



DOSE v.1

The MCC and PIK **D**atabase of **S**ub-national **E**conomic Output: Documentation

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Overview

A collaboration between the Mercator Research Institute on Global Commons and Climate Change (MCC) and the Potsdam Institute for Climate Impact Research (PIK), DOSE v.1 comprises a global data-base of sub-national economic output:

- 77 countries
- 1,554 sub-national regions
- Temporal coverage from 1901 to 2014 (dependent on region)
- Sectoral detail for the agricultural, manufacturing and services sectors.

Figures 1 and 2 show the number of years of available data for different regions, Table 1 describes the variables provided in DOSE v.1 (of particular importance is the numeric scheme for regional identification) and Table 2 lists the source data.

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Method

Gross Regional Product (or related data) is taken as the measure of economic output at the sub-national level. The data stem from various statistical agencies of central or federal governments as well as from yearbooks. Values in country-specific currencies have been converted to

USD using exchange rates from the FRED database of the Federal Reserve Bank of St. Louis (<https://fred.stlouisfed.org/>) to avoid diverging national inflationary tendencies.

Data on the agricultural, manufacturing and services sectors are generated by aggregating sectoral data at varying levels of detail from the raw data sources. As a result, in some cases the sum of the three sectoral outputs may not equal the quoted aggregate value. Sectoral shares should therefore be calculated with respect to the sum of the three sectoral outputs, rather than to the aggregate output. Furthermore, the consistency with which the aggregation scheme was applied to the raw data across time means that inference based on year-to-year changes in sectoral output is robust.

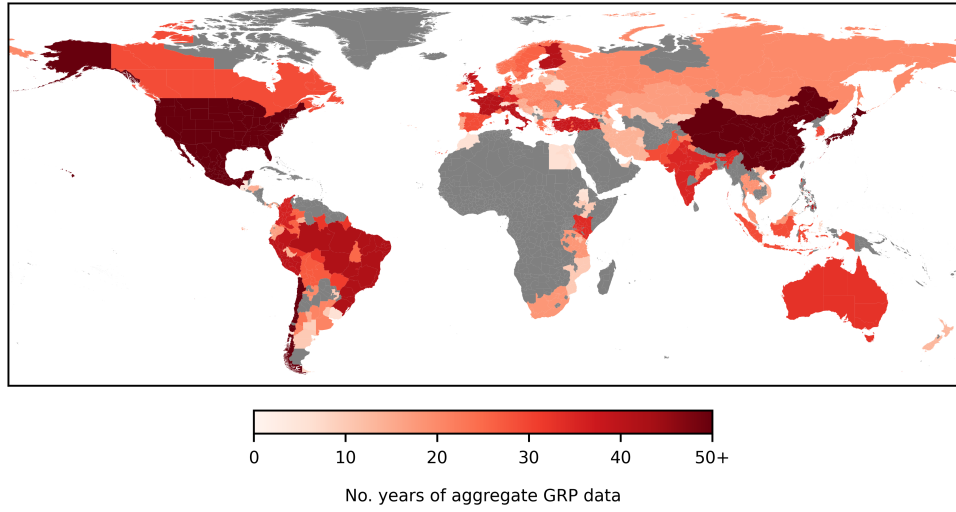


Figure 1: Available number of years of data on aggregate gross regional product.

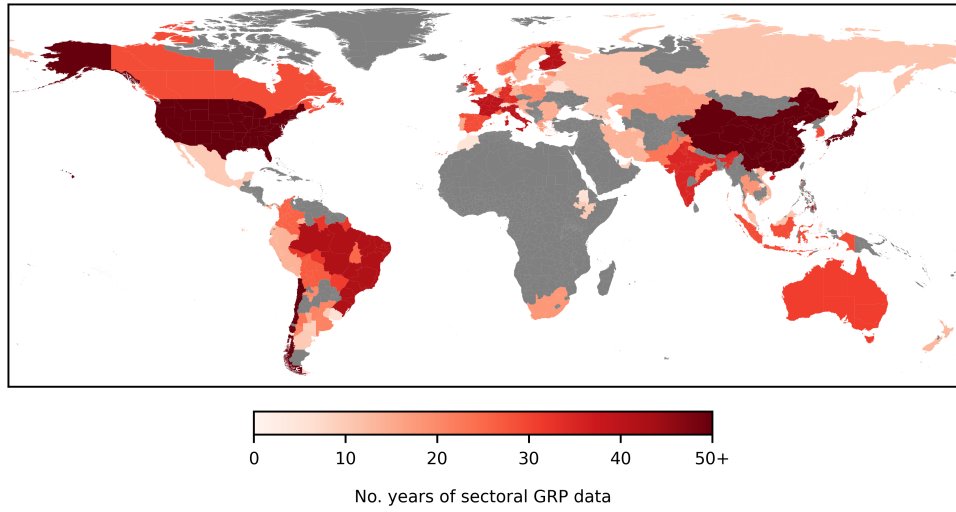


Figure 2: Available number of years of data on sectoral gross regional product.

Variable	Description
“year”	Calendar year.
“country”	Full-length country name.
“iso”	unique 3-letter country code, as documented at https://www.iso.org/iso-3166-country-codes.html .
“region”	Primary region name.
“name_1”	Alternative region name.
“ID”	Globally unique numeric regional identifier.
“id_1”	Nationally unique numeric regional identifier, as used in the GADM database Version 3.6: https://gadm.org/ (accessed October 2019).
“gdp_pc_usd”	Gross regional product per capita in USD.
“ag_gdp_pc_usd”	Agricultural gross regional product per capita in USD.
“man_gdp_pc_usd”	Manufacturing gross regional product per capita in USD.
“serv_gdp_pc_usd”	Services gross regional product per capita in USD.
“StructChange”	Dummy variable indicating the start of a new data source.

Table 1: **DOSE v.1 variable descriptions.** Regions can be matched to shape-files in the GADM database Version 3.6 by constructing the level-1 administrative unique identifier ‘GID_1’(as used by GADM) from the identifiers ‘iso’and ‘id_1’(as used here) as follows: ‘GID_1’= ‘iso’.’id_1’.1; for example: ITA.15.1.

Country	No. of Regions	Data Source	Years avail.	Income measurement
Albania	12 counties	Albania Institute of Statistics	2008-2014	Nominal GDP per capita (ALL)
Argentina	24 provinces	Ministry of Economics - Buenos Aires	1993-2014	GDP (ARS, available in both current and 1993 prices)
Argentina	24 provinces	Chubut Department of Statistics and Censuses	2003-2013	GDP (ARS, current prices)
Argentina	24 provinces	Cordoba Department of Statistics and Censuses	1993-2014	GDP (ARS, available in both current and 1993 prices)
Argentina	24 provinces	Corrientes Department of Statistics and Censuses	1993-2013	GDP (ARS, available in both current and 1993 prices)
Argentina	24 provinces	Entre Rios Department of Statistics and Censuses	2004-2014	GDP (ARS, available in both current and 2004 prices)
Argentina	24 provinces	La Pampa Directorate General of Statistics	2000-2008	GDP (ARS, current prices)
Argentina	24 provinces	Ministry of Economics - Mendoza	1971-2014	GDP (ARS, current prices)
Argentina	24 provinces	Neuquen Department of Statistics and Censuses	1960-2013	GDP (ARS, various base years)
Argentina	24 provinces	Rio Negro Department of Statistics and Censuses	2004-2013	GDP (ARS, current prices)
Argentina	24 provinces	Ministry of Economics - Salta	1993-2012	GDP (ARS, available in both current and 1993 prices)
Argentina	24 provinces	San Luis Department of Statistics and Censuses	1993-2007	GDP (ARS, available in both current and 1993 prices)
Argentina	24 provinces	Santa Fe Department of Statistics and Censuses	1993-2013	GDP (ARS, available in both current and 1993 prices)
Argentina	24 provinces	Tierra del Fuego Department of Statistics and Censuses	" 1980-1984 2003-2014"	GDP (ARS, constant 1993 prices)
Argentina	24 provinces	Tucuman Department of Statistics and Censuses	1995-2013	GDP (ARS, constant 1993 prices)
Australia	6 states, 2 territories	Australian Bureau of Statistics - Australian State Accounts 1995-96	1985-1996	Real GDP (AUD, average 1989/1990 prices)
Australia	6 states, 2 territories	Australian Bureau of Statistics - Australian State Accounts 2014-15	1991-2014	Real GDP (AUD, chain volume measures and current prices)
Australia	6 states, 2 territories	Neri (1998)	1861-1992	Real GDP per capita (AUD, 1910/11 prices)
Austria	9 Regions	Statistik Austria	2000-2014	GVA in basic prices (Eur)
Azerbaijan	10 regions	The State Statistical Committee of the Republic of Azerbaijan	2006-2016	Output production (AZN)
Belarus	6 Regions	National Statistical Office of the Republic of Belarus	2009-2014	GVA (BYR)
Belgium	3 Regions	Eurostat	2003-2013	GDP in current prices (EUR)
Belgium	3 Regions	Eurostat: Regional Yearbooks	1970-1985, 1989-1990, 1992-1994	Gross value added in market prices (ECU)
Bolivia	9 departments	Bolivia National Institute of Statistics	1989-2014	GDP (BOB, available in both current and 1990 prices)
Bosnia and Herzegovina	3 Regions	Agency for Statistics of Bosnia and Herzegovina	2003-2015	GDP in current prices (KM)
Brazil	27 federative units	Brasilian Institute for Applied Economic Research	1939-2009	Real GDP, 2000 prices
Brazil	27 federative units	Brasilian Institute for Applied Economic Research	2010-2013	GVA (%)
Bulgaria	28 Provinces	National Statistical Institute of the Republic of Bulgaria	2000-2014	GVA in current prices
Canada	10 provinces, 3 territories	Statistics Canada	1984-1999	Real GDP (CAD, constant 1992 prices, also available in current prices)
Canada	10 provinces, 3 territories	Statistics Canada	1998-2008	GDP (CAD, current prices)
Canada	10 provinces, 3 territories	Statistics Canada	2009-2012	Real GDP (CAD, chained 2007 prices, also available in current prices)
Chile	13 regions	Vernon (2004)	1960-2001	RGDP per capita (CLP, 1996 prices)
Chile	13 regions	Central Bank of Chile	1985-2009	Real GDP (CLP, various base years)
Chile	16 regions	Central Bank of Chile	2010-2015	Real GDP (CLP, base year 2008)

China	31 provinces	National Bureau of Statistics: China Compendium of Statistics 1949-2008	1949-2008	Real per capita GDP (CNY)
China	31 provinces	National Bureau of Statistics: China Statistical Yearbooks	1995-2014	GDP (CNY, current prices)
Colombia	32 departments	Colombia National Administrative Department of Statistics	1990-2012	GDP (COP, available in both current and constant prices (various base years))
Colombia	32 departments	Colombia National Administrative Department of Statistics	2000-2015	GVA (COP, current prices and constant price based on 2005 level)
Colombia	32 departments	Lira (2003)	1980-1996	RGDP (COP, 1976 prices)
Croatia	20 counties	Croatian Bureau of Statistics	2000-2014	GVA in current prices (Kuna)
Czech Republic	13 regions	Czech Statistical Office	1995-2015	GVA (CZK, current prices)
Denmark	5 Regions	Statistics Denmark	1993-2015	Production and generation of income (current prices)
Ecuador	24 provinces	Central Bank of Ecuador	2007-2014	GVA, current prices (USD)
Ecuador	24 provinces	Central Bank of Ecuador	1993-1996	GVA, 2000 prices (USD)
Ecuador	24 provinces	Central Bank of Ecuador	2001-2006	GVA, 2000 prices (USD)
Egypt	27 Governorates	UN Human Development Reports	1998-2001, 2003, 2005, 2007	GDP (LE)
El Salvador	14 Departments	UN Human Development Reports	1996,1999, 2002, 2004, 2006, 2009,2012	GDP per capita PPP (USD)
Estonia	15 counties	Statistics Estonia	1995-2015	GDP in current prices (EUR)
Ethiopia (Amhara)	9 regional states	Amhara Bureau of Finance and Economic Development	1998-2003	GDP (ETB, current prices)
Ethiopia (Oromiya)	9 regional states	Oromia Bureau of Finance and Economic Development	1992-2001	GDP (ETB, current prices)
Ethiopia (Tigray)	9 regional states	Tigray Bureau of Planning and Finance	2005-2009	GDP per capita (ETB, current prices)
Finland	5 provinces	Statistics Finland	1975-2008,	GDP in current prices (EUR)
France	21 regions (excluding overseas)	INSEE	1990-2013	GVA (EUR, 2010 prices)
France	21 regions (excluding overseas)	Eurostat: Regional Yearbooks	"1970-1985 1989-1990 1992-1994"	Gross value added in market prices (ECU)
Georgia	12 regions	National Statistics Office of Georgia	2006-2014	GVA (GEL, current prices)
Greece	13 regions	Hellenic Statistical Authority	2000-2013	GVA (current prices, EUR)
Greece	13 regions	Eurostat: Regional Yearbooks	"1985 1989-1990 1992-1994"	Gross value added in market prices (ECU)
Guatemala	22 departments	Secretariat of Planning and Programming of the Presidency	2004-2008	GDP per capita (GTQ)
Honduras	18 Departments	UN Human Development Reports	1990-2004	Estimated GDP per capita PPP
Hungary	19 counties + Budapest	Hungarian Central Statistical Office	2000-2015	GDP per capita (HUF, current prices)
Hungary	19 counties + Budapest	Nagy (2005)	1975; 1994-2002	GDP index values (country=100)
India	29 states	Indian Ministry of Statistics	1980-1985	GDP (INR, current prices)
India	29 states	Indian Ministry of Statistics	1993-2005	GDP (INR, current prices)
India	29 states	Indian Ministry of Statistics	2004-2014	GDP (INR, current prices)
Indonesia	34 provinces	Statistics Indonesia: Gross Regional Domestic Product of Provinces in Indonesia by Industrial Origin	2004-2014	GDP (IDR, available in both current and constant prices)
Indonesia	34 provinces	Resosudarmo and Vidyattama (2009)	1971, 1983, 1996, 2002	Per capita GDP (current prices)
Iran	31 provinces	Statistical Centre of Iran	2000-2013	GVA (current prices, IRR)
Ireland	32 counties	Central Statistics Office	2000-2014	Income per person (EUR)
Ireland	32 counties	Central Statistics Office	1995-2003	Income per person
Italy	20 regions	Italian National Institute of Statistics	1995-2013	Gross value added (EUR, available in both nominal and real (chain-linked 2010 prices)
Italy	20 regions	Eurostat: Regional Yearbooks	"1970-1985 1989-1990 1992-1994"	Gross value added in market prices (ECU)

Italy	20 regions	Felice and Vecchi (2015)	1871-2009	RGDP per capita (EUR, 2011 prices)
Japan	47 prefectures	Cabinet Office, government of Japan	1975-2012	GDP (JPY, available in both nominal and real)
Japan	47 prefectures	Cabinet Office, government of Japan	1955-1974	RGDP (JPY, 1980 prices)
Kazakhstan	14 regions	National Accounts of the Republic of Kazakhstan	1998-2014	GVA (KZT, current prices)
Kenya	8 provinces	Kenya National Bureau of Statistics: Statistical abstracts	1969-2012	Labour earnings (KES), 2000 prices
Kyrgyzstan	9 regions	National Statistical Committee of the Kyrgyz Republic	2006-2015	Gross regional product (current price, KGS)
Laos	18 regions	Yale Gecon	1995	GDP per capita (LKP)
Laos	18 regions	JICA (2012)	2010	GDP(LKP, current prices)
Laos (Saravan)	18 regions	Poverty-Environment Initiative (2011)	2006-2010	GDP (LKP, current prices)
Laos (Savannakhet)	18 regions	Nolintha (2011)	2006-2010	GDP per capita (USD)
Latvia	5 regions	Central Statistical Bureau of Latvia	2000-2011	GDP, current prices (EUR)
Lithuania	10 Regions	Eurostat	2000-2014	GVA, current prices (EUR)
Malaysia	15 States	Cheng (2011)	1970, 1971, 1980, 1985, 1990, 1995, 2000	GDP per capita (constant price)
Malaysia	15 states	Department of Statistics Malaysia	2005-2013	GDP (RM, constant 2005 prices)
Malaysia	16 states	Department of Statistics Malaysia (e-statistik service)	2010-2015	GDP (RM, constant 2010 prices)
Mexico	31 states	National Institute of Statistics	2005-2014	GDP (MXN, current prices)
Mexico	31 states	National Institute of Statistics	1993-2007	GDP (MXN, current prices)
Mexico	31 states	German-Soto (2005)	1940-2001	RDGP per capita (MXN, 1993 prices)
Mongolia	22 provinces	Mongolia Statistical Information Services	2000-2015	GDP per capita (MNT, current prices)
Morocco	12 regions	Moroccan High Planning Commission	2007, 2009-2013	Per capita GDP (constant 2007 prices, MAD)
Mozambique	11 regions	African Development Bank	2000-2009	GDP per capita (current prices MT)
Nepal	5 Regions	UN Human Development Reports	1996, 1999, 2001, 2006, 2011	GDP at market prices (RS), GVA, GDP per capita (USD PPP), per capita income
Netherlands	12 regions	Statistics Netherlands	1995-2014	GVA (EUR)
New Zealand	15 regions	Statistics New Zealand	2000-2014	GDP (NZD, current prices)
Norway	21 Counties	Statistics Norway	1973, 1976, 1980, 1983	GVA current prices (NOK)
Norway	22 Counties	Statistics Norway	1986.1992	Gross Production current prices (NOK)
Norway	21 Counties	Statistics Norway	1997-2014	GVA current prices (NOK)
Pakistan	4 provinces	Arby (2008)	1970-2005	Real GDP (PKR, 1999-2000 prices)
Pakistan	4 provinces	Pakistan Bureau of Statistics - Household Integrated Economic Survey	2005-2013	Household income
Panama	10 provinces	Panama National Institute of Statistics	1996-2010	Real GDP (PAB, 1996 prices)
Paraguay	17 departments	General Directorate of Statistics Paraguay - Permanent household survey (EPH)	2006-2015	Average monthly income
Peru	25 regions	Peru National Institute of Statistics	2007-2014	GDP (PEN, available in both current and 2007 prices)
Peru	25 regions	Peru National Institute of Statistics	2001-2011	Real GDP (PEN, 1994 prices)
Peru	25 regions	Lira (2003)	1970-1995	RGDP (PEN, 1979 prices)
Philippines	18 regions	Philippines Institutue for Development Studies	2002-2009	GDP(PHP, current prices)
Philippines	18 regions	Philippines Institutue for Development Studies	2009-2015	GDP(PHP, current prices)
Philippines	19 regions	Philippines Statistics Authority	1975-2001	GDP(PHP, current prices)
Poland	16 provinces	Central Statistical Office of Poland	1995-2014	GVA, current prices (PLN)
Romania	42 counties	National institute of Statistics Romania	1995-1999	GDP basic prices (RON)
Romania	42 counties	Eurostat	2000-2014	GVA basic prices (RON)
Russia	83 federal subjects	Federal State Statistics Service of the Russian Federation	2004-2014	GVA (RUB, current prices)

Russia	83 federal subjects	Federal State Statistics Service of the Russian Federation	1998-2014	GVA (RUB, current prices)
Russia	83 federal subjects	Ponomarenko (2000)	1994-1996	GDP per capita (RUB, current prices)
Serbia	25 districts	Statistical office of the Republic of Serbia	1999-2015	GDP, GDP per capita
Slovakia	8 regions	Statistical Office of the Slovak Republic	2010-2015	GVA in current prices (EUR)
Slovenia	12 regions	Statistics Office of the Republic of Slovenia	2000-2015	GVA, current prices (EUR)
South Africa	9 provinces	Statistics South Africa	1995-2004	GDP (ZAR, current prices)
South Africa	9 provinces	Statistics South Africa	2004-2013	GDP (ZAR, current prices)
South Korea	16 provinces	Korean Statistical Information Service	1985-2014	GDP (KRW, current prices)
Spain	19 autonomous communities	Eurostat	2000-2014	Gross value added in basic prices (EUR)
Spain	17 autonomous communities	Eurostat: Regional Yearbooks	"1985 1989-1990 1992-1994"	Gross value added in market prices (ECU)
Spain	19 autonomous communities	Instituto Nacional de Estadística	1995-2003, 1986-1996	Gross Value Added at market prices
Sweden	21 counties	Enflo and Schoen (2015)	1855-2000	GDP (SEK, current prices)
Sweden	21 counties	Statistics Sweden	1993-2000	GDRP (SEK, current prices)
Sweden	21 counties	Eurostat	2000-2014	GVA(EUR, current prices)
Switzerland	26 cantons	Swiss Federal Statistics Office	2008-2013	GVA (CHF, current prices)
Tanzania	30 regions	Tanzania National Bureau of Statistics	2000-2013	Per capita GDP (TZS, current prices)
Tanzania	30 regions	The Planning Commission Dar Es Salaam	1980, 1985, 1990, 1994	Per capita GDP (TZS, current prices)
Thailand	76 provinces	Office of the National Economic and Social Development Board	1981-2013	GDP (THB, available in both current and 2002 prices)
Turkey	81 provinces	Turkish Statistical Institutue	1987-2014	RGDP per capita (TRY)
Turkey	81 provinces	Karaca (2004)	1975-1986	RGDP per capita (TRY)
UAE	7 emirates	UAE Statistics Institute	2001-2009	GDP per capita (AED, current prices)
UK	4 regions	Office for National Statistics	1997-2011	GVA (GBP, current prices)
UK	4 regions	Office for National Statistics	1968-1970	GDP per capita (GBP, current prices)
UK	4 regions	Eurostat: Regional Yearbooks	"1970-1985 1989-1990 1992-1994"	Gross value added in market prices (ECU)
UK	4 regions	Crafts (2005)	1871-1911	GDP (GBP, current prices)
Ukraine	27 regions	State Statistics Service of Ukraine	2004-2014	GDP per capita, current prices (UAH)
Ukraine	27 regions	Mykhnenko and Swain (2009)	1990-2007	GDP per capita (index values, country=100)
Uruguay	19 departments	García and Willebald (2014)	1908, 1936, 1955, 1961	GVA current prices (UYU)
Uruguay	19 departments	Observatorio Territorio Uruguay	2008-2011	GDP current prices (UYU)
USA	50 states	Bureau of Economic Analysis	1963-2014	Real per capita GDP (USD)
Uzbekistan	14 Regions	UN Human Development Reports	1995-2005	Real GDP per capita (PPP USD)
Venezuela	23 states	Valecillos (1998)	1950-1990	Real GDP (VEF)
Vietnam	64 provinces	Data received from Thang	1995-2008	Real GDP, 1994=100 (VND)
West Germany	10 states	Statistische Aemter des Bundes und der Laender	2000-2012	Gross value added (EUR, current prices)

Table 2: **Generation of DOSE v.1.** List of all data sources used for generating the data on sub-national economic output (column 3). Column 2 indicates the number of administrative units (highest level below the nation state) that belong to each country. Column 4 displays for which years data could be procured and the last column denotes how income is measured in the different source data sets.

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