

Supplement to

Kummu et al

Gridded global datasets for Gross Domestic Product (GDP) and Human Development Index (HDI) over 1990-2015

Scientific Data

In this supplementary, the following information is provided:

Data sources are listed for the following data

National GDP per capita (PPP)

Sub-national GDP per capita (PPP)

National HDI

Sub-national HDI

Tabulated error estimates for interpolation and extrapolation

National GDP per capita (PPP)

Majority of the national data is based on World Bank Development indicators database: <http://data.worldbank.org/data-catalog/world-development-indicators>

National GDP from other sources than World Bank development indicators database

Source: **CIA World Factbook (partly downloaded from <http://www.indexmundi.com>)** Trends from CIA World Factbook used to fill missing values at the start of the study period **EUROSTAT**

Countries: American Samoa
Andorra
Aruba
British Virgin Islands
Cayman Islands
Falkland Islands (Malvinas)
Faroe Islands
French Polynesia
Gibraltar
Greenland
Guam
Guyana
Isle of Man
Korea, Dem. People's Rep.
Liechtenstein
Monaco
Nauru
New Caledonia
Northern Mariana Islands
San Marino
Somalia
St. Martin
Taiwan, China
Turks and Caicos Islands
Virgin Islands (U.S.)
Haiti
Libya
Maldives
Qatar
Sao Tome and Principe
Réunion

Sub-national GDP per capita (PPP)

Source for sub-national GDP:

Gennaioli, N., La Porta, R., Lopez-de-Silanes, F., and Shleifer, A.: Human Capital and Regional Development, *The Quarterly Journal of Economics*, 128, 105-164, 10.1093/qje/qjs050, 2013.

National HDI

National HDI is based on UNDP Human Development Report

UNDP: Human Development Reports database, United Nations Development Programme, 2016.

<http://hdr.undp.org/en/data>

For following non-UN member countries HDI data is based on:

Macau Macau in Figures, 2016 http://www.dsec.gov.mo/getAttachment/3fcdb33a-9238-44ca-8e4b-ebdb9c868e8e/E_MN_PUB_2016_Y.aspx

Taiwan Taiwan Directorate General of Budget <http://www.dgbas.gov.tw/public/Data/491716362790WG0X9I.pdf>

For other non-UN member countries, HDI based on old calculation method was used to scale the regional average HDI

Source: Hastings (2009) https://web.archive.org/web/20111005100501/http://www.unescap.org/pdd/publications/workingpaper/wp_09_02.pdf

Sub-national HDI

Sources to sub-national HDI can be divided into two: Eurostat and others

Eurostat:			Other:			
Country	Source	Year	Country	Source	Year	Link
Austria	Eurostat	2007	Argentina	UNDP	2012	http://research.omicsgroup.org/index.php/List_of_Argentine_provinces_by_Human_Development_Index
Belgium	Eurostat	2007	Australia	Omicsgroup	N/A	http://research.omicsgroup.org/index.php/List_of_Australian_states_and_territories_by_Human_Development_Index
Bulgaria	Eurostat	2007	Brazil	UNDP, with IPEA and FJP: Human D	2010	http://research.omicsgroup.org/index.php/List_of_Brazilian_federative_units_by_Human_Development_Index
Czech Republic	Eurostat	2007	Canada	Hazell et al (2012): The Human Dev	2011	http://research.omicsgroup.org/index.php/List_of_Canadian_provinces_and_territories_by_Human_Development_Index
Denmark	Eurostat	2007	Chile	UNDP	2003	https://en.wikipedia.org/wiki/Ranked_lists_of_Chilean_regions#By_national_HDI
Finland	Eurostat	2007	China	UNDP	2014	https://en.wikipedia.org/wiki/List_of_administrative_divisions_of_Greater_China_by_Human_Development_Index
France	Eurostat	2007	El Salvador	UNDP	2008	https://en.wikipedia.org/wiki/List_of_Salvadoran_Departments_by_Human_Development_Index
Germany	Eurostat	2007	India	Sharma et al (2011) India Human D	2008	https://en.wikipedia.org/wiki/List_of_Indian_states_and_territories_by_Human_Development_Index#cite_note-report2011-2
Greece	Eurostat	2007	Indonesia	Badan Pusat Statistik of Indonesia	2015	https://en.wikipedia.org/wiki/List_of_Indonesian_provinces_by_Human_Development_Index
Hungary	Eurostat	2007	Japan	Tashi Choden et al (2007) Gross Na	2000	https://en.wikipedia.org/wiki/List_of_Japanese_prefectures_by_Human_Development_Index
Ireland	Eurostat	2007	Mexico	UNDP (2010): El Indice de Desarroll	2010	http://research.omicsgroup.org/index.php/List_of_Mexican_states_by_Human_Development_Index
Italy	Eurostat	2007	Pakistan	SPDC research report	2012	https://en.wikipedia.org/wiki/List_of_districts_of_Pakistan_by_Human_Development_Index
Netherlands	Eurostat	2007	Philippines	Philippine Human Development Ne	2008/2009	http://research.omicsgroup.org/index.php/List_of_Philippine_provinces_by_Human_Development_Index
Norway	Eurostat	2007	Russia	UNDP	2010	https://en.wikipedia.org/wiki/List_of_federal_subjects_of_Russia_by_Human_Development_Index
Poland	Eurostat	2007	South Africa	UNDP	2003	http://research.omicsgroup.org/index.php/List_of_South_African_provinces_by_Human_Development_Index
Portugal	Eurostat	2007	USA	Originally from American Human D	2006	http://mapscroll.blogspot.fi/2009/05/human-development-index-by-state.html
Romania	Eurostat	2007	Venezuela	Venezuelan National Institute of St	N/A	http://research.omicsgroup.org/index.php/Ranked_list_of_Venezuelan_states#By_human_development_index
Slovakia	Eurostat	2007				
Slovenia	Eurostat	2007				
Spain	Eurostat	2007				
Sweden	Eurostat	2007				
United Kingdom	Eurostat	2007				

ERROR ESTIMATES FOR INTERPOLATION AND EXTRAPOLATION - NATIONAL

GDP (PPP) per capita - Gross Domestic Product (PPP) per capita

	Distance from closest observed value (years)																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
INTERPOLATION																							
high	2.49%	3.56%	6.01%	8.19%	10.13%	11.66%	13.09%	14.70%	16.10%	17.95%	21.57%												
mean	2.33%	3.49%	5.89%	8.00%	9.87%	11.34%	12.70%	14.17%	15.38%	16.84%	19.14%												
low	2.17%	3.42%	5.76%	7.80%	9.61%	11.02%	12.30%	13.65%	14.65%	15.74%	16.71%												
EXTRAPOLATION																							
high	4.24%	7.41%	10.24%	12.94%	15.59%	18.35%	21.18%	24.02%	27.10%	30.40%	33.87%	37.22%	40.73%	44.25%	47.64%	51.07%	55.06%	58.43%	61.03%	64.55%	70.27%	78.12%	86.02%
mean	4.05%	7.07%	9.73%	12.22%	14.60%	16.98%	19.36%	21.70%	24.14%	26.64%	29.20%	31.66%	34.15%	36.51%	38.87%	41.22%	43.87%	45.96%	47.47%	49.20%	51.62%	53.92%	53.74%
low	3.85%	6.73%	9.21%	11.50%	13.62%	15.61%	17.54%	19.37%	21.19%	22.89%	24.53%	26.11%	27.57%	28.77%	30.10%	31.38%	32.68%	33.49%	33.90%	33.85%	32.96%	29.72%	21.47%

HDI - Human Development Index

	Distance from closest observed value (years)																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
EXTRAPOLATION																							
high	0.71%	1.25%	1.75%	2.23%	2.69%	3.14%	3.57%	3.99%	4.39%	4.77%	5.13%	5.51%	5.85%	6.20%	6.56%	6.94%	7.32%	7.70%	8.03%	8.29%	8.61%	8.93%	9.59%
mean	0.68%	1.19%	1.67%	2.12%	2.57%	2.99%	3.40%	3.79%	4.16%	4.51%	4.83%	5.17%	5.47%	5.78%	6.09%	6.41%	6.72%	7.02%	7.26%	7.44%	7.62%	7.74%	7.91%
low	0.65%	1.14%	1.59%	2.02%	2.44%	2.84%	3.22%	3.58%	3.92%	4.24%	4.53%	4.83%	5.09%	5.35%	5.62%	5.88%	6.13%	6.35%	6.50%	6.58%	6.64%	6.55%	6.24%

Note: for HDI no interpolation was needed; see main text.

low - high values represents the 95% confidence interval

ERROR ESTIMATES FOR INTERPOLATION AND EXTRAPOLATION - SUB-NATIONAL

GDP (PPP) per capita - Gross Domestic Product (PPP) per capita

	Distance from closest observed value (years)																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
INTERPOLATION																							
high	3.72%	4.97%	8.04%	11.00%	13.58%	16.80%	20.19%	24.75%	31.67%	36.66%													
mean	3.51%	4.87%	7.88%	10.74%	13.22%	16.24%	19.37%	23.48%	29.23%	30.91%													
low	3.30%	4.78%	7.72%	10.48%	12.85%	15.69%	18.54%	22.21%	26.80%	25.16%													
EXTRAPOLATION																							
high	3.54%	5.29%	6.63%	7.70%	8.71%	9.70%	10.68%	11.63%	12.69%	13.59%	14.51%	15.43%	16.05%	16.99%	18.02%	18.75%	19.26%	20.27%	21.42%				
mean	3.32%	4.94%	6.20%	7.22%	8.16%	9.04%	9.90%	10.77%	11.70%	12.51%	13.33%	14.10%	14.67%	15.46%	16.27%	16.80%	17.11%	17.63%	18.06%				
low	3.10%	4.59%	5.77%	6.74%	7.60%	8.38%	9.13%	9.91%	10.71%	11.43%	12.15%	12.78%	13.28%	13.93%	14.52%	14.85%	14.95%	15.00%	14.69%				

HDI - Human Development Index

	Distance from closest observed value (years)																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
EXTRAPOLATION																										
high	0.00%	0.05%	0.22%	0.46%	0.77%	1.14%	1.59%	2.09%	2.67%	3.32%	4.03%	4.81%	5.65%	6.56%	7.55%	8.59%	9.71%	10.89%	12.14%	13.46%	14.84%	16.30%	17.82%	19.40%	21.06%	22.78%
mean	0.00%	0.01%	0.13%	0.30%	0.52%	0.81%	1.15%	1.54%	1.99%	2.50%	3.07%	3.68%	4.36%	5.09%	5.88%	6.72%	7.62%	8.57%	9.58%	10.65%	11.77%	12.95%	14.18%	15.47%	16.82%	18.22%
low	0.00%	0.00%	0.03%	0.13%	0.28%	0.47%	0.71%	0.99%	1.32%	1.69%	2.10%	2.56%	3.07%	3.61%	4.21%	4.84%	5.53%	6.25%	7.02%	7.84%	8.69%	9.60%	10.55%	11.54%	12.57%	13.66%

Note: for HDI no interpolation was needed; see main text.

low - high values represents the 95% confidence interval