Energy and Emissions per Value Added database

Appendix

International Energy Agency

INTERNATIONAL ENERGY AGENCY

The IEA examines the full spectrum of energy issues including oil, gas and coal supply and demand, renewable energy technologies, electricity markets, energy efficiency, access to energy, demand side management and much more. Through its work, the IEA advocates policies thatwill enhance the reliability, affordability and sustainability of energy in its 31 member countries, 11 association countries and beyond.

IEA member countries:

Australia
Austria
Belgium
Canada
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Japan
Korea
Lithuania
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States

The European Commission also participates in the work of the IEA

IEA association countries:

Argentina
Brazil
China
Egypt
India
Indonesia
Morocco
Singapore
South Africa
Thailand
Ukraine

This document provides information regarding selection of sources for value added data regarding the the Energy and Emissions per Value Added database, developed by the International Energy Agency (IEA).

This document is an appendix to the Users Guide.

Last updated: March 2023**Please address your comments and inquiries** to EnergyIndicators@iea.org. We are keen to receive user feedback in order to improve further editions of this database.

The sources for value added data are:

OECD Annual National Accounts, Table 6A. Value added and its components by activity, ISIC rev4, 2023

OECD Trade in Value Added (TiVA) database, 2023

UNSD National Accounts Official Country Data, Tables 2.4 and 2.5, 2023

The sources for Energy consumption data is:

IEA World Energy Balances, 2023 edition

The source of Emissions data is:

IEA Greenhouse Gas Emissions from Energy, 2023 edition

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Sources assessment: list of sources for value added data

The IEA has assessed advantages and disadvantages of using data from a number of different sources before identified the most suitable option for this database, described in the Data sources section of Users Guide. The assessment is briefly presented here.

OECD

Metadata from three different datasets was retrieved.

Annual national accounts, Value-added and its components by activity, ISIC rev3

Value-added and its components by activity, ISIC rev3 – constant prices (national reference year and previous year prices) in local currency unit (LCU)

Annual national accounts

Value-added and its components by activity, ISIC rev4 - constant prices (national base year, previous year prices and OECD base year i.e. 2015) in LCU

STAN Industrial Analysis (2020 ed.)

STAN Industrial Analysis (2020 ed.) - current prices in LCU

Trade in Value Added (TiVA)

Trade in Value Added (TiVA) - Value added - current prices in USD

UNIDO

Metadata from five different datasets was retrieved

INDSTAT 2 2020, ISIC Revision 3.1

INDSTAT 2 2020, ISIC Revision 3.1, in current prices, LCU and US dollars (USD)

INDSTAT 4 2020, ISIC Revision 3.1

INDSTAT 4 2020, ISIC Revision 3.1, in current prices, LCU and USD

INDSTAT 4 2020, ISIC Revision 4

INDSTAT 4 2020, ISIC Revision 4, in current prices, LCU and USD

MINSTAT 2020, ISIC Revision 3.1

MINSTAT 2020, ISIC Revision 3.1, in current prices, LCU and USD

MINSTAT 2020, ISIC Revision 4

MINSTAT 2020, ISIC Revision 4, in current prices, LCU and USD

UNSD

Metadata from two different datasets was retrieved.

National Accounts Official Country Data

Value added by industries at current prices in LCU, ISIC Rev. 3.1 and Rev. 4

Value added by industries at constant prices (national reference year) in LCU, ISIC Rev. 3.1 and Rev. 4

Note: A particularity of this dataset is that UNSD publishes the data broken down in several time series, according to the SNA methodology used. For the purpose of analysing this data, the time series were aggregated in order to see the complete time coverage. Nevertheless, the reference years are dependent on the SNA methodology.

National Accounts Estimates of Main Aggregates

Gross Value Added by Kind of Economic Activity at constant (2015) prices, in LCU and USD, ISIC Rev.3.1

Gross Value Added by Kind of Economic Activity at current prices, in LCU and USD, ISIC Rev.3.1

World Bank

Metadata from the World Development Indicators (WDI) dataset was retrieved.

Agriculture, forestry, and fishing, value added (constant 2010 prices in USD, constant prices in LCU, current prices in LCU and USD)

Industry (including construction), value added (constant 2010 prices in USD, constant prices in LCU, current prices in LCU and USD)

Manufacturing, value added (constant 2010 prices in USD, constant prices in LCU, current prices in LCU and UDS)

Services, value added (constant 2010 prices in USD, constant prices in LCU, current prices in LCU and USD)

Chemicals (% of value added in manufacturing)

Food, beverages and tobacco (% of value added in manufacturing)

Machinery and transport equipment (% of value added in manufacturing)

Other manufacturing (% of value added in manufacturing)

Oxford Economics

Data on value-added can be found under the 'Global Industry Model' section. The industries covered are the following:

- Primary sectors: Agriculture, forestry and fisheries; extraction; oil and natural gas extraction, extraction excluding oil; coal and lignite mining, other extraction activities.
- Manufacturing sectors: Food; beverages; tobacco; textiles; garments; leather goods; wood and wood products; pulp and paper; printing and recorded media; coke and refined petroleum products; basic chemicals and fertilisers; pesticides and other agrochemicals; paints, varnishes ; soaps, detergents; other chemicals n.e.c; man-made fibres; pharmaceuticals; rubber and plastics; glass; ceramic, clay and refractory products; cement, plaster, concrete; iron and steel; non-ferrous metals; casting; metal products n.e.c.; computer and office equipment; electric components and boards; telecommunications equipment; consumer electronics; medical and surgical equipment; other precision equipment; motors, generators and transformers; electric fittings; domestic appliances; other electrical equipment; motors except for vehicles; other general purpose machinery; agricultural machinery; machine tools; other special purpose machinery; mining, quarrying and construction; motor vehicles; motor vehicles and parts; aerospace; ships, rolling stock; furniture manufacturing; other manufacturing n.e.c.; repair and installation of machinery.
- Utilities
- Construction
- Service sectors: Retail and wholesale distribution; accommodation and catering; transport and storage; information and communications technology; financial services; real estate activities; other business services; public admin, defence and social security; education; healthcare and social work; other services.

The country coverage is the following:

- Europe: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Eurozone, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, UK.
- Americas: Argentina, Brazil, Canada, Chile, Colombia, Ecuador, Mexico, United States, Uruguay, Venezuela.
- Middle East and Africa: Algeria, Angola, Bahrain, Egypt, Iran, Iraq, Israel, Kuwait, Morocco, Nigeria, Oman, Qatar, Saudi Arabia, South Africa, Tunisia, UAE.
- Asia Pacific: Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam.

- Aggregations: Eurozone, Americas, N. America, NAFTA, Latin America excluding Mexico & Venezuela, Europe/MidEast/Africa, Europe, EU, EU15, Eastern Europe EU, Western Europe, Middle East & Africa, Middle East, Africa, Asia/Africa/MidEast, Asia Pacific, Asia, Emerging Asia, Brazil/Russia/India/China, Triad, OPEC, Developed Economies, Emerging Markets, World.

Data is provided in NACE Rev. 2.

IMF

Data on gross value-added in LCU by ISIC Rev.4 was published under the International Financial Statistics (IFS) dataset. Unfortunately, this dataset was discontinued and no new information will be available.

Sources assessment: detailed data availability by source

ISIC sectors at 4-digit

Two data sources publish data on value-added at a detailed level of 4-digit (AXXXX): the OECD and UNIDO. None of these data sources publishes value-added at constant prices. That is to say that only value-added at current prices are available at this level of disaggregation.

Current prices

ISIC classification rev. 3.1

Only UNIDO publishes data on value-added at 4-digit level using the ISIC classification rev. 3.1 in its dataset INDSTAT4. The data is available in LCU and USD for 115 countries and 127 sub-sectors (see Table 1).

The 127 sub-sectors are all part of the sector D, i.e. Manufacturing.

We can see a good coverage of the sub-sectors. However, there is not much data available for the latest reference year 2017. Regarding the geographical coverage, we can observe that data on value-added for the OECD countries is available for most of the 127 sub-sectors published. Exceptions can be noted for five countries (Chile, Israel, Luxembourg, New Zealand and Switzerland) for which less than half of the sub-sectors are available.

Among the non-OECD countries, the availability varies a lot from country to country and sub-sector to sub-sector.

ISIC classification rev. 4

Two data sources publish value-added data at 4-digit level of the ISIC classification rev. 4, namely the OECD and UNIDO.

OECD

In its dataset STAN Industrial Analysis, the OECD publishes value-added data at this level of disaggregation in LCU (see Table 2). This data is available only for an aggregate composed of G4651 (Wholesale of computers, computer peripheral equipment and software) and G4652 (Wholesale of electronic and telecommunications equipment and parts).

It covers a set of 20 countries (all members of the OECD) over the period 2008 to 2017, except for Denmark (from 2008 to 2016) and Israel (from 2011 to 2016).

UNIDO

UNIDO makes available value-added for 136 sub-sectors of the ISIC classification rev. 4 in its dataset INDSTAT4 (see Table 3). These sub-sectors cover only the sector C which corresponds to Manufacturing.

The data is provided for 99 countries, in LCU and USD. We can observe that the sub-sectors are well covered as data for each sub-sector is available for more than half of the countries.

Regarding the OECD countries, we can see a good coverage of the sub-sectors as well as the time period, as for almost all of them data is available up to the reference year 2017. On the other side, the earliest reference year is 2004. No data is available prior this year.

If we look at the non-OECD countries, the time and sector coverage show many discrepancies among the countries.

Conclusions

For the lowest level of disaggregation, value-added is available only at current prices.

Despite the good completeness of the data, the data from UNIDO using ISIC rev. 3.1 doesn't give a good time coverage in term of recent data.

When looking at the data published following ISIC rev. 4, it seems that the data from UNIDO is more complete from the geographical and time coverage point of view, as well as for the coverage of the sub-sectors at 4-digit. Moreover, this data is published in LCU and USD.

Advantages and disadvantages:

	ISIC rev. 3.1			ISIC rev. 4		
	Sectors coverage	Geographical coverage	Time coverage	Sectors coverage	Geographical coverage	Time coverage
OECD	NA	NA	NA	--	-	+
UNIDO	+	+	-	++	+	++

Legend: --= Very low; - = Low; + = Good; ++ = Very good

ISIC sectors at 3-digit

Two data sources publish data on value-added at a detailed level of 4-digit (AXXXX): the OECD and UNIDO. None of these data sources publishes value-added at constant prices. That is to say that only value-added at current prices are available at this level of disaggregation.

Current prices

ISIC classification rev. 3.1

Only UNIDO publishes data at 3-digit level of the ISIC classification rev. 3.1 (see Table 4).

The data is published in two datasets: MINSTAT2020 for the sub-sectors of sectors C (Mining and quarrying) and E (Electricity, gas and water supply) and INDSTAT4 for the sub-sectors of sector D (Manufacturing). A total of 38 sub-sectors is covered.

They gather value-added for 118 countries in LCU and USD. Not many countries have data available up to 2017. Moreover, we can observe that the data from INDSTAT4, i.e. for sector D, has a better geographical coverage than the data from MINSTAT2020 (sectors C and E).

Among the OECD countries, New Zealand is the country which covers the less sub-sectors (only 10) while all the others cover at least half of the sub-sectors. The sector coverage is also good for the non-OECD countries even if some exceptions could be noted.

ISIC classification rev. 4

Two data sources publish value-added data at 3-digit level of the ISIC classification rev. 4, namely the OECD and UNIDO.

OECD

In the dataset STAN Industrial Analysis, the OECD publishes value-added data, in LCU, at 3-digit level following the ISIC rev. 4 (see Table 5).

This data covers 27 countries (all OECD) and 6 sub-sectors from sector C (Manufacturing), 3 sub-sectors from sector J (Accommodation and food service activities), 1 sub-sector from sector S (Other service activities) and 3 aggregates for manufacturing sectors.

Except for eight countries (Australia, Chile, Denmark, Estonia, Japan, Latvia, Luxembourg and Mexico), the sub-sectors coverage is very good. The only exception is the sub-sector J631, Data processing, hosting and related activities; web portals, for which only Israel, Luxembourg and Poland reported data.

Regarding the time coverage, the average period of available data is 2008-2017. A few sub-sectors and countries even have data available before the reference year 2000.

UNIDO

UNIDO publishes value-added data at this level of disaggregation in two datasets: MINSTAT2020 for the sub-sectors of sectors D (Electricity, gas, steam and air conditioning supply) and E (Water supply; sewerage, waste management and remediation activities) and INDSTAT4 for the sub-sectors of sector C (Manufacturing). A total of 31 sub-sectors is covered (see Table 6).

The total is published for a total of 97 countries. The geographical coverage of the data is much better for the sub-sectors from sector C (i.e. from the dataset INDSTAT4) than for the sub-sectors from sectors D and E. When looking on the sectors coverage, it can be noted that most of the countries have data for at least half of the sub-sectors. Only 8 countries have data for less than half of these sub-sectors.

For a majority of the countries, data is available up to reference year 2017. However, no data prior reference year 2004 is published.

Conclusions

Value-added data for the ISIC classifications at 3-digit level is available only at current prices.

Despite the good completeness of the OECD data, UNIDO data have a wider geographical coverage for both ISIC rev. 3.1 and 4. However, if we focus on the common sub-sector between the two data sources, and in general, the OECD data shows a better time coverage.

Advantages and disadvantages:

	ISIC rev. 3.1			ISIC rev. 4		
	Sectors cov-erage	Geographical coverage	Time cover-age	Sectors cov-erage	Geographical coverage	Time cover-age
OECD	NA	NA	NA	-	-	++
UNIDO	+	+	-	+	+	+

Legend: - = Low; + = Good; ++ = Very good

ISIC sectors at 2-digit

Constant prices

ISIC classification rev. 3.1

Only the UNSD publishes data at 2-digit level of the ISIC classification rev. 3.1 (see Table 7) in its dataset 'National Accounts Official Country Data'.

The data, in LCU, covers 3 sub-sectors and 1 aggregate:

- A01: Agriculture, hunting and related service activities
- A02: Forestry, logging and related service activities
- I60_63: aggregate (Land transport; transport via pipelines + Water transport + Air transport + Supporting and auxiliary transport activities; activities of travel agencies)
- I64: Post and telecommunications

A total of 157 countries are available, excluding OECD countries (Iceland, Ireland, Israel, Japan, Korea, Luxembourg, New Zealand, Poland, Portugal, Slovak Republic, Switzerland, Turkey, United Kingdom, United States).

The geographical coverage is very good for each sub-sector as more than 120 countries are available for each of them. Similarly, the sector coverage is close to complete as for most of the countries, the 4 sub-sectors are covered.

Regarding the time coverage, the time period is wide as it goes from the reference year 1990 to the reference year 2019.

ISIC classification rev. 4

Two data sources publish value-added data at 2-digit level of the ISIC classification rev. 4, namely the OECD and the UNSD.

OECD

The OECD publishes the value-added data for three different constant prices in the Annual national accounts: at national reference year, OECD reference year (i.e. currently 2015) and at previous years prices. All of them are in LCU.

National reference year (Table 8)

The value-added data at constant prices using national reference years cover 103 sectors and aggregates over 39 countries (including the Euro Area and the European Union).

We can observe that for 39 sub-sectors, the geographical coverage is very poor (between 1 and 4 countries available, namely Costa Rica, Japan, Mexico and the United States) while for the other two-third of the sectors, almost all the countries have data published.

The time coverage is wide, as for some countries data prior 1970 are available and can go up to 2019.

OECD reference year (Table 9)

The value-added data at constant prices using OECD reference year (i.e. 2015) cover 102 sectors and aggregates over 38 countries (including the Euro Area and the European Union).

In a similar way as for the constant prices at national reference year, the geographical coverage is poor for some sub-sectors, while for the other sub-sectors, the data is almost complete.

The time coverage is wide, as for some countries data prior 1970 are available and can go up to 2019.

Previous year prices (Table 10)

The value-added data at constant prices using previous year prices cover 102 sectors and aggregates over 39 countries (including the Euro Area and the European Union).

As described above for the two other reference years used for the constant prices, the geographical coverage is poor for some sub-sectors, while for the other sub-sectors, the data is almost complete.

The time coverage is wide, as for some countries data prior 1970 are available and can go up to 2019.

UNSD

In its dataset ‘National Accounts Official Country Data’, the UNSD publishes value-added data in LCU at constant prices based on national reference years (see Table 11).

Only 3 sub-sectors for 71 countries are covered by this data:

- A01: Crop and animal production, hunting and related service activities
- A02: Forestry and logging
- A03: Fishing and aquaculture

The first sub-sector A01 shows data available for the 71 countries while a few countries are missing for the two other sub-sectors. The time period covered by this data goes from 1990 to 2019, depending on the country.

Current prices

ISIC classification rev. 3.1

Two data sources, UNIDO and the UNSD publish value-added data at current prices at 2-digit level of the ISIC classification rev. 3.1.

UNIDO

In two datasets, MINSTAT2020 and INDSTAT2, UNIDO make available value-added data in LCU and USD at current prices at this level of disaggregation (see Table 12). The dataset MINSTAT2020 covers the sectors C (Mining and quarrying) and E (Electricity, gas and water supply) while the dataset INDSTAT2 covers the sector D (Manufacturing).

In total, there are 30 sub-sectors available at 2-digit level and 159 countries. We can observe that for the sub-sectors of sector D (i.e. data from INDSTAT2 dataset), data is available for almost all countries and all sub-sectors. On the opposite, for the sub-sectors of sectors C and E, the geographical coverage is quite poor as the data is available for below half of the countries.

The time period covered by the data is wide as the data is available from 1963 to 2018 for some countries.

UNSD

In the dataset National Accounts Official Country Data, the UNSD publishes value-added data in LCU at current prices (see Table 13).

Only 3 sub-sectors and 1 aggregate for 176 countries are covered by this data:

- A01: Agriculture, hunting and related service activities
- A02: Forestry, logging and related service activities
- I60_63: aggregate (Land transport; transport via pipelines + Water transport + Air transport + Supporting and auxiliary transport activities; activities of travel agencies)
- I64: Post and telecommunications

The geographical coverage is good for all sub-sectors as more than 110 countries reported data for all these sub-sectors. Regarding the time period covered by the data, it goes from 1990 to 2018.

ISIC classification rev. 4

Three data sources publish value-added data at 2-digit level of the ISIC rev. 4 classification: the OECD, UNIDO and the UNSD.

OECD

Annual national accounts (Table 14)

In the Annual national accounts dataset, the OECD provides data in LCU for 98 sub-sectors and aggregates. A total of 46 countries (including the Euro area and the European Union) is covered.

We can observe that for 39 sub-sectors, the geographical coverage is very poor (between 3 and 6 countries available, namely Canada, Colombia, Costa Rica, Mexico, Peru and the United States) while for the other two-third of the sectors, almost all the countries have data published.

The time coverage is wide, as for some countries data prior 1970 are available and can go up to 2019.

STAN Industrial Analysis (Table 15)

In this dataset, the OECD publishes value-added data for 79 sectors and aggregates. A total of 27 countries is covered. We can see a good sector and geographical coverage as for close to all the countries, data for all sectors is available. We can notice that only two countries, Australia and Japan, have data for less than 60 sectors. However, the industrial sectors are all well covered.

Regarding the time coverage, as for the annual national accounts database, the period covered by the data is on average from 1990 to 2018, while for a few countries, data back to 1970 is published.

Trade in Value Added (TiVA) (Table 55)

In this dataset, the OECD makes available value-added data for 13 sectors and 15 aggregates. A total of 82 countries and aggregates are covered.

For all the countries and aggregates, the period 2005-2015 is covered.

UNIDO

The MINSTAT2020 database from UNIDO contains data on value-added in LCU and USD at 2-digit level following the ISIC classification rev. 4 (see Table 16). Three sectors are covered for a total of 20 sub-sectors: B (Mining and quarrying), D (Electricity, gas, steam and air conditioning supply) and E (Water supply; sewerage, waste management and remediation activities).

In total, 81 countries are covered by this data. For most of the countries, data is available for most of the sub-sectors. Regarding the time coverage, the period covered starts from the reference year 2004 only for a few countries. In most of the cases, it starts from 2007 onwards.

UNSD

In its dataset ‘National Accounts Official Country Data’, the UNSD publishes value-added data in LCU at current prices (see Table 17).

Only 3 sub-sectors for 75 countries (among which 6 OECD countries) are covered by this data:

- A01: Crop and animal production, hunting and related service activities
- A02: Forestry and logging
- A03: Fishing and aquaculture

The first sub-sector A01 shows data available for the 74 countries (only data for El Salvador is missing) while a few countries are missing for the two other sub-sectors. The time period covered by this data goes from 1991 to 2019, depending on the country.

Conclusions

Value-added data at ISIC 2-digit level is available for both constant and current prices.

When looking at the constant prices, we can see that for the data classified following the ISIC rev. 4 has a similar time coverage for both OECD and UNSD data. The OECD shows the advantages of more sub-sectors available while more countries are covered by the UNSD data.

Advantages and disadvantages (Constant prices):

	ISIC rev. 3.1			ISIC rev. 4		
	Sectors coverage	Geographical coverage	Time coverage	Sectors coverage	Geographical coverage	Time coverage
OECD	NA	NA	NA	++	+	++
UNSD	--	++	+	--	+	++

Legend: - = Low; + = Good; ++ = Very good

When looking at the data at current prices, we can see that the value-added data broken down by the ISIC classification rev. 4 show a better sector, geographical and time coverages for the data published by the OECD, but the UNSD offers a good time and geographical coverage despite a low number of sub-sectors covered.

Advantages and disadvantages (Current prices):

	ISIC rev. 3.1			ISIC rev. 4		
	Sectors coverage	Geographical coverage	Time coverage	Sectors coverage	Geographical coverage	Time coverage
OECD	NA	NA	NA	+	++	++
UNSD	--	++	+	--	+	++
UNIDO	-	-	++	-	+	-

Legend: - = Low; + = Good; ++ = Very good

Sectors at the highest level

Constant prices

ISIC classification rev. 3.1

Two data providers, UNSD and World Bank publish data at the highest level of the ISIC classification rev. 3.1 at least in one of their datasets.

UNSD

Constant prices 2015 (Table 18)

In its dataset National Accounts Estimates of Main Aggregates, the UNSD publishes value-added data at constant prices in LCU and USD at the highest level of the ISIC classification rev. 3.1.

The data covers 7 sectors and aggregates for 212 countries. Data is available for almost all countries for each of the sub-sectors. Regarding the time period covered by the data, for most of the countries data is available starting from 1970.

National reference year (Table 19)

In its dataset National Accounts Official Country Data, the UNSD publishes value-added data at constant prices based on national reference years in LCU at the highest level of the ISIC classification rev. 3.1.

The data covers 20 sectors and aggregates for 204 countries. Data is available for almost all countries for each of the sub-sectors. Regarding the time period covered by the data, for most of the countries data is available starting from 1970. However, some breaks in the time series can occur.

World Bank

Constant prices 2010 (Table 20)

World Bank publishes value-added data at the highest level at constant prices on reference year 2010 in USD for one sector (D, Manufacturing) and 3 aggregates.

Data for almost all of the 196 countries is available for time period starting with 1960 for a few countries.

National reference year (Table 21)

As at 2010 constant prices, World Bank publishes value-added data at the highest level at constant prices on national reference year in LCU for one sector (D, Manufacturing) and 3 aggregates.

Data for almost all of the 197 countries is available for time period starting with 1960 for a few countries.

UNSD vs. World Bank

The UNSD and the World Bank publish in their datasets (National Accounts Estimates of Main Aggregates and World development indicators respectively) value-added data for two common sectors: the aggregate A_B (see Table 22) and the sector D (see Table 23).

It has to be noted that for the UNSD, the constant prices use 2015 as reference while the World Bank uses 2010 as reference year.

For the 185 countries common for sector A_B and the 180 countries common for sector D, it can be seen that the time coverage is similar between the two data providers, despite a few exceptions.

Similarly, as for the previous datasets, the UNSD and the World Bank publish in their datasets (National Accounts Official Country Data and World development indicators respectively) value-added data at constant prices using national reference year for two common sectors: the aggregate A_B (see Table 24) and the sector D (see Table 25).

For the 183 countries common for sector A_B and the 180 countries common for sector D, it can be seen that the time coverage is similar between the two data providers, despite a few exceptions.

ISIC classification rev. 4

Two data providers, the OECD and UNSD publish data at the highest level of the ISIC classification rev. 4 at least in one of their datasets.

OECD

National reference year (Table 26)

The value-added data at constant prices using national reference years cover the 21 sectors of ISIC rev. 4 over 42 countries (including the Euro Area and the European Union).

We can observe that all the sectors, data is available for almost all the countries. An exception can be noted for the last three sectors S, T and U.

The time coverage is wide, as for some countries data prior 1970 are available and can go up to 2019.

OECD reference year (Table 27)

Value added-data as constant prices based on the OECD reference year (i.e. 2015) is available for almost all the sectors of the ISIC classification rev. 4. Only the last sector (U) is missing.

The time coverage is wide, as for some countries data prior 1970 are available and can go up to 2019.

Previous year prices (Table 28)

As for the data at constant prices based on national reference year, the data at constant prices based on the previous year prices is available for all 21 sectors of the ISIC classification rev. 4.

We can observe that all the sectors, data is available for almost all the 41 countries. An exception can be noted for the last three sectors S, T and U.

The time coverage is wide, as for some countries data prior 1970 are available and can go up to 2019.

UNSD

In its dataset 'National Accounts Official Country Data', the UNSD publishes value-added data in LCU at constant prices based on national reference years (see Table 29).

Data is available for 20 of the 21 ISIC sectors and 4 additional aggregates and 125 countries. The data is quite complete for all of the sectors despite some gaps. Regarding the time coverage, the data covers a period from 2000 to 2018 in a majority of the cases even if data are available for before 1990 for some of the countries.

OECD vs. UNSD

The OECD and the UNSD publish in their datasets value-added data for a maximum of 20 common sectors depending on the country (see Table 30). A total of 40 countries are similar.

Regarding the time coverage, despite some differences depending on the sectors and countries, the period covered by the OECD and the UNSD is similar.

Current prices

ISIC classification rev. 3.1

The four data providers, the OECD, UNIDO, the UNSD and World Bank publish data at the highest level of the ISIC classification rev. 3.1 at least in one of their datasets.

OECD

The OECD published value-added in LCU at current prices in the dataset Annual national accounts only for one country, namely Australia (see Table 31). Data for 13 sectors are available and covers a time period for 1989 to 2008 for all of the available sectors.

UNIDO

INDSTAT4 and MINSTAT2020 (Table 32)

In two datasets, MINSTAT2020 and INDSTAT4, UNIDO make available value-added data in LCU and USD at current prices at the highest level. The dataset MINSTAT2020 covers the sectors C (Mining and quarrying) while the dataset INDSTAT4 covers the sector D (Manufacturing).

In total, there are 124 countries covered. We can observe that for the sector D (i.e. data from INDSTAT4 dataset), data is available for almost all countries. On the opposite, for the sector C, the geographical coverage is less complete as the data is available for 89 countries.

The time period covered by the data is wide as the data is available on average from 1990 to 2017.

INDSTAT2 and MINSTAT2020 (Table 33)

In two datasets, MINSTAT2020 and INDSTAT2, UNIDO make available value-added data in LCU and USD at current prices at the highest level. The dataset MINSTAT2020 covers the sectors C (Mining and quarrying) while the dataset INDSTAT2 covers the sector D (Manufacturing).

In total, there are 163 countries covered. We can observe that for the sector D (i.e. data from INDSTAT2 dataset), data is available for almost all countries. On the opposite, for the sector C, the geographical coverage is less complete as the data is available for 89 countries.

The time period covered by the data is wide as the data is available from 1963 to 2018 for some countries.

UNSD

National Accounts Estimates of Main Aggregates (Table 34)

In the dataset National Accounts Estimates of Main Aggregates, the UNSD publishes value-added data in LCU and USD at current prices.

Three sectors (sectors D, F and I) are covered as well as 4 aggregates for 218 countries. Value-added data is available for almost all the countries for each sector and aggregate. The time coverage is quite regular: either from 1970 to 2018 or from 1990 to 2018 depending on the country.

National Accounts Official Country Data (Table 35)

In the dataset National Accounts Official Country Data, the UNSD publishes value-added data in LCU at current prices.

A total of 15 sectors and 4 aggregates are covered for 221 countries. Value-added data is available for more than 150 countries for each sector and aggregate. The time coverage is irregular with some gaps and covers the time period from 1970 to 2018.

World Bank

The World Bank publishes value-added data in LCU and USD at current prices split by ISIC rev. 3.1 sectors for one sector (D, Manufacturing) and 3 aggregates (see Table 36). The data covers 206 countries.

Value-added data is available for almost all countries and all sectors. The time period covered is wide as data is available starting from 1960 up to 2019.

ISIC classification rev. 4

Three data providers, the OECD, UNIDO and the UNSD publish data at the highest level of the ISIC classification rev. 4 at least in one of their datasets.

OECD

Annual national accounts (Table 45)

The value-added data at current prices in the dataset 'Annual national accounts' cover the 21 sectors of ISIC rev. 4 over 50 countries (including the Euro Area and the European Union).

We can observe that for all the sectors, data is available for almost all the countries (except Brazil). However, an exception can be noted for the last three sectors S, T and U.

The time coverage is wide, as for some countries data prior 1970 are available and can go up to 2019.

STAN Industrial Analysis (Table 46)

The value-added data at current prices in the dataset 'STAN Industrial Analysis' cover the 21 sectors of ISIC rev. 4, as well as aggregates, over 27 countries.

We can observe that for all the sectors, data is available for all the countries (except Japan, Australia and Chile).

The time coverage is wide, as for some countries data starting 1970 are available and can go up to 2018.

Trade in Value Added (TiVA) (Table 56)

In this dataset, the OECD makes available value-added data for 13 sectors and 12 aggregates. A total of 82 countries and groups of countries are covered.

For all the countries and aggregates, the period 2005-2015 is covered.

UNIDO

In two datasets, MINSTAT2020 and INDSTAT4, UNIDO make available value-added data in LCU and USD at current prices at the highest level (see Table 47). The dataset MINSTAT2020 covers the sector B (Mining and quarrying), D (Electricity, gas, steam and air conditioning supply) and E (Water supply; sewerage, waste management and remediation activities) while the dataset INDSTAT4 covers the sector C (Manufacturing).

In total, there are 101 countries covered. We can observe that for the sector C (i.e. data from INDSTAT4 dataset), data is available for almost all countries. On the opposite, for the sector C, the geographical coverage is less complete as the data is available for less than 80 countries.

The time period covered by the data is short as the data is available on average from 2004 to 2017.

UNSD

In its dataset 'National Accounts Official Country Data', the UNSD publishes value-added data in LCU at current prices (see Table 48).

All sectors from the ISIC rev. 4 classifications are covered, except U, as well as some aggregates. Data can be found for 130 countries, for almost all the sectors. The less complete sector is sector T (Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use).

The time period is wide as for some countries data is available starting from 1970.

Conclusions

Value-added data at the highest level of the ISIC classifications is available for both constant and current prices.

When looking at the constant prices, we can see that for the data classified following the ISIC rev. 4 has a similar time coverage for both OECD and UNSD data. The OECD shows the advantages of more sectors available while more countries are covered by the UNSD data.

Advantages and disadvantages (Constant prices):

	ISIC rev. 3.1			ISIC rev. 4		
	Sectors coverage	Geographical coverage	Time coverage	Sectors coverage	Geographical coverage	Time coverage
OECD	NA	NA	NA	++	++	++
UNSD	+	++	++	+	++	++
World Bank	-	++	++	NA	NA	NA

Summary

Database	Used	Comment
OECD National Accounts	✔	Very comprehensive data for OECD and few other countries
OECD Trade in Value Added (TiVA)	✔	Comprehensive data up to ISIC 2-digits (divisions) for some sectors
OECD STAN		TiVA has broader country coverage at ISIC division level
UNIDO INDSTAT		Constant prices only. Limited country/sector coverage.
UNIDO MINSTAT		Constant prices only. Limited country/sector coverage.
UNSD National Accounts	✔	Excellent coverage at ISIC sectoral level
World Bank		Similar to UNSD but no constant prices

Oxford Economics		Not for free
IMF		Discontinued

The sources for value added data are characterized by different geographical and time coverage, levels of sectoral disaggregation, units and availability. To optimize completeness, the hierarchy adopted is that the annual national account dataset from the OECD was used first, including all value-added data published in the dataset "Value-added and its components by activity"; the dataset obtained was then complemented with data from the TiVA database for missing points; and finally UNSD data was used to complement the results from the other two data sources.