
arg	Argentina	upper middle income	1997
bra	Brazil	upper middle income	1997
chl	Chile	upper middle income	1997
ury	Uruguay	upper middle income	1997
xsm	Rest of South America	-	1997
aut	Austria	high income	1997
bel	Belgium	high income	1997
dnk	Denmark	high income	1997
fin	Finland	high income	1997
fra	France	high income	1997
deu	Germany	high income	1997
gbr	United Kingdom	high income	1997
grc	Greece	high income	1997

irl	Ireland	high income	1997
ita	Italy	high income	1997
lux	Luxembourg	high income	1997
nld	Netherlands	high income	1997
prt	Portugal	high income	1997
esp	Spain	high income	1997
swe	Sweden	high income	1997
che	Switzerland	high income	1997
xef	Rest of Eur Free Trade Area	high income	1997
alb	Albania	low income	1997
bgr	Bulgaria	upper middle income	1997
hrv	Croatia	high income	1997
cze	Czech Republic	high income	1997
hun	Hungary	high income	1997
mlt	Malta	high income	1997
pol	Poland	high income	1997
rom	Romania	upper middle income	1997
svk	Slovakia	high income	1997
svn	Slovenia	high income	1997
est	Estonia	upper middle income	1997
lva	Latvia	upper middle income	1997
ltu	Lithuania	upper middle income	1997
rus	Russian Federation	upper middle income	1997
xsu	Rest of Former Soviet Union	-	1997
cyp	Cyprus	high income	1997
tur	Turkey	lower middle income	1997
xme	Rest of Middle East	-	1997
mar	Morocco	lower middle income	1997
xnf	Rest of North Africa	-	1997
bwa	Botswana	lower middle income	1997
xsc	Rest of South Afr C Union	upper middle income	1997
mwi	Malawi	low income	1997
moz	Mozambique	low income	1997
tza	Tanzania	low income	1997
zmb	Zambia	low income	1997
zwe	Zimbabwe	low income	1997
xsf	Other Southern Africa	-	1997
uga	Uganda	low income	1997

xss	Rest of Sub-Saharan Africa	-	1997
xrw	Rest of World	-	1997
aus	Australia	high income	1995
nzl	New Zealand	high income	1995
jpn	Japan	high income	1995
kor	Korea	high income	1995
idn	Indonesia	lower middle income	1995
mys	Malaysia	upper middle income	1995
phl	Philippines	lower middle income	1995
sgp	Singapore	high income	1995
tha	Thailand	lower middle income	1995
vnm	Vietnam	low income	1995
chn	China	low income	1995
hkg	Hong Kong	high income	1995
twn	Taiwan	high income	1995
ind	India	low income	1995
lka	Sri Lanka	low income	1995
ras	Rest of South Asia	low income	1995
can	Canada	high income	1995
usa	United States	high income	1995
mex	Mexico	upper middle income	1995
cam	Central America, Caribbean	-	1995
ven	Venezuela	lower middle income	1995
col	Colombia	lower middle income	1995
rap	Rest of Andean pact	-	1995
arg	Argentina	upper middle income	1995
bra	Brazil	upper middle income	1995
chl	Chile	upper middle income	1995
ury	Uruguay	upper middle income	1995
rsm	Rest of South America	-	1995
gbr	United Kingdom	high income	1995
deu	Germany	high income	1995
dnk	Denmark	high income	1995
swe	Sweden	high income	1995
fin	Finland	high income	1995
reu	Rest of EU	high income	1995
eft	EFTA	high income	1995
cea	Central European Associates	high income	1995

fsu	Former Soviet Union	-	1995
tur	Turkey	lower middle income	1995
rme	Rest of Middle East	-	1995
mar	Morocco	lower middle income	1995
rnf	Rest of North Africa	-	1995
saf	Rest of South Afr C Union	upper middle income	1995
rsa	Other Southern Africa	-	1995
rss	Rest of Sub-Saharan Africa	-	1995
row	Rest of World	high income	1995
aus	Australia	high income	1992
nzl	New Zealand	high income	1992
jpn	Japan	high income	1992
kor	Korea	high income	1992
idn	Indonesia	lower middle income	1992
mys	Malaysia	upper middle income	1992
phl	Philippines	lower middle income	1992
sgp	Singapore	high income	1992
tha	Thailand	lower middle income	1992
chn	China	low income	1992
hkg	Hong Kong	high income	1992
twn	Taiwan	high income	1992
idi	India	low income	1992
ras	Rest of South Asia	low income	1992
can	Canada	high income	1992
usa	United States	high income	1992
mex	Mexico	upper middle income	1992
cam	Central America, Caribbean	-	1992
arg	Argentina	upper middle income	1992
bra	Brazil	upper middle income	1992
chl	Chile	upper middle income	1992
rsm	Rest of South America	-	1992
e_u	EU12	high income	1992
eu3	EU3 AUT SWE FIN	high income	1992
eft	EFTA	high income	1992
cea	Central European Associates	upper middle income	1992
fsu	Former Soviet Union	-	1992
mea	Rest of Middle East	-	1992
ssa	Rest of Sub-Saharan Africa	-	1992

row	Rest of World	-	1992
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