

The International Trade and Production Database for Estimation - Release 3 (ITPD-E-R03)

Mario Larch

Serge Shikher

Yoto V. Yotov

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Abstract

This paper introduces Release 3 of the International Trade and Production Database for Estimation (ITPD-E-R03). ITPD-E-R03 covers the period 1986-2022 for 265 countries and 170 industries across four broad sectors: Agriculture, Mining and Energy, Manufacturing, and Services. The new release includes 3 additional years of data and more observations: 84.6 million, compared to 72.5 in Release 02 and 35.8 million in the original release. ITPD-E-R03 can be downloaded for free from the USITC's Gravity Portal at <https://www.usitc.gov/data/gravity/itpde.htm>.

Mario Larch
University of Bayreuth, CEPII, CESifo, WIFO, GEP, ifo

Serge Shikher
Research Division, Office of Economics
U.S. International Trade Commission
gravity@usitc.gov

Yoto V. Yotov
Drexel University, CGPA, ifo, CESifo

Disclaimer. The ITPD-E is a publicly available dataset that was created to fill an existing gap in data suitable for estimation. The initial development of the database and its updates required substantial long-term efforts by the authors. Accordingly, in return for that effort, we ask two things from all users of the ITPD-E-R03. First, please cite the following two papers if you use Release 3 of the database:

- Larch, Mario & Shikher, Serge & Yotov, Yoto V., 2025. “*The International Trade and Production Database for Estimation - Release 3 (ITPD-E-R03)*,” USITC Working Paper 2025–06–A.
- Borchert, Ingo & Larch, Mario & Shikher, Serge & Yotov, Yoto V., 2021. “*The International Trade and Production Database for Estimation (ITPD-E)*,” *International Economics*, Elsevier, vol. 166, pages 140–166.

Second, if you believe to have discovered a mistake in the database or that the database can be improved by incorporating additional or more reliable data, even if only for an individual country or industry, please let us know by writing to the USITC’s gravity portal e-mail address (gravity@usitc.gov). We will try to accommodate detection of errors, inconsistencies, and suggestions as soon as possible. Please visit [USITC’s gravity portal](#) for updates.

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1 Overview and Key Features

Our objective with the original release of ITPD-E was to create a database that had the following features: (i) consistently constructed international and domestic trade flows based on administrative/raw data; (ii) detailed industry level information; (iii) wide country coverage; (iv) long time-series coverage; and (v) comprehensive coverage of all broad sectors, i.e., full economy coverage. Therefore, in 2020, we released the *International Trade and Production Database for Estimation (ITPD-E)* (Borchert et al., 2021), which covered 243 countries, 170 industries, and 17 years (2000-2016). A key feature of the ITPD-E is that it is constructed using reported administrative data and intentionally does not include information estimated by statistical techniques. Therefore, it could be used for estimations. For example, it can be used for theory-consistent disaggregated gravity estimations with international and domestic trade flows (Borchert et al., 2022a).

Since its introduction, the ITPD-E has been a popular public good. Based on the number and distribution of downloads of the data, we conclude that the ITPD-E has been a useful resource for many scholars, researchers, and policy makers. In addition, we continue to receive many requests for an update of the database. Therefore, we release the third update to the ITPD-E. The objective of this paper is to describe ITPD-E-R03 and to compare it with its predecessor (ITPD-E-R02), while highlighting the key features and improvements in the updated database.

Relying on the same methods and capitalizing on the new releases of the original administrative/raw data sources that we used to construct ITPD-E-R01 and ITPD-E-R02, we built a new database that includes 84,644,030 observations and covers the period 1986-2022 for 265 countries and 170 industries.

The complete list of the industries covered in ITPD-E-R03 is included in Table 1. Similar to ITPD-E-R01 and ITPD-E-R02, the disaggregated industries in ITPD-E-R03 can be classified within 4 broad sectors: ‘*Agriculture*’, ‘*Mining & Energy*’, ‘*Manufacturing*’, and

‘*Services*’. The industrial classification in ITPD-E-R03 is unchanged from ITPD-E-R02.¹

Different broad sectors have different starting dates for coverage. Specifically, the ‘*Agriculture*’ sector in the ITPD-E-R03 covers the period 1986-2022 and includes 28 industries. The ‘*Mining & Energy*’ sector in ITPD-E-R03 covers the period 1988-2022 and includes 7 industries. The ‘*Manufacturing*’ sector in ITPD-E-R03 covers the same period (1988-2022) and includes 118 industries. Finally, the ‘*Services*’ sector in ITPD-E-R02 covers the period 2000-2022 and includes 17 industries.

In addition to the standard ISO3 country codes, Release 3 of the ITPD-E identifies countries by dynamic country codes, consistent with the USITC’s Dynamic Gravity Dataset (DGD) (Gurevich and Herman, 2018). The dynamic country codes are equal to the standard ISO3 codes, except in cases where a country or territory changed its geographic boundaries, but retained its ISO3 code. In those cases, a new dynamic country code, a modified ISO3 code, is assigned.² The complete list of the countries covered in ITPD-E-R03 is included in Table 2. Like ITPD-E-R02, ITPD-E-R03 covers 265 countries when unique dynamic ISO3 country codes are counted or 256 countries when unique static ISO3 country codes are counted.³

The following is a brief summary of the highlights of ITPD-E-R03 in relation to its previous releases (ITPD-E-R01 and ITPD-E-R02):

- ***Data for earlier years.*** Relative to release 1, ITPD-E-R03 includes data for years prior to 2000. Specifically, the data go back to 1986 for ‘*Agriculture*’, and to 1988 for ‘*Mining & Energy*’ and ‘*Manufacturing*’. Due to administrative data limitations, we

¹A reminder that the industrial classification had changed slightly between R01 and R02. Specifically, two industries were removed from manufacturing and two were added to agriculture. See Borchert et al. (2022b) for more information.

²For example, after unification of West and East Germany, the unified Germany retained the ISO3 code of West Germany, DEU. To keep track of this change in boundaries, DGD assigns the dynamic country code DEU.X to West Germany, while reserving DEU for (unified) Germany.

³There are two cases, Romania in 2002 and The Democratic Republic of the Congo in 1998, when dynamic country codes changed even though country boundaries did not. See Gurevich and Herman (2018) for more detail. Also, there are two countries, Cambodia and Samoa, that changed names, but not boundaries, ISO3 codes, or dynamic country codes.

were not able to extend the data for ‘*Services*’ to years prior to 2000 because statistics on services trade flows prior to 2000 published by the WTO are not bilateral.

- ***Data for recent years.*** Data for all sectors are extended to 2022 in ITPD-E-R03, which is 3 years more than release 2 and 6 years more than release 1.
- ***Improved identification of problematic data points.*** Administrative data is checked for anomalies. For example, in the original Comtrade data, there are instances where a country reports the same export or import value for all trade partners within the same year and product category, e.g., Bulgaria in some years. We did not use these observations.
- ***Improved country coding.*** The country codes in ITPD-E-R03 are fully synchronized with USITC’s “*Dynamic Gravity Dataset*” (DGD), version 2.1 (Gurevich and Herman, 2018). Consistent with DGD, ITPD-E-R03 includes dynamic country codes.
- ***More observations.*** The total number of observations in ITPD-E-R03 is 84,644,030, which is 17% more relative to ITPD-E-R02, which had 72,534,869 observations, and 120% more than ITPD-E-R01, which had 38,518,253 observations.

The rest of the paper is organized as follows. Section 2 describes the variables and format of the ITPD-E-R03 and how to download the database. Section 3 summarizes the methods used to construct the data and the administrative data sources. Section 4 compares ITPD-E-R03 with the previous release, ITPD-E-R02, across several dimensions.

2 File Format, Access, and Variables

The ITPD-E databases are distributed as a comma-separated files, ITPD_E_RXX.csv, where XX is the release number. Thus, the initial release file is called ‘ITPD_E_R01.csv’, and the current release is called ‘ITPD_E_R03.csv’. All releases are available for free down-

load at <https://gravity.usitc.gov>. The following is a brief description of the main categories of variables in the database, and all variables are included in Table 3:

- The country identifiers on the exporter and importer side, respectively, include ISO 3-letter alpha codes ('exporter_iso3' and 'importer_iso3') and the corresponding country names ('exporter_name' and 'importer_name'). In addition, ITPD-E-R03 includes corresponding dynamic country identifiers ('exporter_dynamic_code' and 'importer_dynamic_code') that keep track of countries that alter their borders but do not receive a new ISO3 code. By design, the country coding in ITPD-E-R03 is consistent with the country coding in the USITC's "*Dynamic Gravity Database*" (DGD), cf. Gurevich and Herman (2018), which includes a series of useful bilateral and country-specific geography and economic variables and is especially suited for gravity estimations.
- The industry identifiers include industry codes and corresponding industry descriptions ('industry_id' and 'industry_descr', respectively). While the industrial classification is specific to the ITPD-E, Tables 5-8 of this document include concordances that can be used to match ITPD-E with other databases.⁴ Finally, the broad sectors in ITPD-E-R03 are described in the variable 'broad_sector'.⁵
- The key variable in ITPD-E-R03 is 'trade'. Its values are expressed in millions of current United States dollars and include international and domestic trade. Trade is *international* when the exporter and the import countries are different. Trade is *domestic* when the importer and the exporter are the same country.
- Finally, ITPD-E-R03 includes two flag variables. As explained in Section 3.1, 'flag_mirror' is an indicator variable that is equal to 1 for observations that are obtained from the mirror trade data, while 'flag_zero' shows whether the current observation contains zero or positive trade and, in case of zero, the origin of the zero.

⁴These concordances can be downloaded from the [USITC's gravity portal](#).

⁵Note that the sector "Mining and Energy" was called "Mining_energy" in Release 1.

3 Methods and Sources

In terms of methods and original/raw data sources, we follow closely the steps and procedures that we followed to construct the first version of the ITPD-E.

3.1 Methods

To construct ITPD-E-R03, we follow the methods that we used to construct the original version of the data. We perform the following steps, which are common across all sectors in the original and new releases of the database.

- *Construct international trade.* We use import data for goods when available. To take full advantage of all reported international trade data we use a mirroring procedure. In our mirroring procedure for goods, we use exports reported by partner countries to fill in missing values for the corresponding import values. This is done for two reasons. First, from a practical perspective, imports goods data are considered more reliable. Second, from a theory perspective, imports, which are reported c.i.f, are the theory-consistent trade variable.

For services, we use reported imports to fill in missing values of exports. The main reason for this is the exports services data are more reliable because of the nature of payments for services and the accounting for it. Moreover, much of services trade is not subject to freight charges and tariffs. To denote mirrored cases, the ITPD-E-R03 includes a flag variable named *flag_mirror*, which is an indicator that takes a value of 1 if a trade flow observation is mirrored, and 0 otherwise.

- *Construct domestic trade.* Domestic trade is calculated as the difference between the (gross) value of total production and total exports for each industry. Total exports are constructed as the sum of bilateral trade for each exporting country. If we obtain a negative domestic trade value, we do not include this observation in the ITPD-E-R03.

For more details on the common principles and steps to construct ITPD-E-R03, we refer the reader to Borchert et al. (2021).

3.2 Data Sources

The raw/administrative data sources for the first release of the ITPD-E were selected according to the following guiding criteria: (i) they should provide clear documentation; (ii) they should contain data that were not estimated by statistical procedures; and (iii) they are regularly updated. Consistent with our objectives to ensure consistency, continuity, and reproducibility of ITPD-E, for the construction of ITPD-E-R03 we relied on new versions of the same sources that we employed for the original version of the database. A summary of the various administrative data sources across all broad sectors is provided in Table 4.

- *Agriculture.* The output and trade for all industries in Agriculture, besides Forestry and Fishing, are from the Food and Agriculture Organization of the United Nations Statistics Division (FAOSTAT),⁶ which collects information on an annual basis for more than 245 countries. FAO obtains data from the UNSD, Eurostat, and other national authorities as needed. These data are checked for outliers and data on food aid are added to obtain total cross-border trade flows.⁷ FAOSTAT’s Detailed Trade Matrix reports information on agricultural bilateral trade quantities (in tons) and values (in thousands of US dollars). The Value of Agricultural Production data from the FAO contain information for at least some years for 261 geographical “areas” (which include country groups) and 220 different FCL items. We use gross production values in current United States dollars (the relevant file is “Value of Agricultural Production”).⁸

The original FAO data are classified according to the FAOSTAT Commodity List (FCL) which includes more than 600 items.⁹ As we provide a database containing agricul-

⁶<https://www.fao.org/faostat/en/#data>.

⁷<http://www.fao.org/faostat/en/#data/TM>.

⁸<https://www.fao.org/faostat/en/#data/QV>.

⁹<http://www.fao.org/economic/ess/ess-standards/commodity/en/>.

ture, mining, energy, manufacturing, and services, we have to carefully avoid double counting. Specifically, some of the FAO FCL items contain mining and manufacturing products, so we do not include these FCL items in ITPD’s agriculture industries. Specifically, we classify all industries between 1500 and 1601 of ISIC rev. 3 as manufacturing industries. Using the FCL to HS and HS to ISIC rev. 3 correspondence tables, we identify the additional FCL items that are part of the manufacturing data.¹⁰ Note that these FCL items typically do not have matching production data in the FAO’s database. Some FCL items could not be uniquely matched to broad sectors. In these cases, we allocated FCL items according the number of constituent HS lines.¹¹ We also dropped industries we could not match to any ISIC or HS code¹² and industries with FCL item codes above 1296, which are aggregates and industries such as fertilizers, pesticides, and machinery, belonging to one of the other broad sectors. Table 5 includes the correspondence between ITPD-E agricultural industries and FCL items.

- *Forestry and Fishing.* Even though they are part of the broad sector ‘*Agriculture*’, the data sources for these two industries are different from the data sources for the rest of industries in ‘*Agriculture*’. Since FAOSTAT, which is the main data source for

¹⁰These are FCL items 16, 18, 19, 20, 21, 22, 23, 24, 26, 28, 29, 31, 32, 34, 36, 37, 38, 39, 41, 45, 46, 48, 49, 50, 51, 57, 58, 60, 61, 64, 66, 72, 76, 80, 82, 84, 86, 90, 95, 98, 104, 109, 110, 111, 113, 114, 115, 117, 118, 119, 121, 126, 127, 129, 150, 154, 155, 158, 159, 160, 162, 163, 164, 165, 166, 167, 168, 172, 173, 175, 212, 235, 237, 238, 239, 240, 241, 244, 245, 246, 247, 252, 253, 257, 258, 259, 261, 262, 264, 266, 268, 269, 271, 272, 273, 274, 276, 278, 281, 282, 290, 291, 293, 294, 295, 297, 298, 306, 307, 313, 314, 331, 332, 334, 335, 337, 338, 340, 341, 343, 390, 391, 392, 447, 448, 450, 451, 466, 469, 471, 472, 473, 474, 475, 476, 491, 492, 496, 498, 499, 509, 510, 513, 514, 517, 518, 519, 538, 539, 562, 563, 564, 565, 575, 576, 580, 583, 584, 622, 623, 624, 625, 626, 631, 632, 633, 634, 657, 658, 659, 660, 662, 664, 665, 666, 672, 737, 753, 768, 770, 773, 774, 828, 829, 831, 840, 841, 842, 843, 845, 849, 850, 851, 852, 853, 854, 855, 867, 869, 870, 871, 872, 873, 874, 875, 877, 878, 882, 883, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 903, 904, 905, 907, 908, 909, 910, 916, 917, 919, 920, 921, 922, 927, 928, 929, 930, 947, 949, 951, 952, 953, 954, 955, 957, 958, 959, 977, 979, 982, 983, 984, 985, 988, 994, 995, 996, 997, 998, 999, 1008, 1010, 1017, 1019, 1020, 1021, 1022, 1023, 1035, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1058, 1059, 1060, 1061, 1063, 1064, 1065, 1066, 1069, 1073, 1074, 1075, 1080, 1081, 1089, 1097, 1098, 1102, 1103, 1104, 1105, 1108, 1109, 1111, 1112, 1127, 1128, 1129, 1130, 1141, 1151, 1158, 1160, 1163, 1164, 1166, 1167, 1168, 1172, 1173, 1174, 1175, 1186, 1187, 1221, 1222, 1223, 1225, 1241, 1242, 1243, 1273, 1274, 1275, 1276, 1277, and 1296.

¹¹This leads in dropping of industries with FCL items 653, 868, 948, 978, 1018, 1036, 1232, and 1259. We kept the following FCL items in agriculture: 667, 777, 780, 782, 826, 987, 1009, and 1293.

¹²Specifically, we could not match FCL items 10, 30, 464, 944, 972, 1012, 1032, 1055, 1070, 1077, 1084, 1087, 1094, 1120, 1122, 1124, 1137, 1144, 1154, 1159, and 1161.

‘*Agriculture*’, does not cover ‘Forestry’ and ‘Fishing’, we had to look for other sources of data. Specifically, international trade data for ‘Forestry’ and ‘Fishing’ come from the United Nations’ Commodity Trade Statistics Database (COMTRADE),¹³ while production data come from the UN National Accounts database (UNSNA); specifically, the SNA’s “Table 2.6 Output, gross value added and fixed assets by industries at current prices (ISIC Rev.4).”¹⁴ ‘Forestry’ corresponds to industry code A02, “Forestry and Logging”, in ISIC revisions 3 and 4. ‘Fishing’ corresponds to industry code A03, “Fishing and Aquaculture”, in ISIC revision 4 and industry code B05 in ISIC revision 3. Availability of trade data predetermined the first year of coverage for the ‘Forestry’ and ‘Fishing’ industries as 1988.

- *Mining & Energy*. International trade data for the ‘*Mining & Energy*’ sector come from COMTRADE, and were obtained in ISIC rev. 3 nomenclature. Availability of trade data determined 1988 as the first year of coverage for ‘*Mining & Energy*’. Production data for ‘*Mining & Energy*’ come from the “MINSTAT - Mining and Utilities Statistics Database” dataset of the United Nations Industrial Development Organization (UNIDO). To take full advantage of MINSTAT, and to ensure maximum coverage in ITPD-E-R03, we use the ISIC rev. 3 and ISIC rev. 4 versions of MINSTAT. A list of the ITPD-E mining and energy industries, together with the concordance that we created between ISIC rev. 3, ISIC rev. 4, and ITPD-E-R03 appear in Table 6.
- *Manufacturing*. International trade flows data come from COMTRADE, and were obtained in ISIC rev. 3. Availability of trade data determined 1988 as the first year of coverage for ‘*Manufacturing*’. The source for manufacturing production data is the United Nations Industrial Statistics (INDSTAT) database,¹⁵ and the data come in two versions – ISIC rev. 3 and ISIC rev. 4. To ensure maximum coverage, we construct

¹³As noted below, we rely on COMTRADE for international trade data in ‘*Mining & Energy*’ and ‘*Manufacturing*’ too. A description of COMTRADE can be found at <https://comtrade.un.org>.

¹⁴http://data.un.org/Data.aspx?d=SNA&f=group_code%3a206.

¹⁵<http://stat.unido.org>.

the manufacturing production data in two steps. First, for each revision of ISIC, we combine the output data at the 3-digit level with the data at the 4-digit level. Then, we combine the data from the two ISIC revisions by aggregating the 4-digit ISIC classifications up in order to ensure matching. The concordance that we created appears in Table 7.

- *Services.* For international trade data, we augment the WTO-UNCTAD-ITC Annual Trade in Services dataset¹⁶ with services trade statistics from the UN Trade in Services (UN-TSD) Database as incorporated into COMTRADE.¹⁷ As before, the reasons are twofold: firstly, to achieve comprehensive coverage of ITPD-E from the year 2000 onwards, since the WTO-UNCTAD-ITC dataset as the main data source only commences in 2005, and second to supplement bilateral trade flow observation in overlapping years that are missing in the WTO-UNCTAD-ITC dataset.

Due to new trade flow and gross output data, the services part of the R03 update exhibits nearly complete coverage of the recent years.¹⁸

About a half of the data in WTO-UNCTAD-ITC are reported zeros, i.e., zero trade flows are being captured systematically, and ‘true’ reported zero flows are identifiable in the data through a flag. At the same time, the WTO-UNCTAD-ITC dataset no longer contains information on the sources of the statistical information. By comparison, in the R01 release the overwhelming majority of data had come from Eurostat (69%) and some 17% from the OECD.

The data contain both reported import flows and reported export flows, which opens up the possibility of an improved mirroring protocol. For both export and import flows there is annual trade broken out by sector and partner starting in year 2005. Data

¹⁶http://stats.wto.org/assets/UserGuide/services_annual_dataset.zip.

¹⁷<https://comtrade.un.org/data/>.

¹⁸Information for years prior to 2000, potentially reaching back to 1981, are now included in the latest vintage of the WTO-UNCTAD-ITC dataset; however, these flows are not bilateral. As such, we have to disregard these flows for the ITPD-E.

prior to 2005 is not broken out by partner. Since we will discard the non-bilateral data, we expect that, as in the R01 and R02 releases, augmentation of services trade data for the period 2000-2010 from the UN Trade in Services dataset will bring considerable benefits in terms of coverage and completeness.

We obtain information on gross output at basic prices from the UN SNA dataset, namely “Table 2.6 Output, gross value added and fixed assets by industries at current prices (ISIC Rev.4).”¹⁹

A raw data problem has been identified with regard to domestic trade flows in Belarus (BLR), which initially appeared to be implausibly large prior to 2015. Upon investigation, we found that the Belarusian currency is subject to two different currency re-denomination (1:1000 prior to 2015 and 1:10000 from 2016 onwards). Since output figures in local currency (LCU) shrink by four decimals as of 2016, it appears as if the re-denomination has not been applied in earlier years (although presumably it should have) but has been applied as indicated commencing in 2016. The IMF exchange rate series for Belarus is smooth around 2015-16 and does not exhibit a jump by a factor of 10. In order to ensure consistency of the value of trade flows in R03, output data for Belarus have been discarded.

For a more detailed background on the data sources and their specific usage for the construction of ITPD-E-R03, we refer the reader to Borchert et al. (2021).

4 A comparison of ITPD-E Release 3 and Release 2

This section compares the latest ITPD-E release, Release 3, with the previous one, Release 2. Tables 9–11 summarize the differences between the two releases across different dimensions. All three tables reflect the entirety of trade flows contained in each release, i.e., domestic and

¹⁹http://data.un.org/Data.aspx?d=SNA&f=group_code%3a206.

international trade.²⁰ Table 9 compares the total number of observations in the two releases. As expected, Release 3 has more observations, about 84.6 million, compared to 72.5 million in Release 2 and 38.5 million in Release 1. Most of the additional observations in R03 come from additional years covered by the latest release. A smaller number of observations, about half a million, was present in Release 2 but is no longer in Release 3. These observations likely disappeared because they were reclassified to a different country, industry, or year in the original administrative data sources.

Table 10 compares the number of observations across Releases 2 and 3 *by year*. It is apparent that most of the additional 12.6 million observations in Release 3 arise from additional years now covered by Release 3 relative to Release 2. In 1986 and 1987, only Agriculture industries 1-26 are covered, hence the low number of observations. Starting in 1988, all goods industries are covered. The number of observations increases between 1988 and mid-1990s as more and more countries report more data to the UN. The number of observations increases again in the year 2000 as services data become available. In that regard, one of the reasons why the value of reported trade exhibits a very substantial jump between 1999 and 2000—from 16.3 to 43.3 trillion—is that domestic trade in services is much larger than domestic trade in goods. Comparing the number of observations in the years that are covered in both Releases 2 and 3 (i.e., 2000-2019), we see that Release 3 has more observations per year. This is due to improved data coverage in the original data sources that we use.

Table 11 compares the number of observations across Releases 2 and 3 *by industry*. The number of observations for each industry is greater in Release 3. The largest industries by value tend to be concentrated in the Services sector, which reflects the fact that a substantial share of domestic value added typically is in services industries (up to 70-80% in advanced economies), combined with the fact that table entries include domestic trade flows. Outside services, the largest industries by value are ‘Motor vehicles’ (138) and ‘Extraction of petroleum and gas’ (31) and ‘Refined petroleum products’ (80), respectively.

²⁰Exceptions are industries IDs 154, 155, 161, 167 and 168, which are services industries with no domestic production equivalent. Hence, entries for these five industries reflect international trade only.

5 Conclusions

With more years and more countries, Release 3 of ITPD-E offers more observations for domestic and international trade compared to the previous release (84.6 million, or an increase of 17%). It features global coverage and an unprecedented level of sectoral disaggregation, covering all economic activity. We hope that ITPD-E R03 will prove a useful resource for a wide range of econometric analyses including structural gravity estimation.

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Table 1: ITPD-E-R03: Industry Coverage

ID	Industry Description	Broad Sector
1	Wheat	Agriculture
2	Rice (raw)	Agriculture
3	Corn	Agriculture
4	Other cereals	Agriculture
5	Cereal products	Agriculture
6	Soybeans	Agriculture
7	Other oilseeds (excluding peanuts)	Agriculture
8	Animal feed ingredients and pet foods	Agriculture
9	Raw and refined sugar and sugar crops	Agriculture
10	Other sweeteners	Agriculture
11	Pulses and legumes, dried, preserved	Agriculture
12	Fresh fruit	Agriculture
13	Fresh vegetables	Agriculture
14	Prepared fruits and fruit juices	Agriculture
15	Prepared vegetables	Agriculture
16	Nuts	Agriculture
17	Live Cattle	Agriculture
18	Live Swine	Agriculture
19	Eggs	Agriculture
20	Other meats, livestock products, and live animals	Agriculture
21	Cocoa and cocoa products	Agriculture
22	Beverages, nec	Agriculture
23	Cotton	Agriculture
24	Tobacco leaves and cigarettes	Agriculture
25	Spices	Agriculture
26	Other agricultural products, nec	Agriculture
27	Forestry	Agriculture
28	Fishing	Agriculture
29	Mining of hard coal	Mining and Energy
30	Mining of lignite	Mining and Energy
31	Extraction crude petroleum and natural gas	Mining and Energy
32	Mining of iron ores	Mining and Energy
33	Other mining and quarrying	Mining and Energy
34	Electricity production, collection, and distribution	Mining and Energy
35	Gas production and distribution	Mining and Energy
36	Processing/preserving of meat	Manufacturing
37	Processing/preserving of fish	Manufacturing
38	Processing/preserving of fruit & vegetables	Manufacturing
39	Vegetable and animal oils and fats	Manufacturing
40	Dairy products	Manufacturing
41	Grain mill products	Manufacturing
42	Starches and starch products	Manufacturing
43	Prepared animal feeds	Manufacturing
44	Bakery products	Manufacturing
45	Sugar	Manufacturing
46	Cocoa chocolate and sugar confectionery	Manufacturing
47	Macaroni noodles & similar products	Manufacturing
48	Other food products n.e.c.	Manufacturing
49	Distilling rectifying & blending of spirits	Manufacturing
50	Wines	Manufacturing
51	Malt liquors and malt	Manufacturing
52	Soft drinks; mineral waters	Manufacturing
53	Tobacco products	Manufacturing
54	Textile fibre preparation; textile weaving	Manufacturing
55	Made-up textile articles except apparel	Manufacturing
56	Carpets and rugs	Manufacturing
57	Cordage rope twine and netting	Manufacturing
58	Other textiles n.e.c.	Manufacturing
59	Knitted and crocheted fabrics and articles	Manufacturing
60	Wearing apparel except fur apparel	Manufacturing
61	Dressing & dyeing of fur; processing of fur	Manufacturing
62	Tanning and dressing of leather	Manufacturing
63	Luggage handbags etc.; saddlery & harness	Manufacturing
64	Footwear	Manufacturing
65	Sawmilling and planing of wood	Manufacturing
66	Veneer sheets plywood particle board etc.	Manufacturing
67	Builders' carpentry and joinery	Manufacturing
68	Wooden containers	Manufacturing
69	Other wood products; articles of cork/straw	Manufacturing
70	Pulp paper and paperboard	Manufacturing
71	Corrugated paper and paperboard	Manufacturing
72	Other articles of paper and paperboard	Manufacturing
73	Publishing of books and other publications	Manufacturing
74	Publishing of newspapers journals etc.	Manufacturing
75	Publishing of recorded media	Manufacturing
76	Other publishing	Manufacturing
77	Printing	Manufacturing
78	Service activities related to printing	Manufacturing
79	Coke oven products	Manufacturing
80	Refined petroleum products	Manufacturing
81	Processing of nuclear fuel	Manufacturing
82	Basic chemicals except fertilizers	Manufacturing
83	Fertilizers and nitrogen compounds	Manufacturing
84	Plastics in primary forms; synthetic rubber	Manufacturing
85	Pesticides and other agro-chemical products	Manufacturing
86	Paints varnishes printing ink and mastics	Manufacturing
87	Pharmaceuticals medicinal chemicals etc.	Manufacturing

Continued on next page

ID	Industry Description	Broad Sector
88	Soap cleaning & cosmetic preparations	Manufacturing
89	Other chemical products n.e.c.	Manufacturing
90	Man-made fibres	Manufacturing
91	Rubber tyres and tubes	Manufacturing
92	Other rubber products	Manufacturing
93	Plastic products	Manufacturing
94	Glass and glass products	Manufacturing
95	Pottery china and earthenware	Manufacturing
96	Refractory ceramic products	Manufacturing
97	Struct.non-refractory clay; ceramic products	Manufacturing
98	Cement lime and plaster	Manufacturing
99	Articles of concrete cement and plaster	Manufacturing
100	Cutting shaping & finishing of stone	Manufacturing
101	Other non-metallic mineral products n.e.c.	Manufacturing
102	Basic iron and steel	Manufacturing
103	Basic precious and non-ferrous metals	Manufacturing
104	Structural metal products	Manufacturing
105	Tanks reservoirs and containers of metal	Manufacturing
106	Steam generators	Manufacturing
107	Cutlery hand tools and general hardware	Manufacturing
108	Other fabricated metal products n.e.c.	Manufacturing
109	Engines & turbines (not for transport equipment)	Manufacturing
110	Pumps compressors taps and valves	Manufacturing
111	Bearings gears gearing & driving elements	Manufacturing
112	Ovens furnaces and furnace burners	Manufacturing
113	Lifting and handling equipment	Manufacturing
114	Other general purpose machinery	Manufacturing
115	Agricultural and forestry machinery	Manufacturing
116	Machine tools	Manufacturing
117	Machinery for metallurgy	Manufacturing
118	Machinery for mining & construction	Manufacturing
119	Food/beverage/tobacco processing machinery	Manufacturing
120	Machinery for textile apparel and leather	Manufacturing
121	Weapons and ammunition	Manufacturing
122	Other special purpose machinery	Manufacturing
123	Domestic appliances n.e.c.	Manufacturing
124	Office accounting and computing machinery	Manufacturing
125	Electric motors generators and transformers	Manufacturing
126	Electricity distribution & control apparatus	Manufacturing
127	Insulated wire and cable	Manufacturing
128	Accumulators primary cells and batteries	Manufacturing
129	Lighting equipment and electric lamps	Manufacturing
130	Other electrical equipment n.e.c.	Manufacturing
131	Electronic valves tubes etc.	Manufacturing
132	TV/radio transmitters; line comm. apparatus	Manufacturing
133	TV and radio receivers and associated goods	Manufacturing
134	Medical surgical and orthopaedic equipment	Manufacturing
135	Measuring/testing/navigating appliances etc.	Manufacturing
136	Optical instruments & photographic equipment	Manufacturing
137	Watches and clocks	Manufacturing
138	Motor vehicles	Manufacturing
139	Automobile bodies trailers & semi-trailers	Manufacturing
140	Parts/accessories for automobiles	Manufacturing
141	Building and repairing of ships	Manufacturing
142	Building/repairing of pleasure/sport. boats	Manufacturing
143	Railway/tramway locomotives & rolling stock	Manufacturing
144	Aircraft and spacecraft	Manufacturing
145	Motorcycles	Manufacturing
146	Bicycles and invalid carriages	Manufacturing
147	Other transport equipment n.e.c.	Manufacturing
148	Furniture	Manufacturing
149	Jewellery and related articles	Manufacturing
150	Musical instruments	Manufacturing
151	Sports goods	Manufacturing
152	Games and toys	Manufacturing
153	Other manufacturing n.e.c.	Manufacturing
154	Manufacturing services on physical inputs	Services
155	Maintenance and repair services n.i.e.	Services
156	Transport	Services
157	Travel	Services
158	Construction	Services
159	Insurance and pension services	Services
160	Financial services	Services
161	Charges for use of intellectual property	Services
162	Telecom, computer, information services	Services
163	Other business services	Services
164	Heritage and recreational services	Services
165	Health services	Services
166	Education services	Services
167	Government goods and services n.i.e.	Services
168	Services not allocated	Services
169	Trade-related services	Services
170	Other personal services	Services

Notes: This table lists the 170 industries in ITPD-E-R03. Column (1) lists ITPD-E-R03 ID codes for each of the industries. The corresponding industry descriptions are in Column (2). Column (3) includes the broad sectoral descriptions. See text for further details.

Table 2: ITPD-E-R03: Country Coverage

Dynamic Country Code	Country Name
ABW	Aruba
AFG	Afghanistan
AGO	Angola
AIA	Anguilla
ALB	Albania
AND	Andorra
ANT.X	Netherlands Antilles
ARE	United Arab Emirates
ARG	Argentina
ARM	Armenia
ASM	American Samoa
ATA	Antarctica
ATF	French Southern Territories
ATG	Antigua and Barbuda
AUS	Australia
AUT	Austria
AZE	Azerbaijan
BDI	Burundi
BEL	Belgium
BEN	Benin
BES	Bonaire, Sint Eustatius and Saba
BFA	Burkina Faso
BGD	Bangladesh
BGR	Bulgaria
BHR	Bahrain
BHS	Bahamas, The
BIH	Bosnia and Herzegovina
BLM	Saint Barthelemy
BLR	Belarus
BLX	Belgium-Luxembourg
BLZ	Belize
BMU	Bermuda
BOL	Bolivia
BRA	Brazil
BRB	Barbados
BRN	Brunei
BTN	Bhutan
BUR	Burma
BVT	Bouvet Island
BWA	Botswana
CAF	Central African Republic
CAN	Canada
CCK	Cocos (Keeling) Islands
CHE	Switzerland
CHL	Chile
CHN	China
CIV	Cote d'Ivoire
CMR	Cameroon
COD	Congo, Democratic Republic of the
COG	Congo, Republic of the
COK	Cook Islands
COL	Colombia
COM	Comoros
CPV	Cape Verde
CRI	Costa Rica
CSK	Czechoslovakia
CUB	Cuba
CUW	Curacao
CXR	Christmas Island
CYM	Cayman Islands
CYP	Cyprus
CZE	Czech Republic
DDR	German Democratic Republic
DEU	Germany
DEU.X	West Germany
DJI	Djibouti
DMA	Dominica
DNK	Denmark
DOM	Dominican Republic
DZA	Algeria
ECU	Ecuador
EGY	Egypt, Arab Rep.
ERI	Eritrea
ESH	Western Sahara
ESP	Spain
EST	Estonia
ETF	Ethiopia (includes Eritrea)
ETH	Ethiopia (excludes Eritrea)
FIN	Finland
FJI	Fiji
FLK	Falkland Islands
FRA	France
FRE	Free Zones
FRO	Faeroe Islands
FSM	Micronesia, Federated States of
GAB	Gabon
GAZ	Gaza Strip

Continued on next page

Dynamic Country Code	Country Name
GBR	United Kingdom
GEO	Georgia
GHA	Ghana
GIB	Gibraltar
GIN	Guinea
GLP	Guadeloupe
GMB	Gambia, The
GNB	Guinea-Bissau
GNQ	Equatorial Guinea
GRC	Greece
GRD	Grenada
GRL	Greenland
GTM	Guatemala
GUF	French Guiana
GUM	Guam
GUY	Guyana
HKG	Hong Kong
HMD	Heard Island and McDonald Islands
HND	Honduras
HRV	Croatia
HTI	Haiti
HUN	Hungary
IDN	Indonesia
IMN	Isle of Man
IND	India
IOT	British Indian Ocean Ter.
IRL	Ireland
IRN	Iran
IRQ	Iraq
ISL	Iceland
ISR	Israel
ITA	Italy
JAM	Jamaica
JOR	Jordan
JPN	Japan
KAZ	Kazakhstan
KEN	Kenya
KGZ	Kyrgyzstan
KHM	Kampuchea (until 1988), Cambodia(1989-present)
KIR.X	Kiribati
KNA	Saint Kitts and Nevis
KOR	Korea, South
KWT	Kuwait
LAO	Laos
LBN	Lebanon
LBR	Liberia
LBY	Libya
LCA	Saint Lucia
LIE	Liechtenstein
LKA	Sri Lanka
LSO	Lesotho
LTU	Lithuania
LUX	Luxembourg
LVA	Latvia
MAC	Macao
MAR	Morocco
MCO	Monaco
MDA	Moldova
MDG	Madagascar
MDV	Maldives
MEX	Mexico
MHL	Marshall Islands
MKD	Macedonia
MLI	Mali
MLT	Malta
MMR	Myanmar
MNE	Montenegro
MNG	Mongolia
MNP	Northern Marianas
MOZ	Mozambique
MRT	Mauritania
MSR	Montserrat
MTQ	Martinique
MUS	Mauritius
MWI	Malawi
MYS.Y	Malaysia
MYT	Mayotte
NAM	Namibia
NCL	New Caledonia
NER	Niger
NFK	Norfolk Island
NGA	Nigeria
NIC	Nicaragua
NIU	Niue
NLD	Netherlands
NOR	Norway
NPL	Nepal
NRU	Nauru
NTZ	Neutral Zone
NZL	New Zealand

Continued on next page

Dynamic Country Code	Country Name
OMN	Oman
PAK.X	Pakistan
PAN.X	Panama
PCN	Pitcairn
PER	Peru
PHL	Philippines
PLW	Palau
PNG	Papua New Guinea
POL	Poland
PRI	Puerto Rico
PRK	Korea, North
PRT	Portugal
PRY	Paraguay
PSE	Palestine
PYF	French Polynesia
QAT	Qatar
REU	Reunion
ROM	Romania
ROU	Romania
RUS	Russia
RWA	Rwanda
SAU	Saudi Arabia
SAU.X	Saudi Arabia
SCG	Serbia and Montenegro
SDN	Sudan
SDN.X	Sudan
SEN	Senegal
SGP	Singapore
SGS	South Georgia and South Sandwich Islands
SHN	Saint Helena, Ascension, and Tristan da Cunha
SLB	Solomon Islands
SLE	Sierra Leone
SLV	El Salvador
SMR	San Marino
SOM	Somalia
SPM	Saint Pierre and Miquelon
SRB	Serbia
SRB.X	Serbia
SSD	South Sudan
STP	Sao Tome and Principe
SUR	Suriname
SVK	Slovakia
SVN	Slovenia
SVU	Soviet Union
SWE	Sweden
SWZ	Swaziland
SXM	Sint Maarten
SYC	Seychelles
SYR	Syria
TCA	Turks and Caicos Islands
TCD	Chad
TGO	Togo
THA	Thailand
TJK	Tajikistan
TKL	Tokelau
TKM	Turkmenistan
TLS	East Timor
TON	Tonga
TTO	Trinidad and Tobago
TUN	Tunisia
TUR	Turkey
TUV	Tuvalu
TWN	Taiwan
TZA	Tanzania
UGA	Uganda
UKR	Ukraine
UMI	U.S. Minor Outlying Islands
URY	Uruguay
USA	United States
UZB	Uzbekistan
VAT	Holy See
VCT	Saint Vincent and the Grenadines
VEN	Venezuela
VGB	British Virgin Islands
VIR	U.S. Virgin Islands
VNM.X	Vietnam
VUT	Vanuatu
WLF	Wallis and Futuna Islands
WSM	Western Samoa (until 1996), Samoa (1997-present)
YEM	Yemen, North
YEM.X	Yemen
YMD	Yemen, South
YUG	Yugoslavia
ZAF	South Africa
ZAF.X	South Africa
ZAR	Zaire
ZMB	Zambia
ZWE	Zimbabwe

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Dynamic Country Code	Country Name
<p>Notes: This table lists the 265 countries/regions covered in ITPD-E-R03 (in Column 2), and their corresponding Dynamic Country Codes (in Column 1). Two countries in the table (Cambodia and Samoa) have changed their names between 1986 and 2019 while keeping the same Dynamic Country Code. See text for further details.</p>	

Table 3: Variables in ITPD-E-R03 – Data File Columns

Column name	Column description
exporter_iso3	ISO 3-letter alpha code of the exporter
exporter_name	Name of the exporter
importer_iso3	ISO 3-letter alpha code of the importer
importer_name	Name of the importer
exporter_dynamic_code	Dynamic alpha code of the exporter based on DGD
importer_dynamic_code	Dynamic alpha code of the importer based on DGD
year	Year
industry_id	ITPD industry code
industry_descr	ITPD industry description
broad_sector	Broad sector description
trade	Trade flows in million of current US dollars
flag_mirror	Flag indicator, 1 if trade mirror value is used
flag_zero	Flag indicator: 'p' if positive trade 'r' if the raw data contained zero 'u' missing (unknown, assigned zero)

Table 4: Data Sources

Broad sector	International trade	Production
Agriculture (industries 1-26)	FAOSTAT Detailed Trade Matrix	FAOSTAT Value of Agricultural Production
Agriculture (Forestry, Fishing)	COMTRADE (United Nations International Trade Statistics Database)	UN National Accounts Statistics
Mining and energy	COMTRADE	MINSTAT (Mining and Utilities Statistics Database) from UNIDO (United Nations Industrial Development Organization)
Manufacturing	COMTRADE	INDSTAT (Industrial Statistics Database) from UNIDO
Services	WTO-UNCTAD-ITC Annual Trade in Services Database UN TSD (Trade in Services Database) via COMTRADE	UN National Accounts Statistics

Notes: This table provides a summary of the various administrative data sources across the four broad sectors in the ITPD-E-R03. Please see main text for further details.

Table 5: USITC Agricultural Classification

ITPD-E Code	ITPD-E Description	FCL Item Code	FCL Title
1	Wheat	15	Wheat
2	Rice (raw)	27	Rice, paddy
3	Corn	56	Maize
4	Other cereals	44	Barley
4	Other cereals	71	Rye
4	Other cereals	75	Oats
4	Other cereals	79	Millet
4	Other cereals	83	Sorghum
4	Other cereals	89	Buckwheat
4	Other cereals	92	Quinoa
4	Other cereals	94	Fonio
4	Other cereals	97	Triticale
4	Other cereals	101	Canary seed
4	Other cereals	103	Mixed grain
4	Other cereals	108	Cereals, nes
5	Cereal products	17	Bran of Wheat
5	Cereal products	59	Bran of Maize
5	Cereal products	81	Bran of Millet
5	Cereal products	85	Bran of Sorghum
5	Cereal products	91	Bran of Buckwheat
5	Cereal products	96	Bran of Fonio
6	Soybeans	236	Soybeans
7	Other oilseeds (exc. peanuts)	242	Groundnuts, in shell
7	Other oilseeds (exc. peanuts)	243	Groundnuts, Shelled
7	Other oilseeds (exc. peanuts)	249	Coconuts
7	Other oilseeds (exc. peanuts)	250	Coconuts, Desiccated
7	Other oilseeds (exc. peanuts)	251	Copra
7	Other oilseeds (exc. peanuts)	254	Oil palm fruit
7	Other oilseeds (exc. peanuts)	256	Palm kernels
7	Other oilseeds (exc. peanuts)	263	Karite Nuts (Sheanuts)
7	Other oilseeds (exc. peanuts)	265	Castor Beans
7	Other oilseeds (exc. peanuts)	267	Sunflower seed
7	Other oilseeds (exc. peanuts)	270	Rapeseed or colza seed
7	Other oilseeds (exc. peanuts)	275	Tung Nuts
7	Other oilseeds (exc. peanuts)	280	Safflower seed
7	Other oilseeds (exc. peanuts)	289	Sesame seed
7	Other oilseeds (exc. peanuts)	292	Mustard seed
7	Other oilseeds (exc. peanuts)	296	Poppy seed
7	Other oilseeds (exc. peanuts)	299	Melonseed
7	Other oilseeds (exc. peanuts)	310	Kapok fruit
7	Other oilseeds (exc. peanuts)	311	Kapokseed in shell
7	Other oilseeds (exc. peanuts)	312	Kapokseed, shelled
7	Other oilseeds (exc. peanuts)	328	Seed Cotton
7	Other oilseeds (exc. peanuts)	329	Cottonseed
7	Other oilseeds (exc. peanuts)	333	Linseed
7	Other oilseeds (exc. peanuts)	336	Hempseed
7	Other oilseeds (exc. peanuts)	339	Oilseeds nes
8	Animal feed ingredients & pet foods	169	Beet Pulp
8	Animal feed ingredients & pet foods	628	Pulp, Waste of Fruit for Feed
8	Animal feed ingredients & pet foods	630	Cane Tops
8	Animal feed ingredients & pet foods	635	Straw & Husks
8	Animal feed ingredients & pet foods	639	Grasses nes for forage
8	Animal feed ingredients & pet foods	640	Clover for forage
8	Animal feed ingredients & pet foods	643	Legumes for silage
8	Animal feed ingredients & pet foods	646	Turnips for fodder
8	Animal feed ingredients & pet foods	651	Forage Products nes
8	Animal feed ingredients & pet foods	652	Vegetable Products for Feed nes
8	Animal feed ingredients & pet foods	846	Gluten Feed & Meal
8	Animal feed ingredients & pet foods	858	Hay (Clover, Lucerne, etc.)
8	Animal feed ingredients & pet foods	859	Hay nes
8	Animal feed ingredients & pet foods	862	Alfalfa Meal & Pellets
9	Raw & refined sugar & sugar crops	156	Sugar cane
9	Raw & refined sugar & sugar crops	157	Sugar beet
10	Other sweeteners	161	Sugar crops nes
10	Other sweeteners	1182	Honey
11	Pulses & legumes(dried, preserved)	176	Beans, dry
11	Pulses & legumes(dried, preserved)	181	Broad beans, dry
11	Pulses & legumes(dried, preserved)	187	Peas, dry
11	Pulses & legumes(dried, preserved)	191	Chick-peas, dry
11	Pulses & legumes(dried, preserved)	195	Cow peas, dry
11	Pulses & legumes(dried, preserved)	197	Pigeon peas
11	Pulses & legumes(dried, preserved)	201	Lentils, dry
11	Pulses & legumes(dried, preserved)	203	Bambara beans
11	Pulses & legumes(dried, preserved)	205	Vetches
11	Pulses & legumes(dried, preserved)	210	Lupins
11	Pulses & legumes(dried, preserved)	211	Pulses nes
12	Fresh fruit	486	Bananas
12	Fresh fruit	489	Plantains
12	Fresh fruit	490	Oranges
12	Fresh fruit	495	Tangerines, mandarins, clementines, satsumas
12	Fresh fruit	497	Lemons & limes
12	Fresh fruit	507	Grapefruit & pomelo
12	Fresh fruit	512	Citrus fruit nes
12	Fresh fruit	515	Apples
12	Fresh fruit	521	Pears
12	Fresh fruit	523	Quinces
12	Fresh fruit	526	Apricots

Continued on next page

ITPD-E Code	ITPD-E Description	FCL Item Code	FCL Title
12	Fresh fruit	530	Sour cherries
12	Fresh fruit	531	Cherries
12	Fresh fruit	534	Peaches & nectarines
12	Fresh fruit	536	Plums
12	Fresh fruit	541	Stone fruit, fresh nes
12	Fresh fruit	542	Pome fruit nes
12	Fresh fruit	544	Strawberries
12	Fresh fruit	547	Raspberries
12	Fresh fruit	549	Gooseberries
12	Fresh fruit	550	Currants
12	Fresh fruit	552	Blueberries
12	Fresh fruit	554	Cranberries
12	Fresh fruit	558	Berries nes
12	Fresh fruit	560	Grapes
12	Fresh fruit	561	Raisins
12	Fresh fruit	567	Watermelons
12	Fresh fruit	568	Melons, Cantaloupes
12	Fresh fruit	569	Figs
12	Fresh fruit	571	Mangoes
12	Fresh fruit	572	Avocados
12	Fresh fruit	574	Pineapples
12	Fresh fruit	577	Dates
12	Fresh fruit	587	Persimmons
12	Fresh fruit	591	Cashewapple
12	Fresh fruit	592	Kiwi fruit
12	Fresh fruit	600	Papayas
12	Fresh fruit	603	Fruit, tropical (fresh) nes
12	Fresh fruit	619	Fruit, fresh nes
13	Fresh vegetables	116	Potatoes
13	Fresh vegetables	122	Sweet potatoes
13	Fresh vegetables	125	Cassava
13	Fresh vegetables	135	Yautia (Cocoyam)
13	Fresh vegetables	136	Taro (Cocoyam)
13	Fresh vegetables	137	Yams
13	Fresh vegetables	149	Roots & tubers nes
13	Fresh vegetables	260	Olives
13	Fresh vegetables	358	Cabbages
13	Fresh vegetables	366	Artichokes
13	Fresh vegetables	367	Asparagus
13	Fresh vegetables	372	Lettuce & chicory
13	Fresh vegetables	373	Spinach
13	Fresh vegetables	388	Tomatoes, fresh
13	Fresh vegetables	393	Cauliflowers & broccoli
13	Fresh vegetables	394	Pumpkins, squash & gourds
13	Fresh vegetables	397	Cucumbers & gherkins
13	Fresh vegetables	399	Eggplants
13	Fresh vegetables	401	Chillies & peppers (green)
13	Fresh vegetables	402	Onions, shallots (green)
13	Fresh vegetables	403	Onions, dry
13	Fresh vegetables	406	Garlic
13	Fresh vegetables	407	Leeks & other alliaceous vegetables
13	Fresh vegetables	414	Beans, green
13	Fresh vegetables	417	Peas, green
13	Fresh vegetables	420	Broad Beans, Green
13	Fresh vegetables	423	String Beans
13	Fresh vegetables	426	Carrot
13	Fresh vegetables	430	Okra
13	Fresh vegetables	446	Green Corn (Maize)
13	Fresh vegetables	449	Mushrooms
13	Fresh vegetables	459	Chicory roots
13	Fresh vegetables	463	Vegetables, Fresh n.e.s.
14	Prepared fruits, fruit juices	527	Apricots, Dried
14	Prepared fruits, fruit juices	537	Plums, dried
14	Prepared fruits, fruit juices	570	Figs, Dried
14	Prepared fruits, fruit juices	620	Fruit, dried nes
15	Prepared vegetables	120	Potato Offals
15	Prepared vegetables	128	Cassava, Dried
16	Nuts	216	Brazil nuts
16	Nuts	217	Cashew nuts
16	Nuts	220	Chestnuts
16	Nuts	221	Almonds
16	Nuts	222	Walnuts
16	Nuts	223	Pistachios
16	Nuts	224	Kolanuts
16	Nuts	225	Hazelnuts (Filberts)
16	Nuts	226	Areca nuts
16	Nuts	229	Brazil Nuts, Shelled
16	Nuts	230	Cashew Nuts, Shelled
16	Nuts	231	Almonds, Shelled
16	Nuts	232	Walnuts, Shelled
16	Nuts	233	Hazelnuts, Shelled
16	Nuts	234	Nuts nes
17	Live Cattle	866	Cattle
17	Live Swine	946	Buffaloes
18	Live Swine	1034	Pigs
19	Eggs	1062	Hen eggs
19	Eggs	1091	Eggs, exc. hen eggs
20	Other meats, livest. pr. live animals	976	Sheep
20	Other meats, livest. pr. live animals	987	Wool, Greasy
20	Other meats, livest. pr. live animals	1009	Wool, Hair Waste

Continued on next page

ITPD-E Code	ITPD-E Description	FCL Item Code	FCL Title
20	Other meats, livest. pr. live animals	1016	Goats
20	Other meats, livest. pr. live animals	1026	Skins, Wet-Salted (Goats)
20	Other meats, livest. pr. live animals	1031	Coarse goat hair
20	Other meats, livest. pr. live animals	1057	Chickens
20	Other meats, livest. pr. live animals	1068	Ducks
20	Other meats, livest. pr. live animals	1079	Turkeys
20	Other meats, livest. pr. live animals	1083	Pigeons and other birds
20	Other meats, livest. pr. live animals	1096	Horses
20	Other meats, livest. pr. live animals	1107	Asses
20	Other meats, livest. pr. live animals	1110	Mules
20	Other meats, livest. pr. live animals	1126	Camels
20	Other meats, livest. pr. live animals	1134	Hides, Wet-Salted (Camels)
20	Other meats, livest. pr. live animals	1136	Hides nes, Camels
20	Other meats, livest. pr. live animals	1140	Rabbits
20	Other meats, livest. pr. live animals	1150	Other rodents
20	Other meats, livest. pr. live animals	1157	Other camelids
20	Other meats, livest. pr. live animals	1169	Live animals, non food nes
20	Other meats, livest. pr. live animals	1171	Live animals nes
20	Other meats, livest. pr. live animals	1181	Bees
20	Other meats, livest. pr. live animals	1183	Beeswax
20	Other meats, livest. pr. live animals	1185	Cocoons, reelable
20	Other meats, livest. pr. live animals	1216	Hides nes
20	Other meats, livest. pr. live animals	1218	Hair, fine
21	Cocoa and cocoa products	661	Cocoa beans
22	Beverages, nec	656	Coffee green
22	Beverages, nec	667	Tea
22	Beverages, nec	671	Mate
23	Cotton	767	Cotton Lint
23	Cotton	769	Cotton Waste
24	Tobacco leaves & cigarettes	826	Tobacco leaves
25	Spices	687	Pepper
25	Spices	689	Pimento
25	Spices	692	Vanilla
25	Spices	693	Cinnamon (canella)
25	Spices	698	Cloves
25	Spices	702	Nutmeg, mace, cardamoms
25	Spices	711	Anise, badian, fennel
25	Spices	720	Ginger
25	Spices	723	Spices nes
26	Other ag. products, nec	460	Vegetable products, fresh or dry nes
26	Other ag. products, nec	461	Carobs
26	Other ag. products, nec	654	Dregs from brewing, distillation
26	Other ag. products, nec	677	Hops
26	Other ag. products, nec	748	Peppermint, Spearmint
26	Other ag. products, nec	754	Pyrethrum, dried flowers
26	Other ag. products, nec	755	Pyrethrum Extract
26	Other ag. products, nec	771	Flax, raw or retted
26	Other ag. products, nec	777	Hemp fibre and tow
26	Other ag. products, nec	778	Kapok fibre
26	Other ag. products, nec	780	Jute
26	Other ag. products, nec	782	Jute-like fibres
26	Other ag. products, nec	788	Ramie
26	Other ag. products, nec	789	Sisal
26	Other ag. products, nec	800	Agave fibres nes
26	Other ag. products, nec	809	Abaca manila hemp
26	Other ag. products, nec	813	Coir
26	Other ag. products, nec	821	Fibre crops nes
26	Other ag. products, nec	836	Natural rubber
26	Other ag. products, nec	837	Rubber, Natural (Dry)
26	Other ag. products, nec	839	Natural gums
26	Other ag. products, nec	1293	Crude Organic Materials nes

Notes: This table presents the concordance that we created between the ITPD-E agriculture classification and the FCL classification.

Table 6: Mining: ITPD-E-R03 Classification and Concordances

ITPD-E-R03 Code	ITPD-E-R03 Description	ISIC3	ISIC rev. 3 Description	ISIC4	ISIC rev. 4 Description
29	Mining of hard coal	101	Mining and agglomeration of hard coal	51	Mining of hard coal
30	Mining of lignite	102	Mining and agglomeration of lignite	52	Mining of lignite
31	Extraction crude oil and gas	111	Extraction crude oil and gas	6	Extraction of crude oil and gas
32	Mining of iron ores	131	Iron ores	71	Mining of iron ores
33	Other mining and quarrying	190	C-(101+102+111+131)	90	B-(051+052+61+62+071)
34	Electricity proden, collcn, and distr.	401	Electricity proden, collcn, and distr.	351	Electric power generation, transmission
35	Gas production and distribution	402	Gas production and distribution	352	Manufacture of gas
Notes: This table presents the concordance between the ITPD-E-R03 mining classification, the ISIC rev. 3 and ISIC rev. 4 classifications.					

Table 7: Manufacturing: ITPD-E-R03 Classification and Concordances

ITPD-E-R03 Code	ITPD-E-R03 Description	ISIC3	ISIC4
36	Processing/preserving of meat	1511	1010
37	Processing/preserving of fish	1512	1020
38	Processing/preserving of fruit & vegetables	1513	1030
39	Vegetable and animal oils and fats	1514	1040
40	Dairy products	1520	1050
41	Grain mill products	1531	1061
42	Starches and starch products	1532	1062
43	Prepared animal feeds	1533	1080
44	Bakery products	1541	1071
45	Sugar	1542	1072
46	Cocoa chocolate and sugar confectionery	1543	1073
47	Macaroni noodles & similar products	1544	1074
48	Other food products n.e.c.	1549	1075+1079
49	Distilling rectifying & blending of spirits	1551	1101
50	Wines	1552	1102
51	Malt liquors and malt	1553	1103
52	Soft drinks; mineral waters	1554	1104
53	Tobacco products	1600	1200
54	Textile fibre preparation; textile weaving	1711	1311+1312
55	Made-up textile articles except apparel	1721	1392
56	Carpets and rugs	1722	1393
57	Cordage rope twine and netting	1723	1394
58	Other textiles n.e.c.	1729	1399
59	Knitted and crocheted fabrics and articles	1730	1430+1391
60	Wearing apparel except fur apparel	1810	1410
61	Dressing & dyeing of fur; processing of fur	1820	1420
62	Tanning and dressing of leather	1911	1511
63	Luggage handbags etc.; saddlery & harness	1912	1512
64	Footwear	1920	1520
65	Sawmilling and planing of wood	2010	1610
66	Veneer sheets plywood particle board etc.	2021	1621
67	Builders' carpentry and joinery	2022	1622
68	Wooden containers	2023	1623
69	Other wood products; articles of cork/straw	2029	1629
70	Pulp paper and paperboard	2101	1701
71	Corrugated paper and paperboard	2102	1702
72	Other articles of paper and paperboard	2109	1709
73	Publishing of books and other publications	2211	
74	Publishing of newspapers journals etc.	2212	
75	Publishing of recorded media	2213	
76	Other publishing	2219	
77	Printing	2221	1811
78	Service activities related to printing	2222	1812
79	Coke oven products	2310	1910
80	Refined petroleum products	2320	1920
81	Processing of nuclear fuel	2330	
82	Basic chemicals except fertilizers	2411	2011
83	Fertilizers and nitrogen compounds	2412	2012
84	Plastics in primary forms; synthetic rubber	2413	2013
85	Pesticides and other agro-chemical products	2421	2021
86	Paints varnishes printing ink and mastics	2422	2022
87	Pharmaceuticals medicinal chemicals etc.	2423	2100
88	Soap cleaning & cosmetic preparations	2424	2023
89	Other chemical products n.e.c.	2429	2029+2680
90	Man-made fibers	2430	2030
91	Rubber tires and tubes	2511	2211
92	Other rubber products	2519	2219
93	Plastic products	2520	2220
94	Glass and glass products	2610	2310
95	Pottery china and earthenware	2691	2393
96	Refractory ceramic products	2692	2391
97	Struct.non-refractory clay; ceramic products	2693	2392
98	Cement lime and plaster	2694	2394
99	Articles of concrete cement and plaster	2695	2395
100	Cutting shaping & finishing of stone	2696	2396
101	Other non-metallic mineral products n.e.c.	2699	2399
102	Basic iron and steel	2710	2410
103	Basic precious and non-ferrous metals	2720	2420
104	Structural metal products	2811	2511
105	Tanks reservoirs and containers of metal	2812	2512
106	Steam generators	2813	2513
107	Cutlery hand tools and general hardware	2893	2593
108	Other fabricated metal products n.e.c.	2899	2599
109	Engines & turbines (not for transport equipment)	2911	2811
110	Pumps compressors taps and valves	2912	2812+2813
111	Bearings gears gearing & driving elements	2913	2814
112	Ovens furnaces and furnace burners	2914	2815
113	Lifting and handling equipment	2915	2816
114	Other general purpose machinery	2919	2819
115	Agricultural and forestry machinery	2921	2821
116	Machine tools	2922	2818+2822
117	Machinery for metallurgy	2923	2823
118	Machinery for mining & construction	2924	2824
119	Food/beverage/tobacco processing machinery	2925	2825
120	Machinery for textile apparel and leather	2926	2826
121	Weapons and ammunition	2927	2520+3040
122	Other special purpose machinery	2929	2829

Continued on next page

ITPD-E-R03 Code	ITPD-E-R03 Description	ISIC3	ISIC4
123	Domestic appliances n.e.c.	2930	2750
124	Office accounting and computing machinery	3000	2620+2817
125	Electric motors generators and transformers	3110	2710
126	Electricity distribution & control apparatus	3120	2733
127	Insulated wire and cable	3130	2731+2732
128	Accumulators primary cells and batteries	3140	2720
129	Lighting equipment and electric lamps	3150	2740
130	Other electrical equipment n.e.c.	3190	2790
131	Electronic valves tubes etc.	3210	2610
132	TV/radio transmitters; line comm. apparatus	3220	2630
133	TV and radio receivers and associated goods	3230	2640
134	Medical surgical and orthopedic equipment	3311	2660+3250
135	Measuring/testing/navigating appliances and equipment	3312+3313	2651
136	Optical instruments & photographic equipment	3320	2670
137	Watches and clocks	3330	2652
138	Motor vehicles	3410	2910
139	Automobile bodies trailers & semi-trailers	3420	2920
140	Parts/accessories for automobiles	3430	2930
141	Building and repairing of ships	3511	3011
142	Building/repairing of pleasure/sport. boats	3512	3012
143	Railway/tramway locomotives & rolling stock	3520	3020
144	Aircraft and spacecraft	3530	3030
145	Motorcycles	3591	3091
146	Bicycles and invalid carriages	3592	3092
147	Other transport equipment n.e.c.	3599	3099
148	Furniture	3610	3100
149	Jewelery and related articles	3691	3211+3212
150	Musical instruments	3692	3220
151	Sports goods	3693	3230
152	Games and toys	3694	3240
153	Other manufacturing n.e.c.	3699	3290

Notes: This table presents the concordance between the ITPD-E-R03 manufacturing classification, the ISIC rev. 3 and ISIC rev. 4 classifications.

Table 8: Services: EBOPS–ISIC–ITPD Concordance

ITPD-E Code	ITPD-E Description	EBOPS 2002	EBOPS 2010	ISIC Rev. 4
154	Manufacturing services on physical inputs owned by others	SA	SA	–
155	Maintenance and repair services n.i.e.		SB	–
156	Transport	205, 246	SC	H
157	Travel	237, 243	SDA + SDB3	I
158	Construction	249	SE	F
159	Insurance and pension services	253	SF	K (60%)
160	Financial services	260	SG	K (40%)
161	Charges for the use of intellectual property n.i.e.	266	SH	–
162	Telecommunications, computer, and information services	247, 262, 288	SI + SK1	J
163	Other business services	272, 273	SJ excl SJ34	M + N
164	Heritage and recreational services	–	SK23 ^a	R
165	Health services	241, 896	SDB1 + SK21	Q
166	Education services	242, 895	SDB2 + SK22	P
167	Government goods and services n.i.e.	291	SL	–
168	Services not allocated	982	SN	–
169	Trade-related services	271	SJ34	G
170	Other personal services	–	SK24 ^a	S

^a EBOPS codes SK23 and SK24 are new to BPM6 and have no backwards correspondence in BPM5.

The concordance in this table differs from (Wettstein et al., 2019, Table 14) in three respects:

- (¹) ISIC industry L is not concorded to ‘other business services’ (EBOPS SJ);
- (²) Rather than aggregating financial services and insurance services, respectively, we keep these two services products separate and split ISIC category K according to a fixed fraction;
- (³) We do not include EBOPS SW (trade margins of wholesalers and retailers) as part of SJ34 because this code is not included in the WTO-UNCTAD-ITC annual trade in services dataset.

Table 9: Comparison of the Total Number of Observations

Number of observations	
In ITPD R03	84,644,030
In ITPD R02	72,534,869
In either release	85,166,469
In both releases	72,012,430
In R03, but n/a in R02	12,631,600
In R02, but n/a in R03	522,439

Table 10: Comparison of Number and Value of Trade Flows, By Year

Year	ITPD-E R02		ITPD-E R03	
	Freq	Value	Freq	Value
1986	120,430	105	135,460	111
1987	121,728	111	135,632	118
1988	1,129,339	1,306	1,162,569	1,310
1989	1,298,872	1,935	1,340,848	1,938
1990	1,367,742	3,138	1,414,714	3,141
1991	1,473,637	4,349	1,523,469	4,217
1992	1,837,326	5,357	1,909,362	5,208
1993	2,004,519	5,973	2,083,433	5,841
1994	2,075,523	9,325	2,162,497	9,194
1995	2,110,024	11,668	2,200,978	11,540
1996	2,115,491	12,848	2,208,276	12,547
1997	2,164,968	15,979	2,257,536	15,679
1998	2,189,455	15,730	2,283,137	15,399
1999	2,229,839	16,295	2,326,270	16,204
2000	2,448,006	43,281	2,596,830	44,547
2001	2,454,598	42,612	2,604,456	43,867
2002	2,467,250	44,058	2,621,749	45,460
2003	2,485,058	51,182	2,637,996	52,652
2004	2,490,433	59,645	2,642,048	61,575
2005	2,501,253	64,997	2,654,915	66,427
2006	2,533,745	71,720	2,689,729	73,289
2007	2,539,988	81,015	2,695,914	83,020
2008	2,539,993	89,014	2,695,824	90,734
2009	2,539,544	79,507	2,697,008	80,878
2010	2,542,579	86,725	2,699,168	89,508
2011	2,542,149	99,624	2,695,150	103,379
2012	2,542,748	101,527	2,701,868	104,671
2013	2,536,653	104,529	2,699,655	107,786
2014	2,527,113	105,075	2,689,901	108,479
2015	2,525,834	97,388	2,690,322	100,209
2016	2,522,556	84,414	2,685,799	88,684
2017	2,522,672	88,433	2,686,731	92,733
2018	2,522,523	92,145	2,686,234	99,889
2019	2,511,281	77,553	2,682,337	97,673
2020	nan	nan	2,672,305	89,827
2021	nan	nan	2,679,237	96,031
2022	nan	nan	2,661,881	37,557

Note: ‘Value’ is in billions of USD.

Table 11: Comparison of Number and Value of Trade Flows, By Industry

Industry ID	ITPD-E R02		ITPD-E R03	
	Freq	Value	Freq	Value
1	161,462	3,598	185,521	3,722
2	264,780	6,290	313,077	5,949
3	190,760	4,374	222,718	4,828
4	176,680	1,452	229,063	1,354
5	82,098	24	129,169	37
6	113,761	2,248	132,291	2,299
7	344,260	3,721	415,917	3,013
8	264,382	343	317,702	437
9	21,611	1,599	48,042	1,701
10	174,104	133	202,733	120
11	285,160	826	345,520	613
12	450,335	8,532	525,412	7,628
13	373,785	12,562	439,798	10,773
14	216,489	48	264,717	61
15	37,767	39	48,659	47
16	265,904	961	313,395	1,017
17	73,982	192	85,676	224
18	35,096	81	40,635	95
19	147,396	2,443	168,804	2,009
20	402,403	575	484,969	696
21	89,594	213	117,067	248
22	404,965	795	472,992	1,346
23	226,642	383	258,475	448
24	229,436	490	257,399	477
25	396,341	334	459,658	264
26	559,554	1,588	645,013	1,769
27	474,015	558	436,974	574
28	391,607	376	408,185	432
29	136,108	5,834	165,794	7,788
30	38,152	401	46,320	432
31	172,182	37,881	206,463	49,398
32	82,390	3,020	101,804	4,945
33	588,170	20,624	679,687	17,891
34	36,842	24,798	44,761	34,803
35	17,305	3,863	21,649	4,660
36	516,818	14,567	590,521	16,565
37	595,490	3,812	679,023	4,572
38	632,741	4,865	723,589	5,648
39	518,023	6,130	608,831	7,446
40	475,034	9,373	549,843	10,784
41	515,338	4,283	603,496	4,757
42	343,283	1,073	410,500	1,206
43	325,852	4,835	389,371	5,516
44	473,776	5,642	563,888	6,292
45	363,745	1,874	428,421	2,171
46	530,735	2,700	627,762	3,192
47	347,555	1,019	417,481	1,132
48	702,654	7,786	804,718	9,069
49	474,545	2,139	561,893	2,598
50	400,350	1,397	475,282	1,857
51	342,300	2,645	403,954	2,995
52	475,168	3,758	560,877	4,239
53	409,339	5,320	478,008	5,780
54	664,162	7,257	759,080	8,025
55	739,452	1,876	863,581	2,489
56	511,303	798	597,455	935
57	438,109	195	517,390	235
58	575,255	1,677	670,802	2,048
59	704,883	3,165	813,092	3,918
60	940,066	9,986	1,081,700	12,803
61	248,006	164	293,472	194
62	333,818	981	385,745	1,157
63	690,464	1,258	811,495	1,883

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Industry ID	ITPD-E R02		ITPD-E R03	
	Freq	Value	Freq	Value
64	711,001	3,448	836,235	4,424
65	457,447	3,070	528,189	3,647
66	428,831	2,561	497,225	2,955
67	388,821	2,476	450,409	2,747
68	354,160	566	418,988	663
69	625,893	983	723,214	1,160
70	554,714	7,845	645,144	9,177
71	525,845	4,577	615,173	5,149
72	649,022	2,827	758,180	3,283
73	707,063	1,071	817,767	1,234
74	330,423	1,729	384,676	1,732
75	389,849	434	404,671	483
76	616,388	398	716,407	541
77	646,272	6,568	749,416	6,977
78	195,249	762	229,331	785
79	102,682	1,110	122,194	1,180
80	579,355	34,644	680,061	41,352
81	149,557	427	177,558	588
82	693,409	19,195	799,330	23,739
83	380,385	3,453	450,012	4,171
84	559,196	9,989	650,768	12,266
85	408,568	1,415	482,963	1,741
86	551,441	3,365	644,437	3,910
87	717,974	19,818	833,743	27,012
88	733,862	5,932	862,957	7,390
89	780,479	8,091	902,708	10,469
90	347,947	2,044	403,665	2,257
91	521,156	2,931	601,674	3,527
92	722,035	2,737	848,281	3,331
93	898,032	18,673	1,035,451	22,228
94	697,158	4,028	810,711	4,668
95	614,680	1,078	715,080	1,284
96	304,355	846	358,510	950
97	385,166	1,686	445,174	1,914
98	316,025	3,245	370,093	3,650
99	361,036	5,530	425,196	6,135
100	366,762	1,067	428,609	1,197
101	515,930	2,231	608,448	2,538
102	692,029	28,158	801,374	32,690
103	617,097	19,968	716,092	25,922
104	539,604	8,431	628,461	9,606
105	412,513	1,369	484,862	1,559
106	272,156	1,074	320,678	1,149
107	786,787	3,312	913,703	4,128
108	894,532	9,172	1,030,218	11,060
109	427,948	3,278	499,420	4,036
110	774,183	5,831	900,713	7,759
111	640,411	2,656	753,252	3,407
112	432,717	836	499,319	1,079
113	576,201	3,988	674,423	4,948
114	812,989	8,229	946,868	10,481
115	464,647	2,717	545,701	3,359
116	644,355	3,915	749,186	4,970
117	223,857	970	264,336	1,141
118	624,198	4,938	727,059	6,040
119	482,750	1,151	564,805	1,452
120	508,391	1,106	590,913	1,415
121	281,244	802	332,132	969
122	682,623	7,429	798,877	9,824
123	695,056	5,532	810,113	6,679
124	837,300	14,533	958,889	18,556
125	738,947	7,770	857,507	9,656
126	755,770	5,160	882,793	6,780
127	634,359	4,060	749,196	4,734
128	535,878	1,651	627,204	2,224

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Industry ID	ITPD-E R02		ITPD-E R03	
	Freq	Value	Freq	Value
129	664,967	2,205	771,939	2,692
130	717,569	5,501	839,258	6,918
131	665,949	20,584	777,170	26,193
132	703,623	11,036	822,945	14,452
133	774,075	7,554	894,558	9,329
134	667,257	6,001	781,921	8,295
135	791,761	7,103	921,643	9,310
136	604,513	2,557	710,395	3,324
137	506,628	928	599,225	1,307
138	695,327	38,656	794,818	46,918
139	471,373	2,494	554,880	2,914
140	784,562	20,602	917,397	24,479
141	332,385	4,051	392,730	4,820
142	290,323	478	341,911	719
143	234,083	1,818	278,942	2,086
144	481,752	9,596	565,765	12,826
145	422,337	1,489	502,119	1,825
146	446,207	536	532,951	737
147	312,501	202	369,349	240
148	775,336	8,692	892,821	10,288
149	461,520	3,385	554,430	4,612
150	434,369	250	516,774	308
151	573,449	944	676,209	1,219
152	602,799	1,683	712,531	2,318
153	795,776	2,812	917,928	3,786
154	19,446	992	27,007	1,451
155	29,468	649	40,021	897
156	84,876	79,101	100,557	91,777
157	59,182	43,011	79,493	49,497
158	52,970	102,884	64,416	118,692
159	60,808	57,266	73,206	66,342
160	64,170	38,248	77,284	44,981
161	57,181	4,172	69,439	5,547
162	76,749	81,753	93,513	96,120
163	79,548	134,632	96,621	158,872
164	14,468	19,846	18,990	23,118
165	34,038	84,091	42,266	96,826
166	44,452	53,616	59,014	61,788
167	53,734	520	65,905	654
168	38,259	13,491	47,570	10,158
169	50,249	162,233	60,718	186,527
170	14,338	18,241	19,330	20,628

Note: 'Value' is in billions of USD.