

World Bank

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Abstract

This document aims to consolidate available indicators as a *sandbox* tool for next analyses. I make use of the available data to ask about inequality and development. If one were to be borned among the poorest 10th percent of population what is preferable: 1) To live in a country where the income share held by the lowest 10 percent is similar to the countries of europe with a GDP to population proportion as the one held by countries in latin america? 2) Or to live in a country with a GDP to population proportion similar to the United States and an income share held by the lowest 10 percent similar to the latin american countries? In section GDP and Population I make use of available data to develop a simple model based on normal distribution for GDP and Population growth rates using mean and standard deviations for the current century. The simple model has two baseline scenarios, one with no population growth and the other with both GDP and Population growth rates equal to the averages of the same period. In each section it is possible to compare among countries of the OCDE plus the economies of Brazil and China. As a first approach it is possible to see a clear difference between countries of Europe and America **kpi's such as goverment expenses, health and income share among the lowest 10 percent of the population** have consistently different averages among the century.

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Summary

This document aims to consolidate available indicators as a *sandbox* tool for next analyses. For an easier navigation of the document, each indicator is fitted into the following categories:

- Economy
- Government
- Health
- Demographics

Altough some of them may overlapse with each other, for example poverty measures, I do think this mechanism does allow for a better user experience of the document. Please refer to the table of contents whenever necessary.

For this document I focused on the OCDE Countries plus China and Brazil.

Database extracted from: <https://databank.worldbank.org/data/source/world-development-indicators#>

Country list from: <https://www.oecd.org/about/members-and-partners/>

After each indicator I have copied **World Bank's** metadata including:

- Long Description
- Source (when needed)
- Statistical Concept & Methodology (when needed)
- Limitations & Exceptions (when needed)

The extraction period is from 2000 to the last available date (in most cases 2017). Looking forward to an standarized presentation for each indicator first I present a table with the summary of average and standard deviation then followed by a box plot graph. When possible I also present graphs wiht the time series of the indicator for each of the countries. Finally, I aggregate the countries into region time series to see region's trends and compare them with the three biggest economies (United States, China and Japan).

Economy

GDP (constant 2010 US\$)

GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2010 U.S. dollars. Dollar figures for GDP are converted from domestic currencies using 2010 official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.

Gross domestic product (GDP) represents the sum of value added by all its producers. Value added is the value of the gross output of producers less the value of intermediate goods and services consumed in production, before accounting for consumption of fixed capital in production. The United Nations System of National Accounts calls for value added to be valued at either basic prices (excluding net taxes on products) or producer prices (including net taxes on products paid by producers but excluding sales or value added taxes). Both valuations exclude transport charges that are invoiced separately by producers. Total GDP is measured at purchaser prices. Value added by industry is normally measured at basic prices. When value added is measured at producer prices.

Growth rates of GDP and its components are calculated using the least squares method and constant price data in the local currency. Constant price U.S. dollar series are used to calculate regional and income group growth rates. Local currency series are converted to constant U.S. dollars using an exchange rate in the common reference year.

Each industry's contribution to growth in the economy's output is measured by growth in the industry's value added. In principle, value added in constant prices can be estimated by measuring the quantity of goods and services produced in a period, valuing them at an agreed set of base year prices, and subtracting the cost of intermediate inputs, also in constant prices. This double-deflation method requires detailed information on the structure of prices of inputs and outputs.

In many industries, however, value added is extrapolated from the base year using single volume indexes of outputs or, less commonly, inputs. Particularly in the services industries, including most of government, value added in constant prices is often imputed from labor inputs, such as real wages or number of employees. In the absence of well defined measures of output, measuring the growth of services remains difficult.

Moreover, technical progress can lead to improvements in production processes and in the quality of goods and services that, if not properly accounted for, can distort measures of value added and thus of growth. When inputs are used to estimate output, as for nonmarket services, unmeasured technical progress leads to underestimates of the volume of output. Similarly, unmeasured improvements in quality lead to underestimates of the value of output and value added. The result can be underestimates of growth and productivity improvement and overestimates of inflation.

Informal economic activities pose a particular measurement problem, especially in developing countries, where much economic activity is unrecorded. A complete picture of the economy requires estimating household outputs produced for home use, sales in informal markets, barter exchanges, and illicit or deliberately unreported activities. The consistency and completeness of such estimates depend on the skill and methods of the compiling statisticians.

Rebasing of national accounts can alter the measured growth rate of an economy and lead to breaks in series that affect the consistency of data over time. When countries rebase their national accounts, they update the weights assigned to various components to better reflect current patterns of production or uses of output. The new base year should represent normal operation of the economy - it should be a year without major shocks or distortions. Some developing countries have not rebased their national accounts for many years. Using an old base year can be misleading because implicit price and volume weights become progressively less relevant and useful.

To obtain comparable series of constant price data for computing aggregates, the World Bank rescales GDP and value added by industrial origin to a common reference year. Because rescaling changes the implicit weights used in forming regional and income group aggregates, aggregate growth rates are not comparable with those from earlier editions with different base years. Rescaling may result in a discrepancy between the rescaled GDP and the sum of the rescaled components. To avoid distortions in the growth rates, the discrepancy is left unallocated. As a result, the weighted average of the growth rates of the components generally does not equal the GDP grow

Table 1 reports the averages for the current century.

Table 1: GDP (constant 2010 US\$ '000 M)

Country Name	Mean	SD
Austria	386	29
Belgium	471	36
Brazil	2,017	318
Chile	210	44
China	5,602	2,592
Czech Republic	198	27
Denmark	325	17
Estonia	20	3
European Union	16,814	1,135
Finland	242	16
France	2,620	154
Germany	3,429	238
Greece	280	33
Hungary	132	12
Iceland	14	2
Ireland	234	53
Israel	225	43
Italy	2,116	56
Japan	5,714	243
Korea, Rep.	1,030	199
Latin America & Caribbean	5,050	797
Latvia	25	4
Lithuania	38	7
Luxembourg	52	7
Mexico	1,064	121
Middle East & North Africa	2,609	539
Netherlands	825	56
New Zealand	145	20
Norway	426	35
Poland	451	89
Portugal	231	6
Slovak Republic	83	17
Slovenia	46	5
South Asia	1,957	653
Spain	1,370	103
Sub-Saharan Africa	1,280	318
Sweden	479	52
Turkey	789	222
United Kingdom	2,464	205
United States	14,931	1,386
World	64,247	9,434

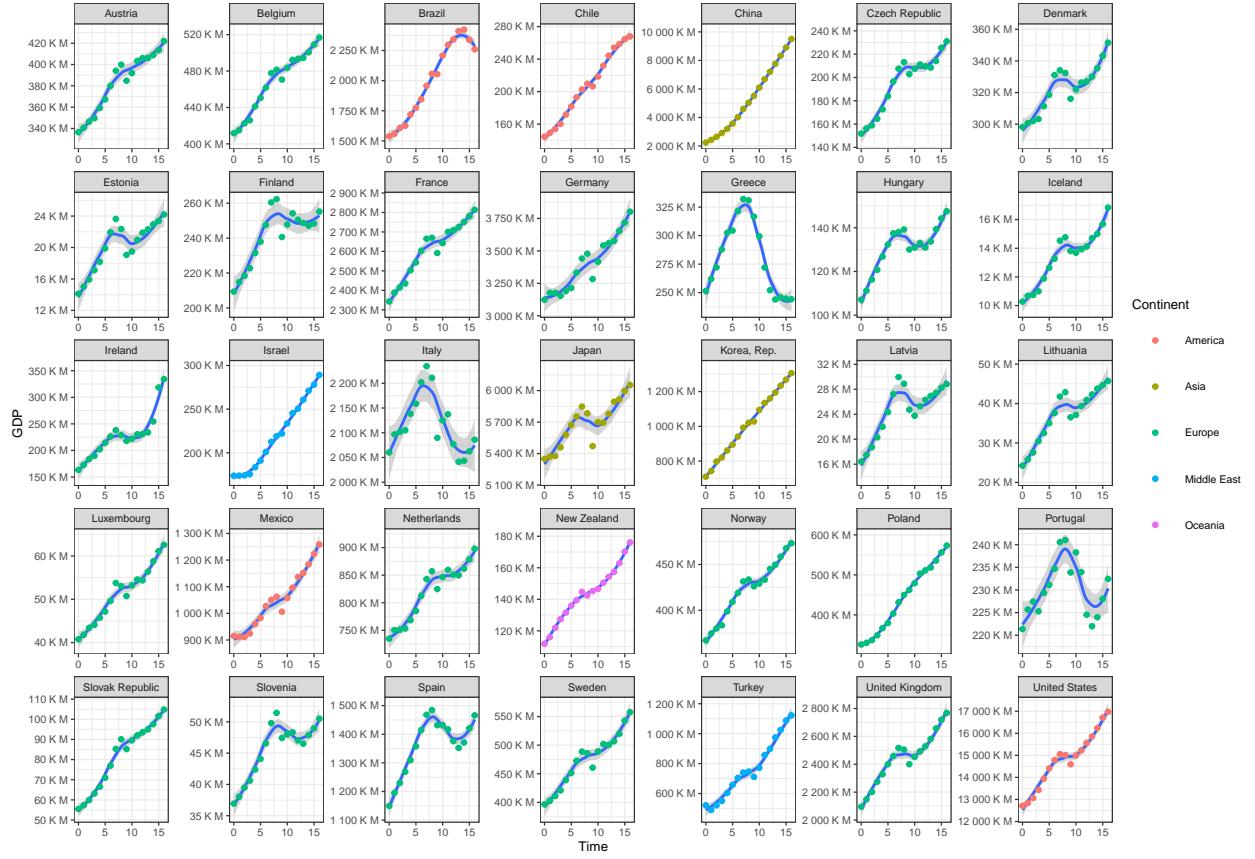


Figure 1: GDP (constant 2010 US\$)

In Figure 1 it is possible to see the *GDP trend* from the current century. In the Figure 2 it is possible to see the trend for the biggest countries and regions of the world

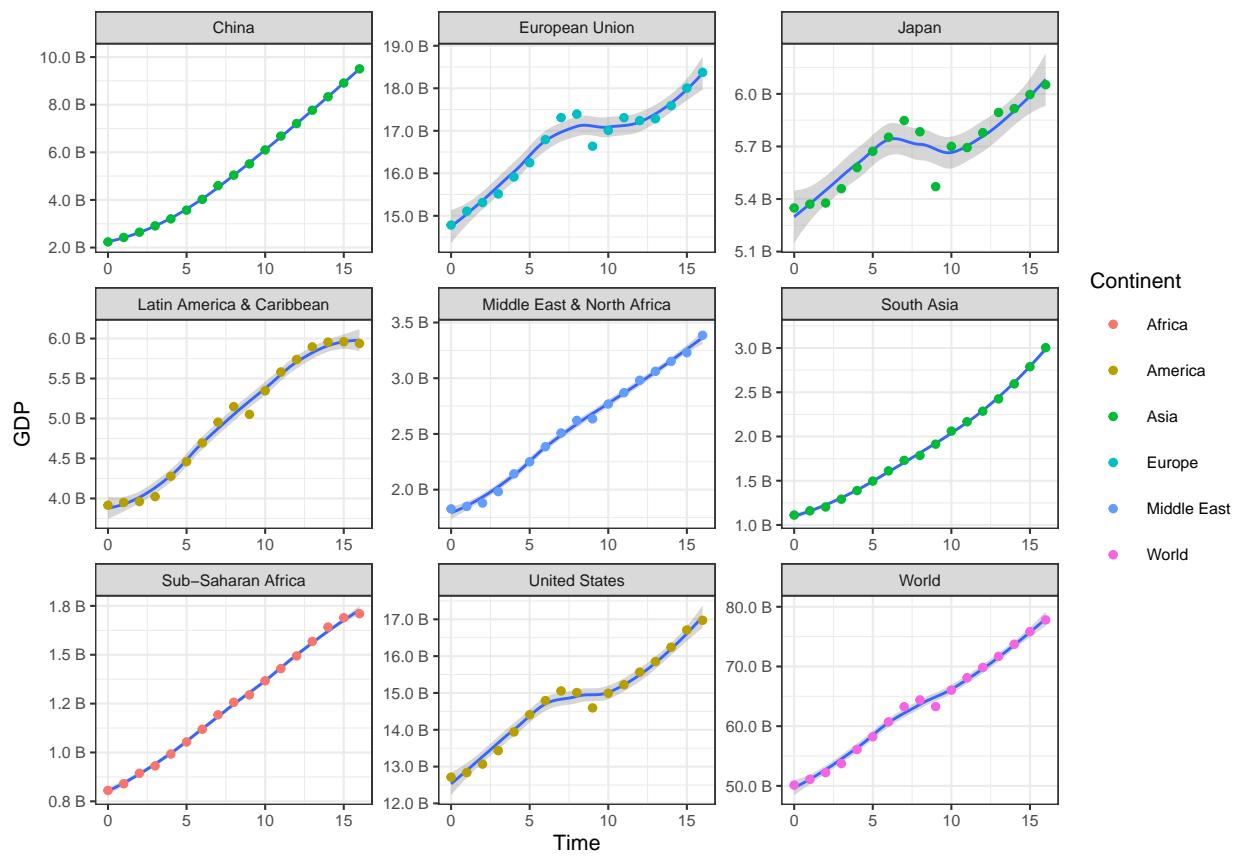


Figure 2: GDP (constant 2010 US\$) regions and biggest countries

GDP growth (annual %)

Table 2: GDP growth (annual %)

Country Name	Mean	SD
Austria	1.6	1.7
Belgium	1.6	1.4
Brazil	2.5	3
Chile	3.9	2.2
China	9.3	2.1
Czech Republic	2.9	2.9
Denmark	1.3	1.9
Estonia	4.1	6
European Union	1.6	1.8
Finland	1.6	3.1
France	1.4	1.4
Germany	1.4	2.2
Greece	0.23	4.5
Hungary	2.3	2.9
Iceland	3.3	3.6
Ireland	5.2	6.3
Israel	3.5	2.1
Italy	0.38	2.1
Japan	0.96	2
Korea, Rep.	4.1	2
Latin America & Caribbean	2.7	2.4
Latvia	3.9	6.3
Lithuania	4.2	5.5
Luxembourg	3	3
Mexico	2.2	2.4
Middle East & North Africa	3.9	2
Netherlands	1.5	1.9
New Zealand	2.9	1.5
Norway	1.7	1.3
Poland	3.7	1.6
Portugal	0.65	2.1
Slovak Republic	3.9	3.4
Slovenia	2.3	3.4
South Asia	6.3	1.6
Spain	1.8	2.6
Sub-Saharan Africa	4.6	1.5
Sweden	2.3	2.5
Turkey	5.2	4.5
United Kingdom	1.9	1.8
United States	2	1.6
World	2.9	1.4

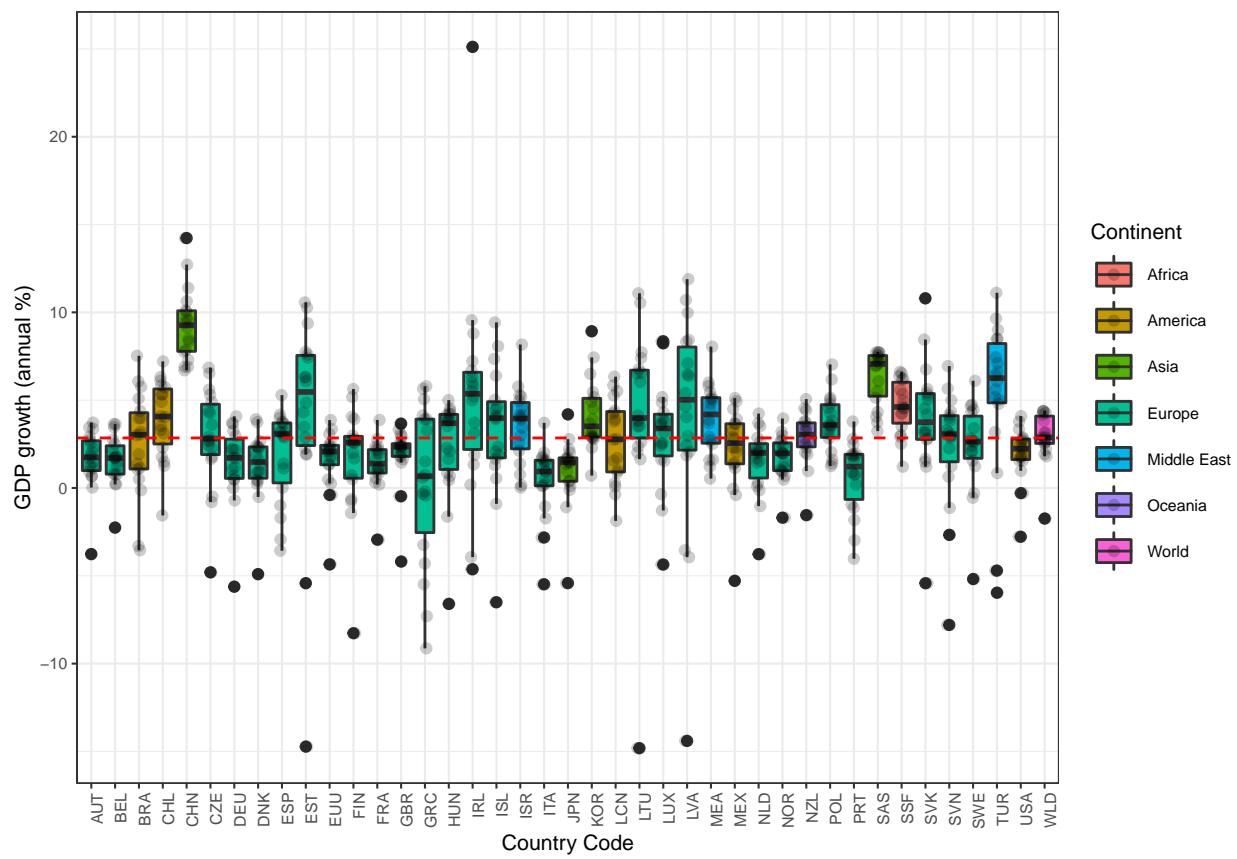


Figure 3: GDP growth rate boxplots: 2000 - 2017

GDP per capita (constant 2010 US\$)

Table 3: GDP per capita (constant 2010 US\$)

Country Name	Mean	SD
Austria	46,150	2,370
Belgium	43,577	1,860
Brazil	10,377	1,129
Chile	12,486	1,970
China	4,174	1,828
Czech Republic	19,004	2,346
Denmark	58,782	2,014
Estonia	15,259	2,695
European Union	33,553	1,778
Finland	45,378	2,474
France	40,695	1,220
Germany	41,889	3,067
Greece	25,502	2,779
Hungary	13,184	1,358
Iceland	43,528	4,245
Ireland	53,111	8,754
Israel	30,015	2,687
Italy	35,973	1,437
Japan	44,802	1,948
Korea, Rep.	20,835	3,454
Latin America & Caribbean	8,578	838
Latvia	11,716	2,567
Lithuania	12,052	2,979
Luxembourg	103,053	4,956
Mexico	9,235	379
Middle East & North Africa	6,835	707
Netherlands	49,874	2,423
New Zealand	33,788	2,496
Norway	87,899	2,974
Poland	11,835	2,375
Portugal	22,064	552
Slovak Republic	15,367	3,094
Slovenia	22,618	2,074
South Asia	1,206	311
Spain	30,556	1,229
Sub-Saharan Africa	1,481	166
Sweden	51,223	3,649
Turkey	10,884	2,256
United Kingdom	39,581	1,952
United States	48,933	2,470
World	9,381	781

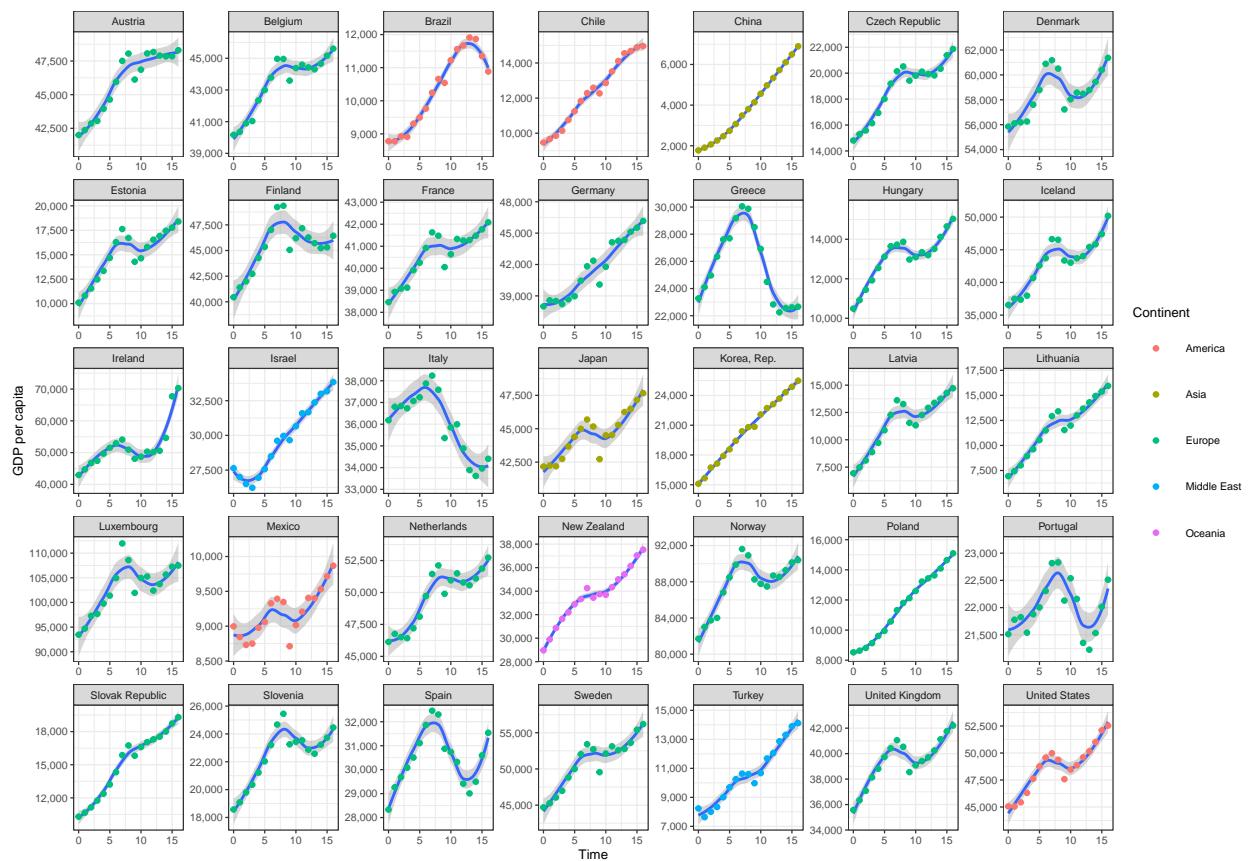


Figure 4: GDP per capita

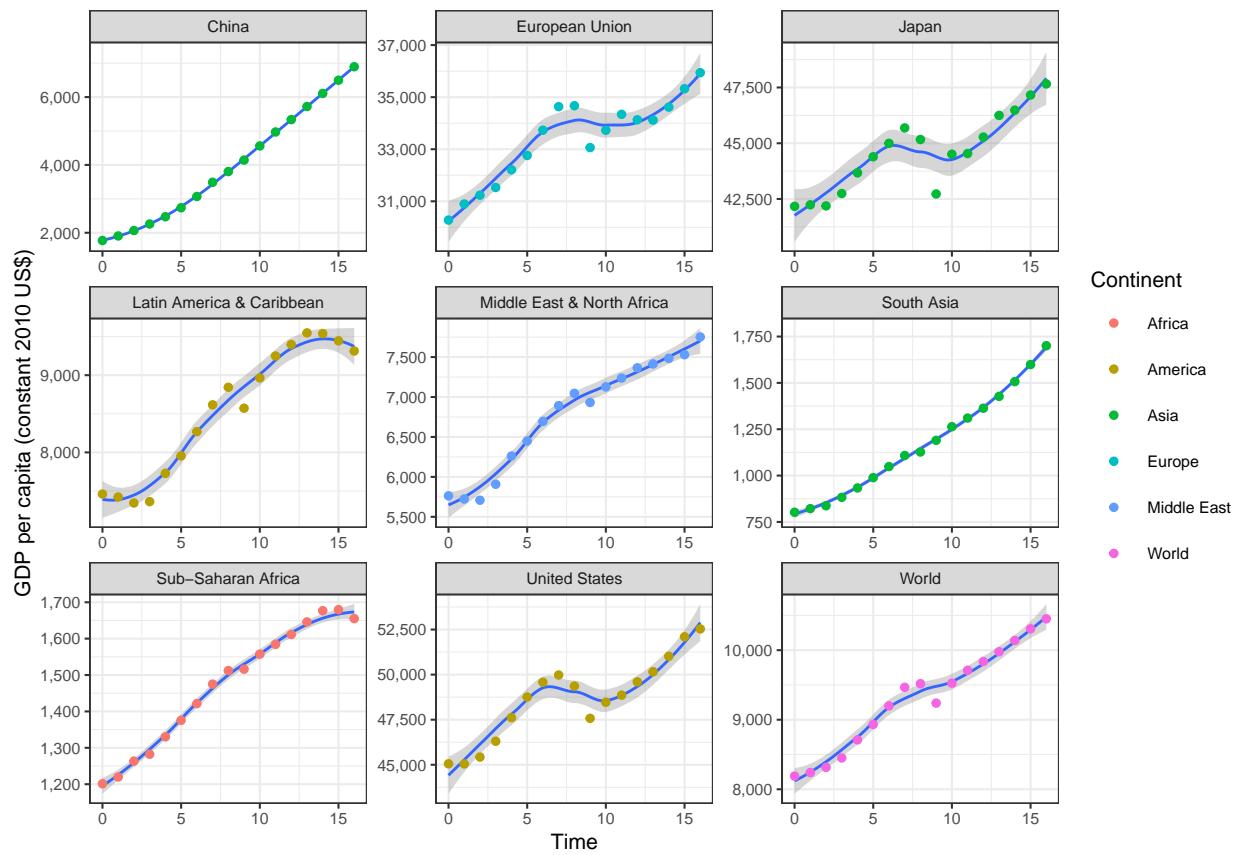


Figure 5: GDP per capita regions and biggest countries

GDP per capita growth (annual %)

Table 4: GDP per capita growth (annual %)

Country Name	Mean	SD
Austria	1.1	1.7
Belgium	0.97	1.5
Brazil	1.4	2.9
Chile	2.9	2.2
China	8.7	2.1
Czech Republic	2.7	2.9
Denmark	0.82	2
Estonia	4.4	6.1
European Union	1.3	1.8
Finland	1.2	3.2
France	0.78	1.4
Germany	1.4	2.4
Greece	0.23	4.3
Hungary	2.6	2.9
Iceland	2.1	3.2
Ireland	3.7	6.3
Israel	1.5	2.1
Italy	0.04	2.2
Japan	0.95	2
Korea, Rep.	3.6	2
Latin America & Caribbean	1.4	2.3
Latvia	5.1	6.2
Lithuania	5.5	5.6
Luxembourg	1.1	3.1
Mexico	0.78	2.4
Middle East & North Africa	1.9	1.9
Netherlands	1.1	1.9
New Zealand	1.6	1.3
Norway	0.78	1.4
Poland	3.8	1.6
Portugal	0.61	2
Slovak Republic	3.9	3.4
Slovenia	2.1	3.5
South Asia	4.7	1.6
Spain	1	2.4
Sub-Saharan Africa	1.8	1.5
Sweden	1.6	2.6
Turkey	3.7	4.4
United Kingdom	1.2	1.8
United States	1.1	1.5
World	1.7	1.4

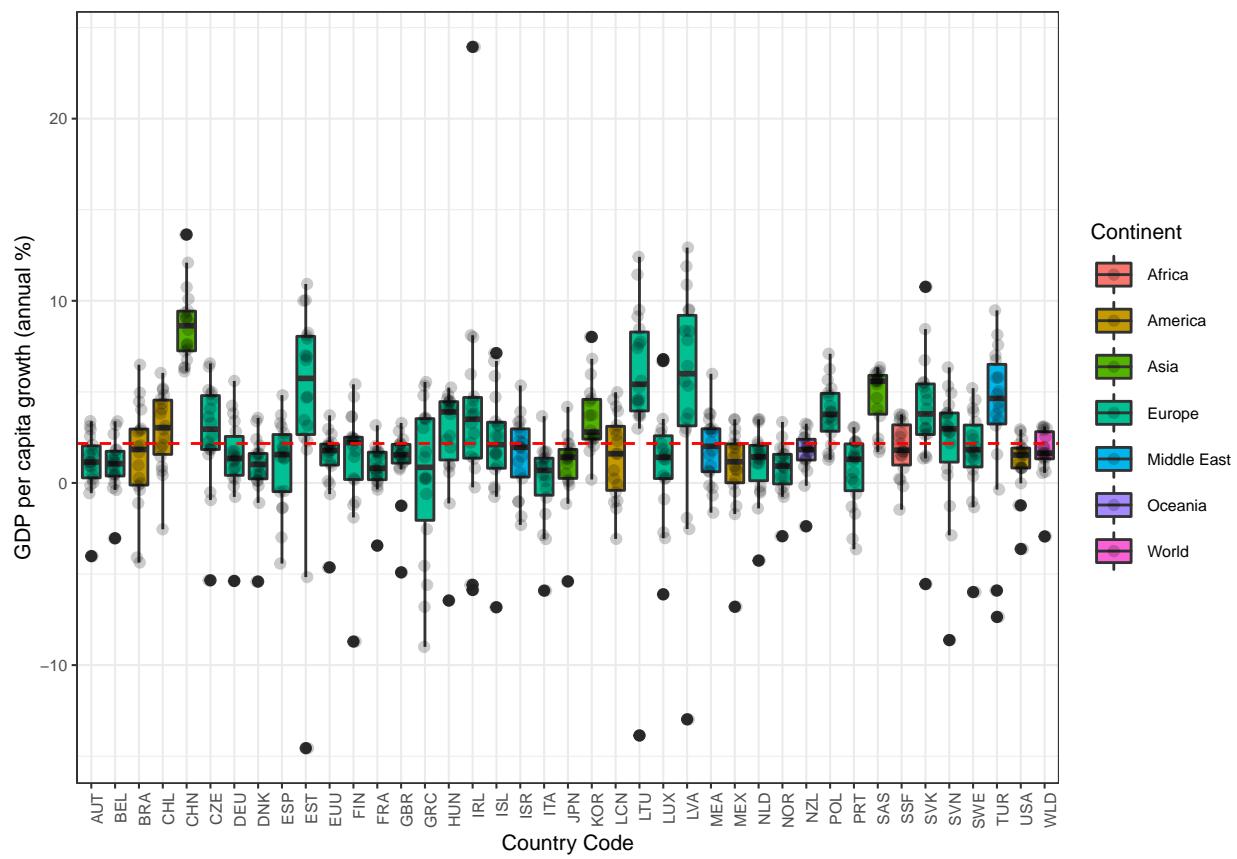


Figure 6: GDP per capita growth rate boxplots: 2000 - 2017

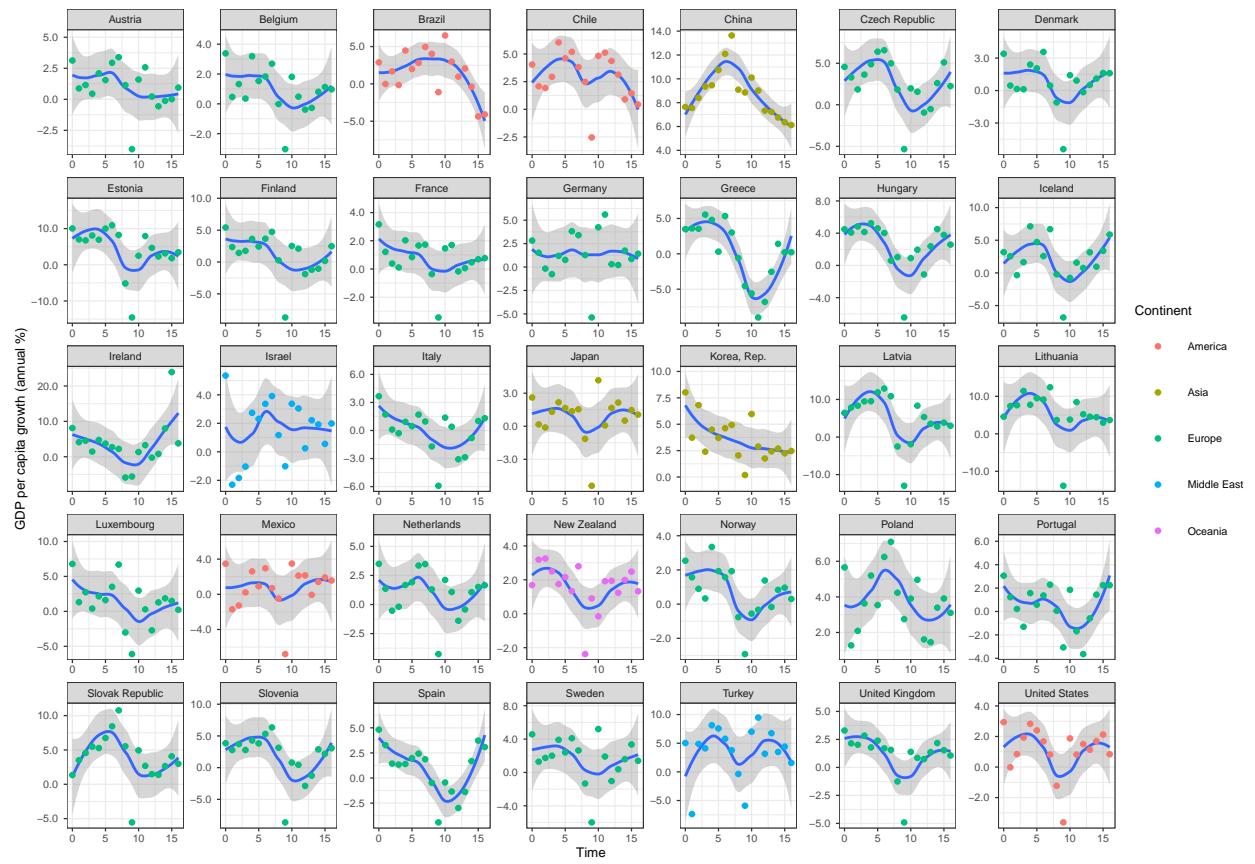


Figure 7: GDP per capita growth rate

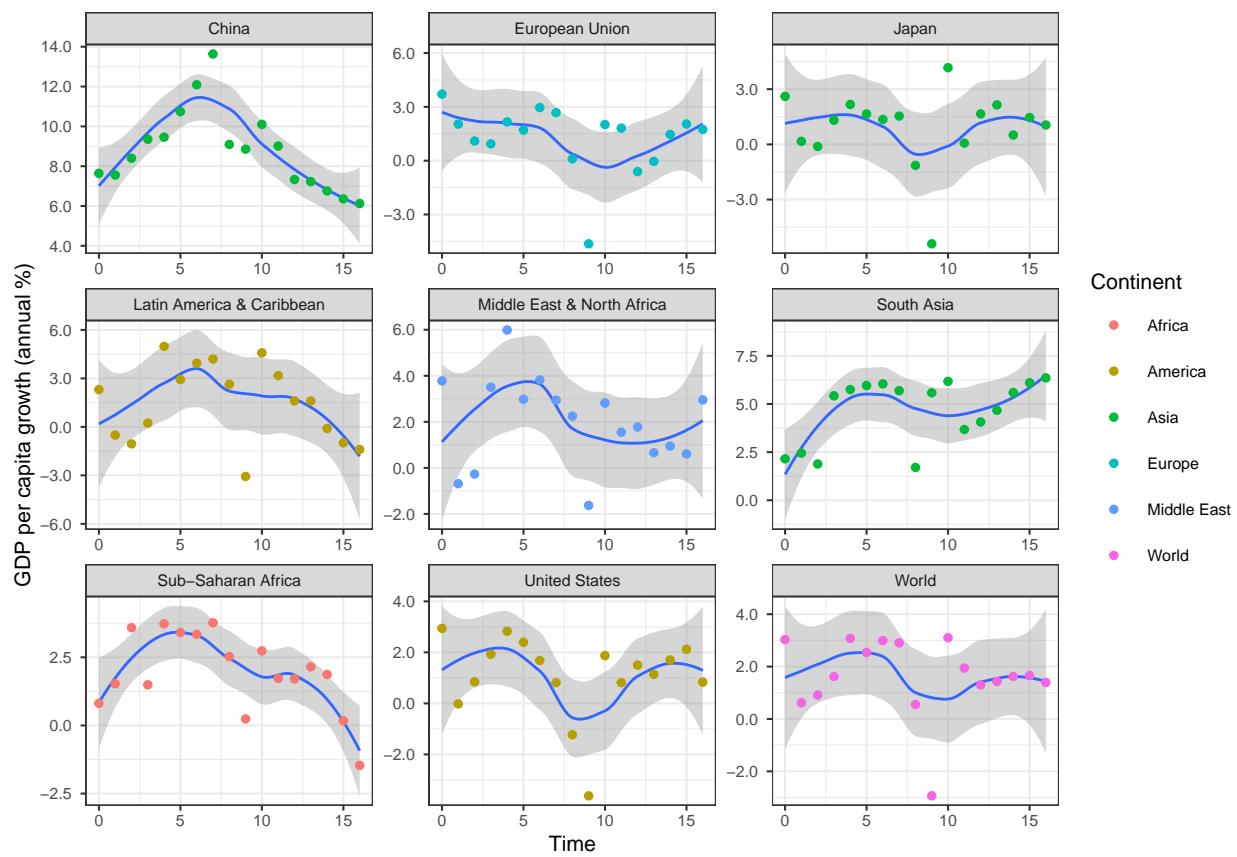


Figure 8: GDP per capita growth rate regions and biggest countries

GDP per person employed (constant 2011 PPP \$)

GDP per person employed is gross domestic product (GDP) divided by total employment in the economy. Purchasing power parity (PPP) GDP is GDP converted to 2011 constant international dollars using PPP rates. An international dollar has the same purchasing power over GDP that a U.S. dollar has in the United States.

GDP per person employed represents labor productivity — output per unit of labor input. To compare labor productivity levels across countries, GDP is converted to international dollars using purchasing power parity rates which take account of differences in relative prices between countries.

Table 5: GDP per person employed (constant 2011 PPP \$)

Country Name	Mean	SD
Austria	89,252	3,268
Belgium	99,567	3,011
Brazil	30,649	2,318
Chile	45,152	3,523
China	16,208	7,443
Czech Republic	57,871	6,471
Denmark	89,409	4,402
Estonia	51,452	6,699
European Union	77,798	3,635
Finland	85,914	3,801
France	89,505	3,233
Germany	86,341	2,351
Greece	68,320	3,512
Hungary	56,552	4,044
Iceland	70,634	6,643
Ireland	107,018	22,847
Israel	73,479	2,659
Italy	95,641	1,649
Japan	71,733	2,929
Korea, Rep.	58,365	8,376
Latin America & Caribbean	31,092	1,689
Latvia	42,949	7,948
Lithuania	48,839	9,891
Luxembourg	207,349	9,480
Mexico	39,551	726
Middle East & North Africa	54,812	3,023
Netherlands	89,048	4,536
New Zealand	63,969	3,276
Norway	122,067	4,703
Poland	49,527	6,520
Portugal	56,877	2,950
Slovak Republic	54,593	8,782
Slovenia	60,271	5,567
South Asia	11,100	3,244
Spain	79,084	3,947
Sub-Saharan Africa	8,612	1,083
Sweden	87,348	6,391
Turkey	58,544	9,455
United Kingdom	77,193	2,890
United States	104,938	6,833

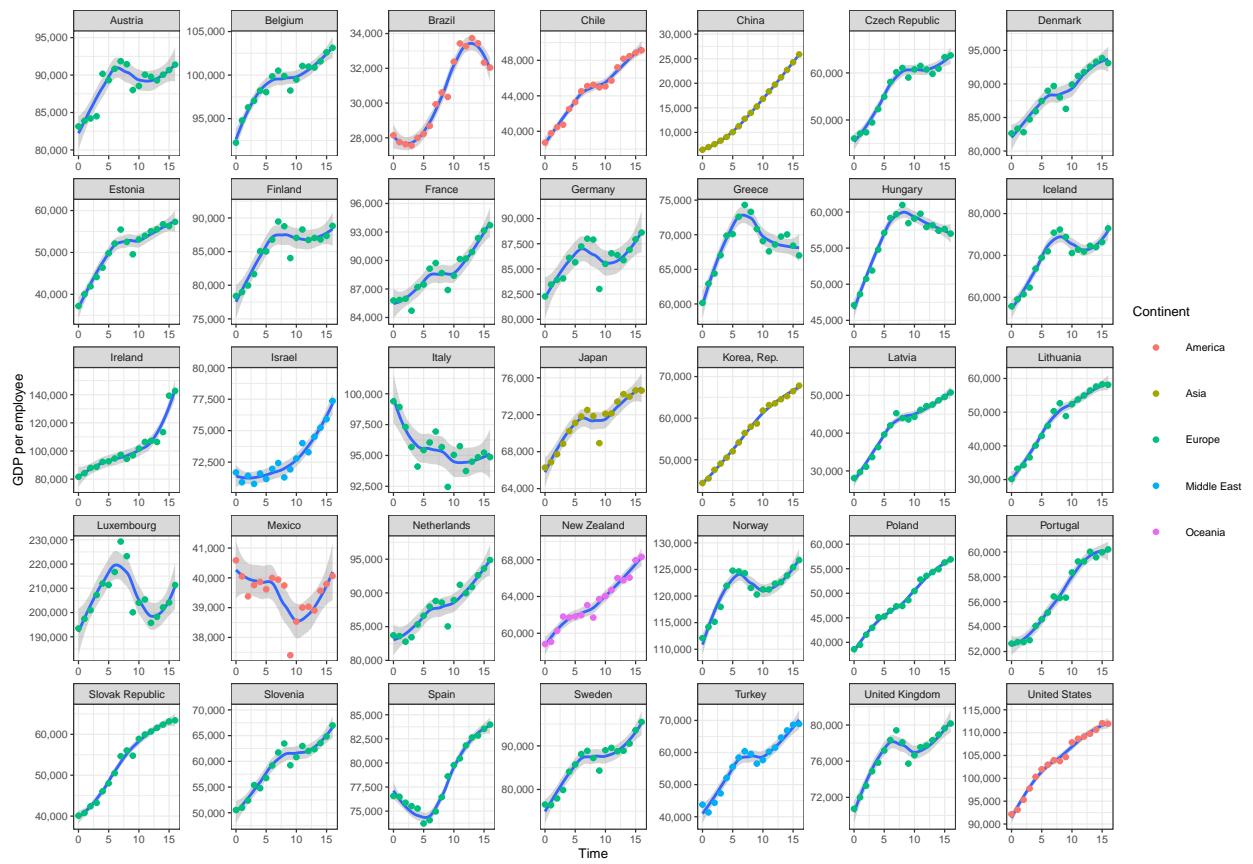


Figure 9: GDP per person employed

Country Name	Mean	SD
World	30,040	3,964

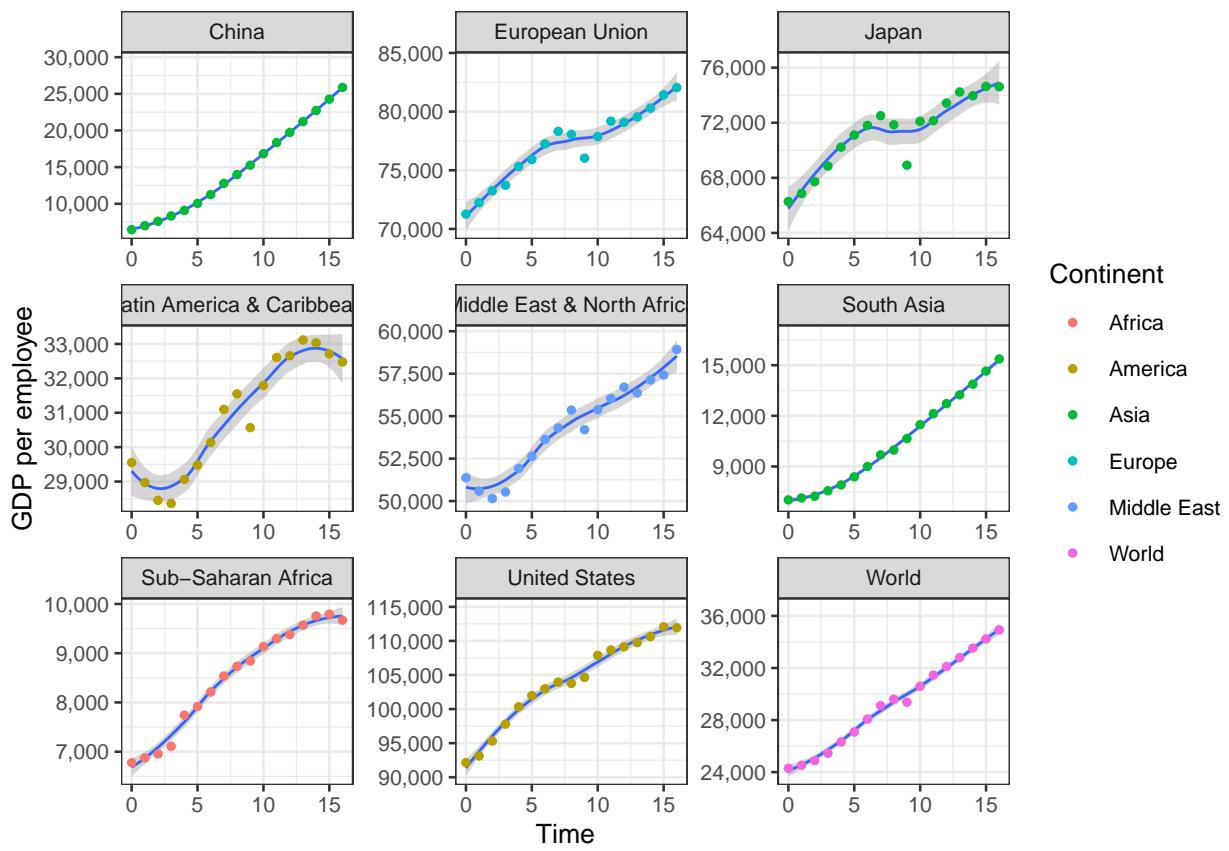


Figure 10: GDP per person employed regions and biggest countries

GNI (constant 2010 US\$)

GNI (formerly GNP) is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. Data are in constant 2010 U.S. dollars.

Because development encompasses many factors - economic, environmental, cultural, educational, and institutional - no single measure gives a complete picture. However, the total earnings of the residents of an economy, measured by its gross national income (GNI), is a good measure of its capacity to provide for the well-being of its people.

Table 6: GNI (constant 2010 US\$ '000 M)

Country Name	Mean	SD
Austria	385	30
Belgium	477	35
Brazil	1,969	318
Chile	199	44
China	5,582	2,587
Czech Republic	186	23
Denmark	329	22
Estonia	20	3
European Union	16,821	1,123
Finland	244	17
France	2,672	165
Germany	3,473	275
Greece	277	29
Hungary	126	12
Iceland	11	NA
Ireland	196	39
Israel	221	44
Italy	2,113	58
Japan	5,833	267
Korea, Rep.	1,031	203
Latin America & Caribbean	4,889	788
Latvia	25	4
Luxembourg	46	8
Mexico	1,043	116
Middle East & North Africa	2,616	552
Netherlands	828	55
New Zealand	130	14
Norway	431	41
Poland	469	67
Portugal	225	5
Slovak Republic	88	12
Slovenia	47	3
South Asia	1,952	644
Spain	1,355	100
Sub-Saharan Africa	1,223	309
Sweden	487	54
Turkey	779	221
United Kingdom	2,463	175
United States	15,021	1,439
World	64,209	9,401

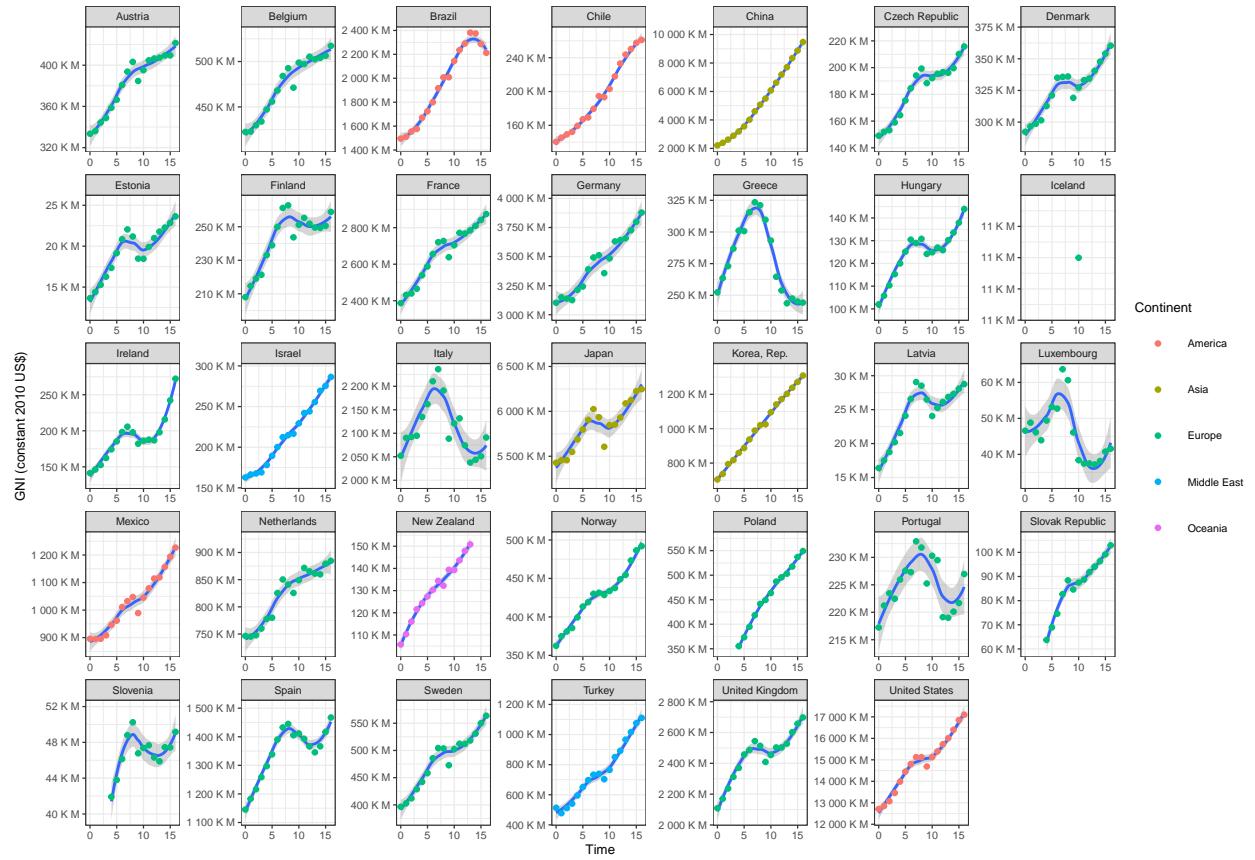


Figure 11: GNI (constant 2010 US\$)

GNI growth (annual %)

Table 7: GDP growth (annual %)

Country Name	Mean	SD
Austria	1.7	2
Belgium	1.5	2.2
Brazil	2.7	3.2
Chile	3.8	2.5
China	9.3	2.2
Czech Republic	2.6	2.8
Denmark	1.4	2
Estonia	3.7	5.4
European Union	1.6	1.8
Finland	1.7	3.1
France	1.4	1.6
Germany	1.6	2.1
Greece	0.18	4.2
Hungary	2.4	2.6
Iceland	1.9	6.9
Ireland	4.6	5.2
Israel	3.7	2.2
Italy	0.42	2

Country Name	Mean	SD
Japan	1	2.2
Korea, Rep.	4.2	2.2
Latin America & Caribbean	2.7	2.5
Latvia	3.9	5.5
Lithuania	3.4	7.9
Luxembourg	0.69	10
Mexico	2.2	2.6
Middle East & North Africa	3.9	2
Netherlands	1.5	2.2
New Zealand	2.8	1.9
Norway	2	1.3
Poland	3.8	1.7
Portugal	0.55	1.9
Slovak Republic	4.1	3.8
Slovenia	1.7	3.8
South Asia	6.2	1.5
Spain	1.9	2.4
Sub-Saharan Africa	4.7	1.9
Sweden	2.4	2.8
Turkey	5.3	4.8
United Kingdom	1.8	2
United States	2	1.6
World	2.9	1.5

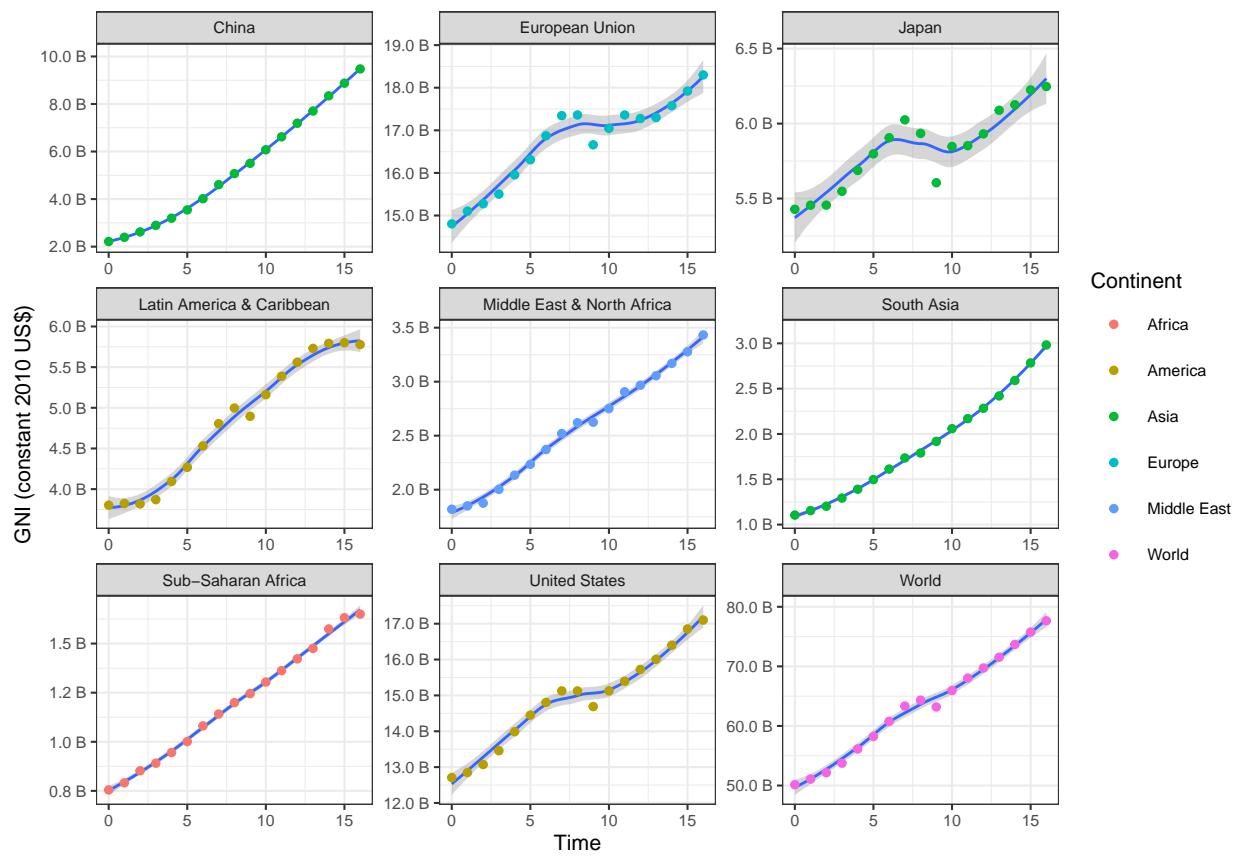


Figure 12: GNI (constant 2010 US\$) regions and biggest countries

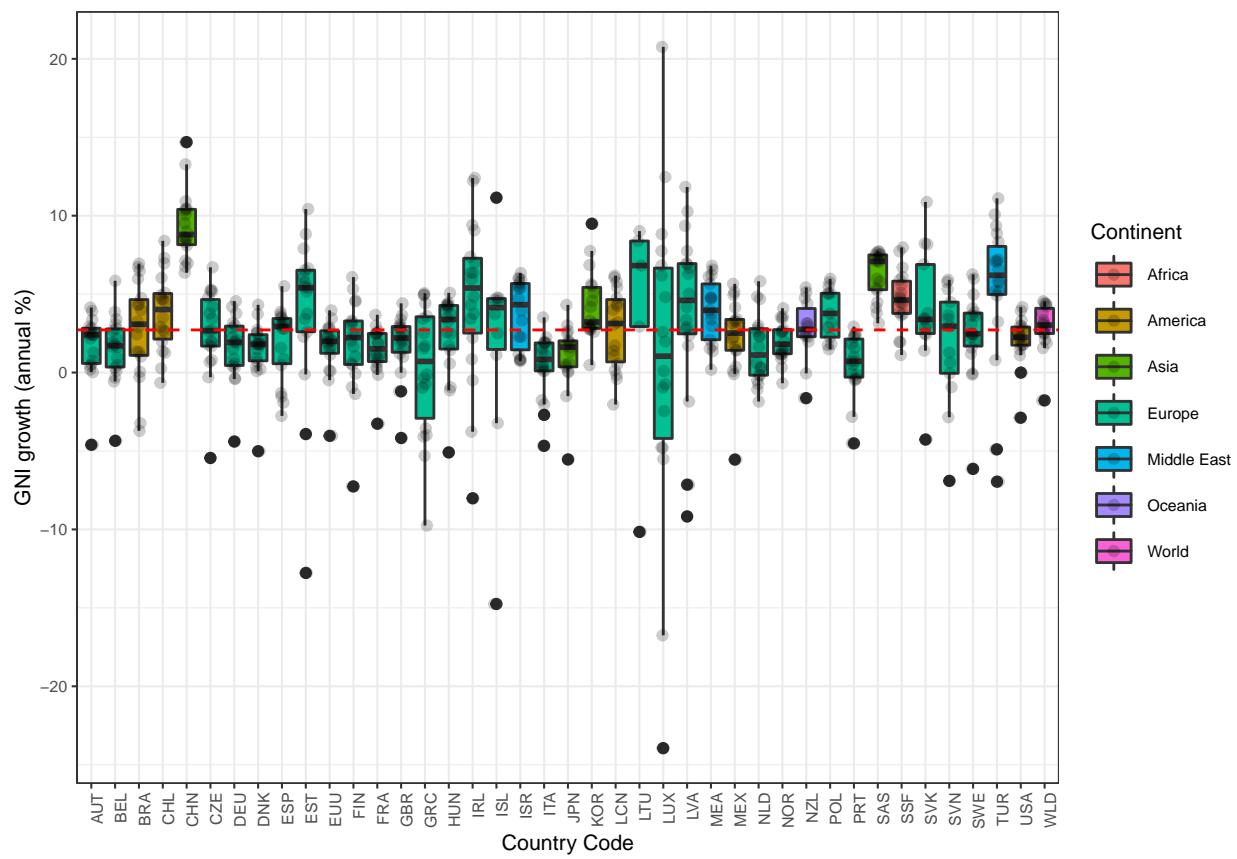


Figure 13: GNI growth boxplots: 2000 - 2017

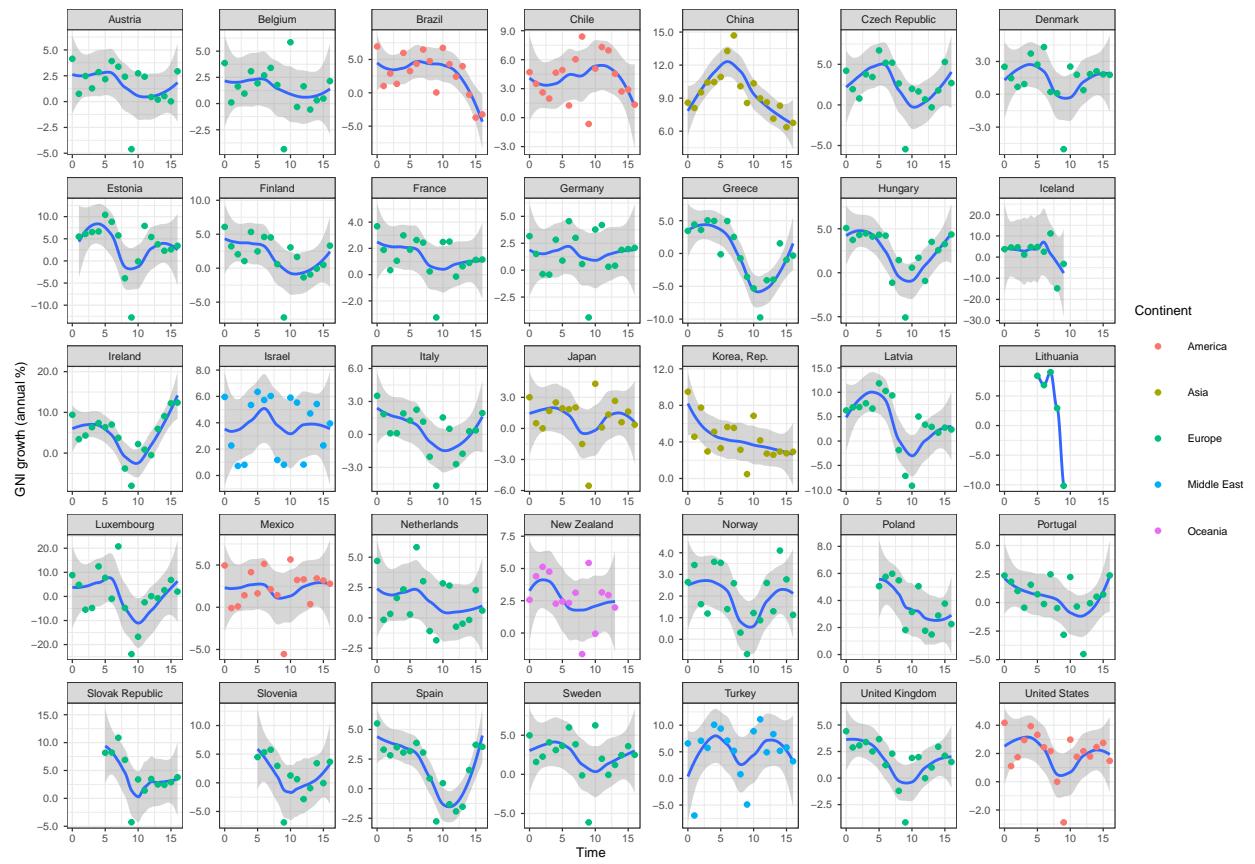


Figure 14: GNI growth rate

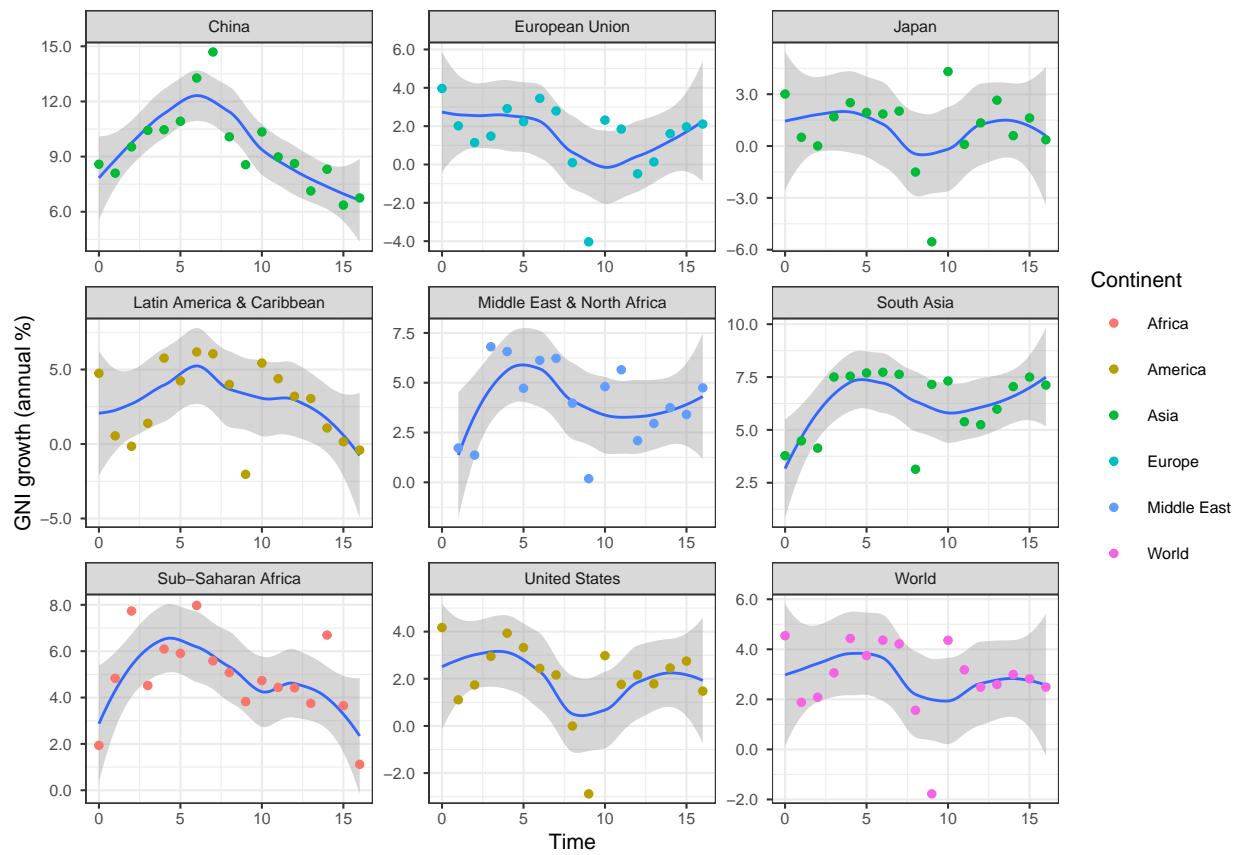


Figure 15: GNI growth rate regions and biggest countries

GNI per capita (constant 2010 US\$)

Income share held by subgroups of population

Percentage share of income or consumption is the share that accrues to subgroups of population indicated by deciles or quintiles.

Inequality in the distribution of income is reflected in the share of income or consumption accruing to a portion of the population ranked by income or consumption levels. The portions ranked lowest by personal income receive the smallest shares of total income.

Data on the distribution of income or consumption come from nationally representative household surveys. Where the original data from the household survey were available, they have been used to directly calculate the income or consumption shares by quintile. Otherwise, shares have been estimated from the best available grouped data.

The distribution data have been adjusted for household size, providing a more consistent measure of per capita income or consumption. No adjustment has been made for spatial differences in cost of living within countries, because the data needed for such calculations are generally unavailable. For further details on the estimation method for low- and middle-income economies, see Ravallion and Chen (1996).

Despite progress in the last decade, the challenges of measuring poverty remain. The timeliness, frequency, quality, and comparability of household surveys need to increase substantially, particularly in the poorest countries. The availability and quality of poverty monitoring data remains low in small states, countries with fragile situations, and low-income countries and even some middle-income countries. The low frequency and lack of comparability of the data available in some countries create uncertainty over the magnitude of poverty reduction.

Besides the frequency and timeliness of survey data, other data quality issues arise in measuring household living standards. The surveys ask detailed questions on sources of income and how it was spent, which must be carefully recorded by trained personnel. Income is generally more difficult to measure accurately, and consumption comes closer to the notion of living standards. And income can vary over time even if living standards do not. But consumption data are not always available: the latest estimates reported here use consumption data for about two-thirds of countries.

However, even similar surveys may not be strictly comparable because of differences in timing or in the quality and training of enumerators. Comparisons of countries at different levels of development also pose a potential problem because of differences in the relative importance of the consumption of nonmarket goods. The local market value of all consumption in kind (including own production, particularly important in underdeveloped rural economies) should be included in total consumption expenditure but may not be. Most survey data now include valuations for consumption or income from own production, but valuation methods vary.

Survey year is the year in which the underlying household survey data were collected or, when the data collection period bridged two calendar years, the year in which most of the data were collected.

Percentage shares by quintile may not sum to 100 because of rounding.

Income share held by lowest 10%

Table 8: Income share held by lowest 10%

Country Name	Mean	SD
Austria	3.1	0.22
Belgium	3.4	0.066
Brazil	1	0.12
Chile	1.7	0.22
China	2.3	0.22
Czech Republic	3.8	0.1
Denmark	3.8	0.2
Estonia	2.6	0.26
Finland	3.8	0.078
France	3.2	0.15
Germany	3.4	0.12
Greece	2.4	0.34
Hungary	3.2	0.32
Iceland	3.8	0.14
Ireland	3.1	0.16
Israel	1.9	0.2
Italy	2.2	0.23
Japan	2.7	NA
Korea, Rep.	2.6	0.05
Latvia	2.2	0.16
Lithuania	2.3	0.23
Luxembourg	3.2	0.16
Mexico	1.8	0.24
Netherlands	3.5	0.11
Norway	3.6	0.15
Poland	3.2	0.16
Portugal	2.5	0.19
Slovak Republic	3.2	0.23
Slovenia	3.9	0.17
Spain	2.2	0.27
Sweden	3.3	0.26
Turkey	2.1	0.099
United Kingdom	2.8	0.16
United States	1.7	0.082

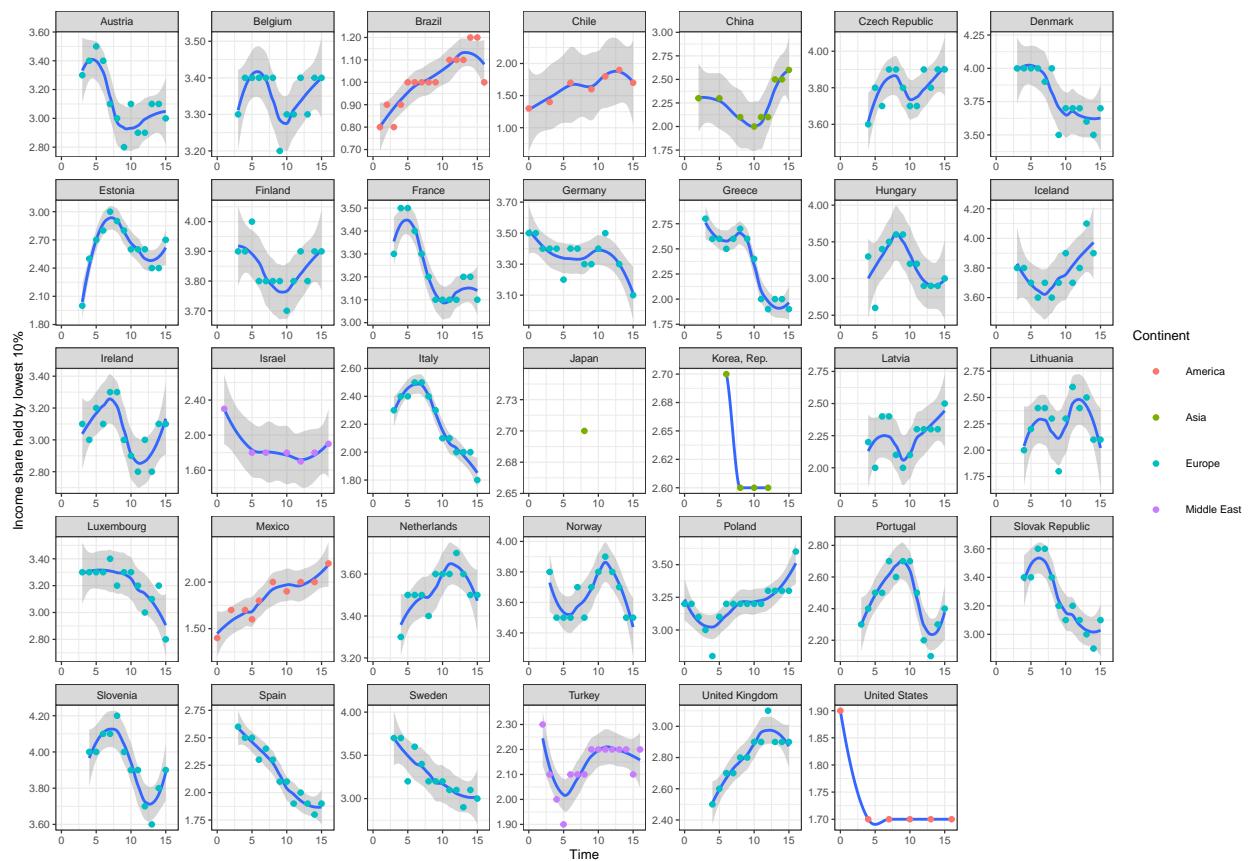


Figure 16: Income share held by lowest 10%

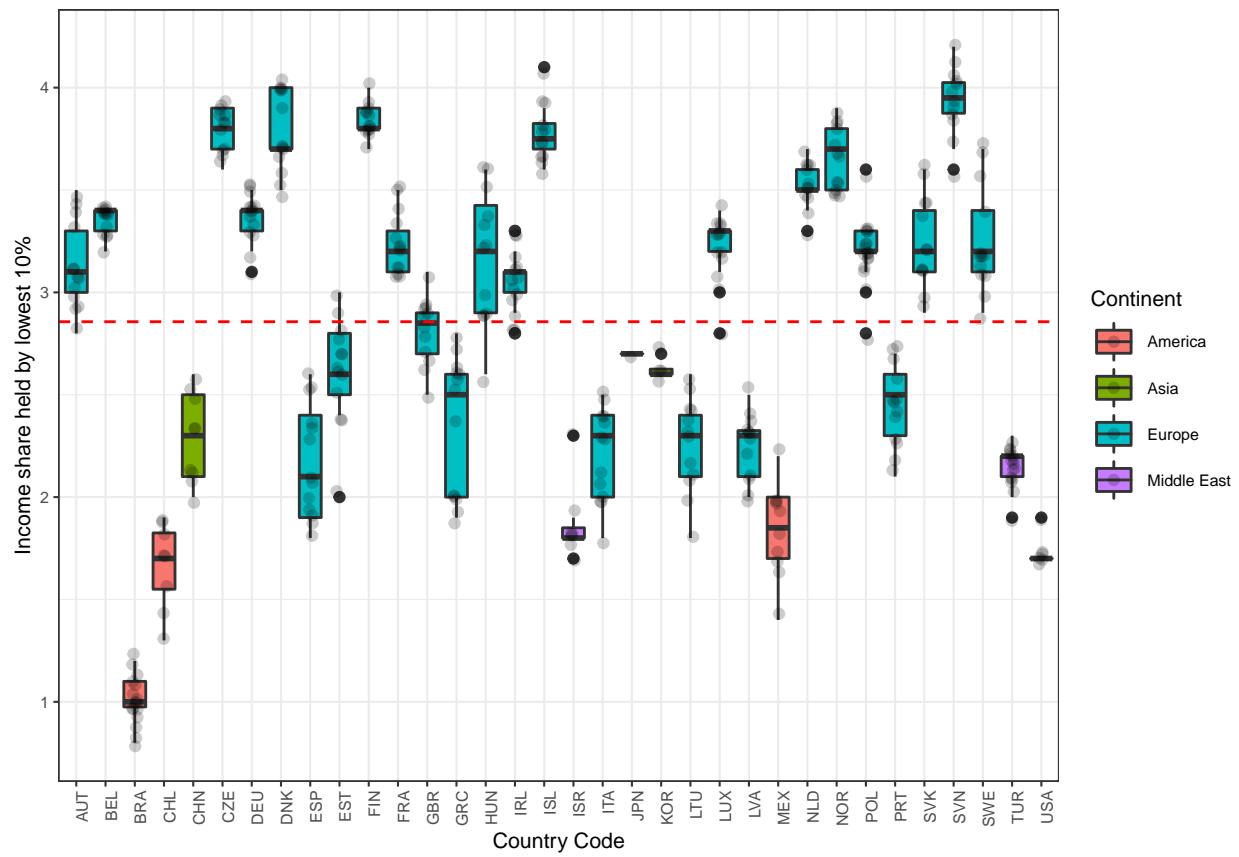


Figure 17: Income share held by lowest 10% boxplots: 2000 - 2017

Income share held by lowest 20%

Table 9: Income share held by lowest 20%

Country Name	Mean	SD
Austria	8.1	0.36
Belgium	8.6	0.086
Brazil	3.1	0.35
Chile	4.6	0.5
China	5.7	0.48
Czech Republic	9.5	0.22
Denmark	9.5	0.31
Estonia	7.3	0.49
Finland	9.3	0.087
France	8.1	0.29
Germany	8.4	0.25
Greece	6.6	0.55
Hungary	8.1	0.58
Iceland	9.3	0.33
Ireland	7.8	0.27
Israel	5.1	0.4
Italy	6.6	0.36
Japan	7.4	NA
Korea, Rep.	7.3	0.05
Latvia	6.4	0.35
Lithuania	6.4	0.44
Luxembourg	7.9	0.36
Mexico	4.9	0.55
Netherlands	8.8	0.2
Norway	9.2	0.23
Poland	7.8	0.32
Portugal	6.7	0.29
Slovak Republic	8.8	0.38
Slovenia	9.7	0.29
Spain	6.4	0.51
Sweden	8.7	0.4
Turkey	5.7	0.2
United Kingdom	7.2	0.26
United States	5.2	0.14

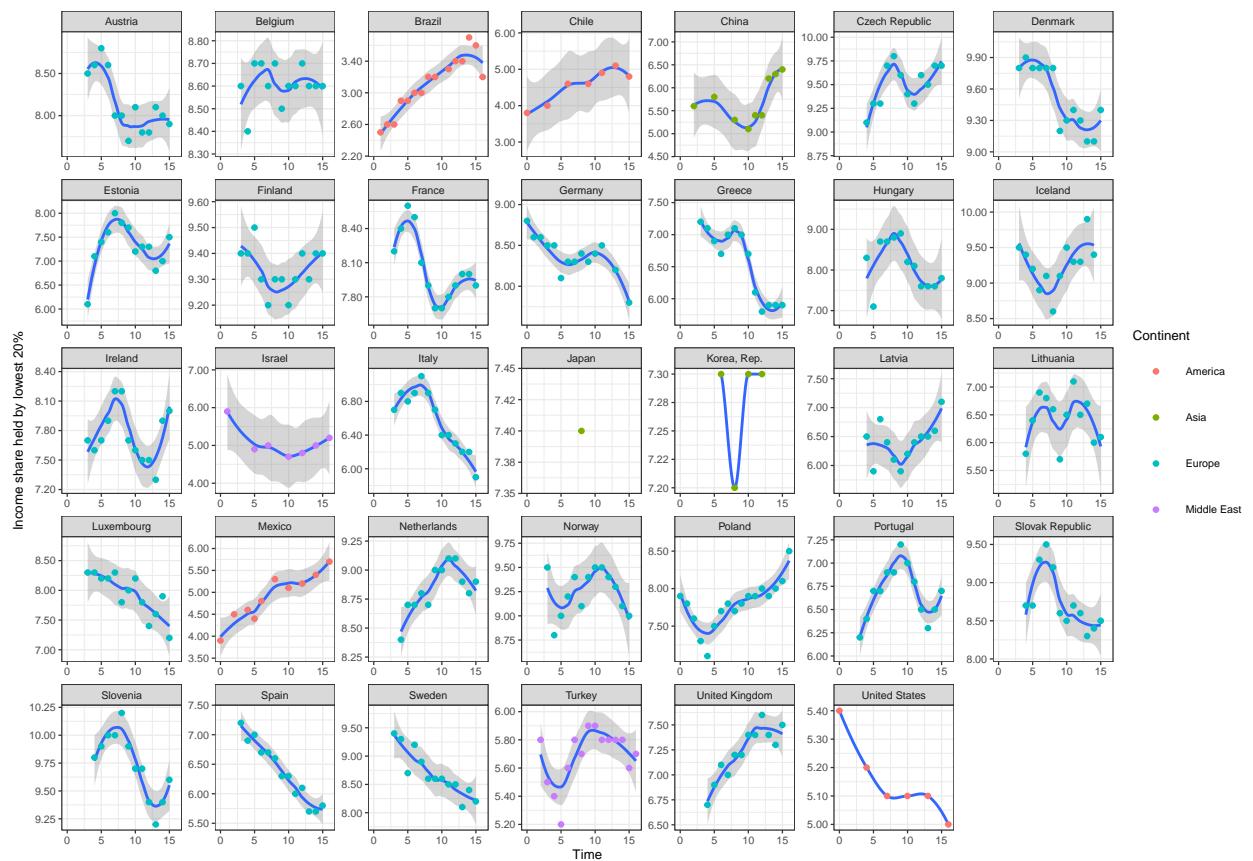


Figure 18: Income share held by lowest 20%

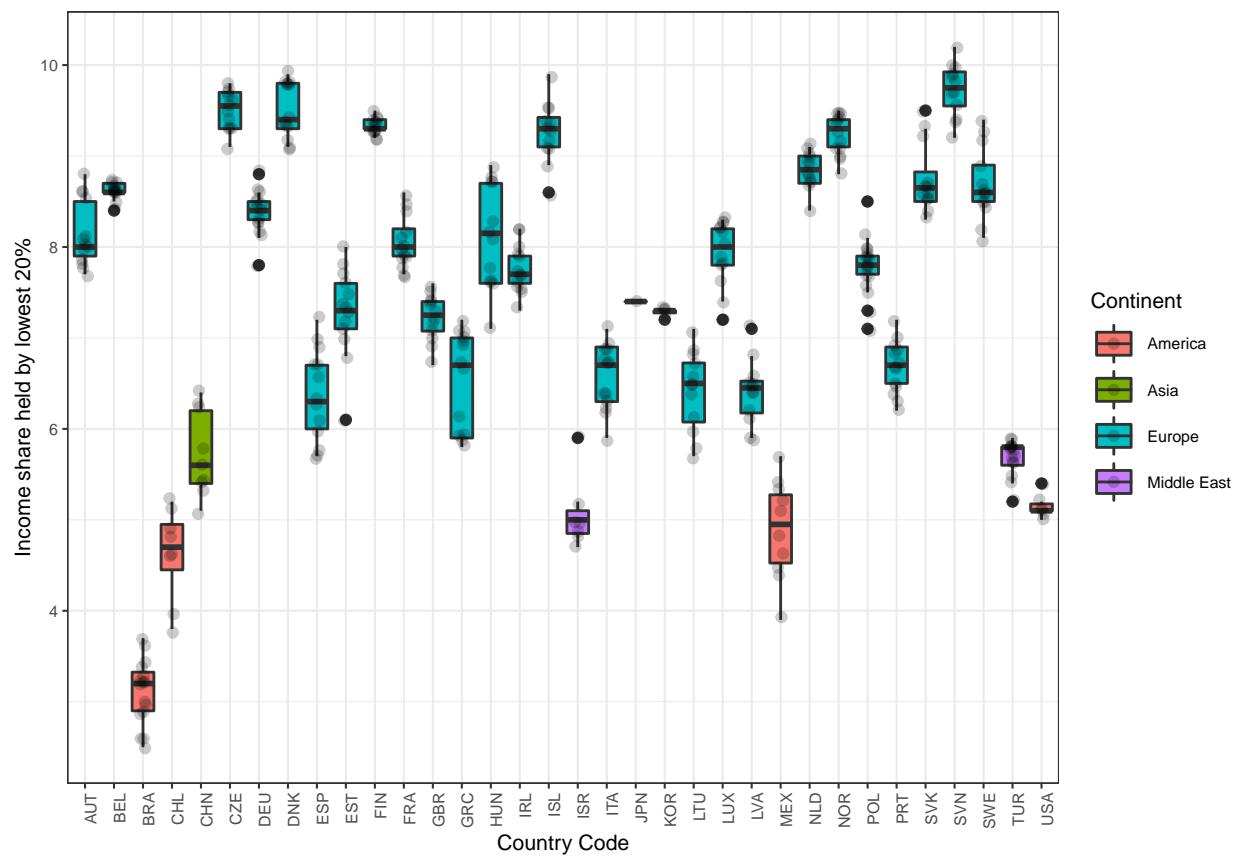


Figure 19: Income share held by lowest 20% boxplots: 2000 - 2017

Income share held by second 20%

Table 10: Income share held by second 20%

Country Name	Mean	SD
Austria	13	0.12
Belgium	14	0.21
Brazil	7	0.62
Chile	8.6	0.54
China	9.9	0.5
Czech Republic	15	0.1
Denmark	14	0.26
Estonia	13	0.41
Finland	14	0.12
France	13	0.24
Germany	13	0.19
Greece	12	0.28
Hungary	13	0.44
Iceland	14	0.45
Ireland	13	0.2
Israel	10	0.36
Italy	12	0.14
Japan	13	NA
Korea, Rep.	13	0.082
Latvia	12	0.48
Lithuania	12	0.39
Luxembourg	13	0.41
Mexico	9	0.6
Netherlands	14	0.22
Norway	14	0.36
Poland	12	0.32
Portugal	12	0.38
Slovak Republic	15	0.31
Slovenia	15	0.13
Spain	12	0.42
Sweden	14	0.19
Turkey	10	0.4
United Kingdom	12	0.16
United States	10	0.19

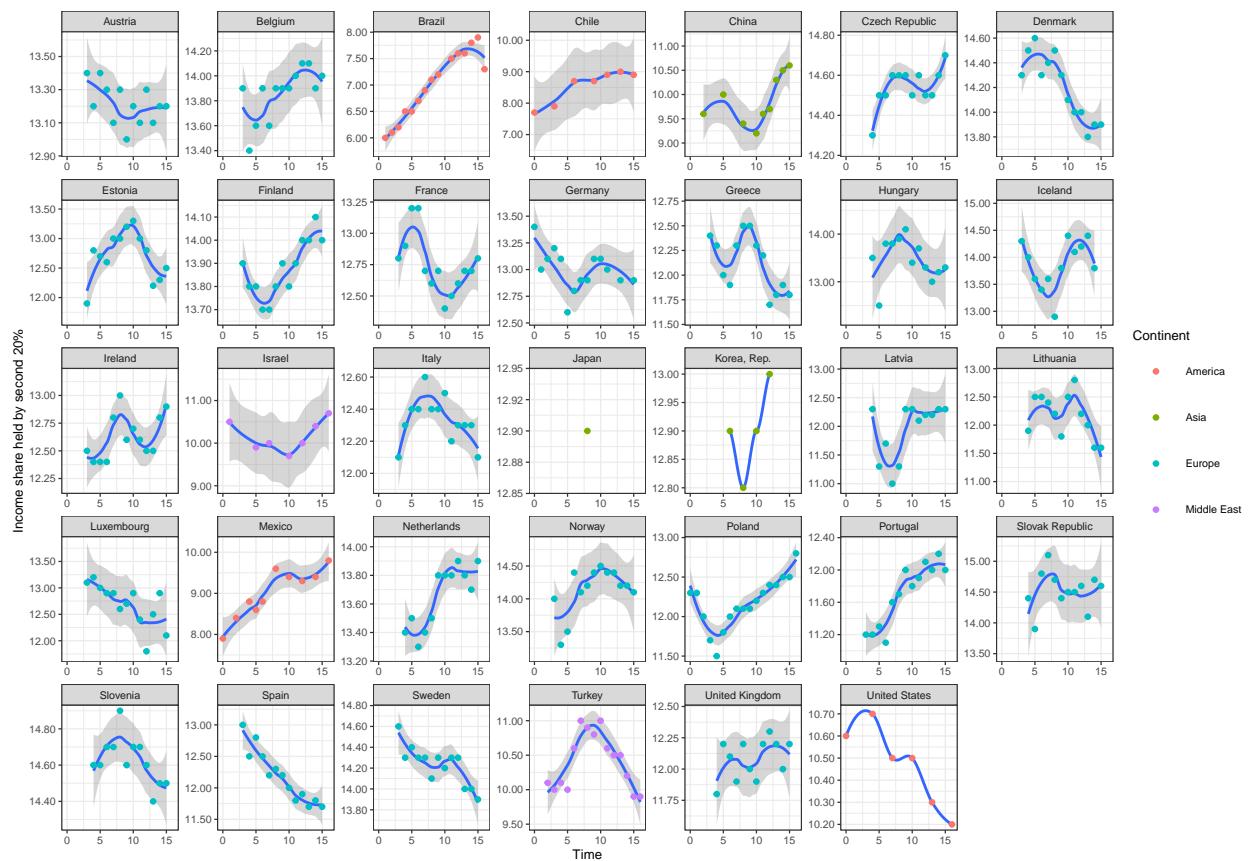


Figure 20: Income share held by second 20%

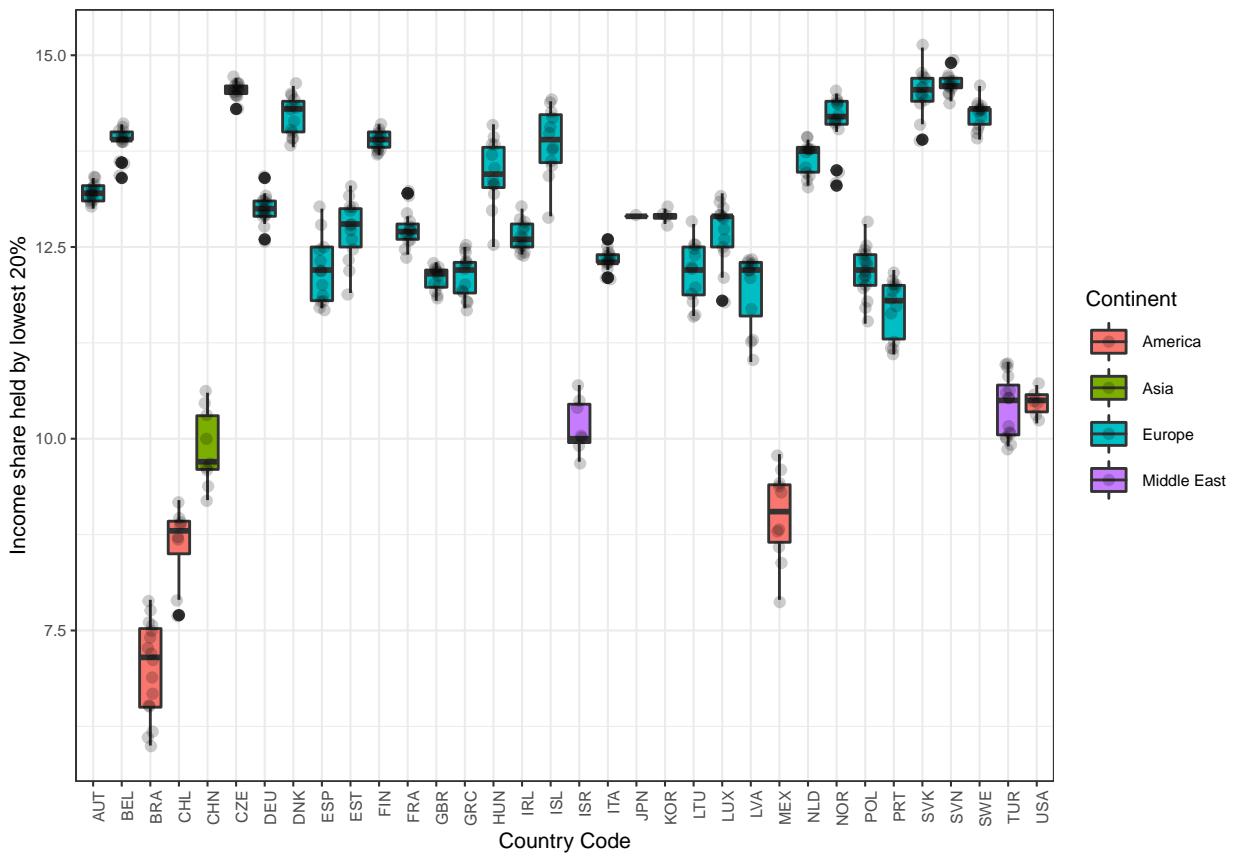
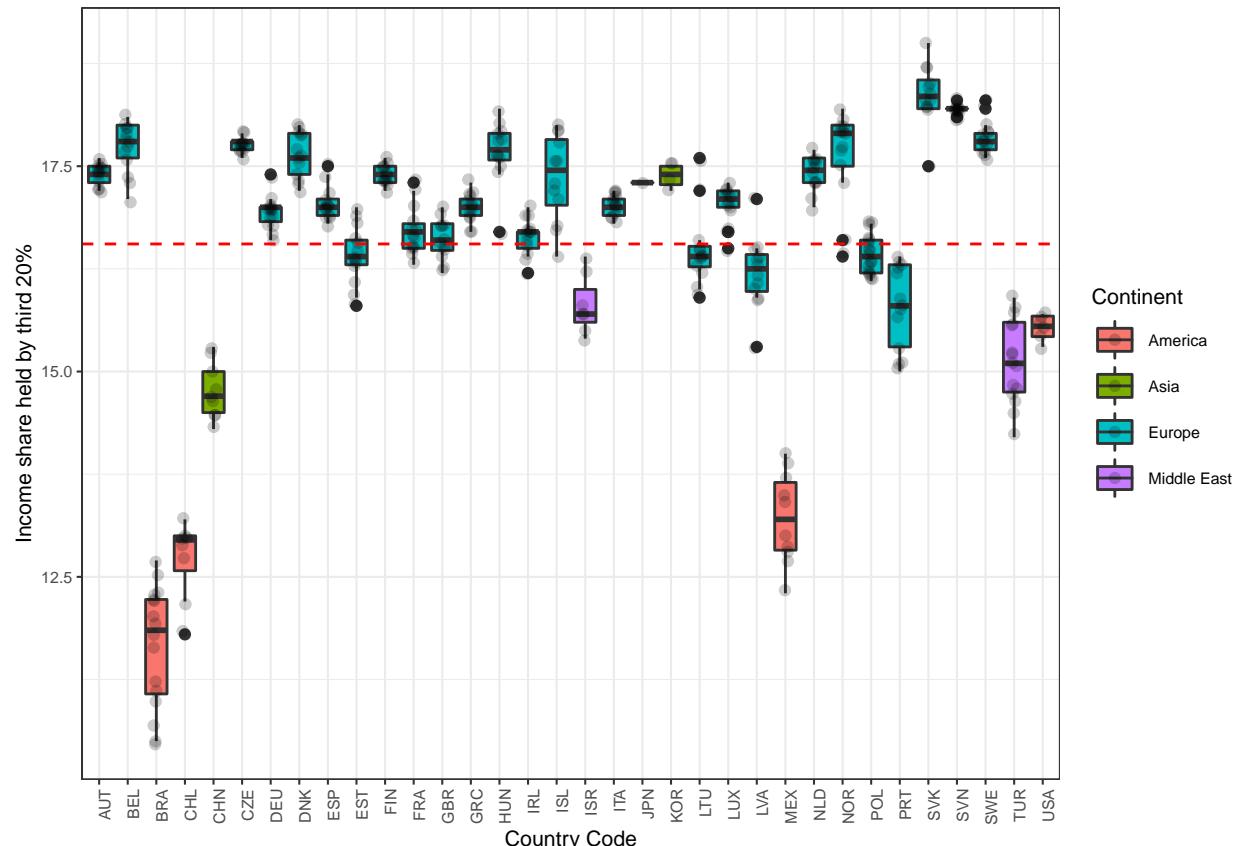
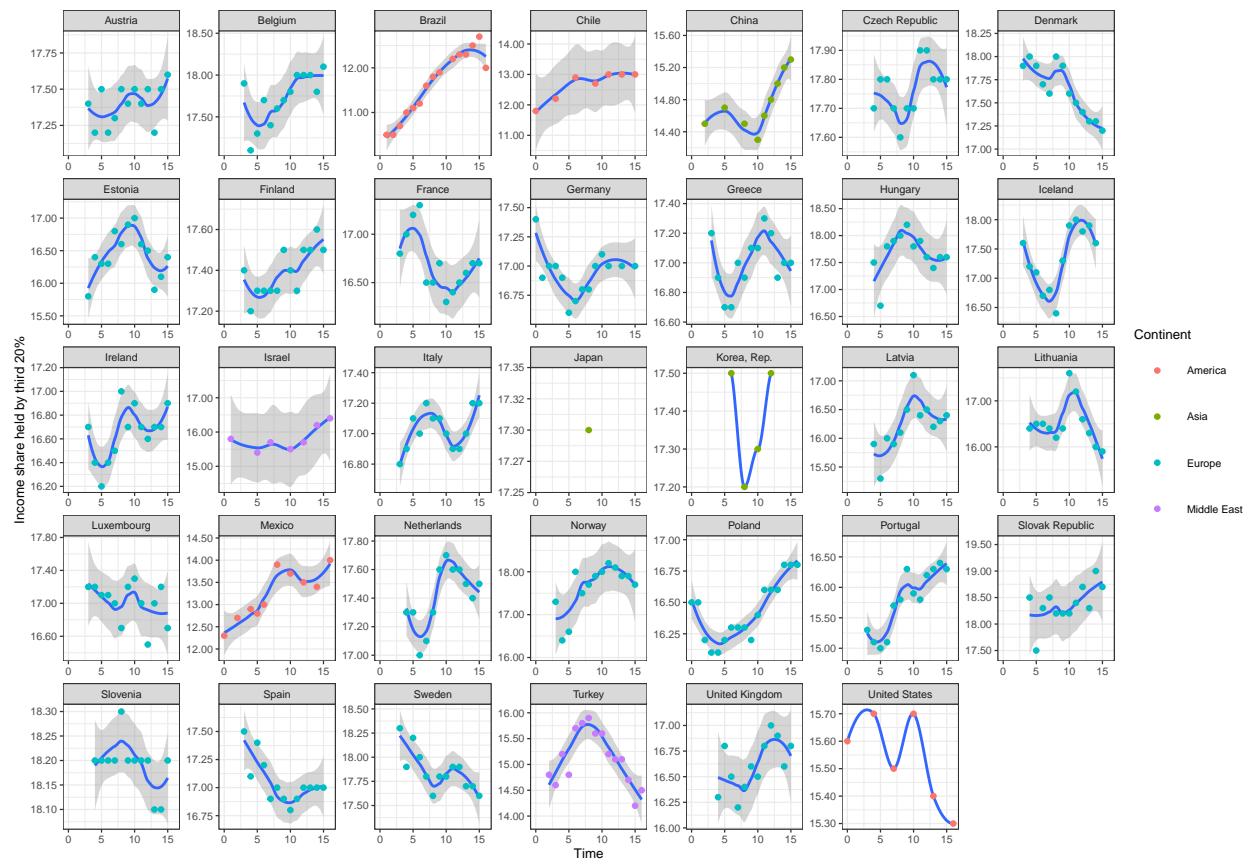


Figure 21: Income share held by second 20% boxplots: 2000 - 2017

Income share held by third 20%

Table 11: Income share held by third 20%

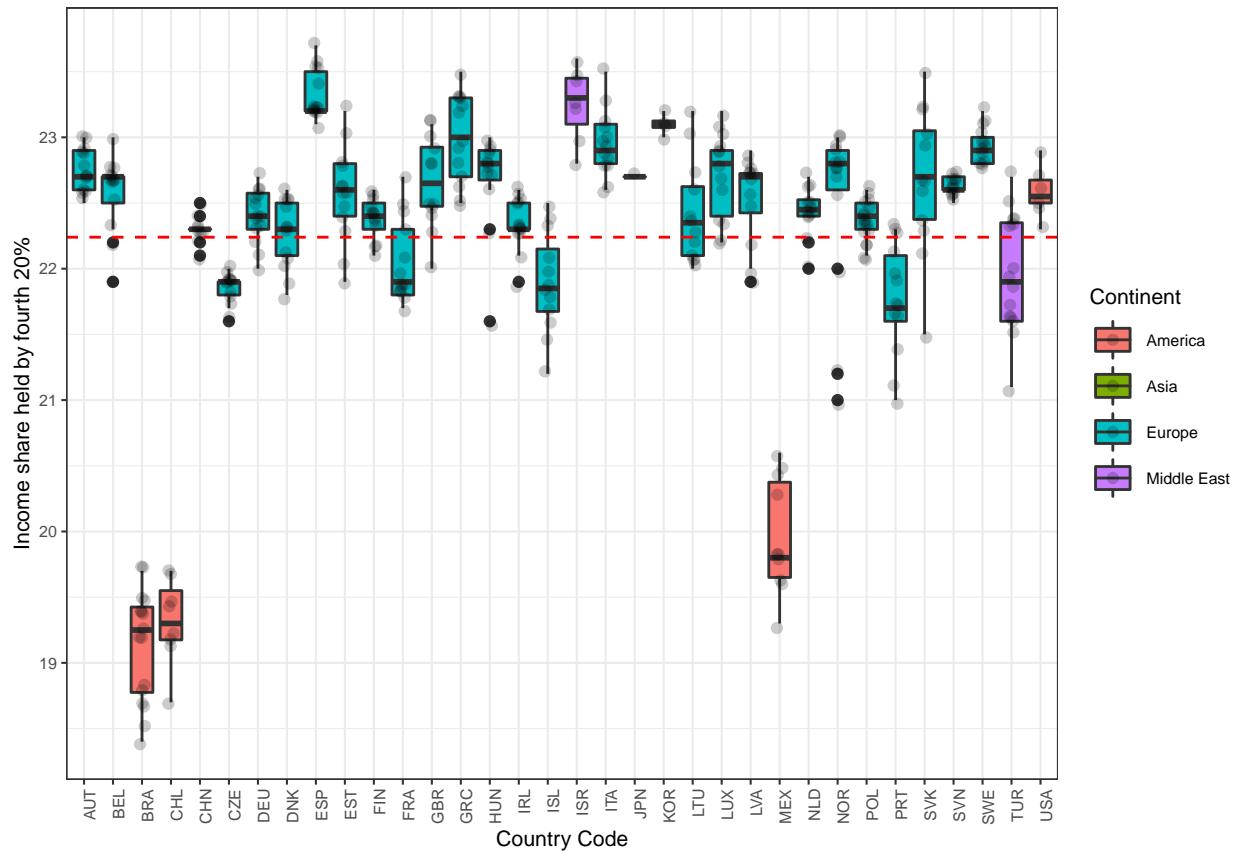
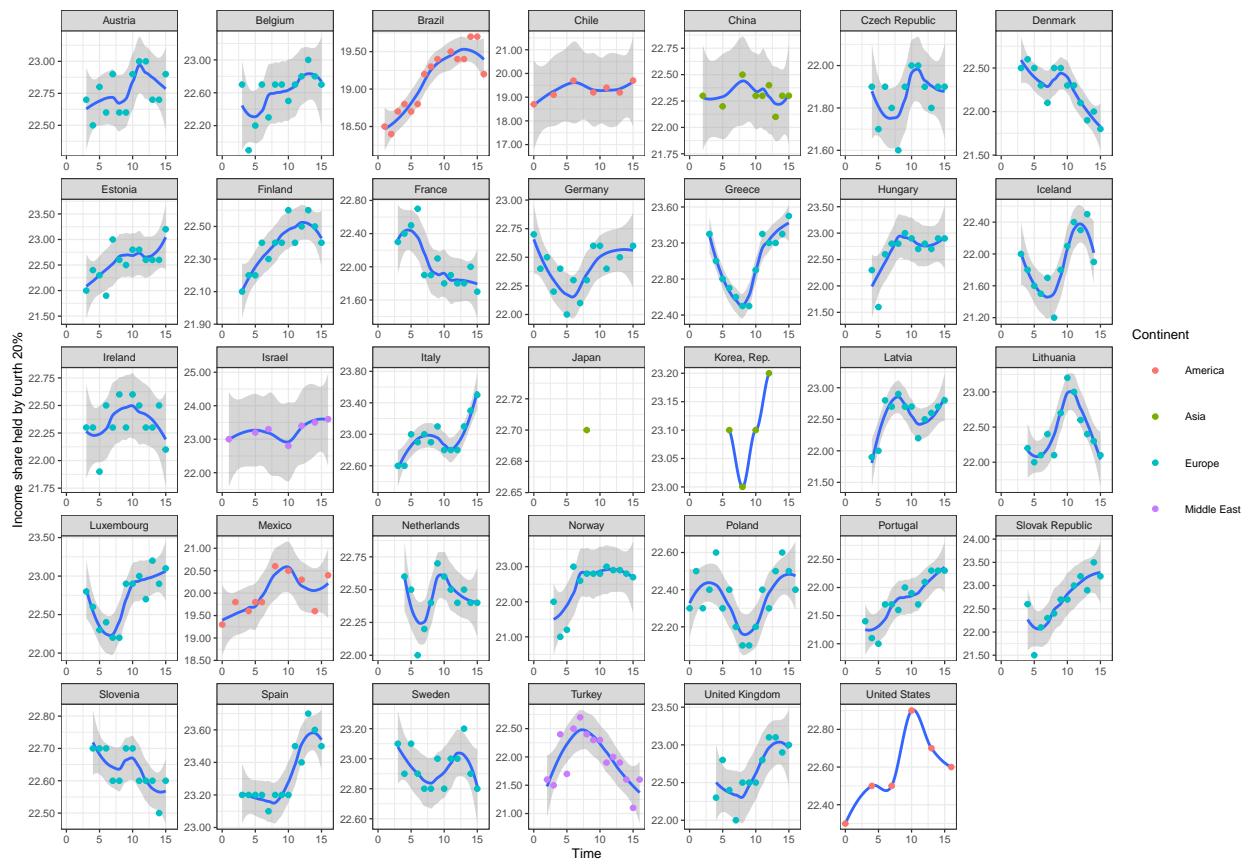
Country Name	Mean	SD
Austria	17	0.14
Belgium	18	0.3
Brazil	12	0.73
Chile	13	0.48
China	15	0.34
Czech Republic	18	0.089
Denmark	18	0.28
Estonia	16	0.36
Finland	17	0.12
France	17	0.3
Germany	17	0.19
Greece	17	0.18
Hungary	18	0.38
Iceland	17	0.53
Ireland	17	0.23
Israel	16	0.36
Italy	17	0.13
Japan	17	NA
Korea, Rep.	17	0.15
Latvia	16	0.44
Lithuania	16	0.47
Luxembourg	17	0.24
Mexico	13	0.56
Netherlands	17	0.22
Norway	18	0.56
Poland	16	0.24
Portugal	16	0.51
Slovak Republic	18	0.37
Slovenia	18	0.051
Spain	17	0.2
Sweden	18	0.21
Turkey	15	0.52
United Kingdom	17	0.25
United States	16	0.16



Income share held by fourth 20%

Table 12: Income share held by fourth 20%

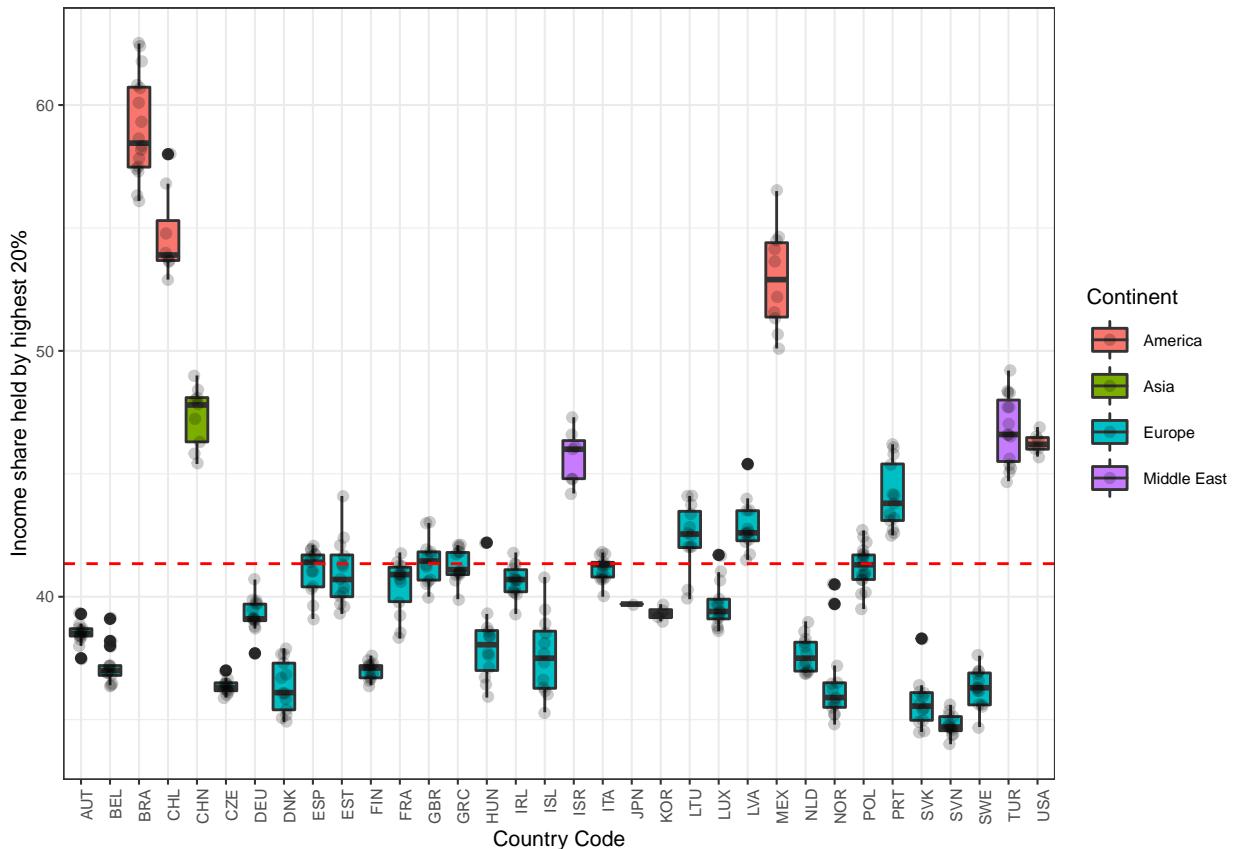
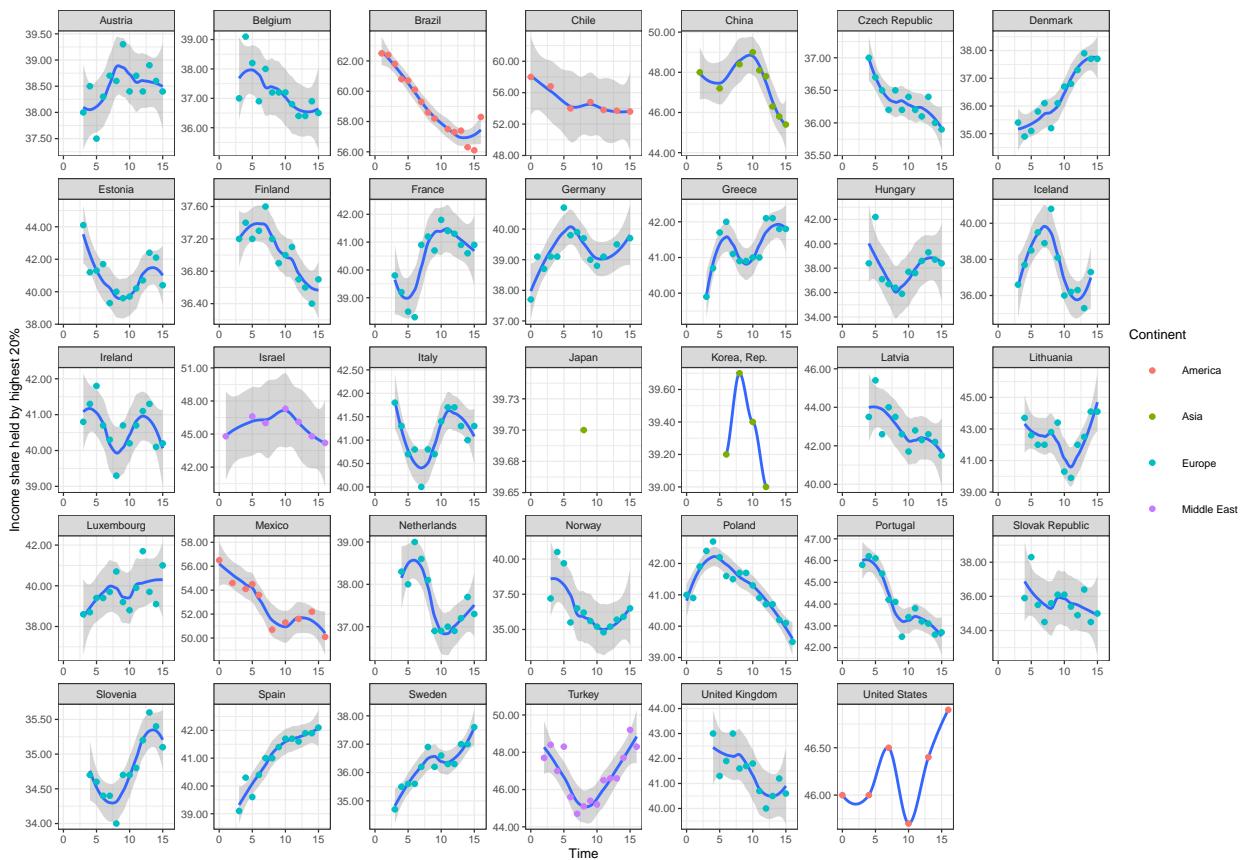
Country Name	Mean	SD
Austria	23	0.17
Belgium	23	0.3
Brazil	19	0.42
Chile	19	0.34
China	22	0.11
Czech Republic	22	0.12
Denmark	22	0.26
Estonia	23	0.36
Finland	22	0.15
France	22	0.32
Germany	22	0.2
Greece	23	0.34
Hungary	23	0.38
Iceland	22	0.38
Ireland	22	0.2
Israel	23	0.28
Italy	23	0.26
Japan	23	NA
Korea, Rep.	23	0.082
Latvia	23	0.33
Lithuania	22	0.38
Luxembourg	23	0.34
Mexico	20	0.44
Netherlands	22	0.19
Norway	22	0.67
Poland	22	0.15
Portugal	22	0.43
Slovak Republic	23	0.55
Slovenia	23	0.065
Spain	23	0.19
Sweden	23	0.13
Turkey	22	0.45
United Kingdom	23	0.34
United States	23	0.2



Income share held by highest 20%

Table 13: Income share held by highest 20%

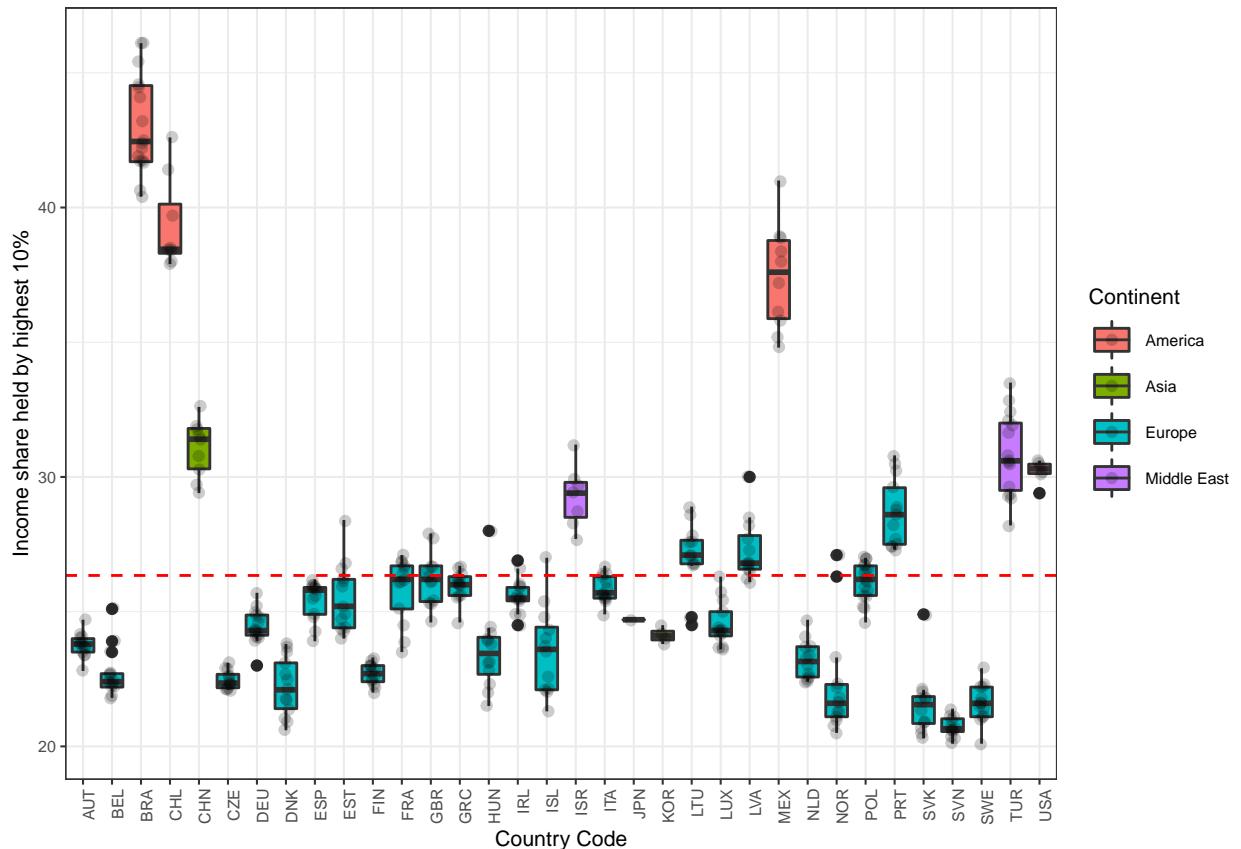
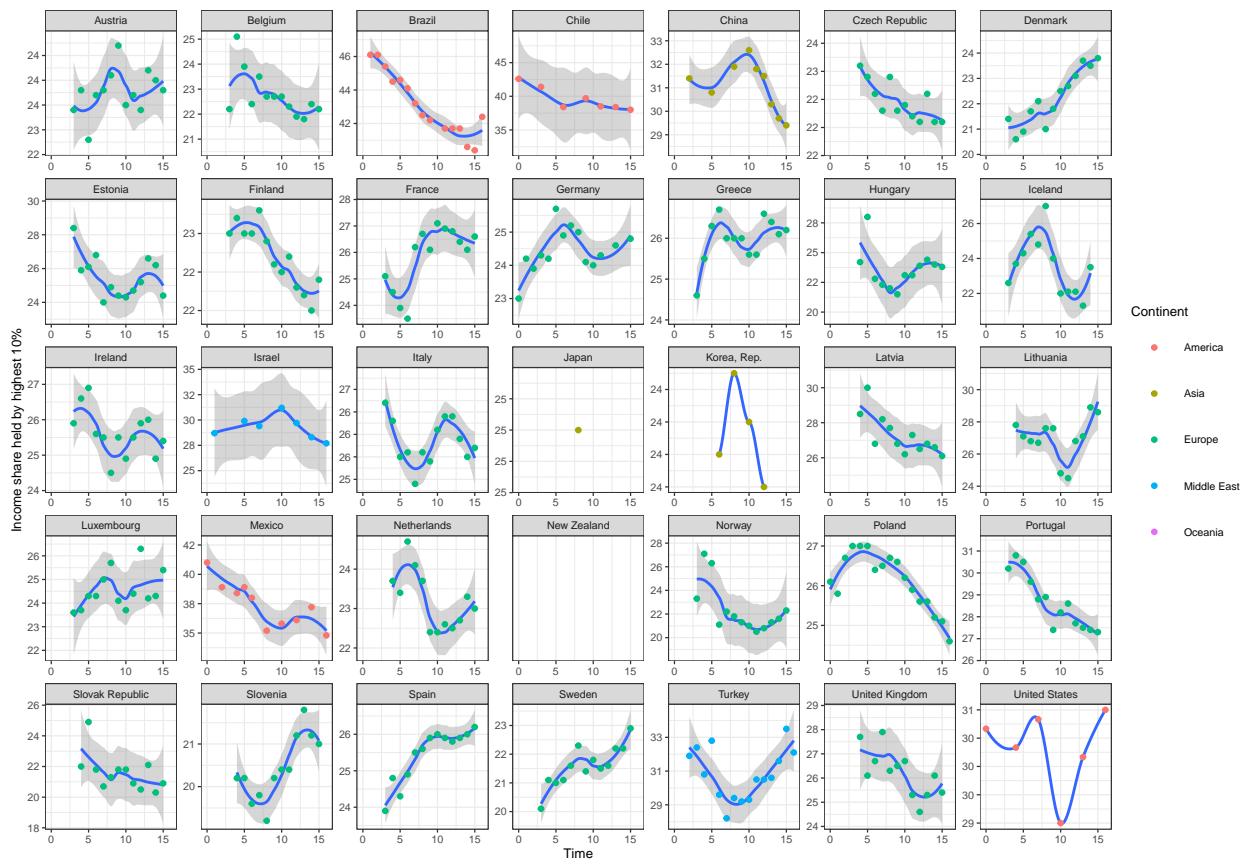
Country Name	Mean	SD
Austria	38	0.43
Belgium	37	0.79
Brazil	59	2.1
Chile	55	1.8
China	47	1.2
Czech Republic	36	0.31
Denmark	36	1.1
Estonia	41	1.4
Finland	37	0.35
France	40	1.1
Germany	39	0.7
Greece	41	0.66
Hungary	38	1.7
Iceland	38	1.6
Ireland	41	0.65
Israel	46	1.1
Italy	41	0.51
Japan	40	NA
Korea, Rep.	39	0.3
Latvia	43	1.1
Lithuania	42	1.3
Luxembourg	40	0.94
Mexico	53	2
Netherlands	38	0.73
Norway	36	1.7
Poland	41	0.86
Portugal	44	1.4
Slovak Republic	36	1
Slovenia	35	0.46
Spain	41	0.94
Sweden	36	0.78
Turkey	47	1.4
United Kingdom	41	0.93
United States	46	0.43



Income share held by highest 10%

Table 14: Income share held by highest 10%

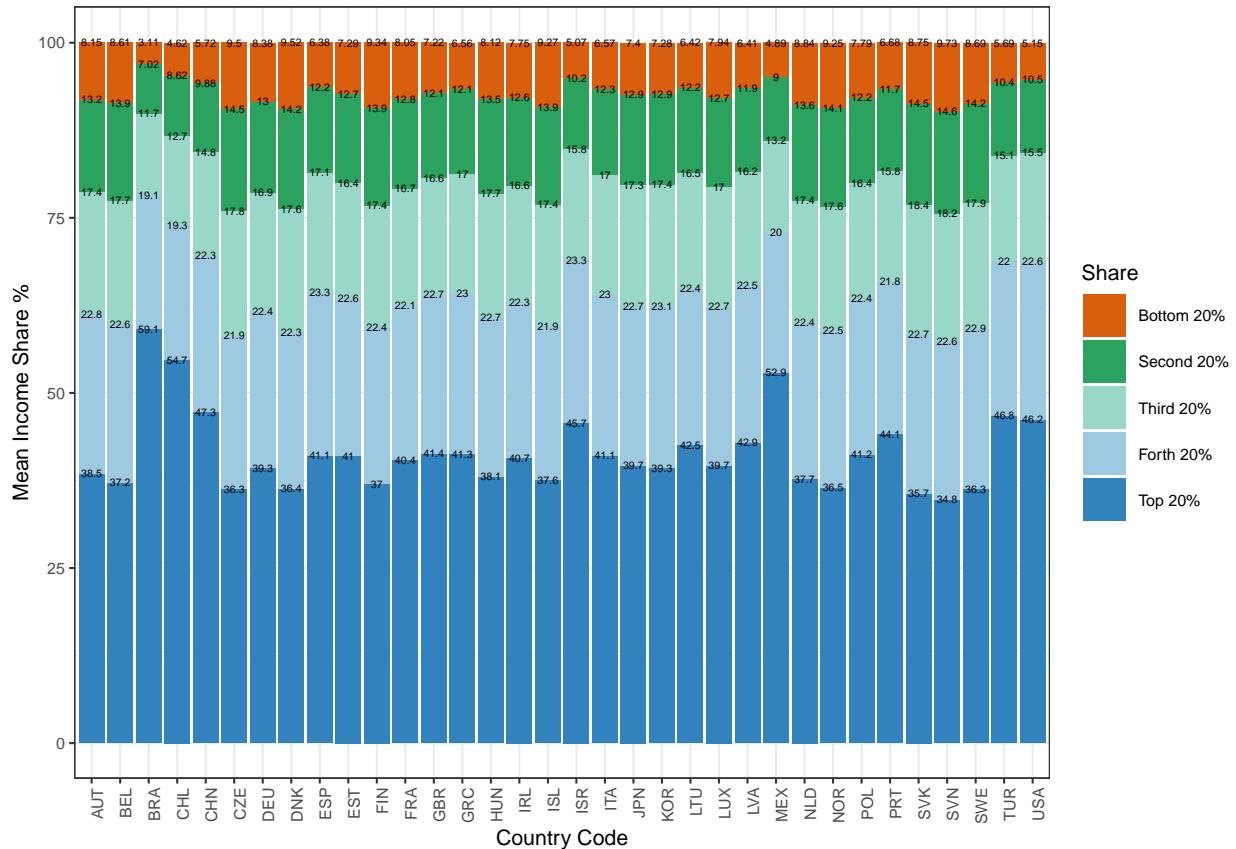
Country Name	Mean	SD
Austria	24	0.46
Belgium	23	0.92
Brazil	43	1.8
Chile	39	1.7
China	31	1.1
Czech Republic	22	0.35
Denmark	22	1.1
Estonia	26	1.3
Finland	23	0.4
France	26	1.2
Germany	24	0.66
Greece	26	0.55
Hungary	24	1.7
Iceland	24	1.7
Ireland	26	0.66
Israel	29	1.2
Italy	26	0.51
Japan	25	NA
Korea, Rep.	24	0.3
Latvia	27	1.1
Lithuania	27	1.3
Luxembourg	25	0.83
Mexico	37	2
Netherlands	23	0.74
Norway	22	2.1
Poland	26	0.72
Portugal	29	1.3
Slovak Republic	22	1.2
Slovenia	21	0.37
Spain	25	0.73
Sweden	22	0.71
Turkey	31	1.5
United Kingdom	26	0.98
United States	30	0.43



GDP & GNI per Capita estimations

Based on the **mean income share** from the period in this section I present the estimates for the **GDP per Capita** and the **GNI per Capita** for each of the **subgroups of population**.

Mean Income Share



Lowest 10%

Table 15: Per Capita estimations (Lowest 10%)

Country Name	GDP x Capita	GNI x Capita	Income share held	Pop (#)
Brazil	525	512	1.01%	19,337,835
Chile	1,046	989	1.66%	1,671,194
Mexico	847	831	1.83%	11,488,533
United States	4,249	4,275	1.73%	30,454,714
China	481	479	2.28%	132,657,611
Japan	6,048	6,174	2.70%	12,754,602
Korea, Rep.	2,747	2,747	2.62%	4,923,666
Austria	7,215	7,207	3.12%	834,856
Belgium	7,317	7,418	3.35%	1,079,022
Czech Republic	3,616	3,408	3.80%	1,038,138
Denmark	11,152	11,286	3.79%	551,939
Estonia	1,989	1,912	2.62%	134,302
Finland	8,732	8,782	3.85%	533,380
France	6,595	6,726	3.24%	6,432,375
Germany	7,044	7,133	3.36%	8,189,178
Greece	3,004	2,977	2.35%	1,095,408
Hungary	2,091	1,995	3.18%	1,000,920
Iceland	8,258	6,745	3.77%	31,121
Ireland	8,175	6,819	3.05%	437,875
Italy	3,982	3,976	2.22%	5,886,456
Latvia	1,297	1,293	2.24%	214,554
Lithuania	1,339	NaN	2.26%	316,641
Luxembourg	16,577	14,657	3.21%	50,232
Netherlands	8,798	8,827	3.52%	1,652,699
Norway	16,044	16,237	3.65%	483,709
Poland	1,893	1,968	3.20%	3,811,005
Portugal	2,707	2,644	2.45%	1,045,542
Slovak Republic	2,499	2,646	3.25%	539,442
Slovenia	4,452	4,576	3.93%	202,945
Spain	3,328	3,292	2.18%	4,479,271
Sweden	8,373	8,525	3.26%	932,468
United Kingdom	5,566	5,563	2.81%	6,216,037
Israel	2,832	2,777	1.87%	744,275
Turkey	1,182	1,168	2.14%	7,140,915

Lowest 20% (1st quintile)

Table 16: Per Capita estimations (Lowest 20%)

Country Name	GDP x Capita	GNI x Capita	Income share held	Pop (#)
Brazil	1,620	1,581	3.11%	19,337,835
Chile	2,910	2,752	4.62%	1,671,194
Mexico	2,264	2,219	4.89%	11,488,533
United States	12,625	12,700	5.15%	30,454,714
China	1,208	1,204	5.72%	132,657,611
Japan	16,576	16,921	7.40%	12,754,602
Korea, Rep.	7,612	7,614	7.28%	4,923,666
Austria	18,819	18,799	8.15%	834,856
Belgium	18,779	19,038	8.61%	1,079,022
Czech Republic	9,040	8,519	9.50%	1,038,138
Denmark	27,982	28,317	9.52%	551,939
Estonia	5,547	5,331	7.29%	134,302
Finland	21,201	21,323	9.34%	533,380
France	16,401	16,727	8.05%	6,432,375
Germany	17,543	17,765	8.38%	8,189,178
Greece	8,373	8,300	6.56%	1,095,408
Hungary	5,344	5,099	8.12%	1,000,920
Iceland	20,272	16,556	9.27%	31,121
Ireland	20,757	17,314	7.75%	437,875
Italy	11,808	11,790	6.57%	5,886,456
Latvia	3,709	3,697	6.41%	214,554
Lithuania	3,810	NaN	6.42%	316,641
Luxembourg	41,026	36,273	7.94%	50,232
Netherlands	22,067	22,139	8.84%	1,652,699
Norway	40,685	41,175	9.25%	483,709
Poland	4,610	4,794	7.79%	3,811,005
Portugal	7,366	7,194	6.68%	1,045,542
Slovak Republic	6,727	7,123	8.75%	539,442
Slovenia	11,018	11,323	9.73%	202,945
Spain	9,762	9,656	6.38%	4,479,271
Sweden	22,315	22,720	8.69%	932,468
United Kingdom	14,319	14,312	7.22%	6,216,037
Israel	7,674	7,526	5.07%	744,275
Turkey	3,140	3,104	5.69%	7,140,915

Second 20% (2nd quintile)

Table 17: Per Capita estimations (Second 20%)

Country Name	GDP x Capita	GNI x Capita	Income share held	Pop (#)
Brazil	3,660	3,573	7.02%	19,337,835
Chile	5,426	5,131	8.62%	1,671,194
Mexico	4,166	4,085	9.00%	11,488,533
United States	25,658	25,812	10.47%	30,454,714
China	2,086	2,078	9.88%	132,657,611
Japan	28,896	29,498	12.90%	12,754,602
Korea, Rep.	13,498	13,500	12.90%	4,923,666
Austria	30,530	30,498	13.22%	834,856
Belgium	30,240	30,658	13.86%	1,079,022
Czech Republic	13,838	13,040	14.54%	1,038,138
Denmark	41,757	42,259	14.20%	551,939
Estonia	9,671	9,295	12.72%	134,302
Finland	31,504	31,686	13.88%	533,380
France	25,972	26,489	12.75%	6,432,375
Germany	27,220	27,564	13.00%	8,189,178
Greece	15,469	15,334	12.12%	1,095,408
Hungary	8,861	8,455	13.46%	1,000,920
Iceland	30,354	24,790	13.88%	31,121
Ireland	33,792	28,187	12.62%	437,875
Italy	22,164	22,131	12.33%	5,886,456
Latvia	6,911	6,890	11.94%	214,554
Lithuania	7,215	NaN	12.17%	316,641
Luxembourg	65,594	57,995	12.69%	50,232
Netherlands	34,068	34,180	13.65%	1,652,699
Norway	62,178	62,927	14.13%	483,709
Poland	7,202	7,489	12.18%	3,811,005
Portugal	12,908	12,606	11.70%	1,045,542
Slovak Republic	11,167	11,824	14.52%	539,442
Slovenia	16,555	17,014	14.62%	202,945
Spain	18,630	18,428	12.18%	4,479,271
Sweden	36,534	37,197	14.23%	932,468
United Kingdom	23,948	23,936	12.08%	6,216,037
Israel	15,392	15,094	10.17%	744,275
Turkey	5,746	5,680	10.41%	7,140,915

Third 20% (3rd quintile)

Table 18: Per Capita estimations (Third 20%)

Country Name	GDP x Capita	GNI x Capita	Income share held	Pop (#)
Brazil	6,078	5,933	11.66%	19,337,835
Chile	8,006	7,571	12.72%	1,671,194
Mexico	6,119	6,000	13.22%	11,488,533
United States	38,079	38,307	15.53%	30,454,714
China	3,118	3,107	14.77%	132,657,611
Japan	38,752	39,559	17.30%	12,754,602
Korea, Rep.	18,181	18,183	17.37%	4,923,666
Austria	40,197	40,155	17.40%	834,856
Belgium	38,665	39,199	17.72%	1,079,022
Czech Republic	16,907	15,932	17.77%	1,038,138
Denmark	51,869	52,491	17.64%	551,939
Estonia	12,497	12,011	16.43%	134,302
Finland	39,485	39,714	17.39%	533,380
France	34,023	34,701	16.71%	6,432,375
Germany	35,475	35,924	16.94%	8,189,178
Greece	21,692	21,503	17.00%	1,095,408
Hungary	11,632	11,099	17.67%	1,000,920
Iceland	37,974	31,013	17.36%	31,121
Ireland	44,562	37,170	16.65%	437,875
Italy	30,612	30,566	17.03%	5,886,456
Latvia	9,385	9,356	16.22%	214,554
Lithuania	9,785	NaN	16.50%	316,641
Luxembourg	87,936	77,748	17.02%	50,232
Netherlands	43,448	43,590	17.41%	1,652,699
Norway	77,579	78,513	17.63%	483,709
Poland	9,718	10,105	16.43%	3,811,005
Portugal	17,414	17,007	15.78%	1,045,542
Slovak Republic	14,127	14,958	18.37%	539,442
Slovenia	20,592	21,164	18.19%	202,945
Spain	26,075	25,792	17.05%	4,479,271
Sweden	45,855	46,687	17.86%	932,468
United Kingdom	32,933	32,916	16.62%	6,216,037
Israel	23,930	23,468	15.81%	744,275
Turkey	8,348	8,252	15.12%	7,140,915

Fourth 20% (4th quintile)

Table 19: Per Capita estimations (Fourth 20%)

Country Name	GDP x Capita	GNI x Capita	Income share held	Pop (#)
Brazil	9,980	9,741	19.14%	19,337,835
Chile	12,150	11,490	19.31%	1,671,194
Mexico	9,244	9,064	19.97%	11,488,533
United States	55,361	55,693	22.58%	30,454,714
China	4,708	4,692	22.30%	132,657,611
Japan	50,848	51,908	22.70%	12,754,602
Korea, Rep.	24,171	24,175	23.10%	4,923,666
Austria	52,584	52,528	22.76%	834,856
Belgium	49,287	49,969	22.59%	1,079,022
Czech Republic	20,800	19,602	21.86%	1,038,138
Denmark	65,464	66,249	22.26%	551,939
Estonia	17,161	16,493	22.56%	134,302
Finland	50,819	51,113	22.38%	533,380
France	44,925	45,820	22.06%	6,432,375
Germany	46,901	47,495	22.40%	8,189,178
Greece	29,328	29,073	22.98%	1,095,408
Hungary	14,924	14,240	22.67%	1,000,920
Iceland	47,910	39,127	21.90%	31,121
Ireland	59,821	49,898	22.35%	437,875
Italy	41,258	41,197	22.95%	5,886,456
Latvia	13,045	13,005	22.54%	214,554
Lithuania	13,299	NaN	22.42%	316,641
Luxembourg	117,353	103,758	22.71%	50,232
Netherlands	55,989	56,173	22.43%	1,652,699
Norway	99,004	100,196	22.50%	483,709
Poland	13,225	13,751	22.36%	3,811,005
Portugal	24,025	23,463	21.78%	1,045,542
Slovak Republic	17,433	18,458	22.68%	539,442
Slovenia	25,620	26,331	22.63%	202,945
Spain	35,660	35,273	23.32%	4,479,271
Sweden	58,908	59,977	22.95%	932,468
United Kingdom	44,907	44,884	22.66%	6,216,037
Israel	35,193	34,514	23.26%	744,275
Turkey	12,128	11,989	21.97%	7,140,915

Highest 20% (5th quintile)

Table 20: Per Capita estimations (Fifth 20%)

Country Name	GDP x Capita	GNI x Capita	Income share held	Pop (#)
Brazil	30,803	30,066	59.1%	19,337,835
Chile	34,414	32,543	54.7%	1,671,194
Mexico	24,496	24,019	52.9%	11,488,533
United States	113,378	114,057	46.2%	30,454,714
China	9,994	9,959	47.3%	132,657,611
Japan	88,928	90,781	39.7%	12,754,602
Korea, Rep.	41,149	41,155	39.3%	4,923,666
Austria	88,907	88,814	38.5%	834,856
Belgium	81,189	82,311	37.2%	1,079,022
Czech Republic	34,582	32,590	36.3%	1,038,138
Denmark	106,927	108,210	36.4%	551,939
Estonia	31,167	29,955	41.0%	134,302
Finland	84,052	84,538	37.0%	533,380
France	82,316	83,956	40.4%	6,432,375
Germany	82,242	83,283	39.3%	8,189,178
Greece	52,709	52,250	41.3%	1,095,408
Hungary	25,075	23,926	38.1%	1,000,920
Iceland	82,257	67,178	37.6%	31,121
Ireland	108,830	90,779	40.7%	437,875
Italy	73,902	73,793	41.1%	5,886,456
Latvia	24,822	24,746	42.9%	214,554
Lithuania	25,174	NaN	42.5%	316,641
Luxembourg	205,090	181,331	39.7%	50,232
Netherlands	93,988	94,296	37.7%	1,652,699
Norway	160,607	162,540	36.5%	483,709
Poland	24,390	25,361	41.2%	3,811,005
Portugal	48,636	47,499	44.1%	1,045,542
Slovak Republic	27,435	29,047	35.7%	539,442
Slovenia	39,391	40,485	34.8%	202,945
Spain	62,769	62,089	41.1%	4,479,271
Sweden	93,111	94,801	36.3%	932,468
United Kingdom	82,134	82,092	41.4%	6,216,037
Israel	69,132	67,798	45.7%	744,275
Turkey	25,850	25,553	46.8%	7,140,915

Highest 10%

Table 21: Per Capita estimations (Highest 10%)

Country Name	GDP x Capita	GNI x Capita	Income share held	Pop (#)
Brazil	44,918	43,845	43.1%	19,337,835
Chile	49,529	46,837	39.4%	1,671,194
Mexico	34,652	33,977	37.4%	11,488,533
United States	148,065	148,952	30.2%	30,454,714
China	13,109	13,064	31.0%	132,657,611
Japan	110,656	112,962	24.7%	12,754,602
Korea, Rep.	50,487	50,495	24.1%	4,923,666
Austria	109,788	109,672	23.8%	834,856
Belgium	99,280	100,652	22.8%	1,079,022
Czech Republic	42,758	40,294	22.5%	1,038,138
Denmark	130,656	132,224	22.2%	551,939
Estonia	38,838	37,327	25.5%	134,302
Finland	103,070	103,666	22.7%	533,380
France	105,233	107,330	25.8%	6,432,375
Germany	102,358	103,653	24.4%	8,189,178
Greece	66,274	65,697	26.0%	1,095,408
Hungary	31,067	29,643	23.6%	1,000,920
Iceland	103,112	84,210	23.6%	31,121
Ireland	137,186	114,431	25.6%	437,875
Italy	92,913	92,776	25.8%	5,886,456
Latvia	31,589	31,491	27.3%	214,554
Lithuania	32,053	NaN	27.0%	316,641
Luxembourg	253,630	224,247	24.5%	50,232
Netherlands	115,847	116,227	23.2%	1,652,699
Norway	196,722	199,091	22.4%	483,709
Poland	30,896	32,127	26.1%	3,811,005
Portugal	63,293	61,812	28.7%	1,045,542
Slovak Republic	33,188	35,138	21.6%	539,442
Slovenia	46,900	48,202	20.7%	202,945
Spain	77,788	76,945	25.4%	4,479,271
Sweden	110,904	112,917	21.6%	932,468
United Kingdom	103,919	103,865	26.2%	6,216,037
Israel	88,588	86,878	29.3%	744,275
Turkey	34,040	33,649	30.8%	7,140,915

GDP and Population

In this section I simulate scenarios based on the **GDP annual growth rate**, current **GDP** level, **Population** and **Population growth**. The main idea on this part of the text is to see how much time would it take for less develop countries at the *current rates* to get to a level of the development - measure by the **GDP per capita** - similar to the more develop ones. From that based scenario I will perform simulations based on different GDP **GDP annual growth rates** and see how the dinamycs behaive.

First let's have a summary of what we just saw in the prior sections. In Table 22 I report the averages for the current century.

Table 22: Summary of Indicators 2000 - 2017

Country Name	GDP per capita	GDP '000 M	Pop (#)
Brazil	10,377	2,017	193,378,349
Chile	12,486	210	16,711,945
Mexico	9,235	1,064	114,885,325
United States	48,933	14,931	304,547,144
China	4,174	5,602	1,326,576,111
Japan	44,802	5,714	127,546,017
Korea, Rep.	20,835	1,030	49,236,661
Austria	46,150	386	8,348,563
Belgium	43,577	471	10,790,215
Czech Republic	19,004	198	10,381,383
Denmark	58,782	325	5,519,388
Estonia	15,259	20	1,343,018
Finland	45,378	242	5,333,805
France	40,695	2,620	64,323,747
Germany	41,889	3,429	81,891,776
Greece	25,502	280	10,954,080
Hungary	13,184	132	10,009,199
Iceland	43,528	14	311,214
Ireland	53,111	234	4,378,747
Italy	35,973	2,116	58,864,560
Latvia	11,716	25	2,145,543
Lithuania	12,052	38	3,166,409
Luxembourg	103,053	52	502,324
Netherlands	49,874	825	16,526,986
Norway	87,899	426	4,837,087
Poland	11,835	451	38,110,054
Portugal	22,064	231	10,455,424
Slovak Republic	15,367	83	5,394,419
Slovenia	22,618	46	2,029,455
Spain	30,556	1,370	44,792,714
Sweden	51,223	479	9,324,682
United Kingdom	39,581	2,464	62,160,366
Israel	30,015	225	7,442,750
Turkey	10,884	789	71,409,152
New Zealand	33,788	145	4,282,417

Theoretically there exists two sides of the inequality issue, eventhough they are not disassociated they can be exposed as: 1) **Redistribute** more the current resources 2) **Grew the economy** at the current inequallity ratios

For example, as a simplistic approach lets make the following exercise. What would happen if at the current **inequality ratios** Mexico, my country, had the **GDP per capita** of his northern neighbour, United States.

What will need to be Mexico's **Gross Domestic Product**?

Table 23: GDP Estimations for Mexico. GDP Actual: 1.1 BN USD (2011), Population: 129 at 2017

Country Name	GDP Estimated '000 M	GDP per capita (aim)	Ratio Est/Act
Brazil	1,340	10,377	1.3
Chile	1,613	12,486	1.5
United States	6,320	48,933	5.9
China	539	4,174	0.51
Japan	5,787	44,802	5.4
Korea, Rep.	2,691	20,835	2.5
Austria	5,961	46,150	5.6
Belgium	5,629	43,577	5.3
Czech Republic	2,455	19,004	2.3
Denmark	7,592	58,782	7.1
Estonia	1,971	15,259	1.9
Finland	5,861	45,378	5.5
France	5,256	40,695	4.9
Germany	5,411	41,889	5.1
Greece	3,294	25,502	3.1
Hungary	1,703	13,184	1.6
Iceland	5,622	43,528	5.3
Ireland	6,860	53,111	6.4
Italy	4,646	35,973	4.4
Latvia	1,513	11,716	1.4
Lithuania	1,557	12,052	1.5
Luxembourg	13,311	103,053	13
Netherlands	6,442	49,874	6.1
Norway	11,353	87,899	11
Poland	1,529	11,835	1.4
Portugal	2,850	22,064	2.7
Slovak Republic	1,985	15,367	1.9
Slovenia	2,921	22,618	2.7
Spain	3,947	30,556	3.7
Sweden	6,616	51,223	6.2
United Kingdom	5,112	39,581	4.8
Israel	3,877	30,015	3.6
Turkey	1,406	10,884	1.3
New Zealand	4,364	33,788	4.1

Table 23 shows the **GDP estimations** that results from the multiplication of the **GDP per capita** of the different countries times the **current population** of the country. In fourth column it's possible to see the number of times the current **GDP** must grow to accomplish that level.

How much time does it is expected to lapse before it happen?

To address this question I first construct non-stochastics models that captures the averages of the period. In a second part I propose a stochastic model for the growth rates. Where instead of a constant growth rate in each iteration I propose the realization of a normal distribution function with the mean and standard deviation of the period for each variable.

Both sections are based on a *first order autonomos and homogenous differential equation system*. Before starting simulations let's review the maths involved in it.

$$[\text{GDP growth}] \Rightarrow G\dot{D}P = \alpha \times GDP$$

$$\text{where } \alpha = \sum_{t=T_0}^{T_f} \frac{GDPgrowth_t}{T}, T = T_f - T_0$$

and

$$[\text{Population growth}] \Rightarrow P\dot{op} = \beta \times Pop$$

$$\text{where } \beta = \sum_{t=T_0}^{T_f} \frac{Popgrowth_t}{T}, T = T_f - T_0$$

Both Population and GDP growth at a **constant rate**. And it can be easily calculated in the following manner:

$$G\dot{D}P = \alpha GDP \leftrightarrow \frac{G\dot{D}P}{GDP} = \alpha \leftrightarrow \int \frac{G\dot{D}P}{GDP} dt = \int \alpha dt \leftrightarrow \ln GDP = \alpha t + k \leftrightarrow GDP = Ke^{\alpha t}$$

finally as we know the last value of the series ($t=0 \equiv t = 20017$) we can find the value for K

$$\begin{aligned} GDP(0) &= GDP_{2017} \rightarrow Ke^{\alpha 0} = K = GDP_{2017} \\ \Rightarrow GDP(t) &= GDP_{2017}e^{\alpha t}, \quad t \in [1, 17] \end{aligned} \tag{1}$$

Similarly for population

$$\dot{Pop} = \beta Pop \leftrightarrow \frac{\dot{Pop}}{Pop} = \beta \leftrightarrow \int \frac{\dot{Pop}}{Pop} dt = \int \beta dt \leftrightarrow \ln Pop = \beta t + k \leftrightarrow Pop = Ke^{\beta t}$$

as we also know the last value of the series ($t=0 \equiv t = 20017$) we can find the value for K

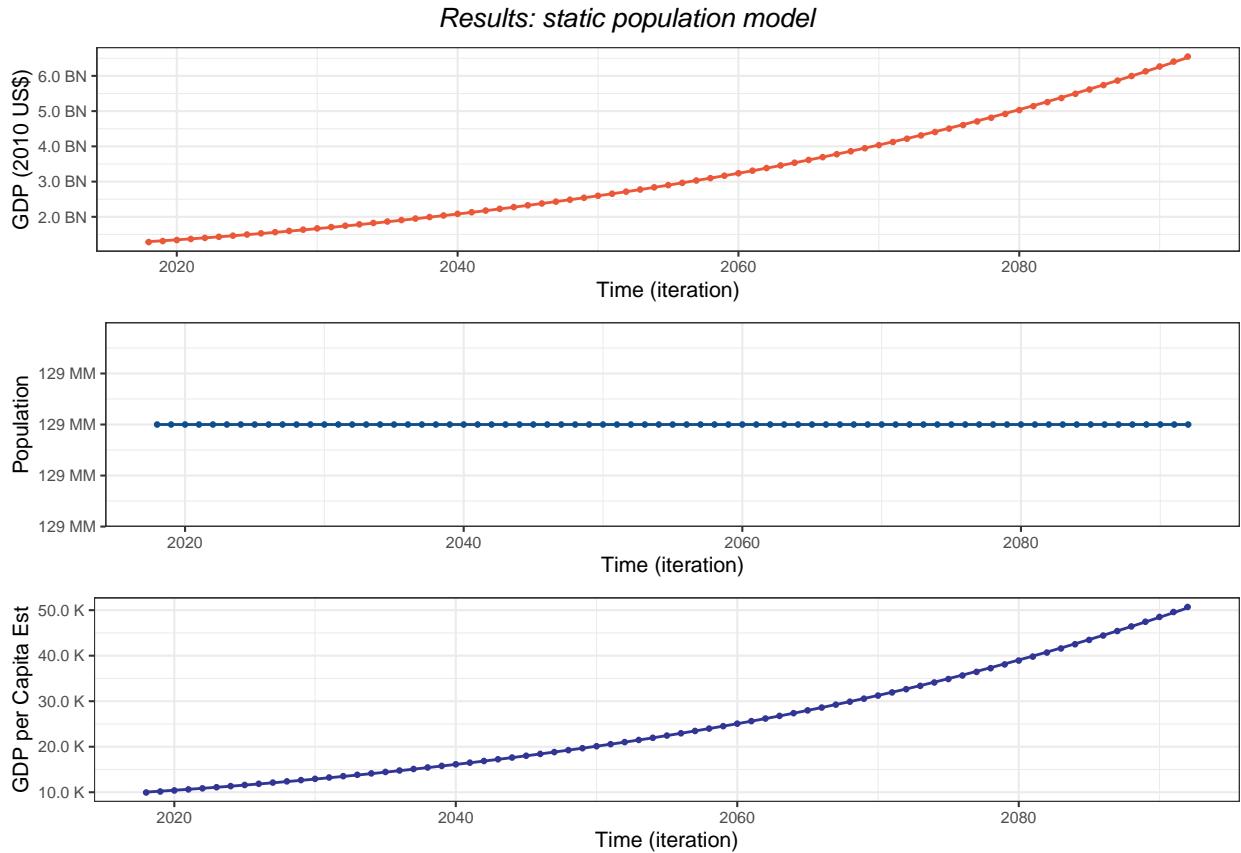
$$\begin{aligned} Pop(0) &= Pop_{2017} \rightarrow Ke^{\beta 0} = K = Pop_{2017} \\ \Rightarrow Pop(t) &= Pop_{2017}e^{\beta t}, \quad t \in [1, 17] \end{aligned} \tag{2}$$

Equations (1) and (2) describe the dynamics that GDP and Population will follow in the simulations. During the non-stochastic implementation of the models the variables follow a constant growth rate. In the stochastic section the growth rates α and β are modeled by normal distributions using period's mean and standard deviation for each of the two variables.

Non-stochastic models

Static Population Model

Results of static population model



The results of this model captures the **average GDP growth rate** of this century. It is based on a static population (**population growth rate** = 0). Under this circumstances the followings yields:

Table 24: Static population model for Mexico. Starting year: 2017,
GDP Actual: 1.1 BN

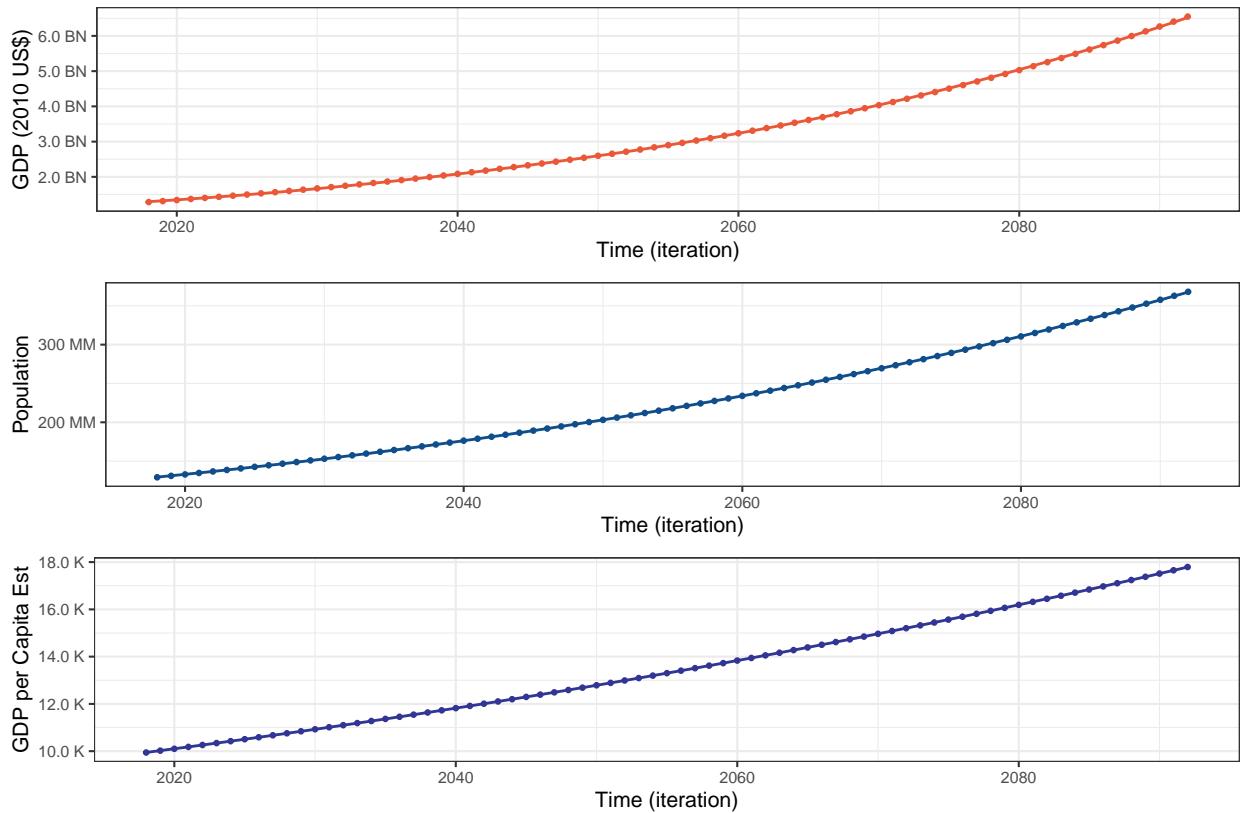
CAGR (GDP)	CAGR (Pop)	Years (#)	GDP BN	GDP x Cap	GDP x Cap Grw	Pop MM
0.022	0	73	6.32	48,933	392%	129

In this first version of the model I aim simulate a **no population growth** [$\beta \equiv \text{CAGR of (Population)} = 0$] scenario where at the current **average GDP growth rate** [$\alpha \equiv \text{CAGR of (GDP)}$] and the number of iterations (or Years) as stated in Table 24 columns 1 and 2 means that if the country continues for the number of years (in column 3) **having each year** those results it will end up with the figures in the rest of the columns (approximately US current GDP per capita).

Dynamic Population Second Model

Results of dynamic population model

Results: dynamic population model



The results of this model captures the **average GDP growth rate (α)** of this century. It's based on a growing population at current **average population growth rate (β)**.

Under this circumstances the followings yields:

Table 25: Dynamic population model for Mexico. Starting year:
2017 GDP Actual: 1.1 BN

CAGR (GDP)	CAGR (Pop)	Years (#)	GDP BN (Est.)	GDP x Cap	GDP x Cap Grw	Pop MM
0.022	0.014	73	6.32	17,793	79.0%	368

In this versions of the model I aim to simulate a baseline scenario at the current **average population growth rate** [$\alpha = \text{CAGR of (GDP)}$] and **average GDP growth rate** [$\beta = \text{CAGR of (Population)}$] with the number of iterations (or Years) as stated in Table 25 columns 1 and 2 means that if the country continues for the number of years (in column 3) **having each year** those results it will end up with the figures in the rest of the columns.

In the following section I will run simulations based on a **stochastic model** for both **population** and **GDP growth rates**.

Stochastic models

Dynamic Stochastic growth on population and GDP

In this part of the study I use a dynamic system where α and β behaives as follow:

$$\alpha \sim N(\mu_{GDP}, \sigma_{GDP})$$

$$\beta \sim N(\mu_{Pop}, \sigma_{Pop})$$

This means that in each iteration/year the growth rate will be the realization of the propose distribution for each random variable.

Results of Simulation

Table 26 shows the results of a hundred runs of the model.

Table 26: Stochastic simulations to the dynamic population model for Mexico. GDP Actual: 1.1 BN on the year 2017

Scenario	time	GDP BN	Pop MM	GDP x cap	GDP x Cap Growth
Simulation 9123	2092	3.64	289	12,609	27%
Simulation 3906	2092	2.13	253	8,436	-15%
Simulation 562	2092	2.98	271	10,963	10%
Simulation 5035	2092	3.27	251	13,001	31%
Simulation 1751	2092	3.88	231	16,824	69%
Simulation 363	2092	11.5	259	44,625	349%
Simulation 7129	2092	4.78	275	17,407	75%
Simulation 5057	2092	2.52	271	9,301	-6%
Simulation 8721	2092	1.78	267	6,666	-33%
Simulation 5561	2092	6.57	151	43,582	338%
Simulation 1882	2092	3.17	292	10,848	9%
Simulation 2390	2092	4.15	261	15,891	60%
Simulation 9718	2092	3.66	553	6,617	-33%
Simulation 5091	2092	3.79	277	13,702	38%
Simulation 729	2092	11.1	295	37,452	277%
Simulation 9758	2092	4.54	269	16,873	70%
Simulation 1056	2092	3.05	274	11,126	12%
Simulation 9309	2092	5.65	331	17,064	72%
Simulation 8984	2092	5.38	257	20,959	111%
Simulation 2259	2092	4.79	278	17,256	74%
Simulation 1122	2092	3.77	234	16,143	62%
Simulation 8798	2092	6.03	237	25,496	156%
Simulation 4586	2092	2.84	259	10,966	10%
Simulation 9083	2092	1.77	265	6,675	-33%
Simulation 4697	2092	5.24	266	19,696	98%
Simulation 6796	2092	4.24	267	15,848	59%
Simulation 2802	2092	3.69	303	12,154	22%
Simulation 8344	2092	2.34	265	8,852	-11%
Simulation 9360	2092	4.15	305	13,590	37%
Simulation 4710	2092	10.2	205	49,746	400%
Simulation 4185	2092	7.59	306	24,806	149%
Simulation 1954	2092	6.53	257	25,403	155%

Scenario	time	GDP BN	Pop MM	GDP x cap	GDP x Cap Growth
Simulation 1387	2092	6.13	266	23,058	132%
Simulation 8299	2092	1.54	262	5,892	-41%
Simulation 9725	2092	6.99	256	27,341	175%
Simulation 5327	2092	5.61	281	19,968	101%
Simulation 4972	2092	3.3	256	12,898	30%
Simulation 9978	2092	6.73	249	27,091	172%
Simulation 8773	2092	4.56	283	16,095	62%
Simulation 5479	2092	6.53	247	26,452	166%
Simulation 1094	2092	2.33	245	9,486	-5%
Simulation 1716	2092	3.91	199	19,660	98%
Simulation 1893	2092	4.89	373	13,113	32%
Simulation 5294	2092	5.28	286	18,449	86%
Simulation 7436	2092	6.39	303	21,097	112%
Simulation 2067	2092	6.9	268	25,722	159%
Simulation 9076	2092	4.11	305	13,470	35%
Simulation 2143	2092	1.47	288	5,106	-49%
Simulation 9621	2092	0.709	142	4,980	-50%
Simulation 8870	2092	8.98	263	34,125	243%
Simulation 6017	2092	4.14	283	14,652	47%
Simulation 2130	2092	4.33	258	16,819	69%
Simulation 6364	2092	3.1	268	11,586	17%
Simulation 9117	2092	3.96	277	14,315	44%
Simulation 4691	2092	5.5	289	19,059	92%
Simulation 3953	2092	2.88	125	22,954	131%
Simulation 9961	2092	2.63	247	10,645	7%
Simulation 2046	2092	8.77	249	35,238	254%
Simulation 3291	2092	9.73	274	35,556	258%
Simulation 4628	2092	4.52	264	17,106	72%
Simulation 7267	2092	7.42	286	25,922	161%
Simulation 5318	2092	4.56	234	19,506	96%
Simulation 4316	2092	9.09	281	32,304	225%
Simulation 4911	2092	3.46	191	18,091	82%
Simulation 4140	2092	5.87	293	20,047	102%
Simulation 5878	2092	2.08	261	7,986	-20%
Simulation 3330	2092	3.53	159	22,271	124%
Simulation 4331	2092	4.54	245	18,499	86%
Simulation 9586	2092	5.03	274	18,339	84%
Simulation 1673	2092	7.75	225	34,357	246%
Simulation 1859	2092	4.81	286	16,809	69%
Simulation 3091	2092	4.11	246	16,704	68%
Simulation 1579	2092	3.93	264	14,849	49%
Simulation 1942	2092	4.51	253	17,818	79%
Simulation 5873	2092	2.56	271	9,435	-5%
Simulation 2357	2092	1.31	241	5,411	-46%
Simulation 4561	2092	6.09	239	25,448	156%
Simulation 259	2092	3.66	262	13,965	40%
Simulation 6473	2092	3.07	273	11,251	13%
Simulation 3389	2092	3.05	255	11,957	20%
Simulation 6316	2092	4.42	267	16,586	67%
Simulation 7099	2092	5.01	255	19,648	98%
Simulation 2631	2092	6.51	267	24,422	146%
Simulation 5379	2092	2.41	252	9,560	-4%

Scenario	time	GDP BN	Pop MM	GDP x cap	GDP x Cap Growth
Simulation 834	2092	4.34	345	12,602	27%
Simulation 1838	2092	6.13	275	22,265	124%
Simulation 6427	2092	4.09	273	14,954	50%
Simulation 4487	2092	4.37	274	15,966	61%
Simulation 8816	2092	5.32	276	19,274	94%
Simulation 4158	2092	1.51	255	5,929	-40%
Simulation 3726	2092	1.82	273	6,663	-33%
Simulation 2409	2092	1.85	269	6,867	-31%
Simulation 2171	2092	3.56	281	12,655	27%
Simulation 1545	2092	4.24	255	16,596	67%
Simulation 8018	2092	4.54	260	17,420	75%
Simulation 855	2092	2.3	283	8,129	-18%
Simulation 6087	2092	3.55	225	15,759	59%
Simulation 4852	2092	1.87	263	7,116	-28%
Simulation 1308	2092	101	1,191	84,981	755%
Simulation 8796	2092	5.89	268	21,962	121%

Model is configured for iterate the growth rates for **GDP** and **Population** at maximum the number of times (years) necessary for reaching in the **GDP per capita aim** at the cero population growth rate model in Table 24. And it will stop whenever it reaches that level of **GDP per capita** or whenever the **GDP per capita** drops to 80% of its starting level.

Each run of the model represent a hipotetic history line. In the following figures I present the result for the random sample of 10 histories. This makes possible to track year after year how the histories behaive in terms of the mixed realization of α and β in each iteration/year, ending up with a highest or lowest **GDP per capita** level. Figure 3, Figure 4 and Figure 5 summarizes the dinamycs in each of the histories.

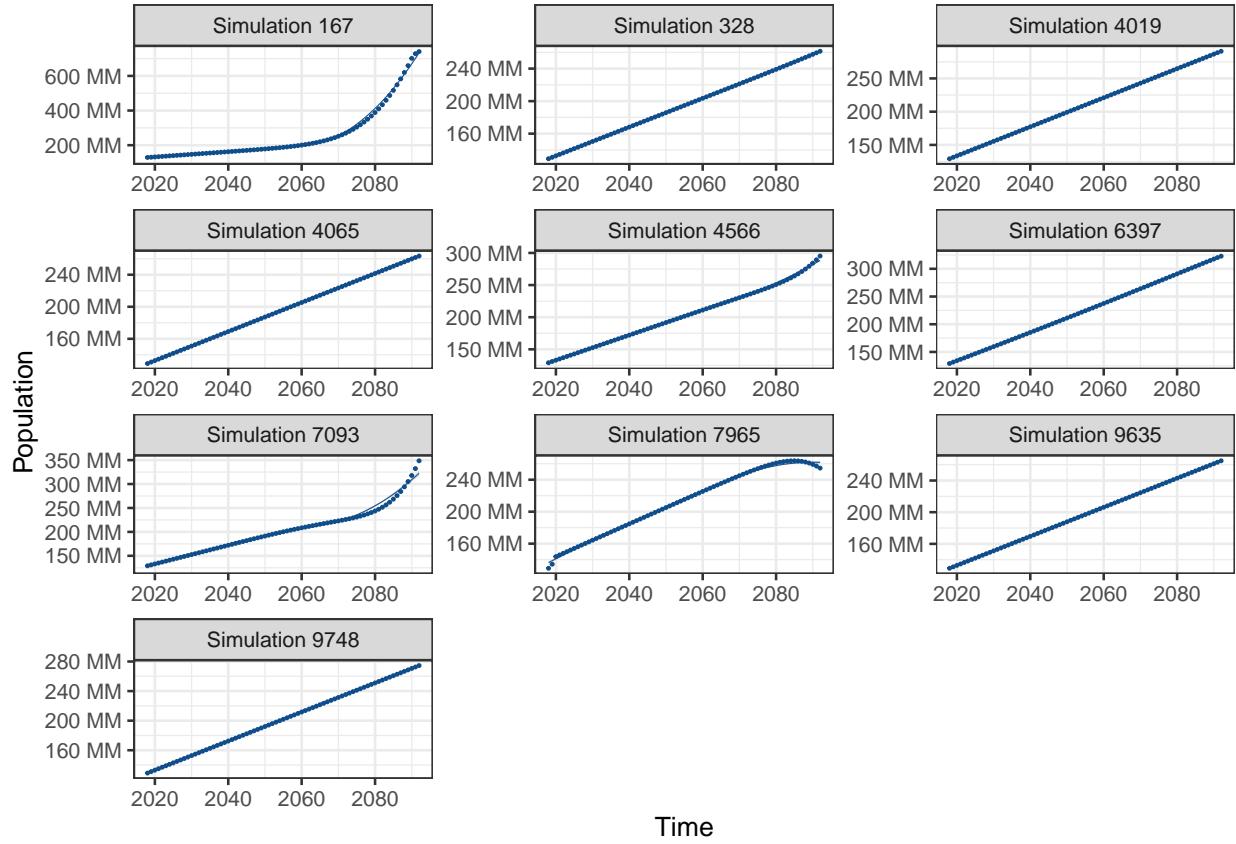


Figure 22: Population Dynamics random sample 10 results (out of 100) 73 iterations

In Figure 3, Figure 4 and Figure 5 we can see scenarios where **GDP per capita** growth to the **GDP per capita aim** at or before the iteration/years boundary. Or the scenarios where the iteration/years boundary elapse and the **GDP per capita** at the end of it, is among the *10 biggest ones*.

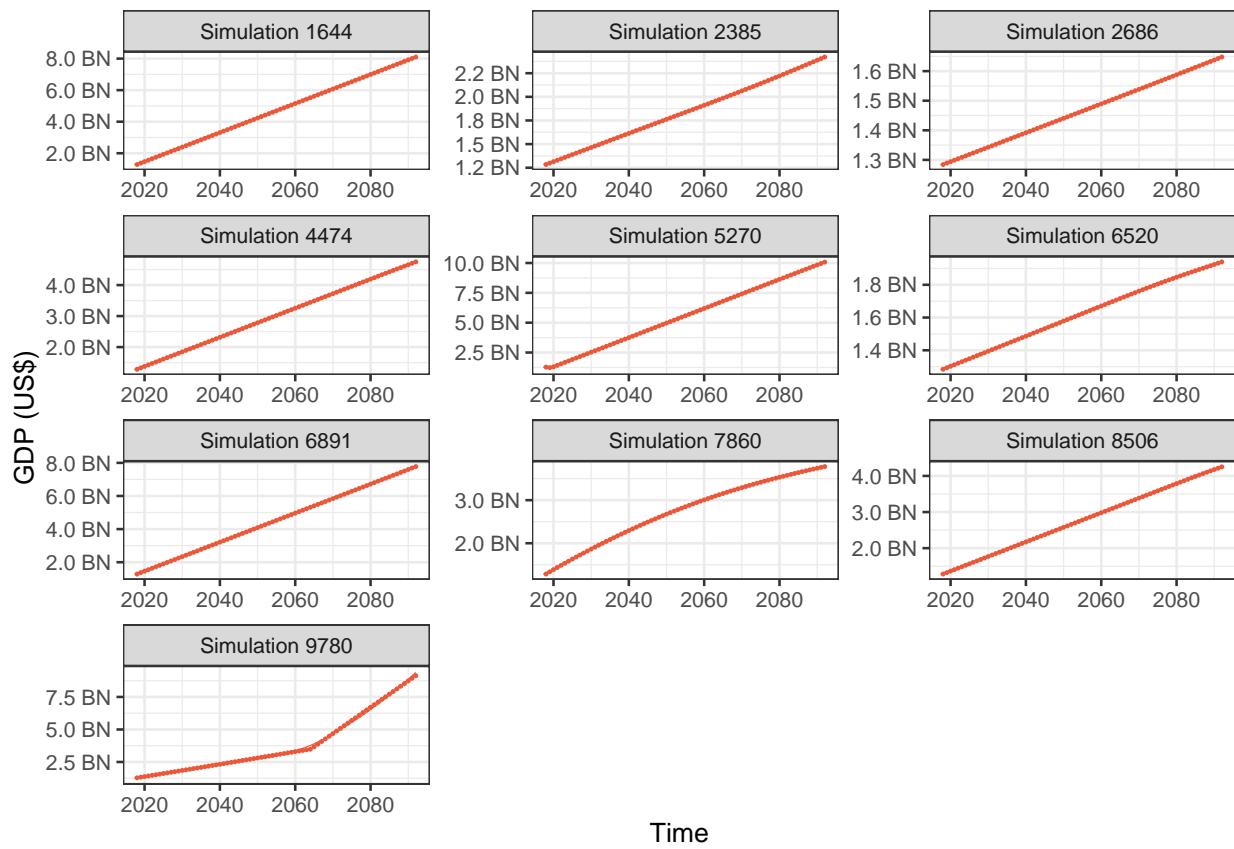


Figure 23: GDP Dynamics random sample 10 results (out of 100) 73 iterations

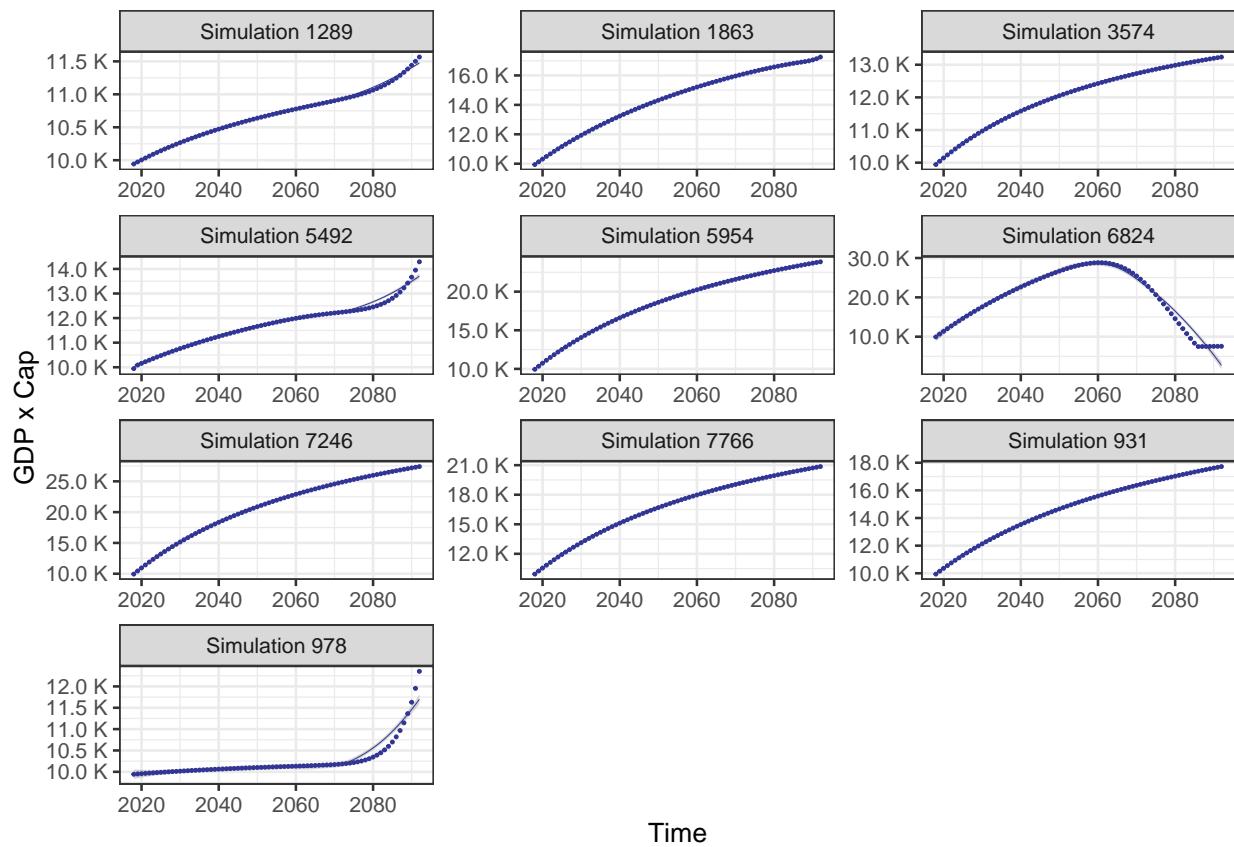


Figure 24: GDP x Capita Dynamics random sample 10 results (out of 100) 73 iterations

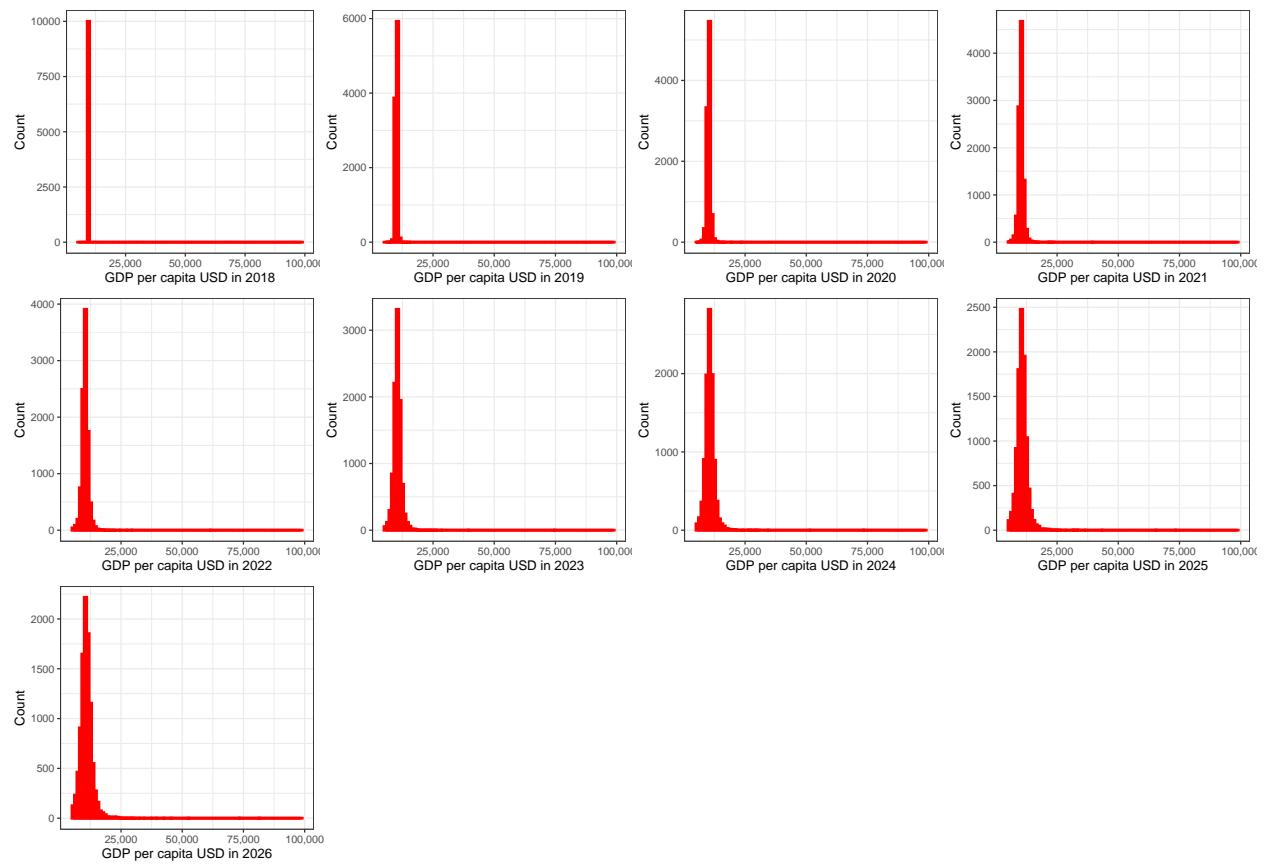


Figure 25: Histogram results for period 2018 to 2026

In Figure 6 we can see scenarios where **GDP per capita** dropped to 80% of the starting **GDP per capita level** at or before the iteration/years boundary. Or the scenarios where the iteration/years boundary elapse and the **GDP per capita** at the end of it, is among the *10 lowest* ones

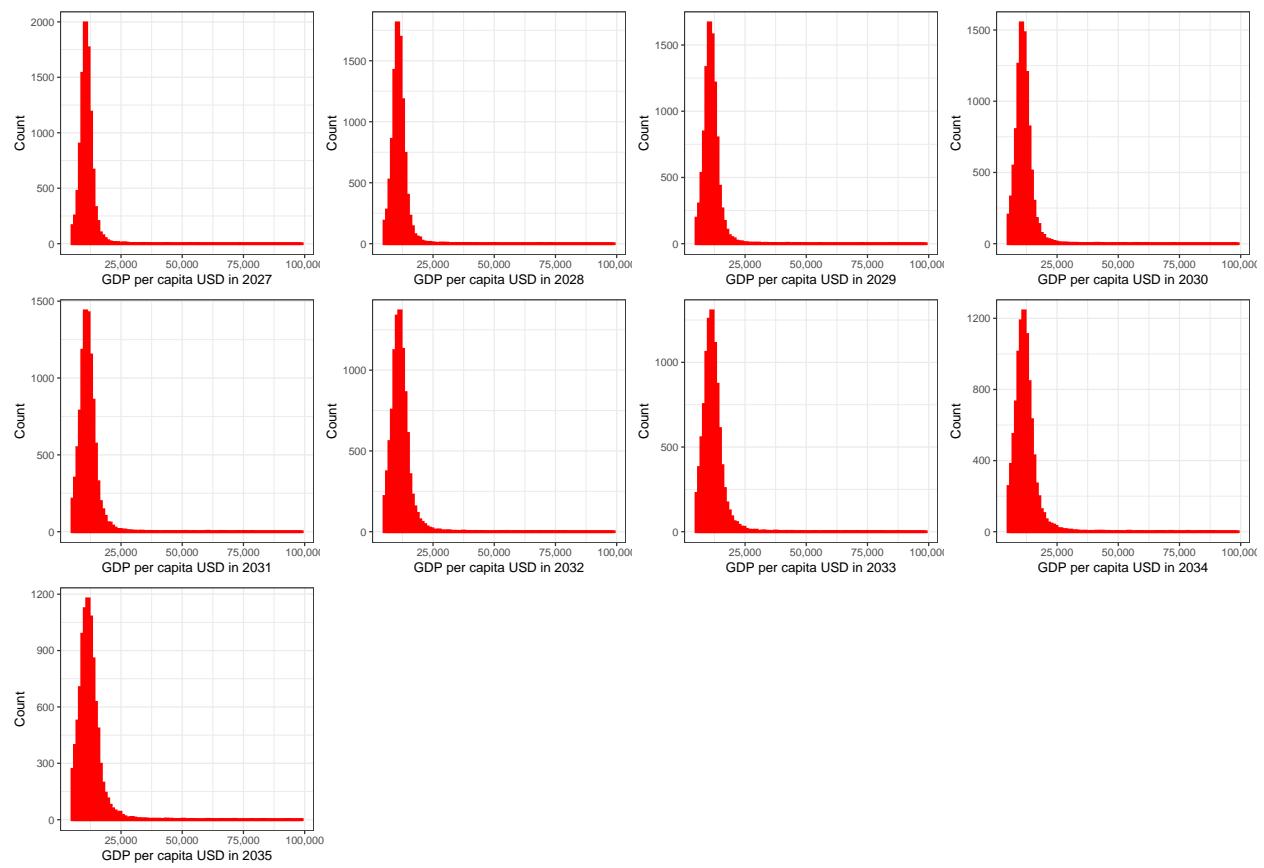


Figure 26: Histogram results for period 2027 to 2035

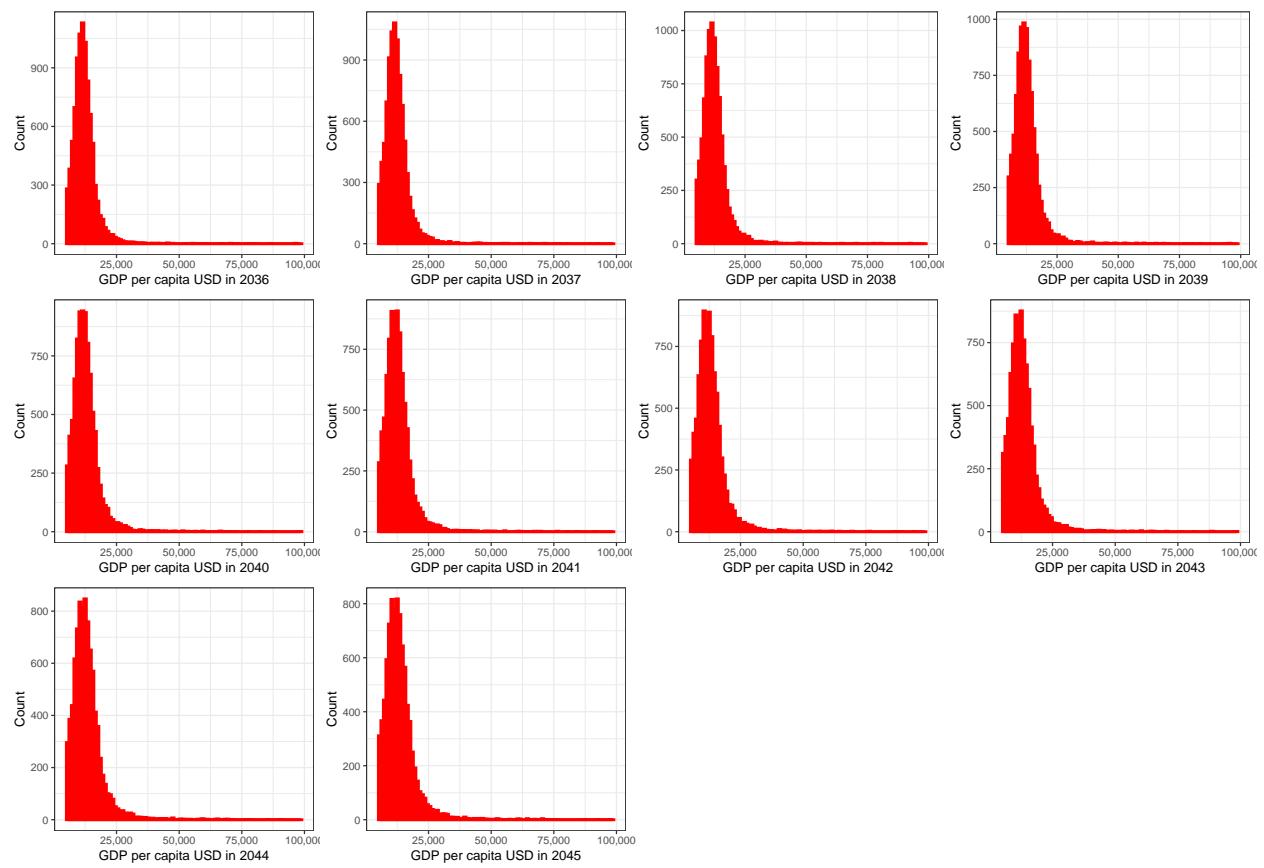


Figure 27: Histogram results for period 2036 to 2045

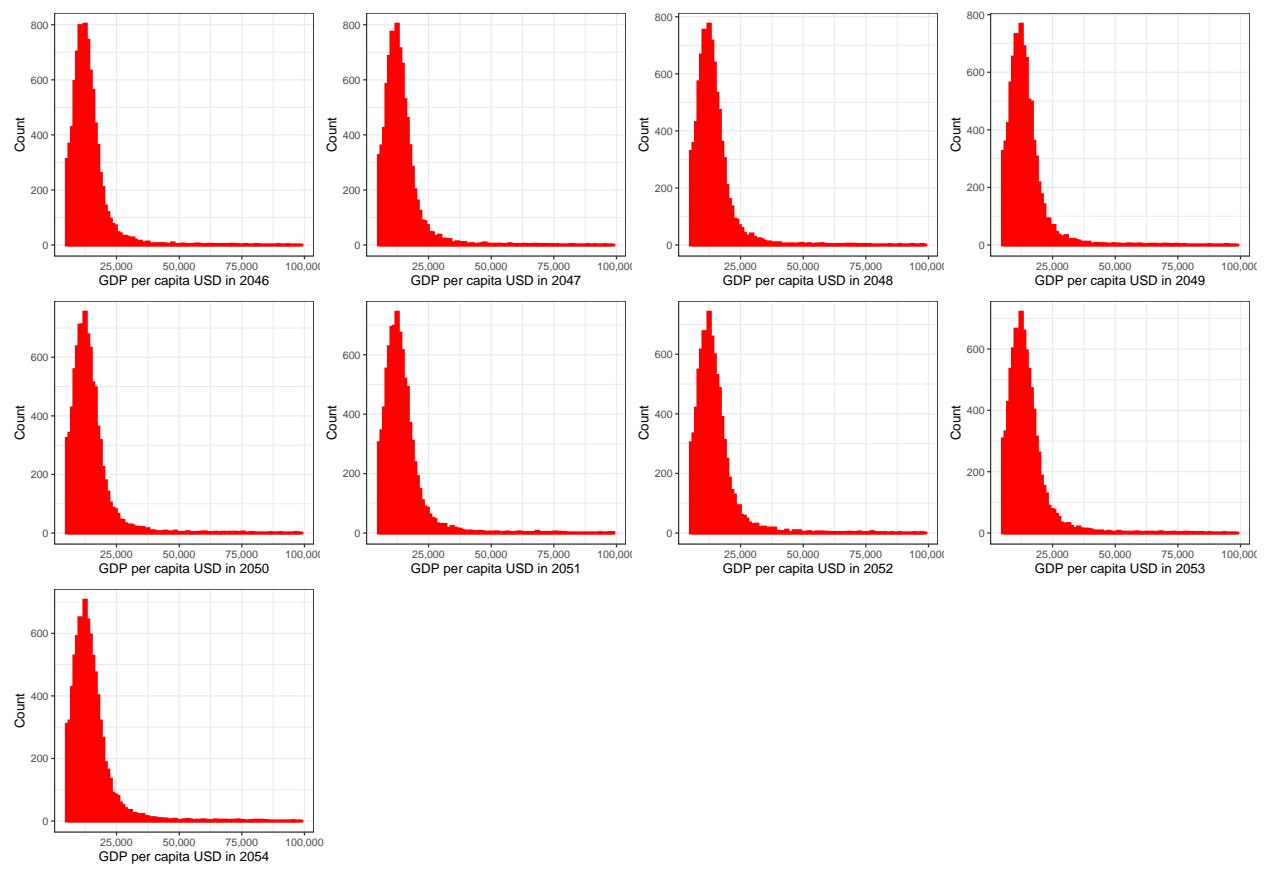


Figure 28: Histogram results for period 2046 to 2054

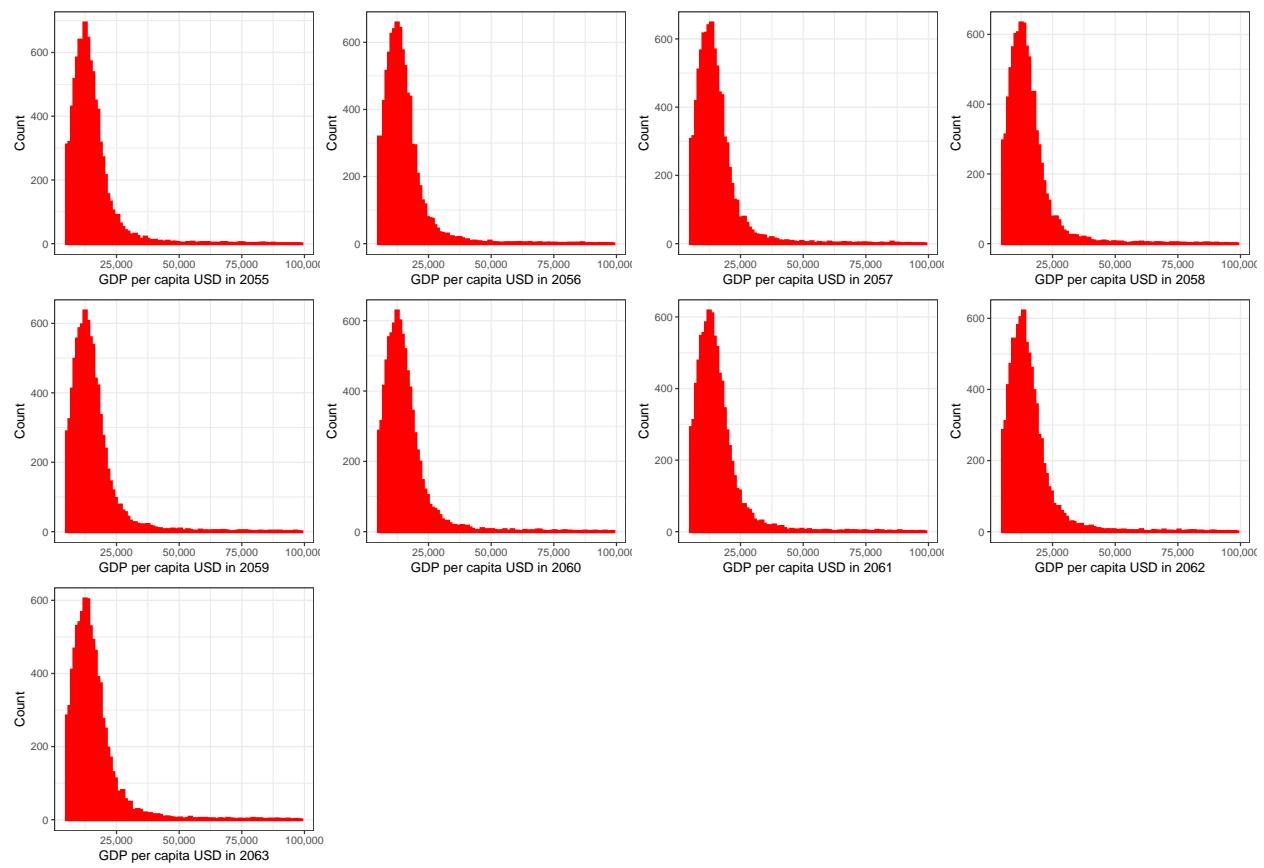


Figure 29: Histogram results for period 2055 to 2063

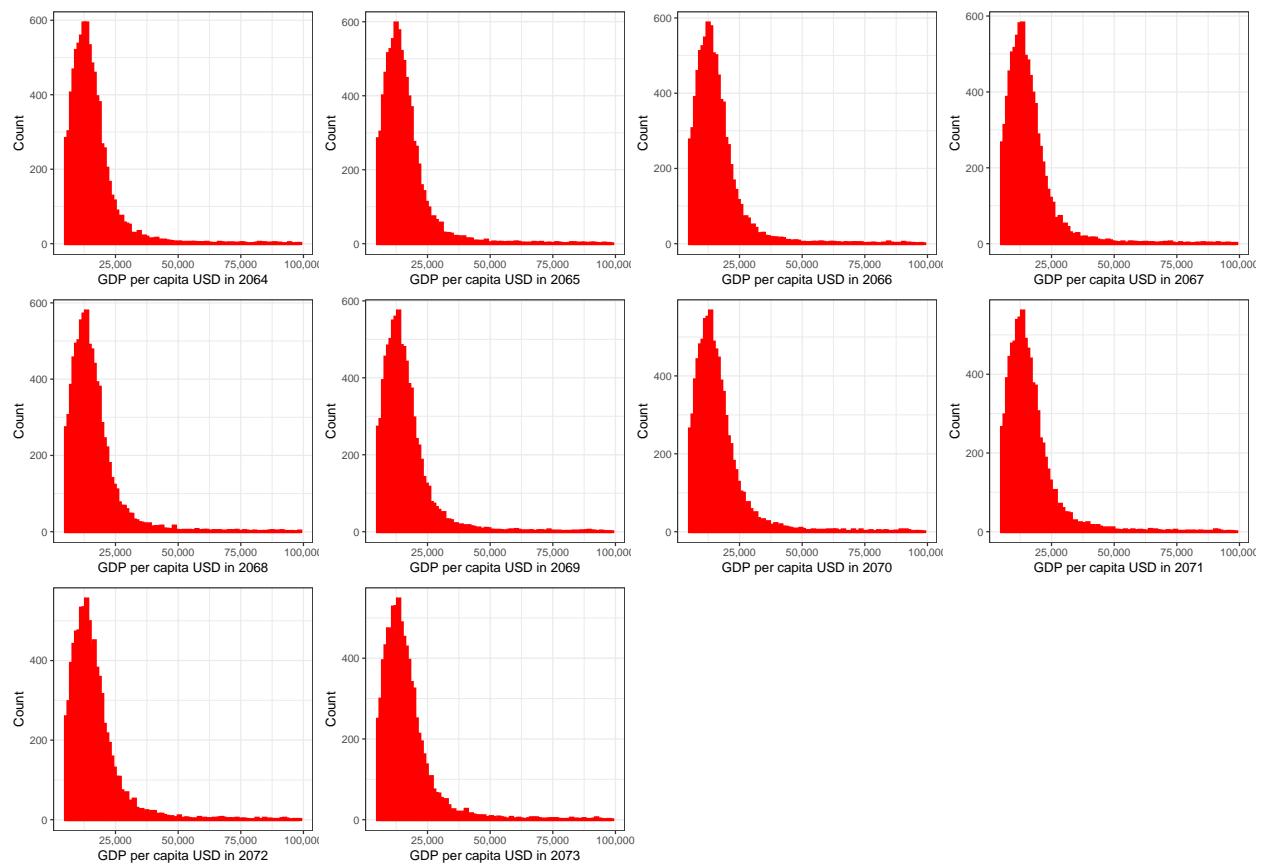


Figure 30: Histogram results for period 2064 to 2073

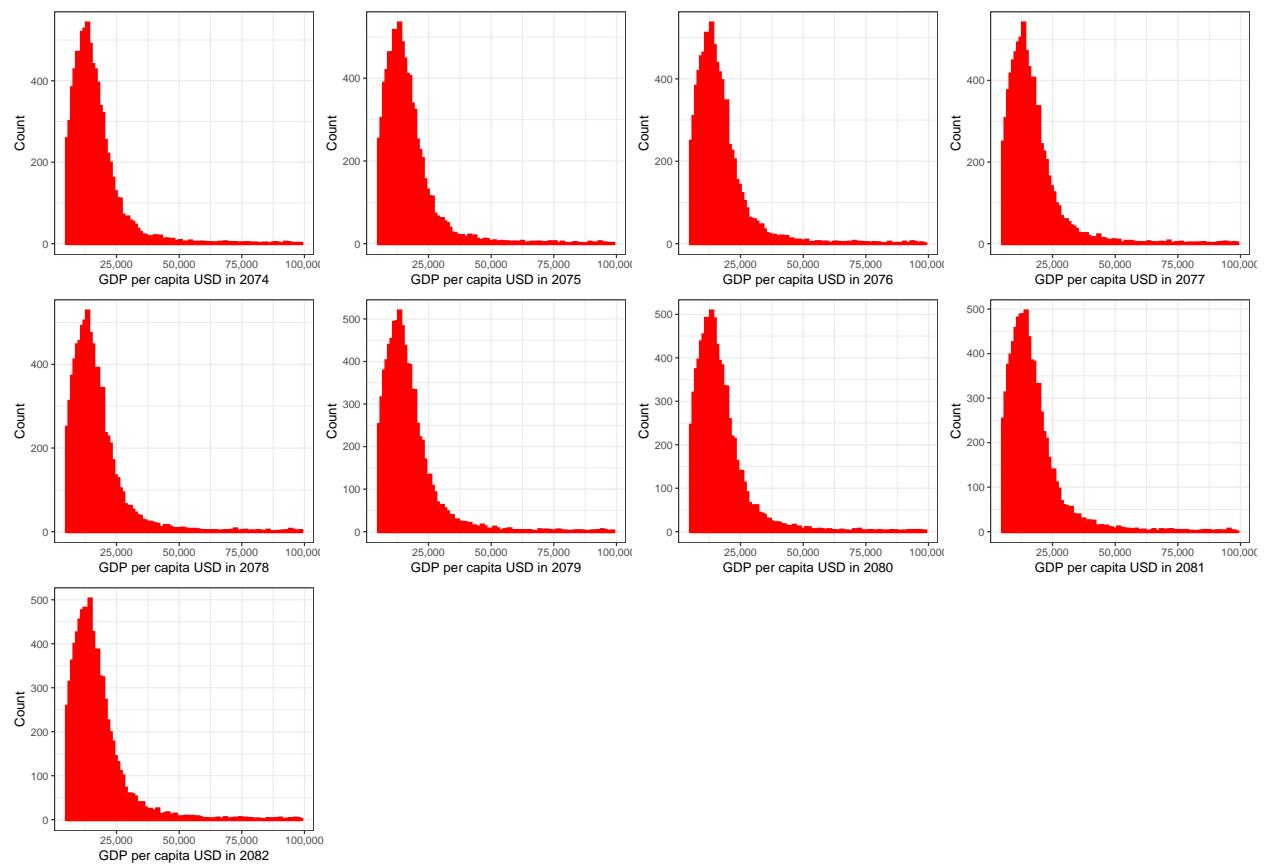


Figure 31: Histogram results for period 2074 to 2082

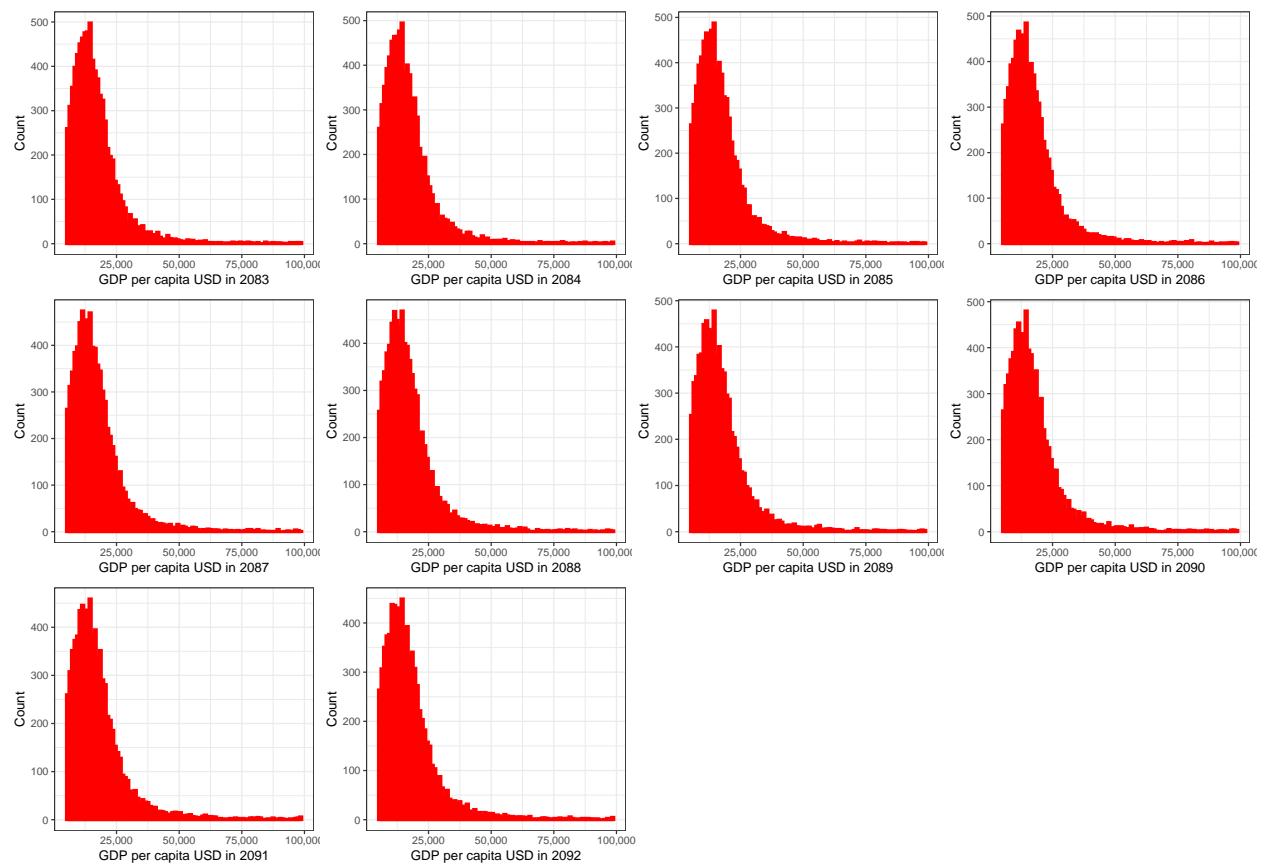


Figure 32: Histogram results for period 2083 to 2092

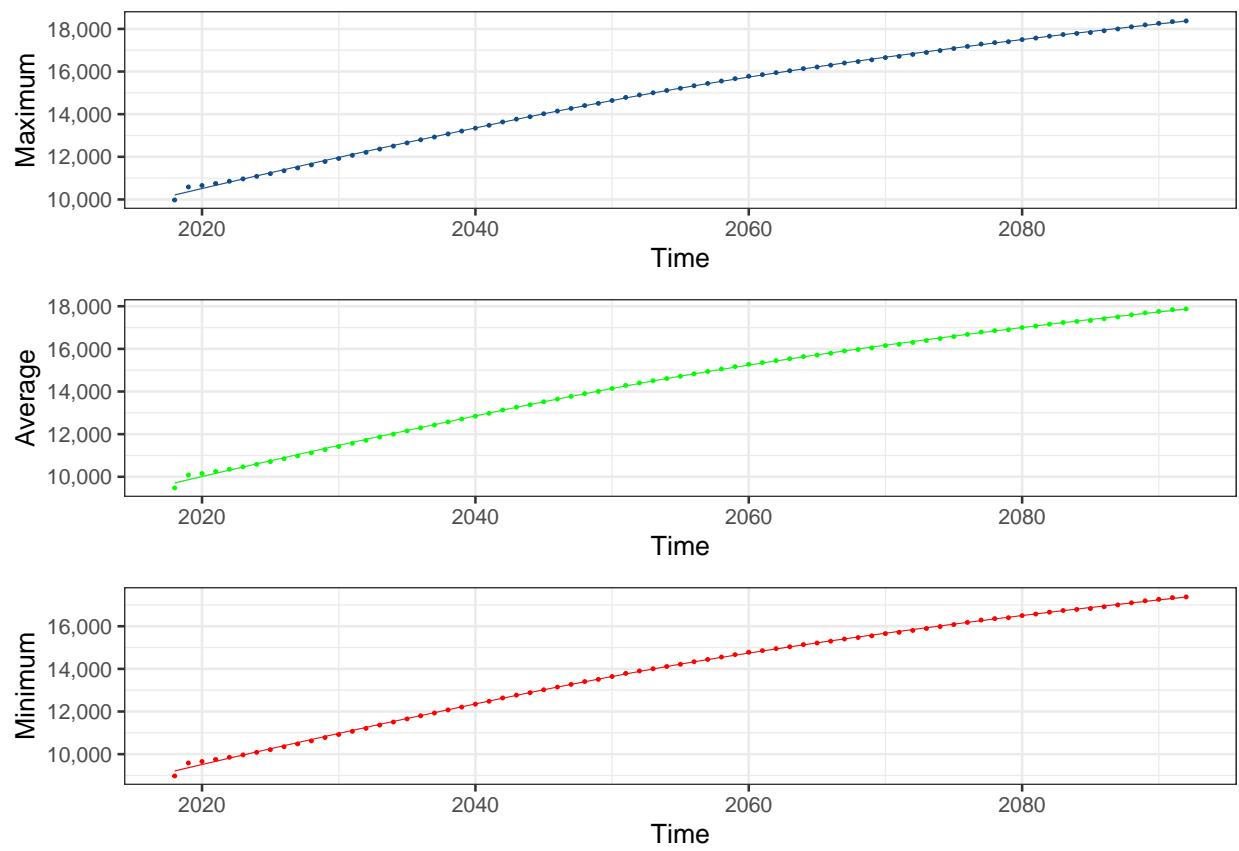


Figure 33: Summary of simulations for a 100 iterations of the model for 73 years

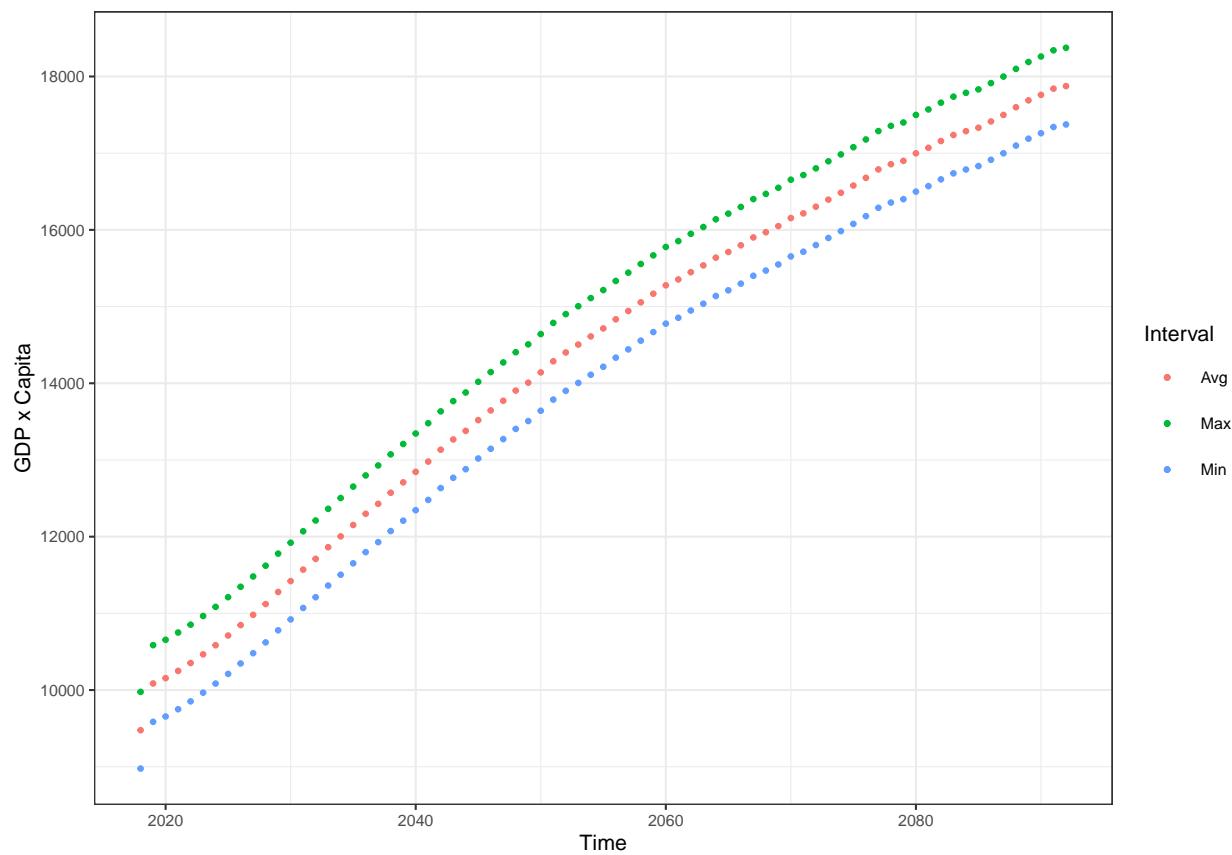


Figure 34: Summary of simulations (other view)

Density distribution for Final GDP per capita simulations

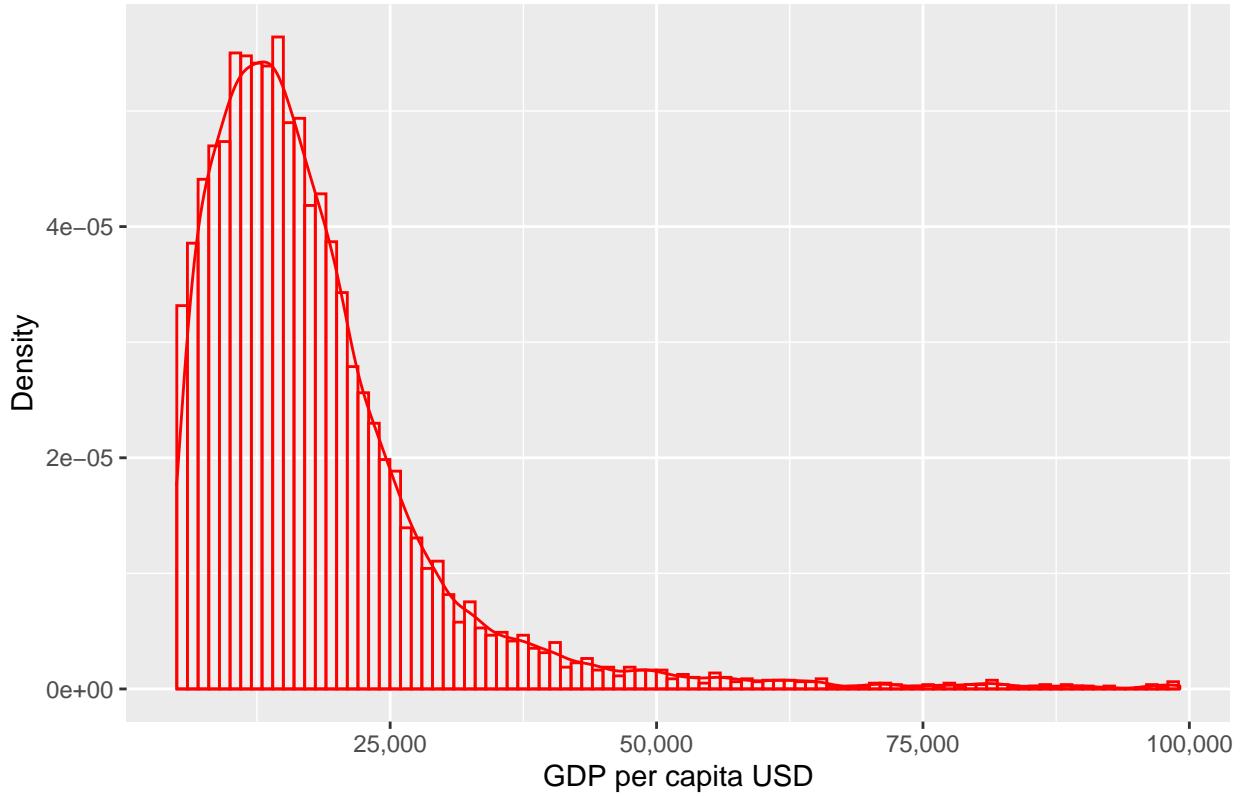


Table 27: Histories aggregation results after 10,000 histories/simulations over 73 years

Type	Mean	Mode
Minimum	17,374	13,976
Average	17,874	14,476
Maximum	18,374	14,976

Conclusions to GDP, growth and inequality

In this section and the prior one we have summarized the results of models and estimations, all of them around questions about development, inequality and economic growth.

In section **GDP & GNI per Capita estimations** in Table 15 we can see that, if meant to be born on the *lowest 10'th of the population*, it is *better* to be born in a country such as Norway where the estimations mean that citizens of that country living at the *lowest 10'th of the population*, lives in average with a yearly amount of 16,044 usd or 3.65% of it's GDP. Whereas in the american continent, the same *lowest 10'th of the population* in the United States lives with an average yearly amount of 4,249 usd (1.73% of it's GDP), in Chile they live with an average yearly amount of 1,046 usd (1.66% of it's GDP). And, in Mexico the *lowest 10'th of the population* lives with - just - an average yearly amount of 847 usd (1.83% of it's GDP). The insights extracted from it let us think that even if less equal people living in the *lowest 10'th of the population* in countries such as Norway (in Europe), United States (in North America) or even Chile (in South America) lives in average less poor or with more access to goods and services than people of the *lowest 10'th of the population* in Mexico (North America). Makeing simple maths income shared held by *lowest 10'th of the population* in Norway is about 1.99($= \frac{3.65\%}{1.83\%}$) times bigger than Mexico, however given their current

Histogram for Final GDP per capita of simulations

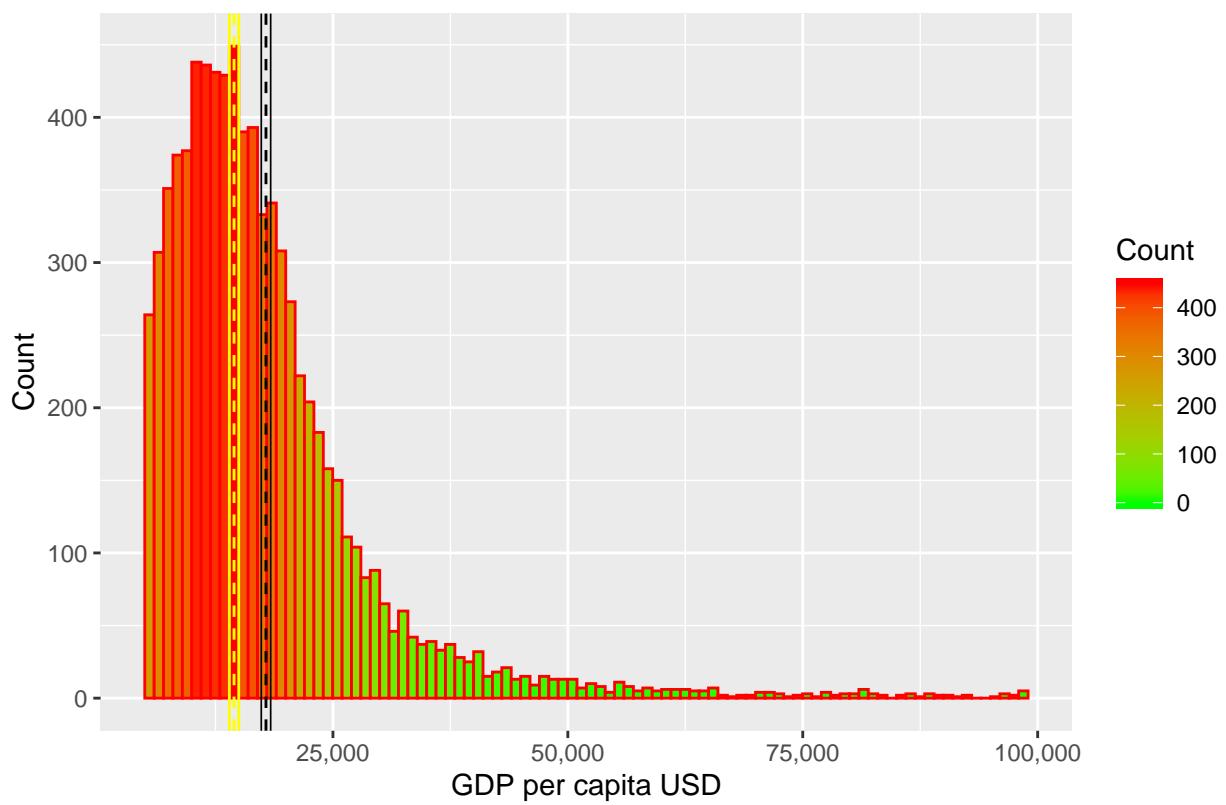


Figure 35: Last Year: GDP x capita

GDP and **Population** level GDP held by *lowest 10'th of the population* estimations are $18.94 (= \frac{16,044}{847})$ times bigger than the one in Mexico.

In section **GDP and Population** we proposed a simple model based on normal distributions for **GDP** and **Population growth**. The aim of this section is to simulate scenarios based in this century averages and standard deviations, where I tried to solved the question, in how many years does Mexico will develop a **GDP** level greater enough, relatively to the **Population**, to address a **GDP per capita** similar to the current level of Mexico's northern neighbor. In the proposed approach we identified two base scenarios, one with zero population growth rate as seen in Table 24 where the main insight is that at the average growth rate of the century it would take about 73 years. And, the second one where I incorporate also the average growth rate of the century to population and find out that after 73 years Mexico will meet a 79% higher **GDP per capita** than the current level. Finally, stochastic models shows simulations that incorporate the fact that economy might suffer upgrades or downgrades above and below the average level during the following 73 years.

As a summary of this sections the following question becomes particularly important: What is more urgent for an economy like Mexico, to increase *average participation/share* of the *lowest quintiles of the population* in the **GDP** or to increase its **GDP** to a level equivalent to the one held by countries such as Norway or the United States as seen in Table 23?

In Table 27 it is possible to see the results for the model run over a 1000 scenarios over 73 years/iterations each.

Interest rate spread (lending rate minus deposit rate, %)

Interest rate spread is the interest rate charged by banks on loans to private sector customers minus the interest rate paid by commercial or similar banks for demand, time, or savings deposits. The terms and conditions attached to these rates differ by country, however, limiting their comparability.

The interest rate spread - the margin between the cost of mobilizing liabilities and the earnings on assets - measures financial sector efficiency in intermediation. A narrow spread means low transaction costs, which reduces the cost of funds for investment, crucial to economic growth.

Table 28: Interest rate spread (lending rate minus deposit rate, %)
period 2000 - 2017

Country Name	Mean	SD
Brazil	35	6.7
Chile	3.7	1.3
China	3.2	0.27
Czech Republic	4.3	0.46
Hungary	2.4	0.56
Israel	3.4	0.38
Japan	1.2	0.45
Korea, Rep.	1.7	0.35
Latin America & Caribbean	7.3	0.5
Mexico	4.6	1.5
Middle East & North Africa	4.2	0.58
Netherlands	0.29	0.97
New Zealand	1.7	0.42
South Asia	5.4	0.88
Sub-Saharan Africa	7.3	0.43
Sweden	3.2	0.42
World	6.1	0.52

Deposit interest rate (%)

Deposit interest rate is the rate paid by commercial or similar banks for demand, time, or savings deposits. The terms and conditions attached to these rates differ by country, however, limiting their comparability.

Many interest rates coexist in an economy, reflecting competitive conditions, the terms governing loans and deposits, and differences in the position and status of creditors and debtors. In some economies interest rates are set by regulation or administrative fiat. In economies with imperfect markets, or where reported nominal rates are not indicative of effective rates, it may be difficult to obtain data on interest rates that reflect actual market transactions. Deposit and lending rates are collected by the International Monetary Fund (IMF) as representative interest rates offered by banks to resident customers. The terms and conditions attached to these rates differ by country, however, limiting their comparability.

Table 29: Deposit interest rate (%)

Country Name	Mean	SD
Brazil	13	4.3
Chile	4.5	2
China	2.4	0.69
Czech Republic	1.3	0.8

Country Name	Mean	SD
France	2.1	0.84
Hungary	5.7	3.1
Israel	3.1	2.4
Japan	0.36	0.23
Korea, Rep.	4	1.6
Mexico	2.7	2
Netherlands	2.8	0.6
New Zealand	5.1	1.4
Sweden	1.6	0.62
Turkey	26	16

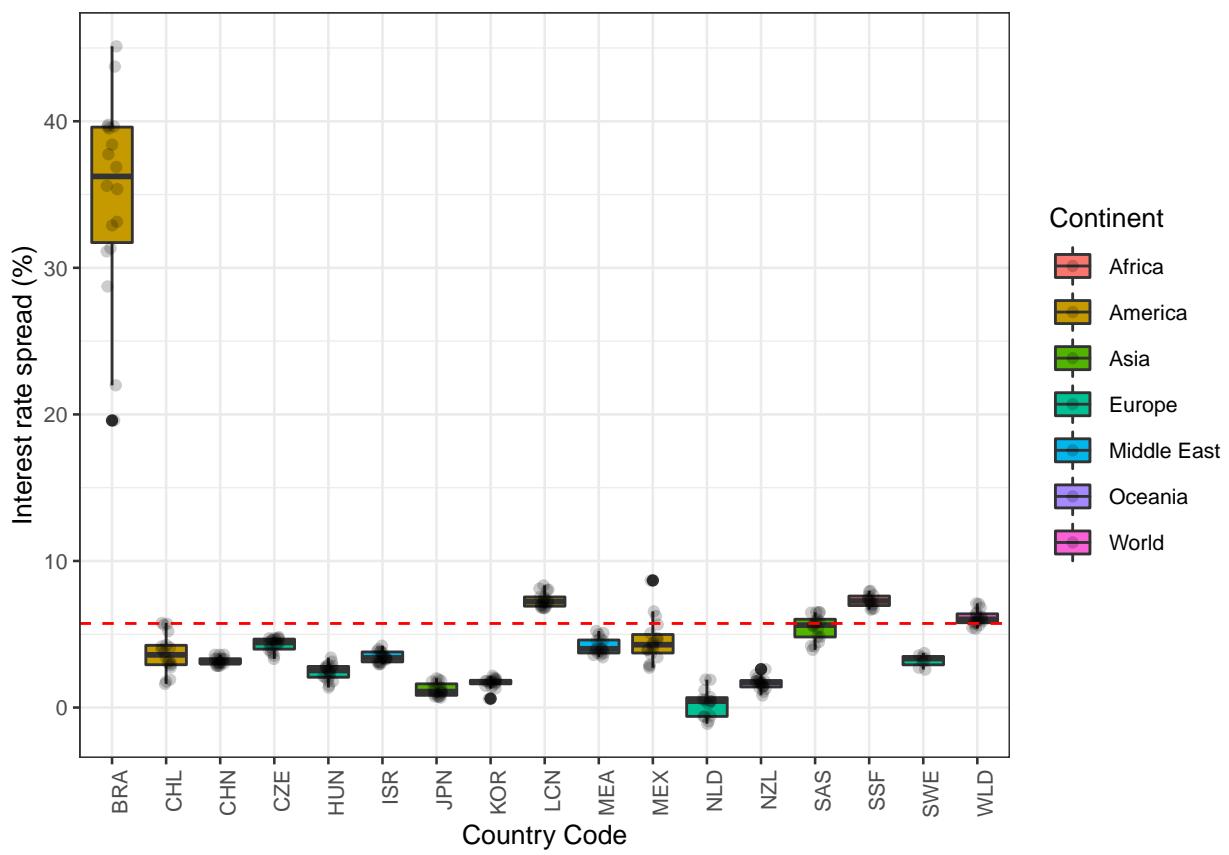


Figure 36: Boxplot interest rates 2000 - 2017

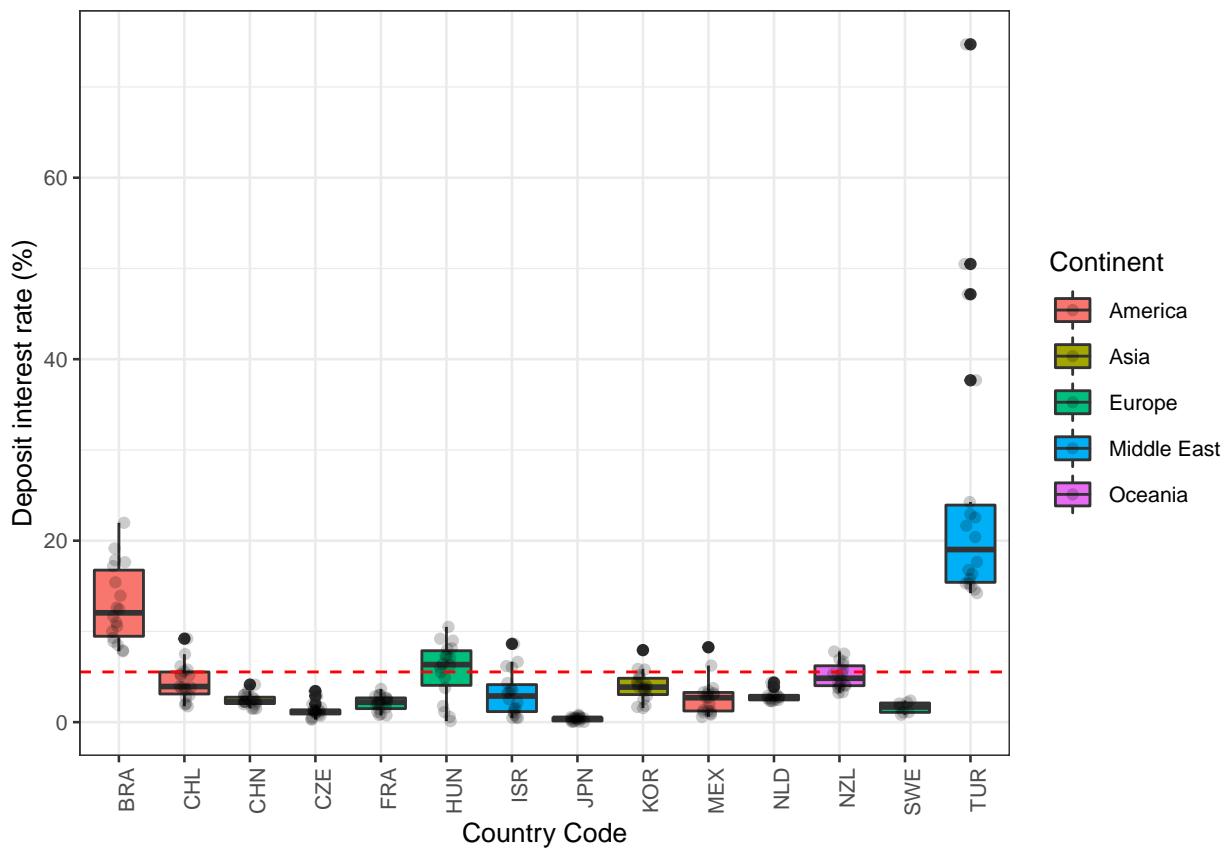


Figure 37: Trendline interest rates 2000 - 2017

Inflation, consumer prices (annual %)

Table 30: Inflation, consumer prices (annual %)

Country Name	Mean	SD
Austria	1.9	0.75
Belgium	2	1.1
Brazil	6.7	2.6
Chile	3.2	1.8
China	2.2	1.9
Czech Republic	2.2	1.6
Denmark	1.8	0.91
Estonia	3.4	2.7
European Union	2	1.2
Finland	1.5	1.3
France	1.4	0.8
Germany	1.4	0.63
Greece	2.1	2
Hungary	4.4	2.9
Iceland	4.9	3.2
Ireland	2	2.6
Israel	1.6	1.8
Italy	1.8	1.1
Japan	0.037	0.94
Korea, Rep.	2.6	1.1
Latin America & Caribbean	3.9	1.5
Latvia	3.8	4.1
Lithuania	2.4	2.8
Luxembourg	2	1
Mexico	4.6	1.6
Middle East & North Africa	3.2	2.1
Netherlands	1.8	0.96
New Zealand	2.2	1.1
Norway	2.1	0.95
Poland	2.6	2.5
Portugal	2	1.5
Slovak Republic	3.6	3.4
Slovenia	3.2	2.9
South Asia	6	2.5
Spain	2.2	1.5
Sub-Saharan Africa	5.6	1.6
Sweden	1.2	1.1
Turkey	16	17
United Kingdom	2	0.87
United States	2.2	1.1
World	3.5	1.7

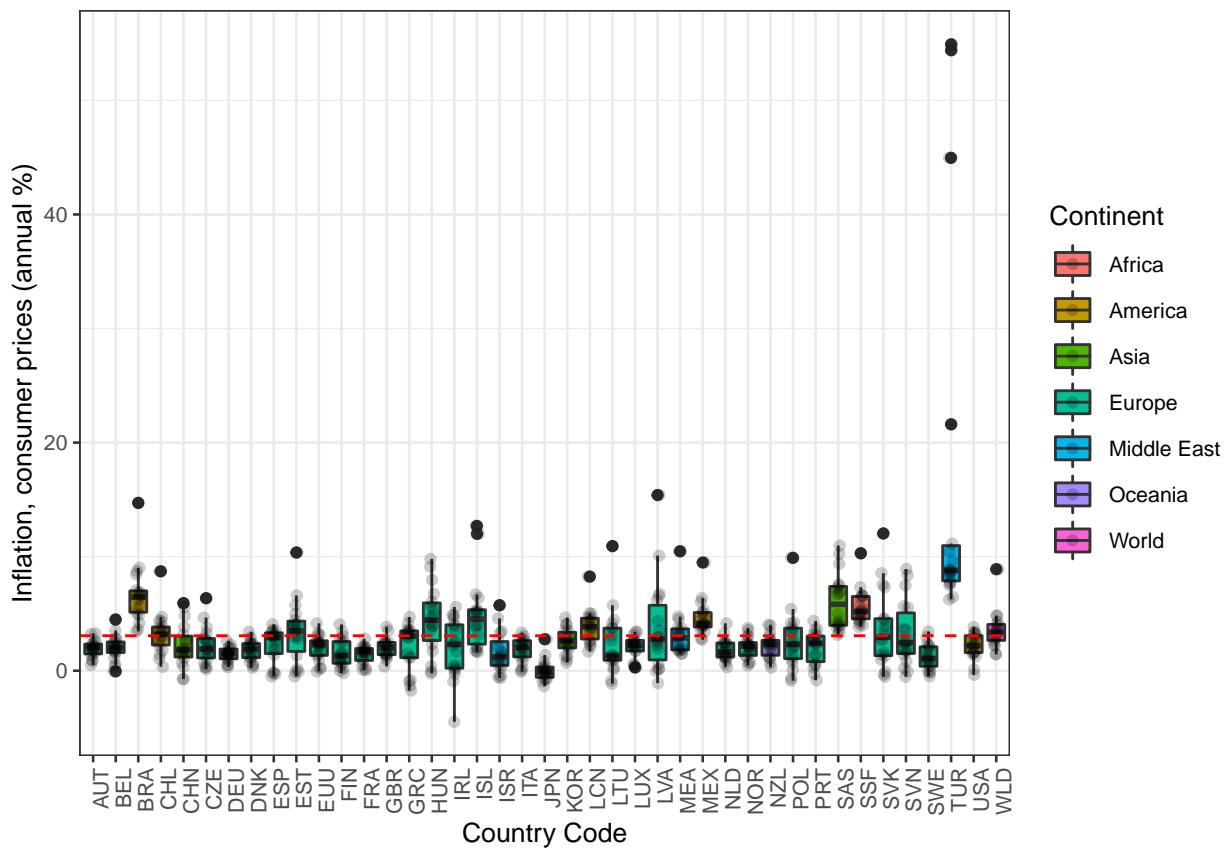


Figure 38: Boxplot inflation rates 2000 - 2017

Bank capital to assets ratio (%)

Bank capital to assets is the ratio of bank capital and reserves to total assets. Capital and reserves include funds contributed by owners, retained earnings, general and special reserves, provisions, and valuation adjustments. Capital includes tier 1 capital (paid-up shares and common stock), which is a common feature in all countries' banking systems, and total regulatory capital, which includes several specified types of subordinated debt instruments that need not be repaid if the funds are required to maintain minimum capital levels (these comprise tier 2 and tier 3 capital). Total assets include all nonfinancial and financial assets.

The ratio of capital to total assets, without the latter being risk weighted. Capital is measured as total capital and reserves as reported in the sectoral balance sheet; for cross-border consolidated data, Tier 1 capital can also be used. It indicates the extent to which assets are funded by other than own funds and is a measure of capital adequacy of the deposit-taking sector. It complements the capital adequacy ratios compiled based on the methodology agreed to by the Basle Committee on Banking Supervision. Also, it measures financial leverage and is sometimes called the leverage ratio. Data are submitted by national authorities to the IMF following the Financial Soundness Indicators (FSI) Compilation Guide. For country specific metadata, including reporting period, please refer to the GFSR FSI Tables and the Data and Metadata Tables available through FSIs website: <http://fsi.imf.org/>.

Table 31: Bank capital to assets ratio (%)

Country Name	Mean	SD
Austria	7	0.76
Belgium	5.4	1.5
Brazil	10	0.79
Chile	7.7	0.6
China	8.1	0.61
Czech Republic	6.6	0.79
Denmark	6.2	1
Estonia	10	1.5
European Union	6.9	0.81
Finland	6.5	1.9
France	5.2	0.88
Germany	5	0.78
Greece	8.2	2.3
Ireland	8	4.1
Israel	6.4	0.7
Italy	5.2	0.72
Korea, Rep.	7.8	0.63
Latin America & Caribbean	10	0.35
Latvia	9.8	1.2
Lithuania	10	2
Luxembourg	6.2	1.2
Mexico	10	0.63
Netherlands	4.8	0.85
Poland	8.7	0.81
Portugal	6	1
Slovak Republic	11	1.2
South Asia	7.9	0.39
Spain	6.6	0.69
Sub-Saharan Africa	11	0.56
Sweden	6.1	0.004
Turkey	12	0.7
United Kingdom	5.8	0.86

Country Name	Mean	SD
United States	12	0.4
World	10	0.31

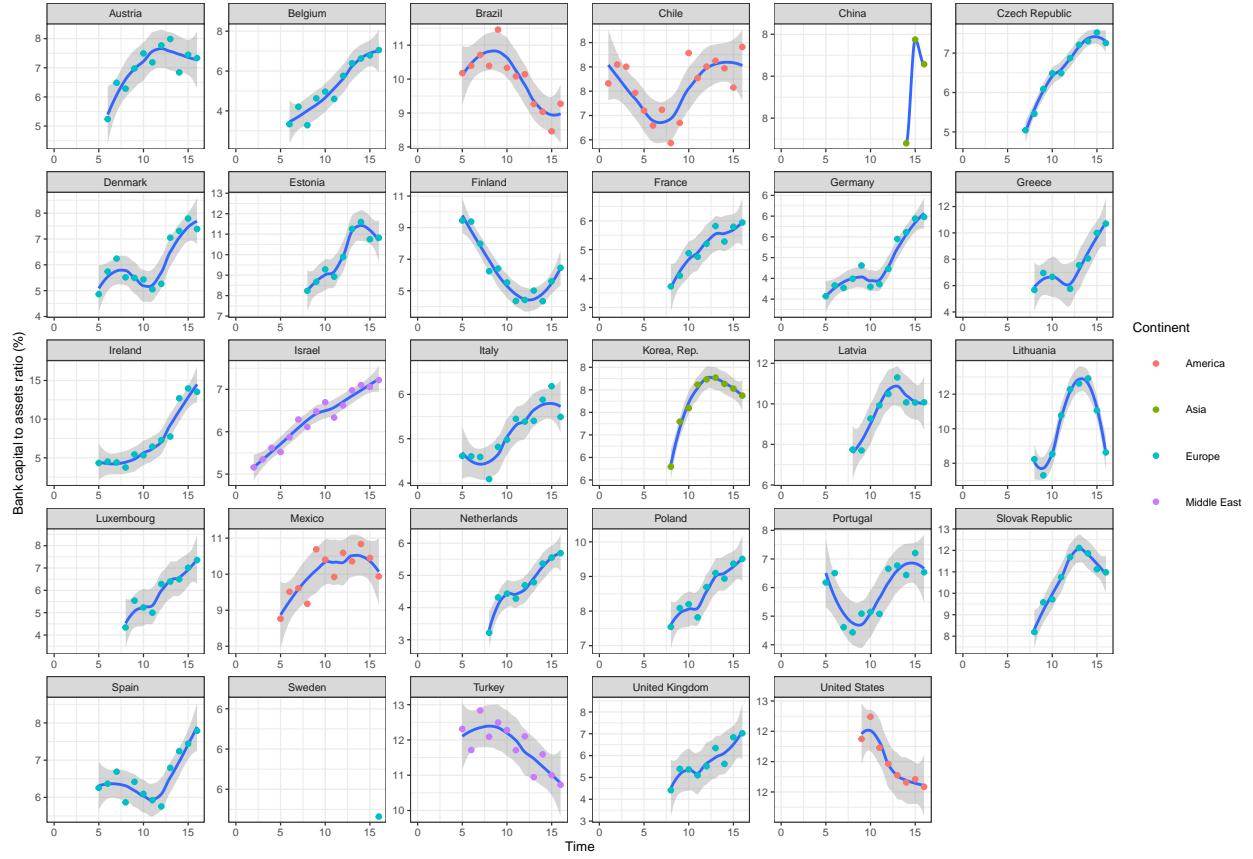


Figure 39: Trendline bank capital to assets ratios 2000 - 2017 non aggregated

Current account balance (% of GDP)

Current account balance is the sum of net exports of goods and services, net primary income, and net secondary income.

Table 32: Current account balance (% of GDP)

Country Name	Mean	SD
Austria	2.5	0.9
Belgium	0.8	1.8
Brazil	-1.6	2
Chile	-0.47	2.6
China	3.7	2.8
Czech Republic	-2.4	2.2
Denmark	4.9	2.6
Estonia	-4.5	6.6
Finland	2.5	3.9
France	-0.21	0.9
Germany	5.1	3
Greece	-6.7	4.4
Hungary	-2.5	5.1
Iceland	-5.8	9.6
Ireland	1.6	5.3

Country Name	Mean	SD
Israel	2.2	2.1
Italy	-0.34	1.8
Japan	2.9	1.2
Korea, Rep.	3	2.4
Latvia	-5.6	7.6
Lithuania	-4.5	5.3
Luxembourg	7.6	2.4
Mexico	-1.5	0.73
Netherlands	6.6	2.7
New Zealand	-3.7	2
Norway	12	3.4
Poland	-3.5	2.1
Portugal	-6.3	4.9
Slovak Republic	-3.6	3.1
Slovenia	0.62	3.6
Spain	-3.4	4
Sweden	5.7	1.4
Turkey	-4.2	2.5
United Kingdom	-3.4	1.2
United States	-3.6	1.3

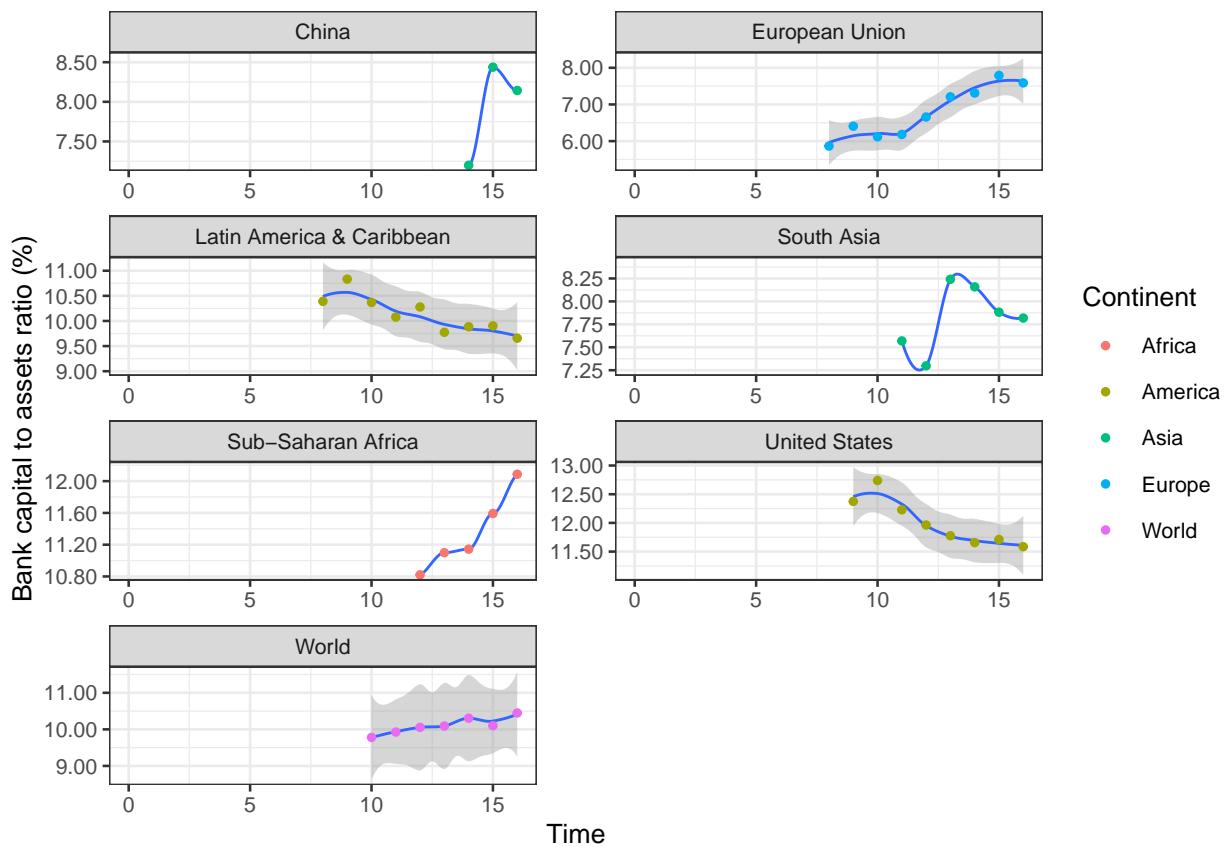


Figure 40: Trendline bank capital to assets ratios 2000 - 2017 aggregated and biggest economies

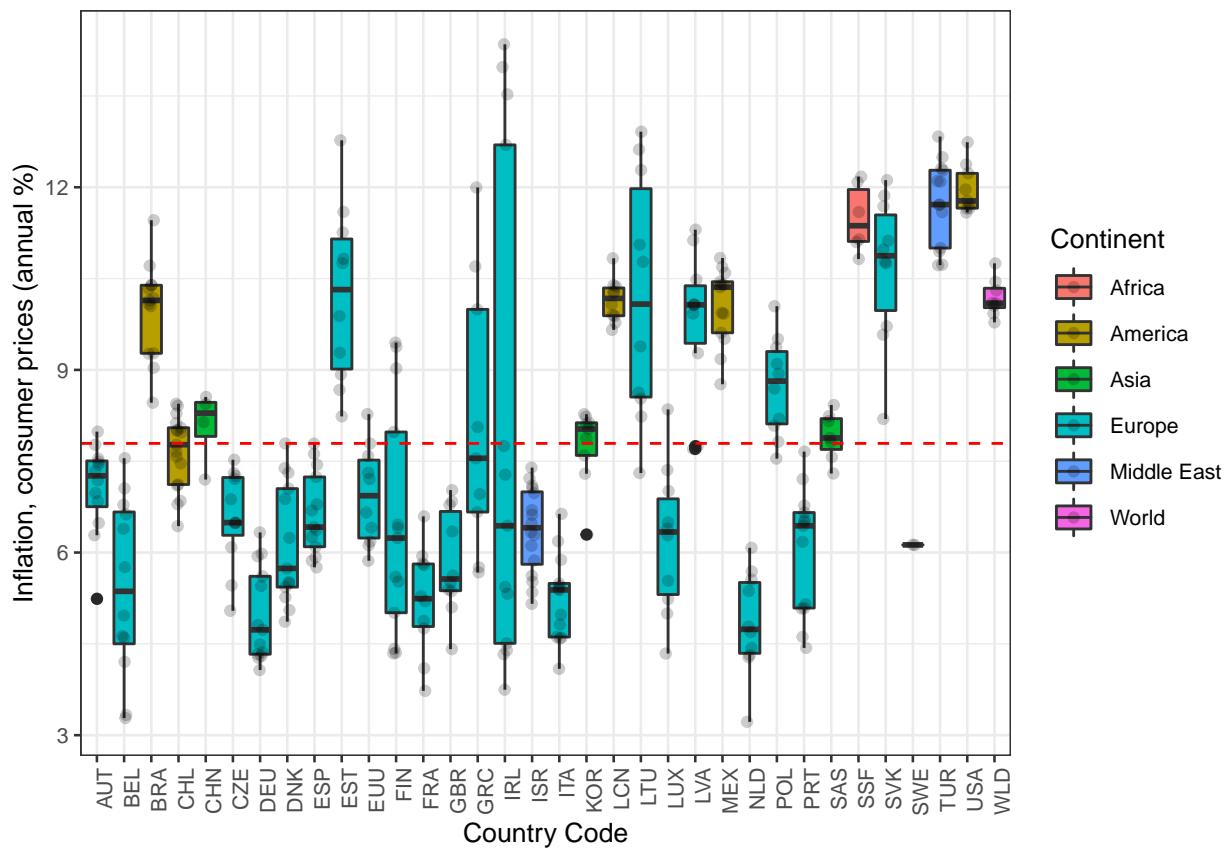


Figure 41: Boxplot bank capital to assets ratios 2000 - 2017

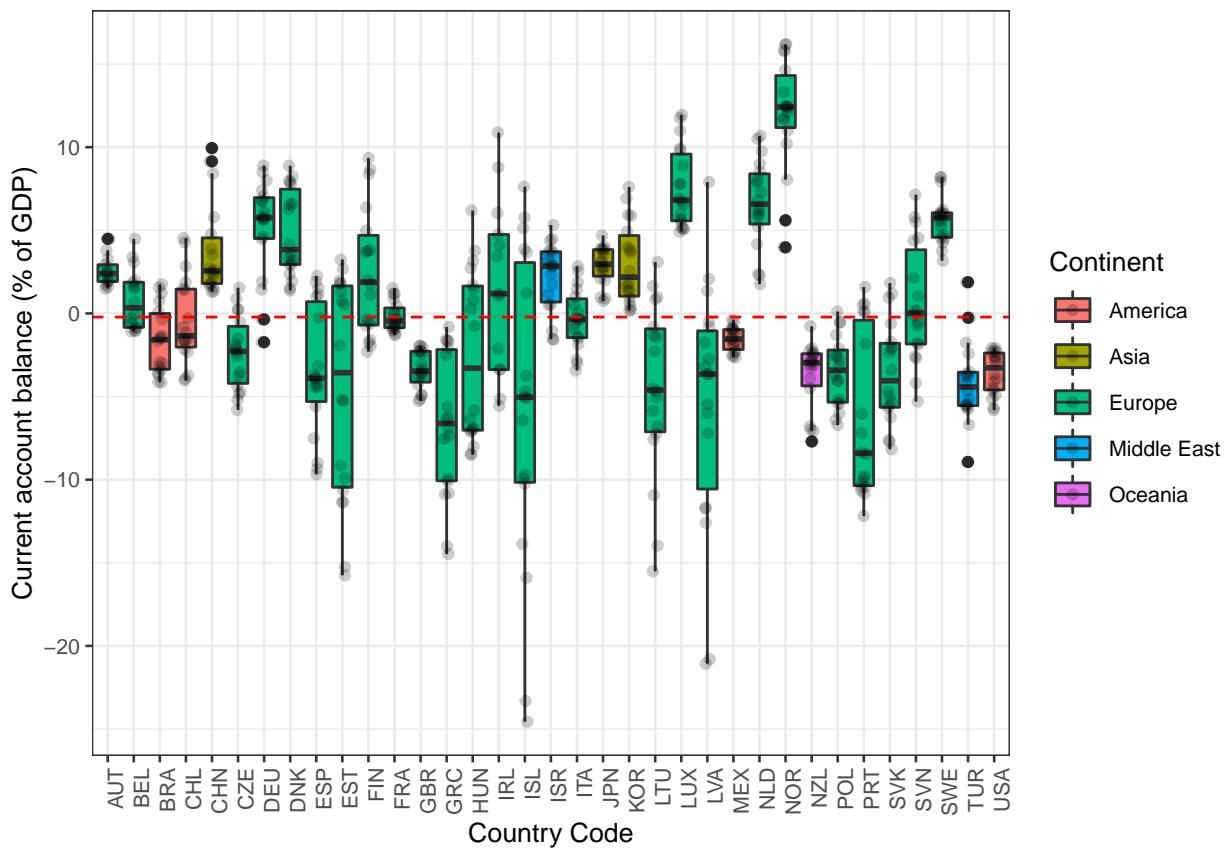


Figure 42: Boxplot Current Account Balance 2000 - 2017

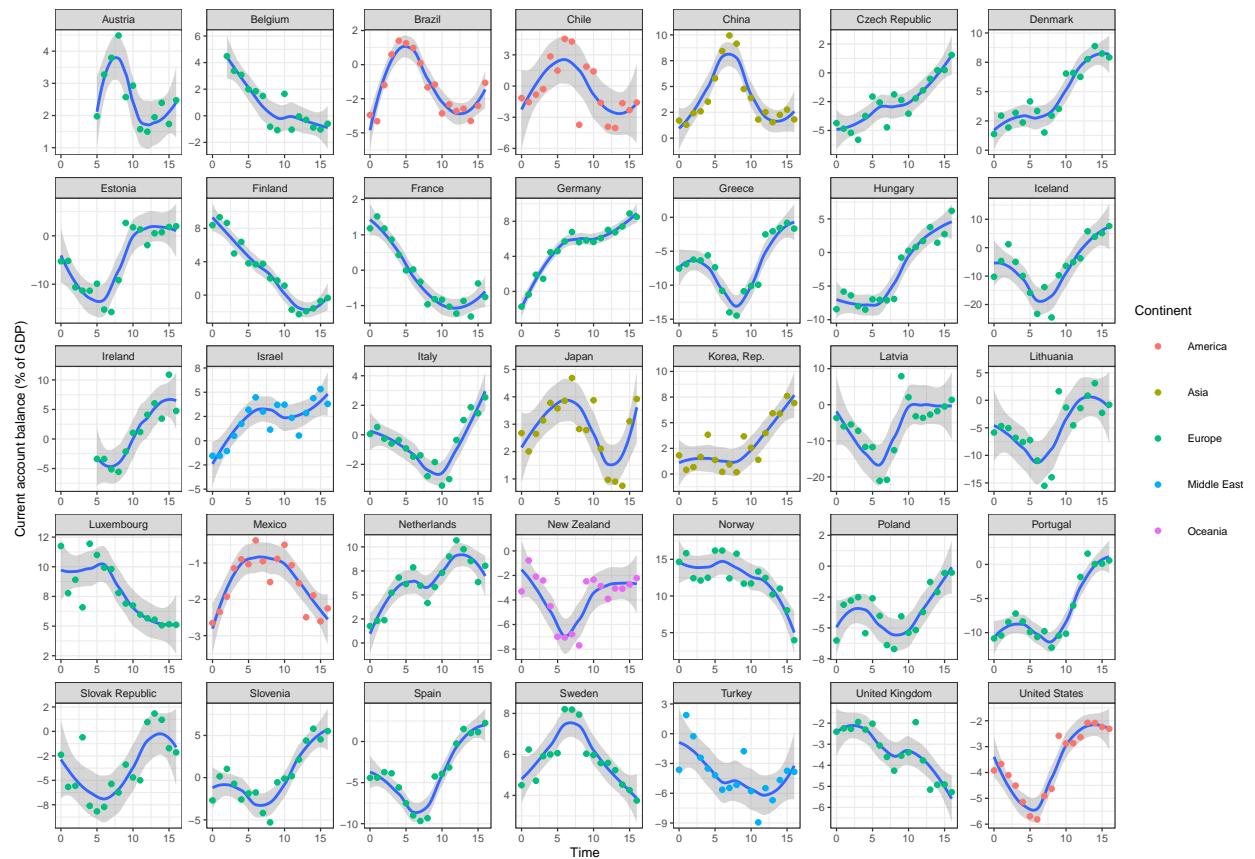


Figure 43: Trendline Current Account Balance 2000 - 2017

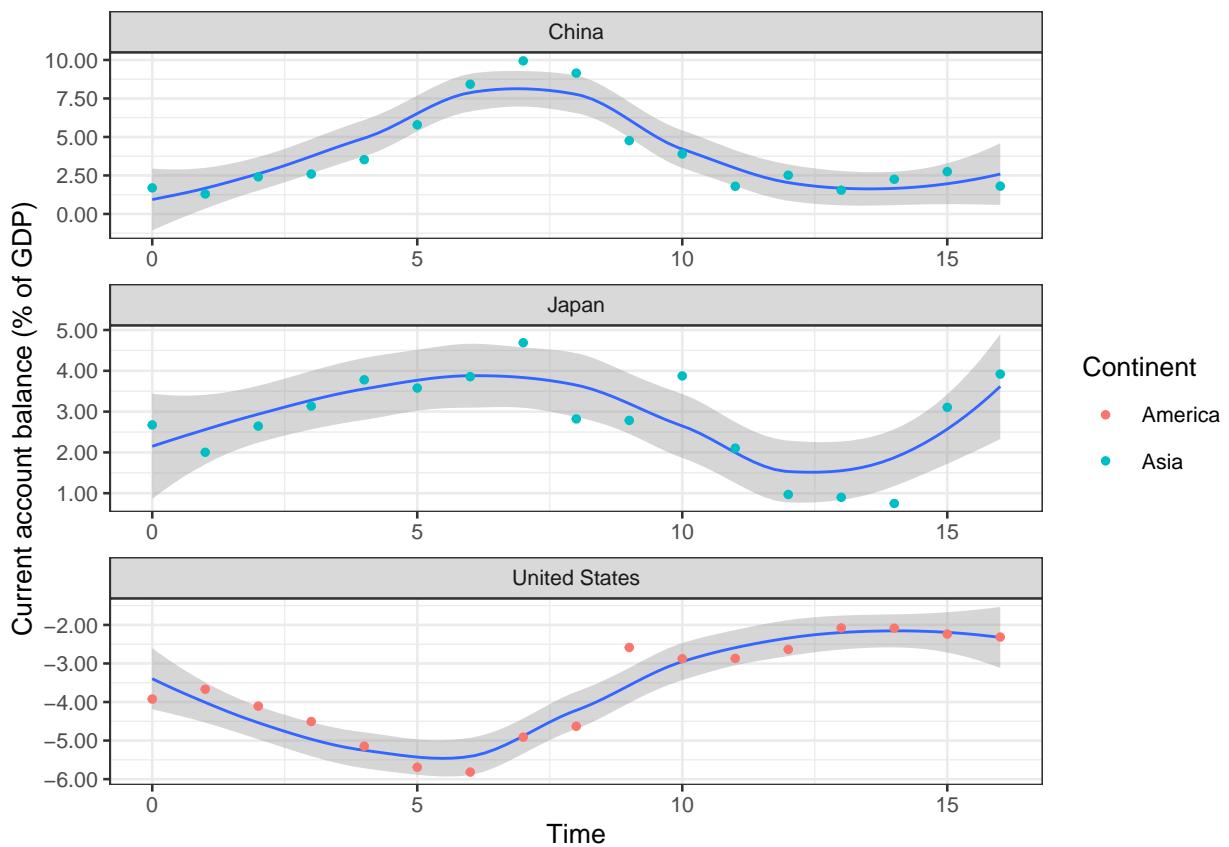


Figure 44: Trendline Current Account Balance 2000 - 2017 aggregated regions and biggest countries

Domestic credit to private sector (% of GDP)

Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises. The financial corporations include monetary authorities and deposit money banks, as well as other financial corporations where data are available (including corporations that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other financial corporations are finance and leasing companies, money lenders, insurance corporations, pension funds, and foreign exchange companies.

Credit is an important link in money transmission; it finances production, consumption, and capital formation, which in turn affect economic activity. The data on domestic credit provided to the private sector are taken from the financial corporations survey (line 52D) of the International Monetary Fund's (IMF) International Financial Statistics or, when unavailable, from its depository survey (line 32D). The banking sector includes monetary authorities (the central bank) and deposit money banks, as well as other financial corporations where data are available (including institutions that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other financial corporations are finance and leasing companies, money lenders, insurance corporations, pension funds, and foreign exchange companies.

Private sector development and investment - tapping private sector initiative and investment for socially useful purposes - are critical for poverty reduction. In parallel with public sector efforts, private investment, especially in competitive markets, has tremendous potential to contribute to growth. Private markets are the engine of productivity growth, creating productive jobs and higher incomes. And with government playing a complementary role of regulation, funding, and service provision, private initiative and investment can help provide the basic services and conditions that empower poor people - by improving health, education, and infrastructure.

Credit to the private sector may sometimes include credit to state-owned or partially state-owned enterprises.

Table 33: Domestic credit to private sector (% of GDP)

Country Name	Mean	SD
Austria	91	4.7
Belgium	61	4.2
Brazil	47	15
Chile	92	16
China	125	17
Czech Republic	41	10
Denmark	167	21
Estonia	74	15
European Union	103	8.5
Finland	80	15
France	89	9
Germany	93	13
Greece	90	25
Hungary	44	11
Iceland	146	66
Ireland	105	40
Israel	71	4.8
Italy	81	11
Japan	170	13
Korea, Rep.	128	19
Latin America & Caribbean	36	11
Latvia	61	18

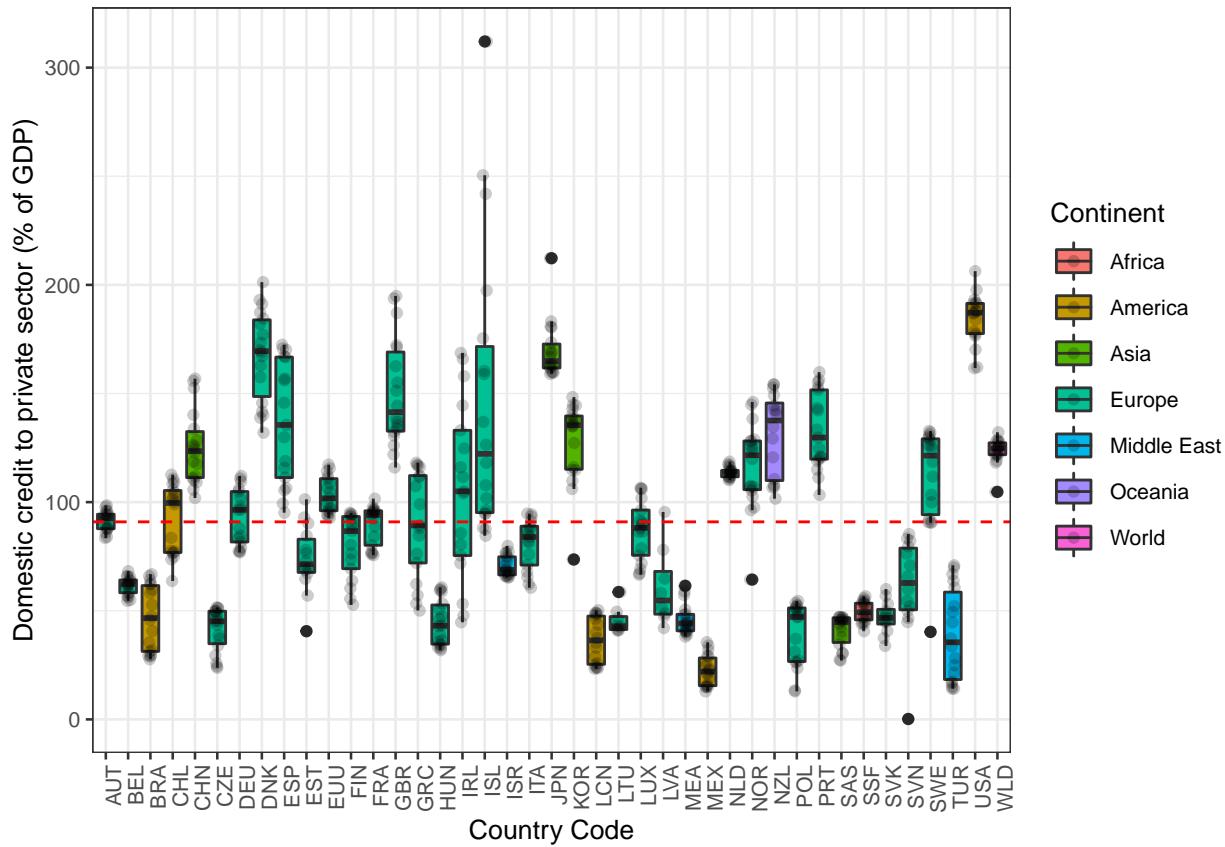


Figure 45: Boxplot Domestic Credit to private sector 2000 - 2017

Country Name	Mean	SD
Lithuania	46	6.1
Luxembourg	87	14
Mexico	23	7.2
Middle East & North Africa	46	7
Netherlands	114	2.5
New Zealand	131	19
Norway	116	20
Poland	39	14
Portugal	133	18
Slovak Republic	47	7.5
Slovenia	61	23
South Asia	41	7.4
Spain	137	28
Sub-Saharan Africa	50	4.8
Sweden	111	24
Turkey	39	21
United Kingdom	150	25
United States	184	12
World	124	5.9

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'
```

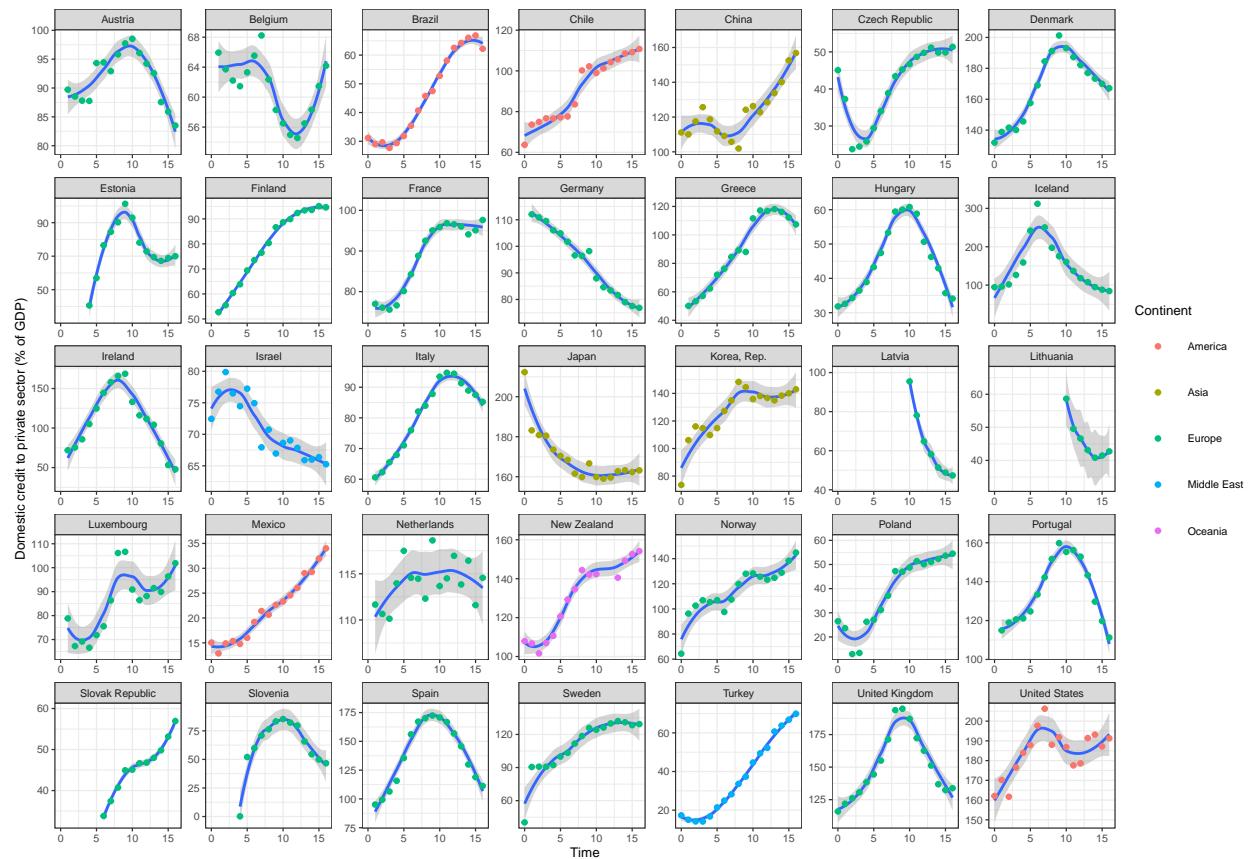


Figure 46: Trendline Domestic Credit to private sector 2000 - 2017

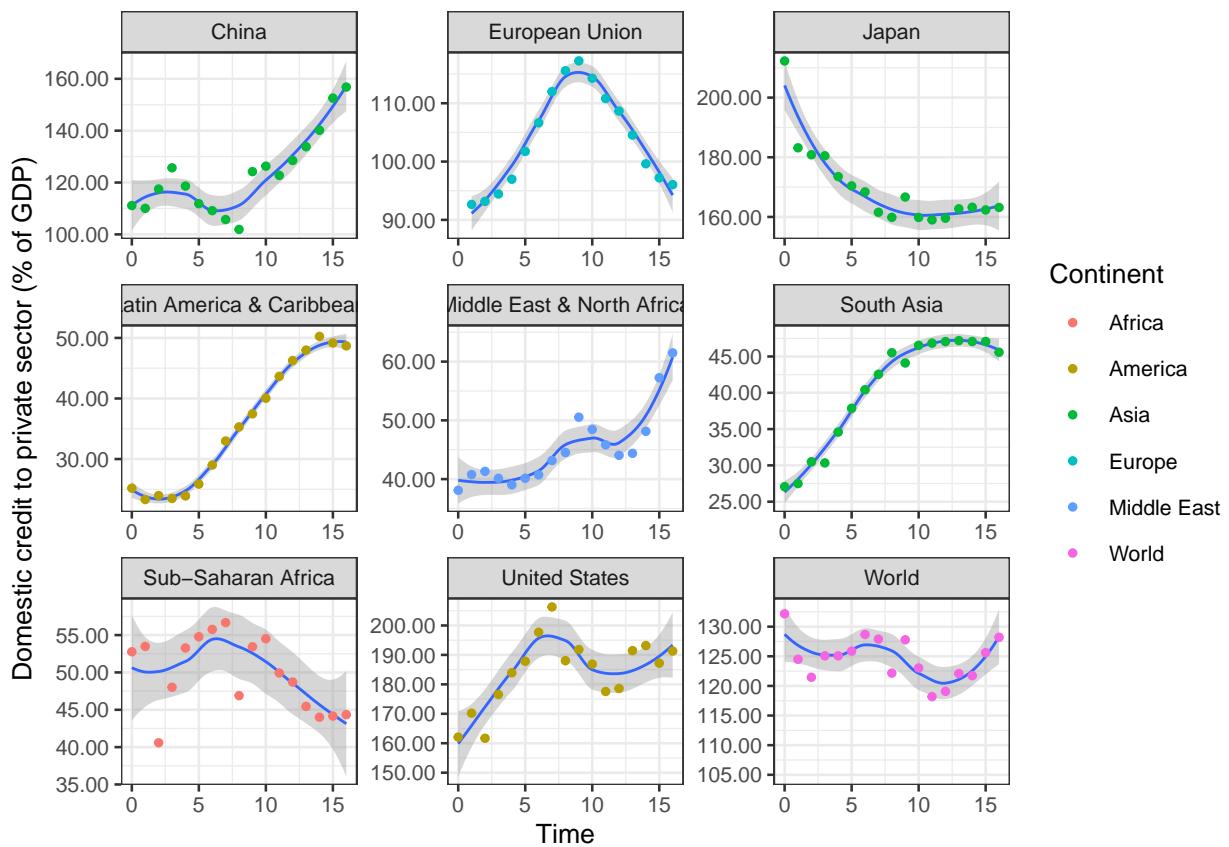


Figure 47: Trendline Domestic Credit to private sector 2000 - 2017 aggregated regions and biggest countries

Domestic credit to private sector by banks (% of GDP)

Domestic credit to private sector by banks refers to financial resources provided to the private sector by other depository corporations (deposit taking corporations except central banks), such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises.

Credit is an important link in money transmission; it finances production, consumption, and capital formation, which in turn affect economic activity. The data on domestic credit provided to the private sector by banks are taken from the other depository corporations survey (line 22D) of the International Monetary Fund's (IMF) International Financial Statistics. The other depository corporations include all deposit taking corporations (deposit money banks) except monetary authorities (the central bank).

Private sector development and investment - tapping private sector initiative and investment for socially useful purposes - are critical for poverty reduction. In parallel with public sector efforts, private investment, especially in competitive markets, has tremendous potential to contribute to growth. Private markets are the engine of productivity growth, creating productive jobs and higher incomes. And with government playing a complementary role of regulation, funding, and service provision, private initiative and investment can help provide the basic services and conditions that empower poor people - by improving health, education, and infrastructure.

Credit to the private sector may sometimes include credit to state-owned or partially state-owned enterprises.

Table 34: Domestic credit to private sector by banks (% of GDP)

Country Name	Mean	SD
Austria	91	4.8
Belgium	61	4.1
Brazil	47	15
Chile	70	6.7
China	125	17
Czech Republic	41	10
Denmark	167	21
Estonia	74	15
European Union	103	8.5
Finland	80	15
France	89	8.8
Germany	93	13
Greece	90	24
Hungary	44	11
Iceland	146	66
Ireland	105	40
Israel	71	4.8
Italy	81	12
Japan	105	20
Korea, Rep.	128	19
Latin America & Caribbean	34	9.6
Latvia	61	18
Lithuania	45	6.1
Luxembourg	87	14
Mexico	18	4.6
Middle East & North Africa	45	6.6
Netherlands	114	2.5
New Zealand	129	17
Norway	103	14

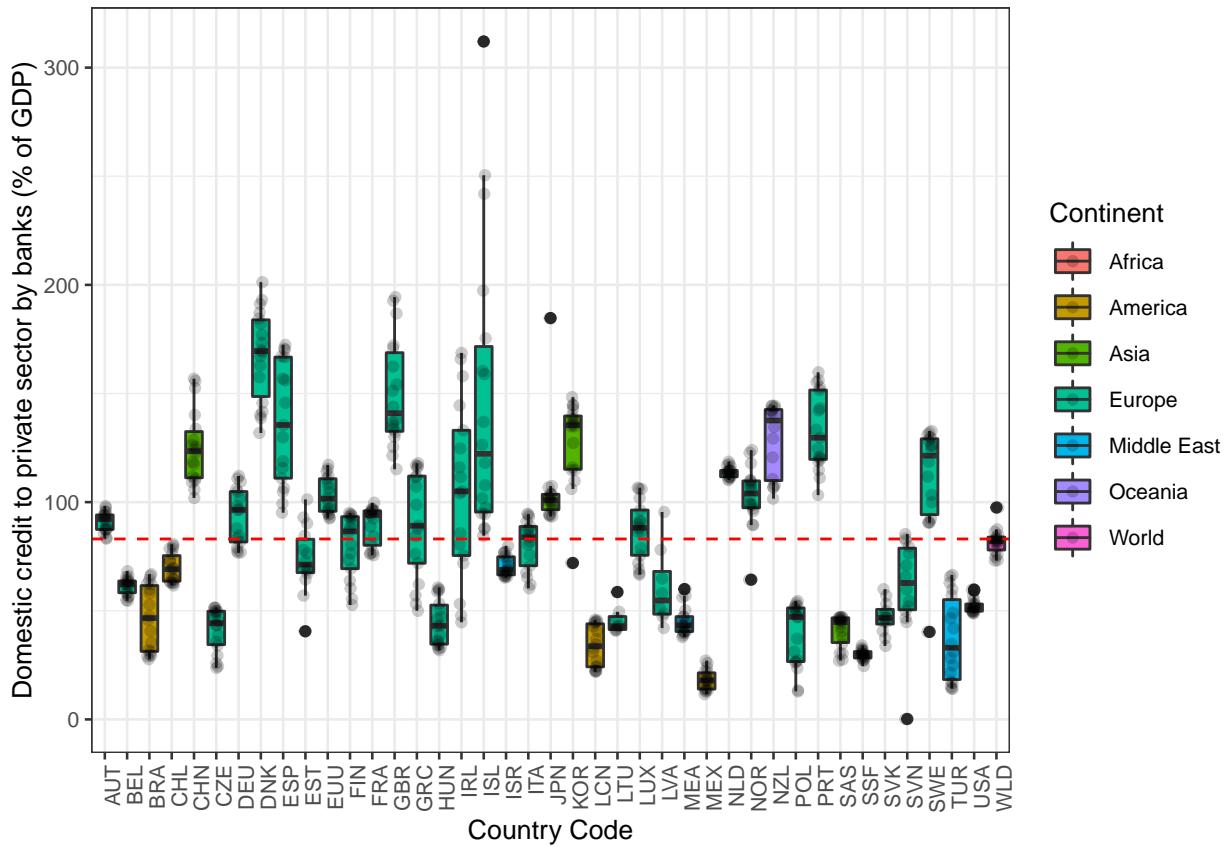


Figure 48: Boxplot Credit to the private sector by banks (% of GDP) 2000 - 2017

Country Name	Mean	SD
Poland	39	14
Portugal	133	18
Slovak Republic	47	7.5
Slovenia	61	23
South Asia	41	7.4
Spain	137	28
Sub-Saharan Africa	30	2.3
Sweden	111	24
Turkey	37	19
United Kingdom	150	25
United States	52	3.5
World	82	5.8

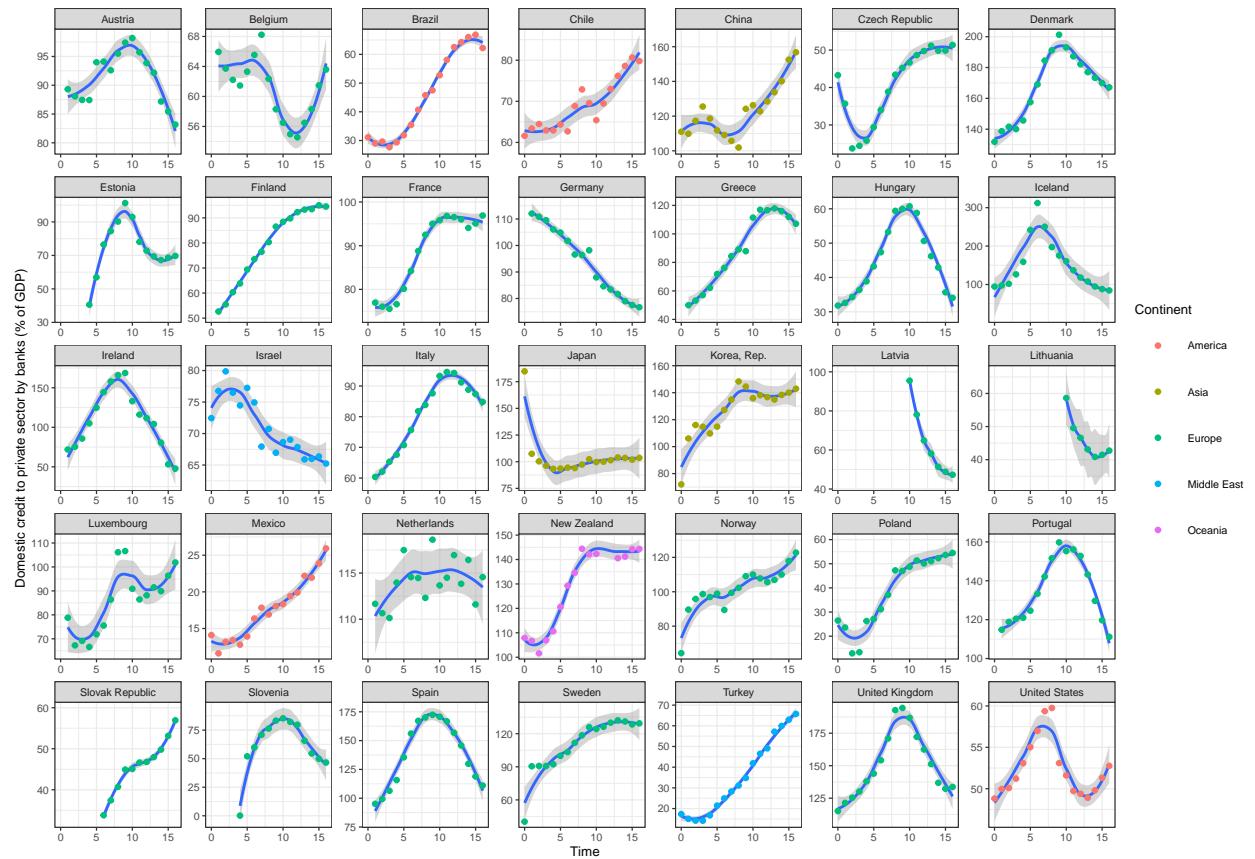


Figure 49: Trendline Credit to the private sector by banks (% of GDP) 2000 - 2017

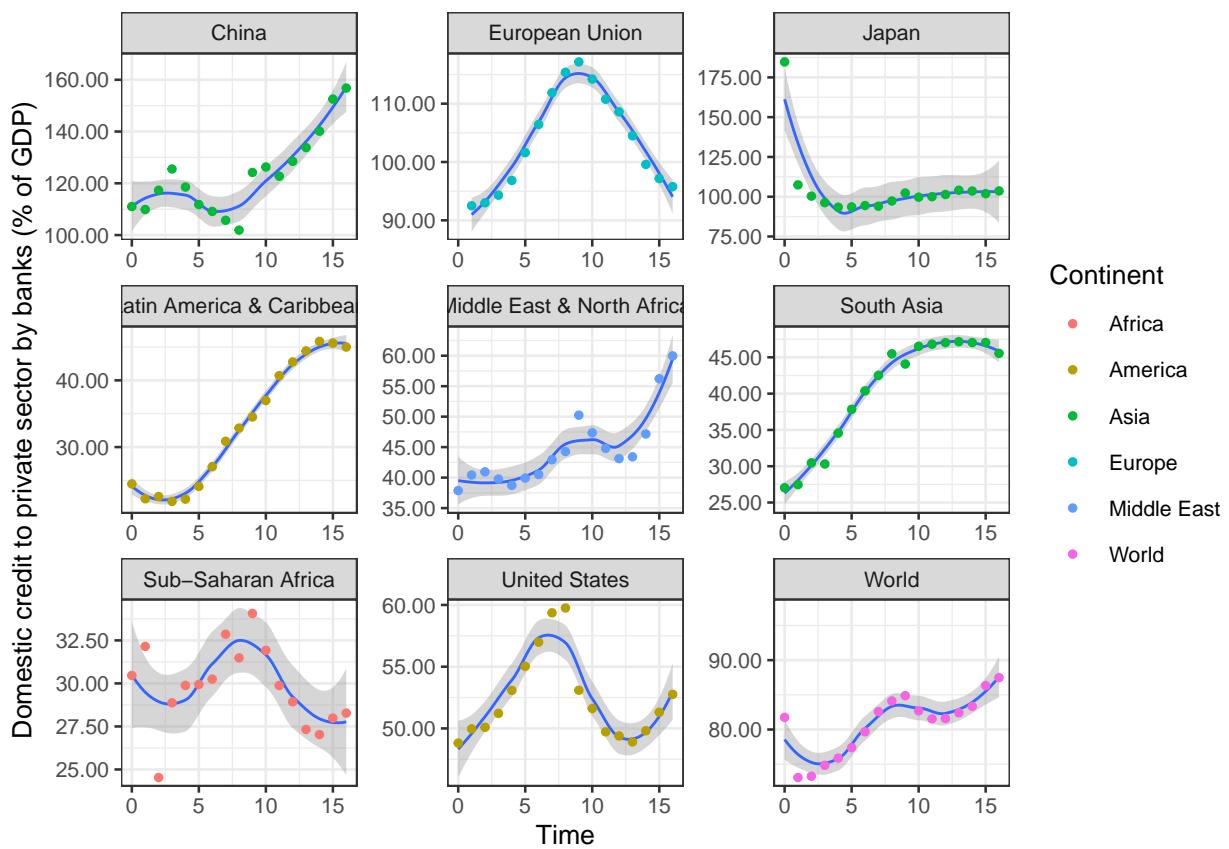


Figure 50: Trendline Credit to the private sector by banks (% of GDP) 2000 - 2017 aggregated regions and biggest countries

Exports of goods and services (% of GDP)

Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.

Gross domestic product (GDP) from the expenditure side is made up of household final consumption expenditure, general government final consumption expenditure, gross capital formation (private and public investment in fixed assets, changes in inventories, and net acquisitions of valuables), and net exports (exports minus imports) of goods and services. Such expenditures are recorded in purchaser prices and include net taxes on products.

Because policymakers have tended to focus on fostering the growth of output, and because data on production are easier to collect than data on spending, many countries generate their primary estimate of GDP using the production approach. Moreover, many countries do not estimate all the components of national expenditures but instead derive some of the main aggregates indirectly using GDP (based on the production approach) as the control total.

Data on exports and imports are compiled from customs reports and balance of payments data. Although the data from the payments side provide reasonably reliable records of cross-border transactions, they may not adhere strictly to the appropriate definitions of valuation and timing used in the balance of payments or corresponds to the change-of ownership criterion. This issue has assumed greater significance with the increasing globalization of international business. Neither customs nor balance of payments data usually capture the illegal transactions that occur in many countries. Goods carried by travelers across borders in legal but unreported shuttle trade may further distort trade statistics.

Table 35: Exports of goods and services (% of GDP)

Country Name	Mean	SD
Austria	50	3.9
Belgium	77	5.6
Brazil	13	1.8
Chile	36	5.1
China	26	5.4
Czech Republic	65	13
Denmark	50	4.3
Estonia	70	10
European Union	38	3.9
Finland	39	2.6
France	28	1.6
Germany	41	5.8
Greece	25	4.9
Hungary	76	12
Iceland	43	9.4
Ireland	97	15
Israel	35	3.7
Italy	27	2.5
Japan	15	2.6
Korea, Rep.	43	8.3
Latin America & Caribbean	22	1.8
Latvia	48	11
Lithuania	62	15
Luxembourg	179	28

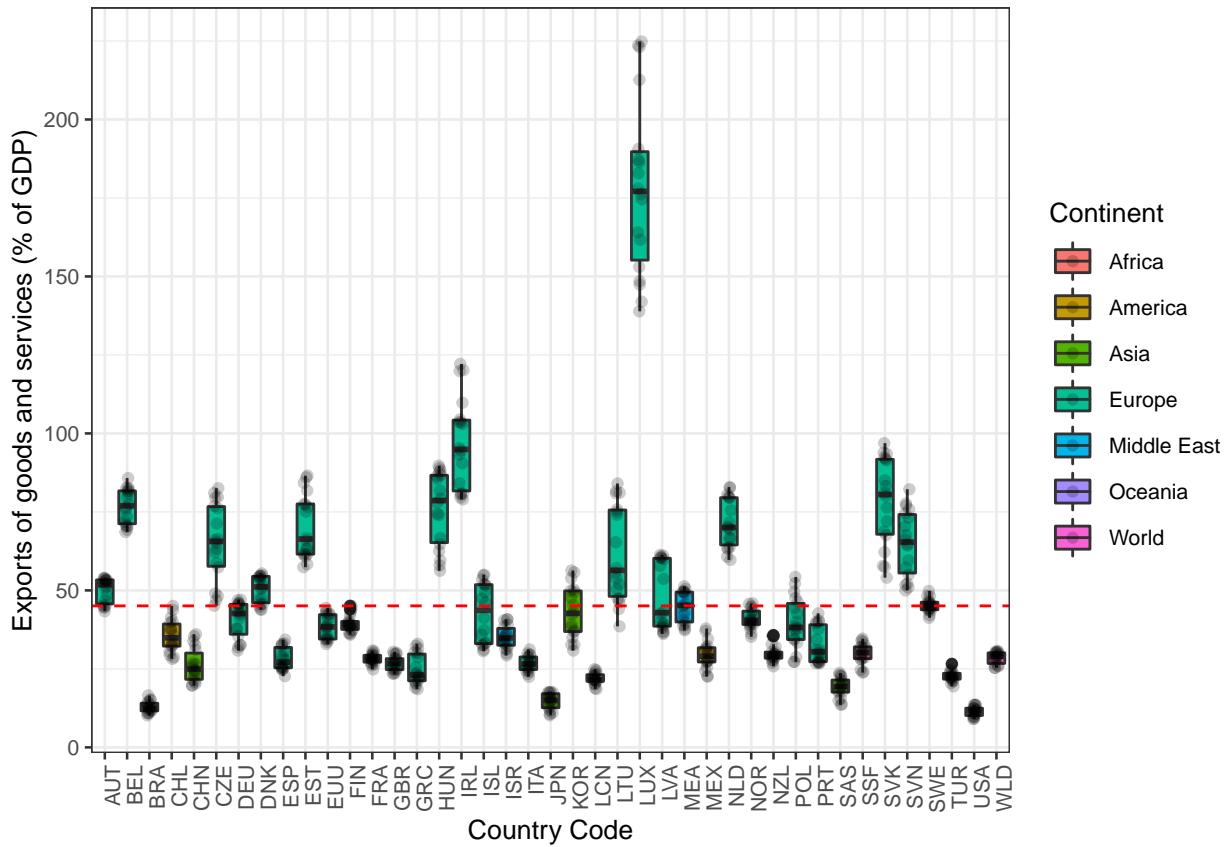


Figure 51: Boxplot Exports of goods and services (% of GDP) 2000 - 2017

Country Name	Mean	SD
Mexico	29	4.4
Middle East & North Africa	45	4.9
Netherlands	71	7.9
New Zealand	30	2.7
Norway	41	3.2
Poland	40	8.2
Portugal	33	5.8
Slovak Republic	78	14
Slovenia	65	10
South Asia	19	3.2
Spain	28	3.6
Sub-Saharan Africa	30	3.3
Sweden	45	2.2
Turkey	23	1.7
United Kingdom	27	2.4
United States	11	1.6
World	29	1.9

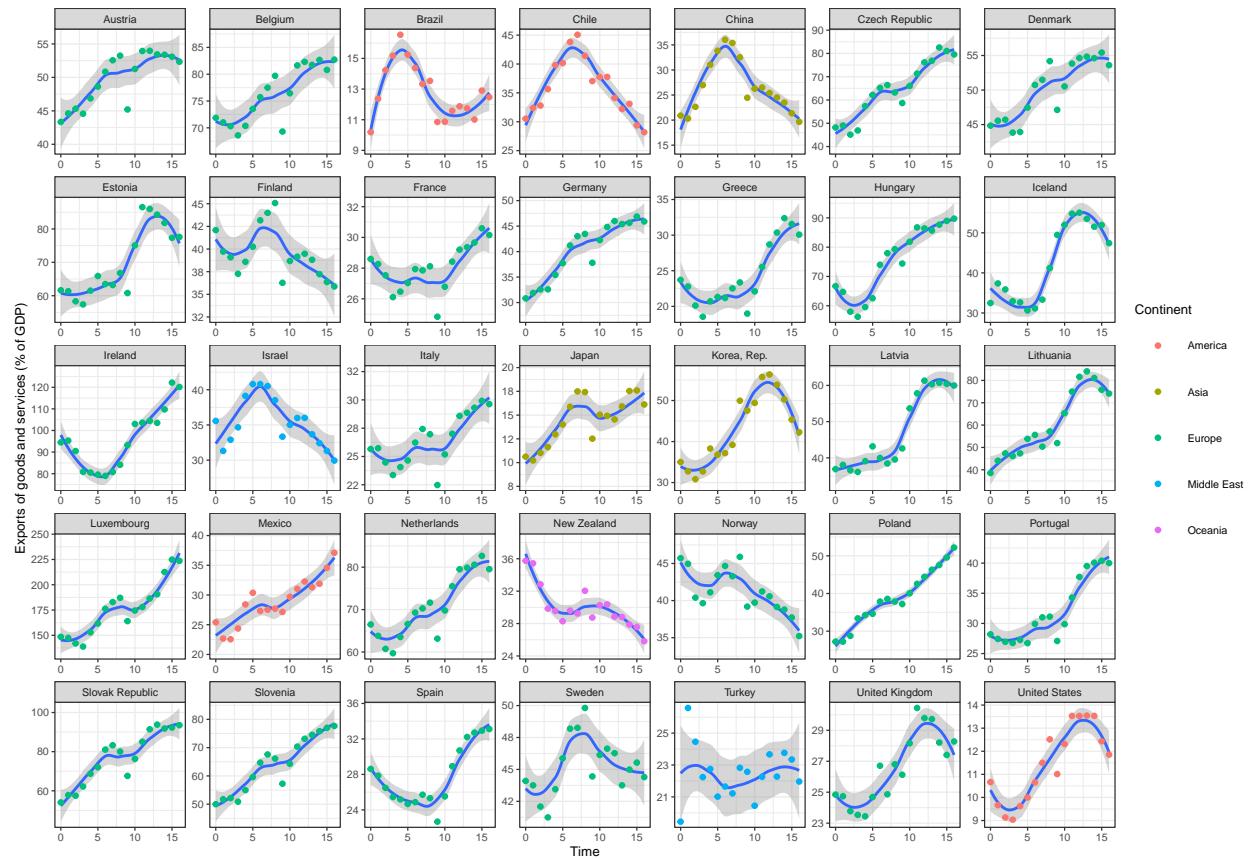


Figure 52: Trendline Exports of goods and services (% of GDP) 2000 - 2017

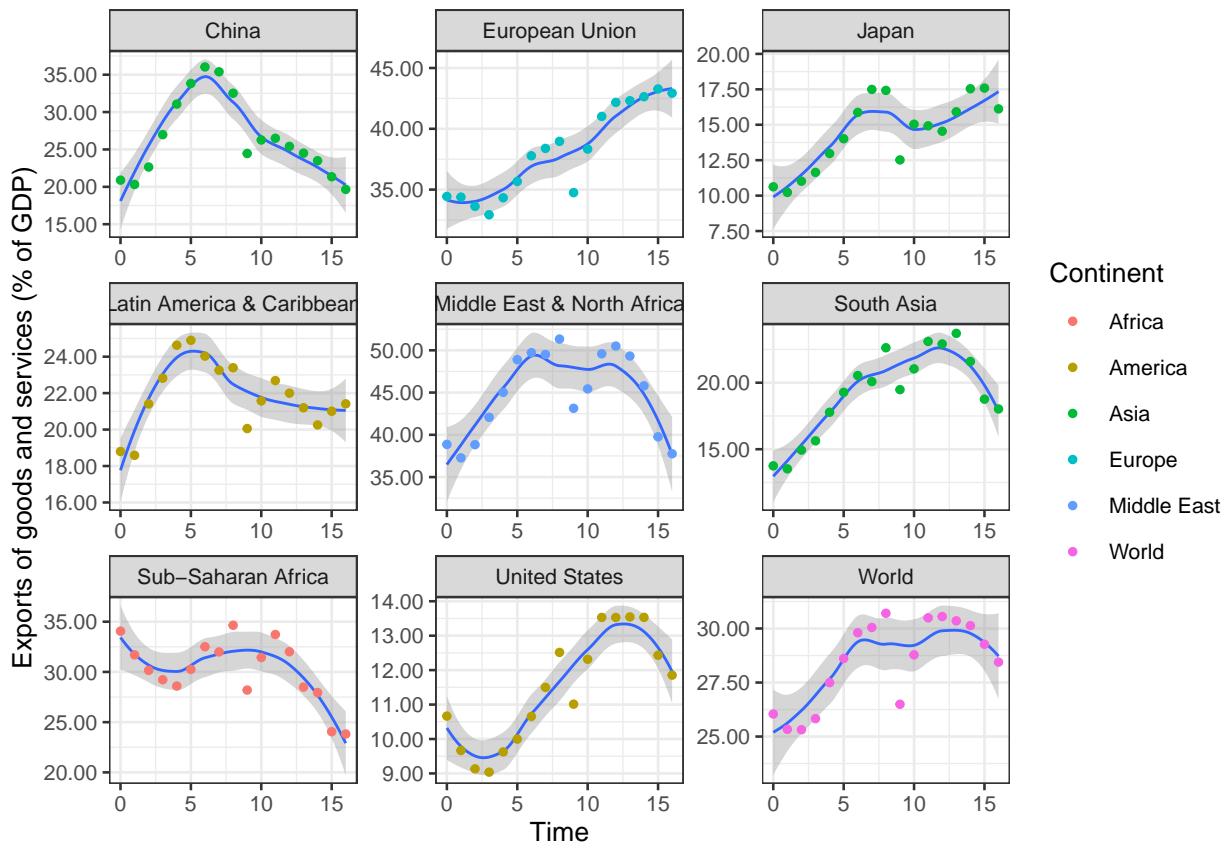


Figure 53: Trendline Exports of goods and services (% of GDP) 2000 - 2017 aggregated regions and biggest countries

Exports of goods and services (annual % growth)

Annual growth rate of exports of goods and services based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.

Table 36: Exports of goods and services (annual % growth)

Country Name	Mean	SD
Austria	4.3	6
Belgium	4	4.7
Brazil	5.4	5.9
Chile	3	4.3
Czech Republic	8.6	8.4
Denmark	3.6	4.6
Estonia	6.6	11
European Union	4.5	5.2
Finland	3.4	7.5
France	3.2	4.8
Germany	5.4	6.4
Greece	3.3	8.9
Hungary	8.6	8.2
Iceland	5.8	5.7
Ireland	8	9.8
Israel	4.5	9.1
Italy	2.7	6.7
Japan	4.9	10
Korea, Rep.	8.1	6.8
Latin America & Caribbean	3.5	4.8
Latvia	7.6	7.6
Lithuania	10	8.9
Luxembourg	5.8	6.5
Mexico	4.9	7.3
Middle East & North Africa	4.4	4.7
Netherlands	4.2	4.6
New Zealand	2.9	2.4
Norway	0.75	2.2
Poland	8.4	6.1
Portugal	4.5	4.9
Slovak Republic	9.2	8.7
Slovenia	6.6	7
South Asia	10	8.9
Spain	3.7	4.7
Sub-Saharan Africa	5.2	7.3
Sweden	4	6
Turkey	6.9	5.6
United Kingdom	3.4	4.7
United States	3.7	5.5
World	4.6	4.9

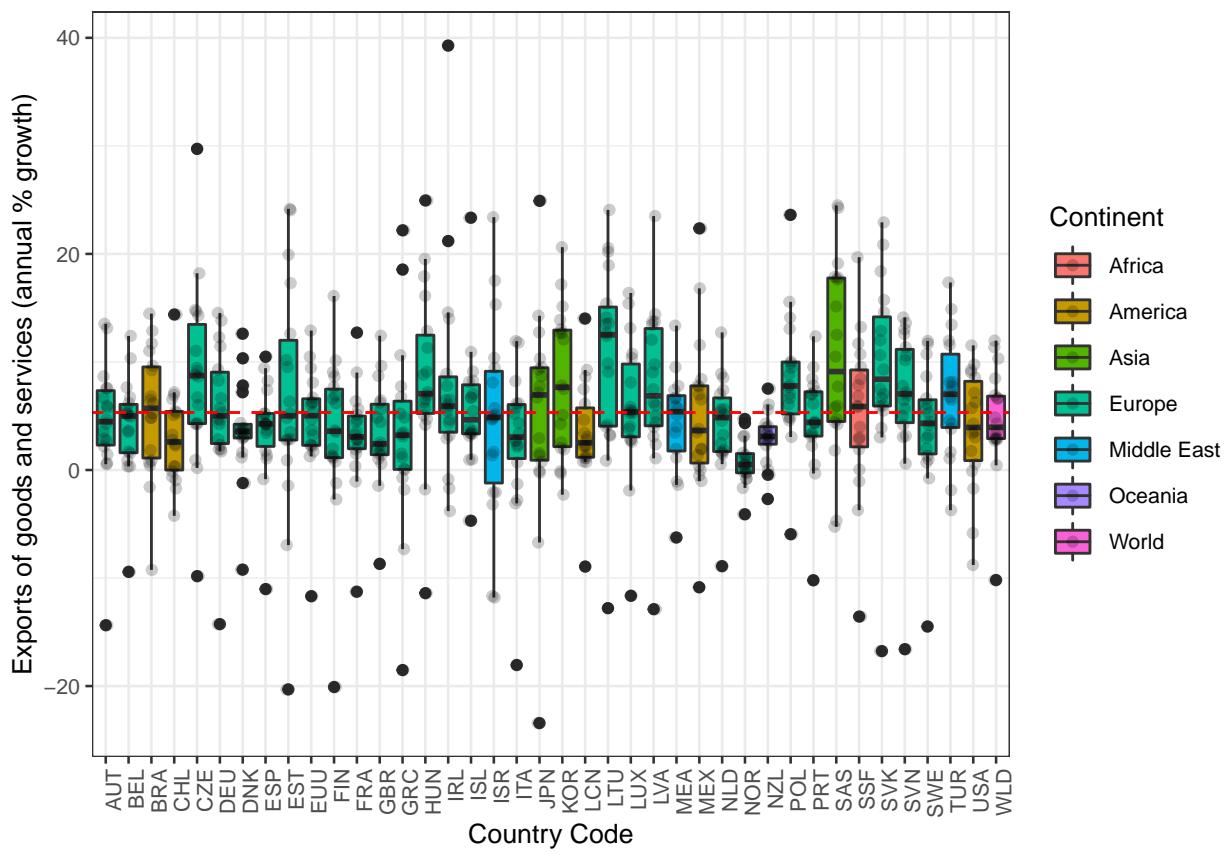


Figure 54: Boxplot Exports of goods and services (annual growth) 2000 - 2017

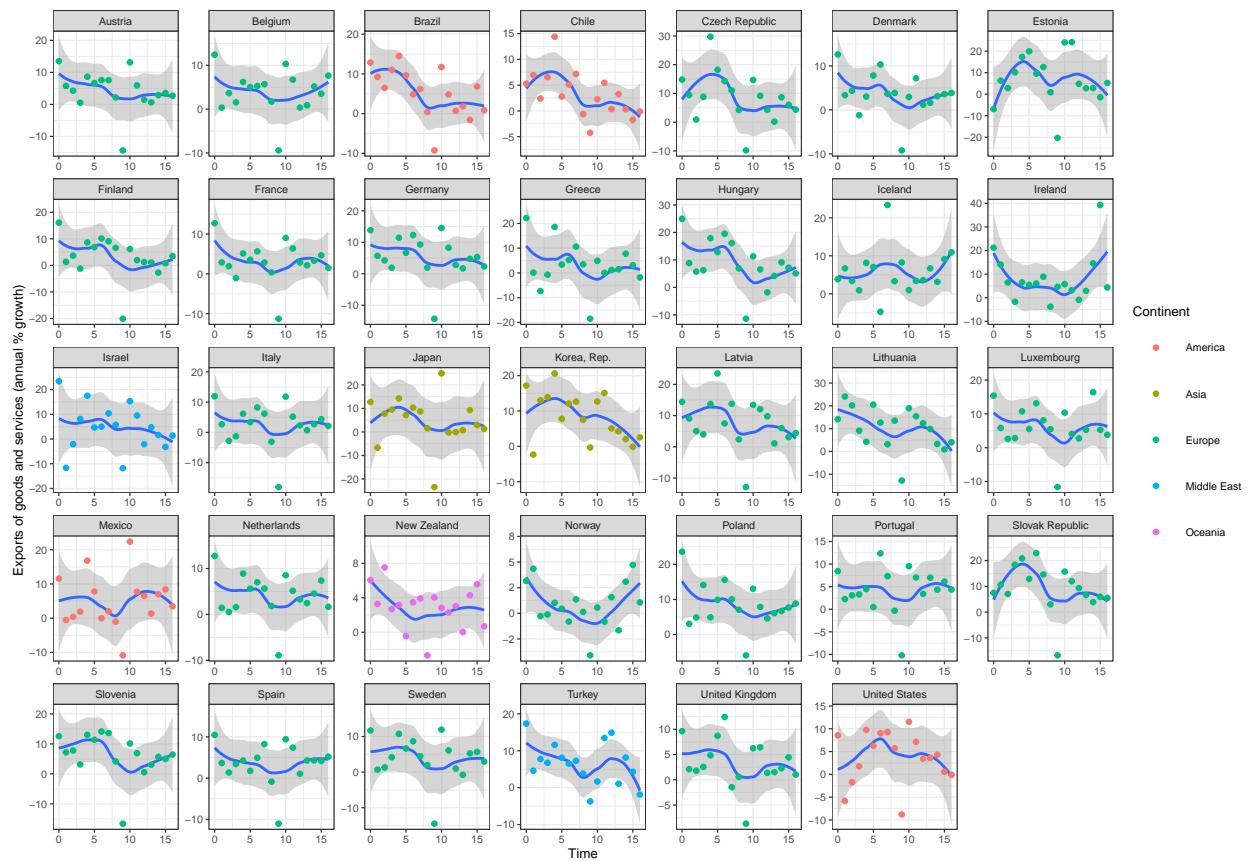


Figure 55: Trendline Exports of goods and services (annual growth) 2000 - 2017

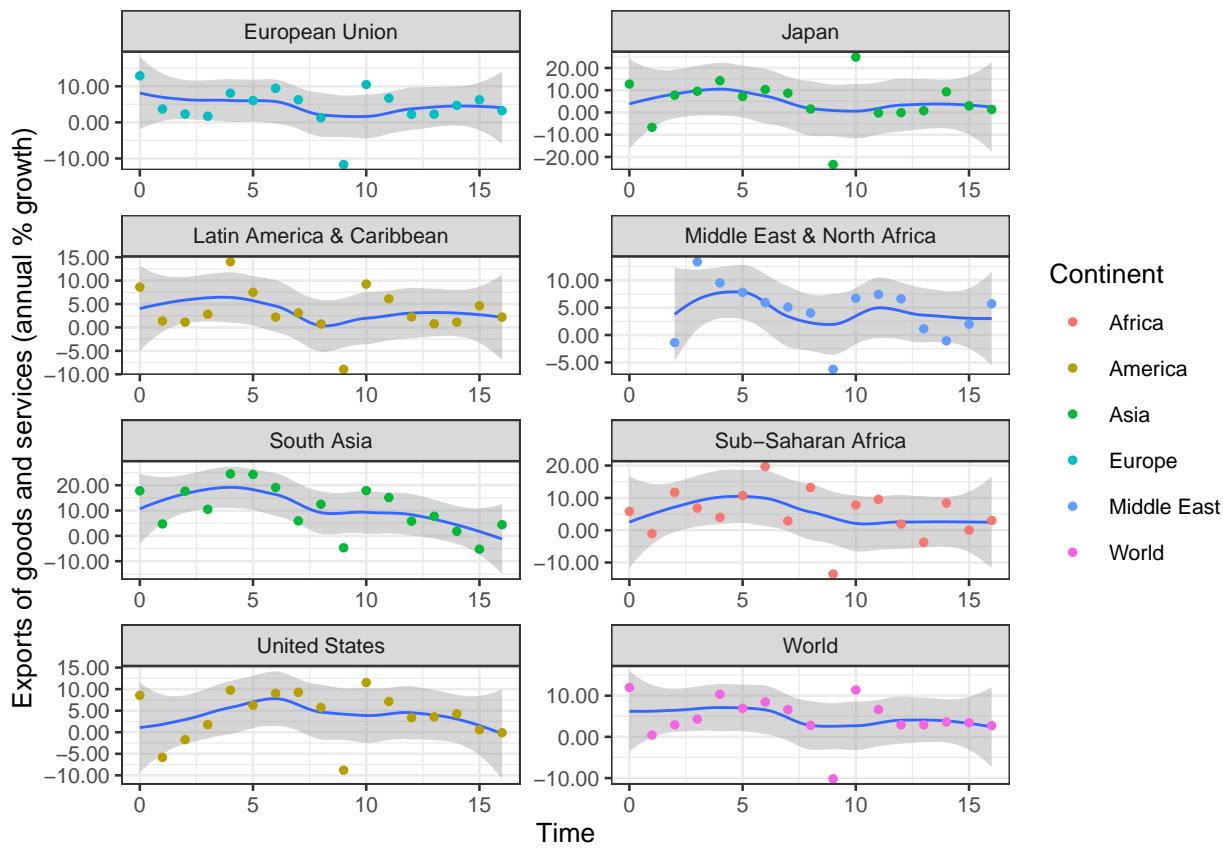


Figure 56: Trendline Exports of goods and services (annual growth) regions and biggest countries 2000 - 2017

Food exports (% of merchandise exports)

Food comprises the commodities in SITC sections 0 (food and live animals), 1 (beverages and tobacco), and 4 (animal and vegetable oils and fats) and SITC division 22 (oil seeds, oil nuts, and oil kernels).

World Bank staff estimates through the WITS platform from the Comtrade database maintained by the United Nations Statistics Division.

The classification of commodity groups is based on the Standard International Trade Classification (SITC) revision 3.

Previous editions contained data based on the SITC revision 1. Data for earlier years in previous editions may differ because of the change in methodology. Concordance tables are available to convert data reported in one system to another.

Merchandise export shares may not sum to 100 percent because of unclassified trade.

Table 37: Food exports (% of merchandise exports)

Country Name	Mean	SD
Austria	6.5	0.9
Belgium	8.9	0.69
Brazil	30	4.4
Chile	22	4.2
China	3.4	0.96
Czech Republic	4.2	0.57
Denmark	19	1.1
Estonia	9.6	1
European Union	8.6	0.9
Finland	2.3	0.42
France	12	0.87
Germany	5	0.62
Greece	21	2.1
Hungary	7.5	0.92
Iceland	51	9.6
Ireland	9.3	1.2
Israel	2.6	0.59
Italy	7.3	0.98
Japan	0.62	0.14
Korea, Rep.	1.2	0.22
Latin America & Caribbean	21	2.6
Latvia	14	4.5
Lithuania	15	2.9
Luxembourg	8	1.6
Mexico	6	0.91
Middle East & North Africa	2.6	0.46
Netherlands	14	1.7
New Zealand	55	4.9
Norway	7	2.3
Poland	10	2
Portugal	9.8	2.2
Slovak Republic	4.1	0.65
Slovenia	3.8	0.53
South Asia	11	1.4
Spain	15	1
Sub-Saharan Africa	13	1.6

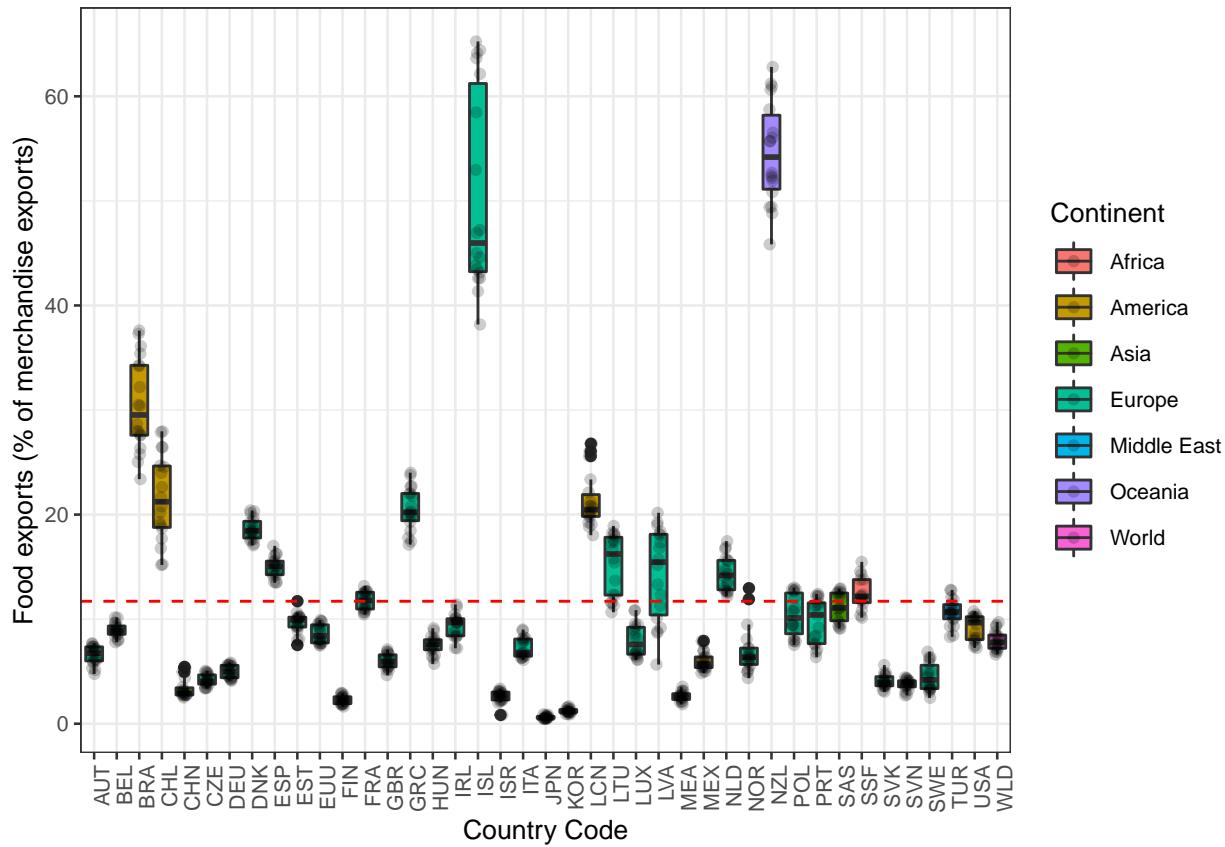


Figure 57: Boxplot Food exports (% of merchandise exports) 2000 - 2017

Country Name	Mean	SD
Sweden	4.5	1.4
Turkey	11	1.3
United Kingdom	6	0.72
United States	9.2	1.2
World	8	0.94

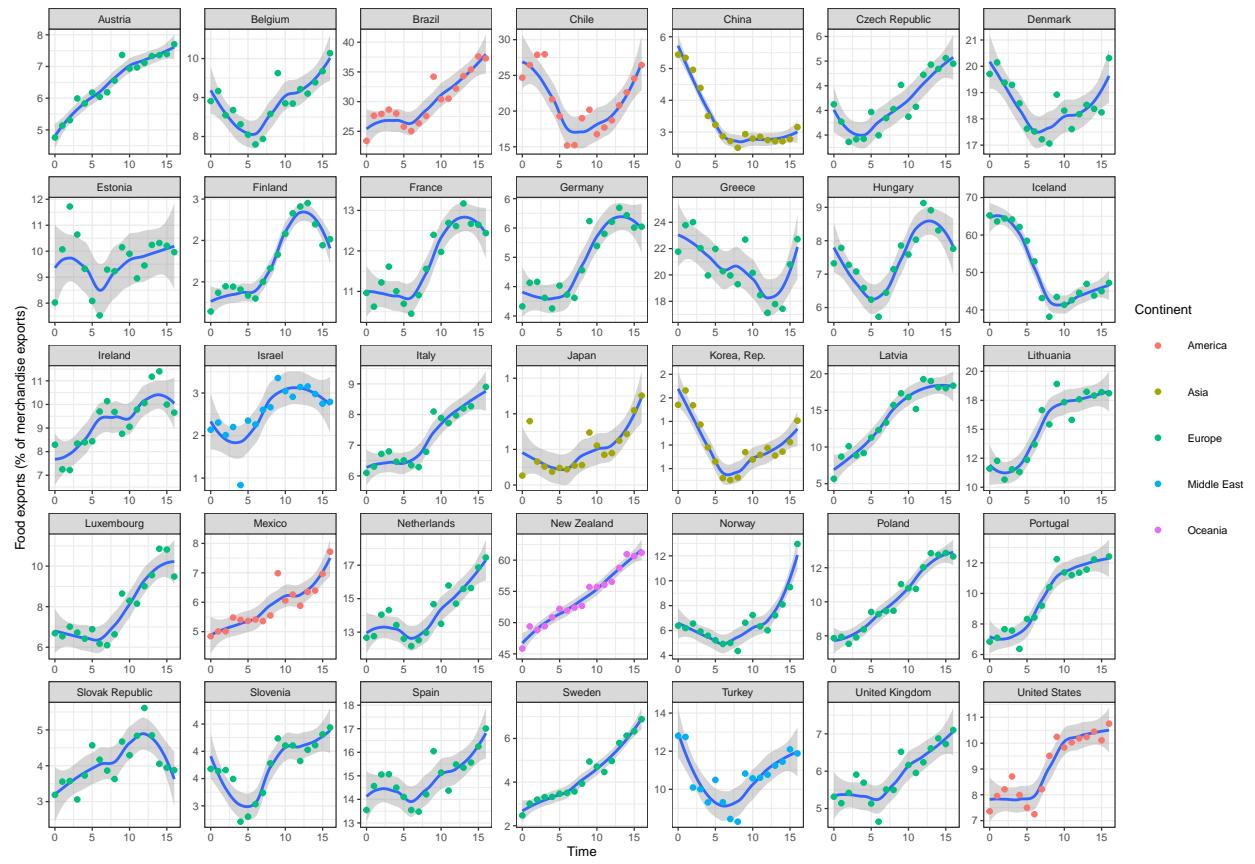


Figure 58: Trendline Food exports (% of merchandise exports) 2000 - 2017

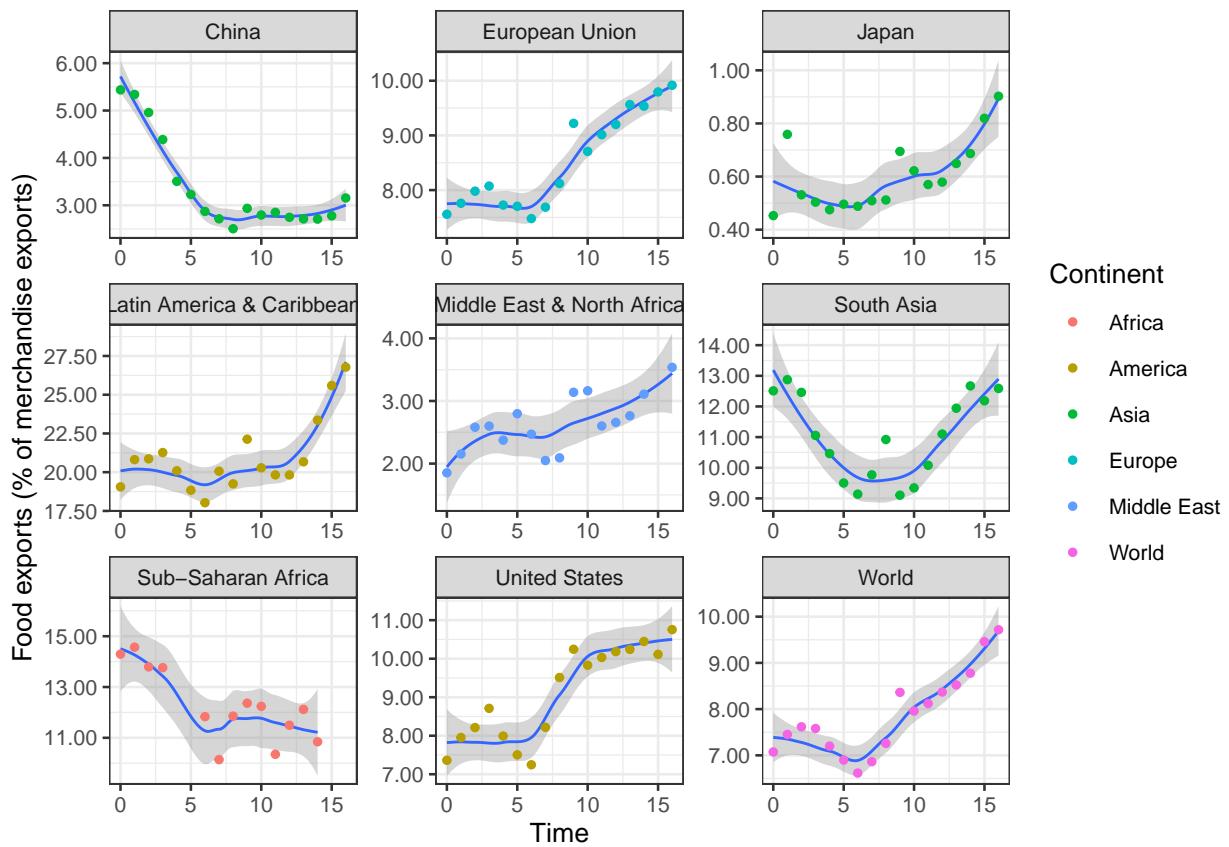


Figure 59: Trendline Food exports (% of merchandise exports) regions and biggest countries 2000 - 2017

Food imports (% of merchandise imports)

Merchandise import shares may not sum to 100 percent because of unclassified trade.

Table 38: Food imports (% of merchandise imports)

Country Name	Mean	SD
Austria	6.9	0.91
Belgium	8.6	0.65
Brazil	5.4	1
Chile	7.5	1.4
China	4.8	1.2
Czech Republic	5.4	0.62
Denmark	13	1.1
Estonia	10	1.2
European Union	8.7	0.88
Finland	6.5	1.3
France	8.6	0.7
Germany	7.4	0.56
Greece	12	1.2
Hungary	4.4	0.91
Iceland	9.9	1.4
Ireland	9.7	2
Israel	6.8	1.2
Italy	9.4	0.95
Japan	10	1.6
Korea, Rep.	5.1	0.65
Latin America & Caribbean	7.6	0.58
Latvia	13	1.9
Lithuania	11	2.2
Luxembourg	11	1.1
Mexico	6.3	0.58
Middle East & North Africa	13	1.4
Netherlands	11	1.9
New Zealand	9.6	1.5
Norway	8	1.1
Poland	7.2	1.2
Portugal	13	1.7
Slovak Republic	5.8	0.56
Slovenia	7.3	1.2
South Asia	6.3	0.94
Spain	10	1
Sub-Saharan Africa	12	1.2
Sweden	8.7	1.6
Turkey	4.2	0.89
United Kingdom	9.1	0.74
United States	4.9	0.69
World	7.5	0.7

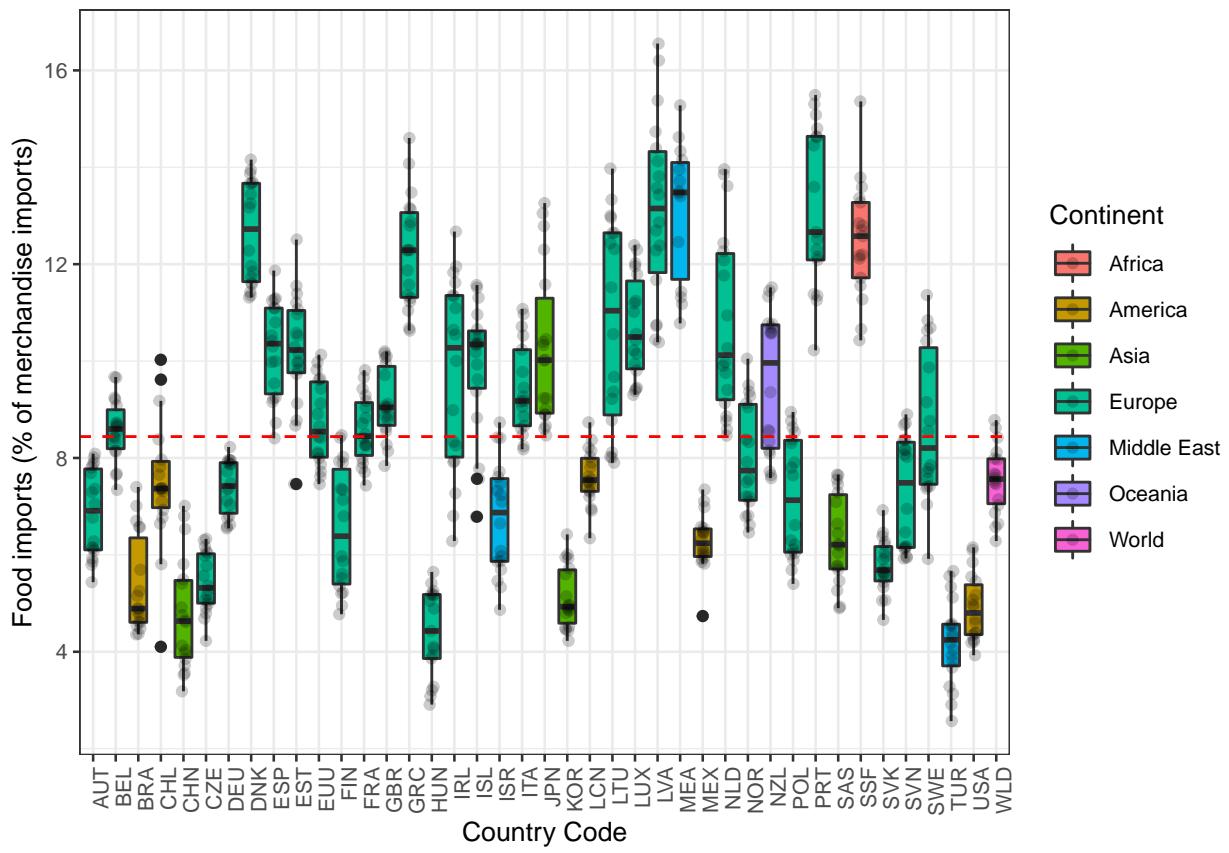


Figure 60: Boxplot Food imports (% of merchandise imports) 2000 - 2017

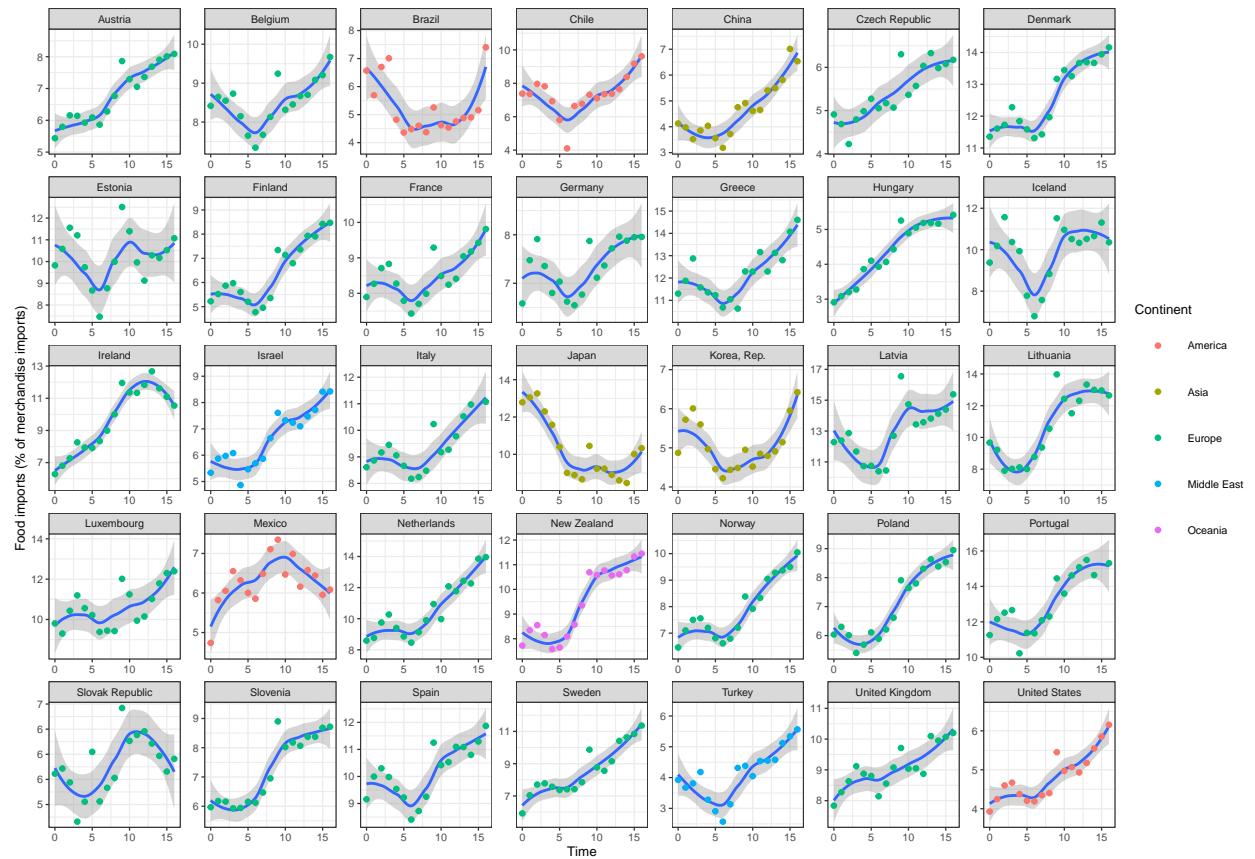


Figure 61: Trendline Food imports (% of merchandise imports) 2000 - 2017

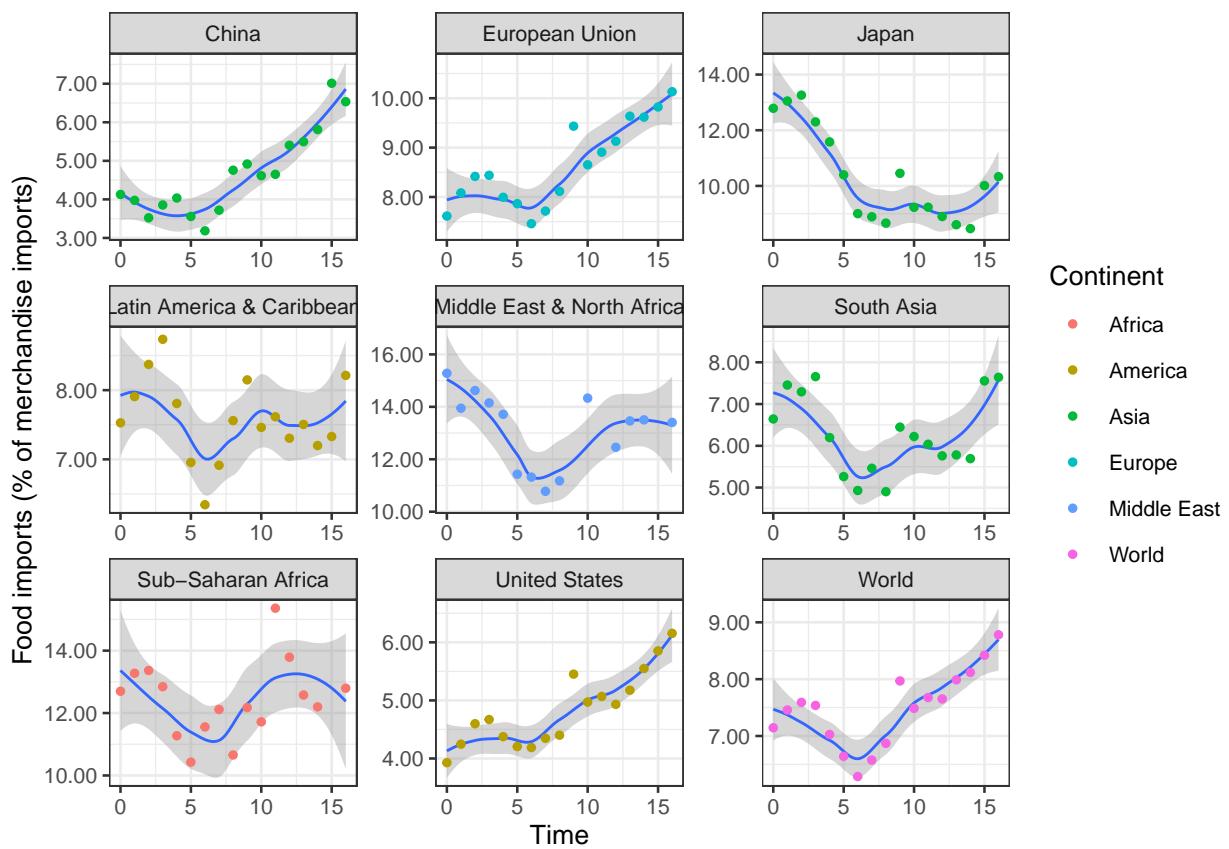


Figure 62: Boxplot Food imports (% of merchandise imports) regions and biggest countries 2000 - 2017

Final consumption expenditure (% of GDP)

Final consumption expenditure (formerly total consumption) is the sum of household final consumption expenditure (private consumption) and general government final consumption expenditure (general government consumption). This estimate includes any statistical discrepancy in the use of resources relative to the supply of resources.

Table 39: Final consumption expenditure (% of GDP)

Country Name	Mean	SD
Austria	73	0.92
Belgium	74	1.4
Brazil	81	2.1
Chile	73	3.7
China	53	4.6
Czech Republic	69	1.9
Denmark	73	1.5
Estonia	72	1.8
Finland	74	4.5
France	78	1
Germany	75	1.5
Greece	88	3.1
Hungary	74	2.8
Iceland	78	3.1
Ireland	60	7.2
Israel	79	1.4
Italy	79	1.2
Japan	76	2.4
Korea, Rep.	66	1.2
Latvia	80	2
Lithuania	83	3
Luxembourg	51	3.1
Mexico	78	1.2
Netherlands	71	1.2
New Zealand	76	1.5
Norway	63	3.5
Poland	80	2.5
Portugal	84	1.4
Slovak Republic	75	1.7
Slovenia	73	2.5
Spain	76	1.4
Sweden	71	1.3
Turkey	76	1.6
United Kingdom	85	1
United States	83	1.3

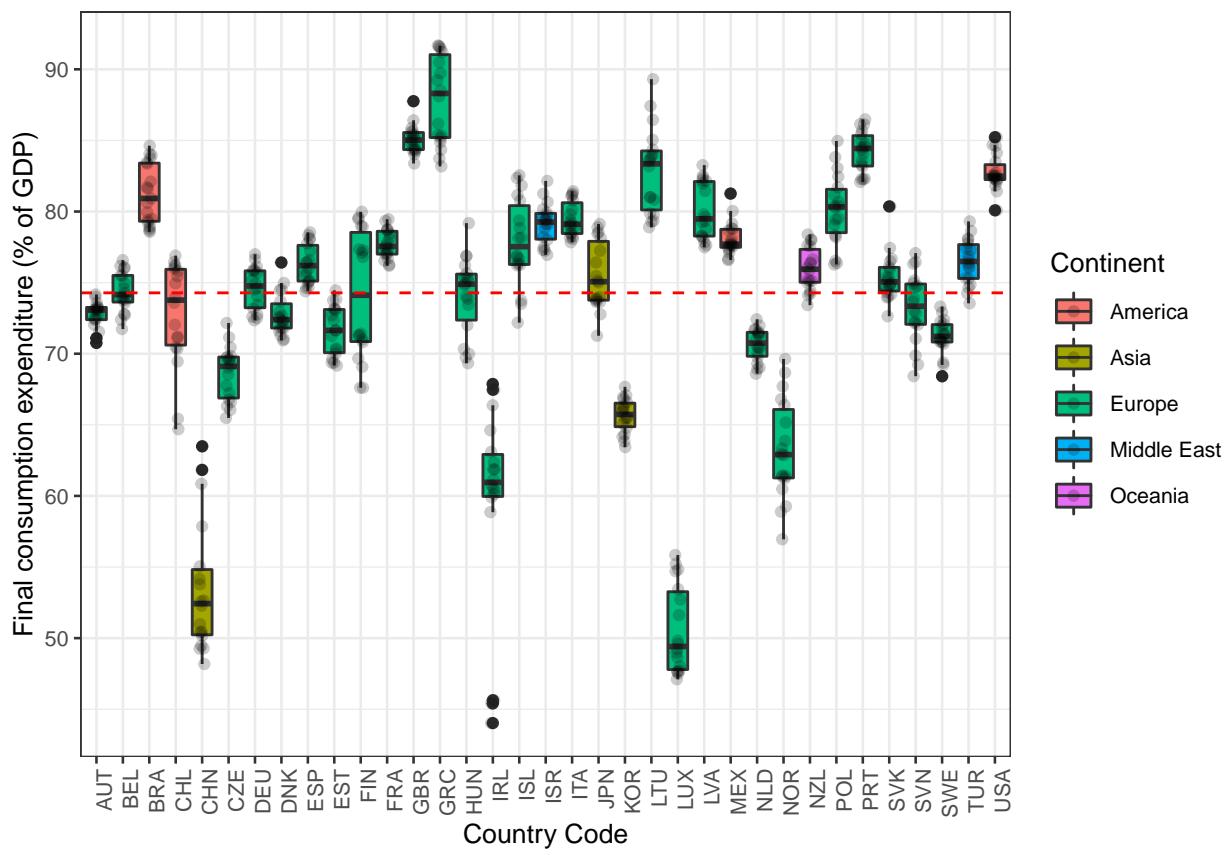


Figure 63: Boxplot Final consumption expenditure (% of GDP) 2000 - 2017

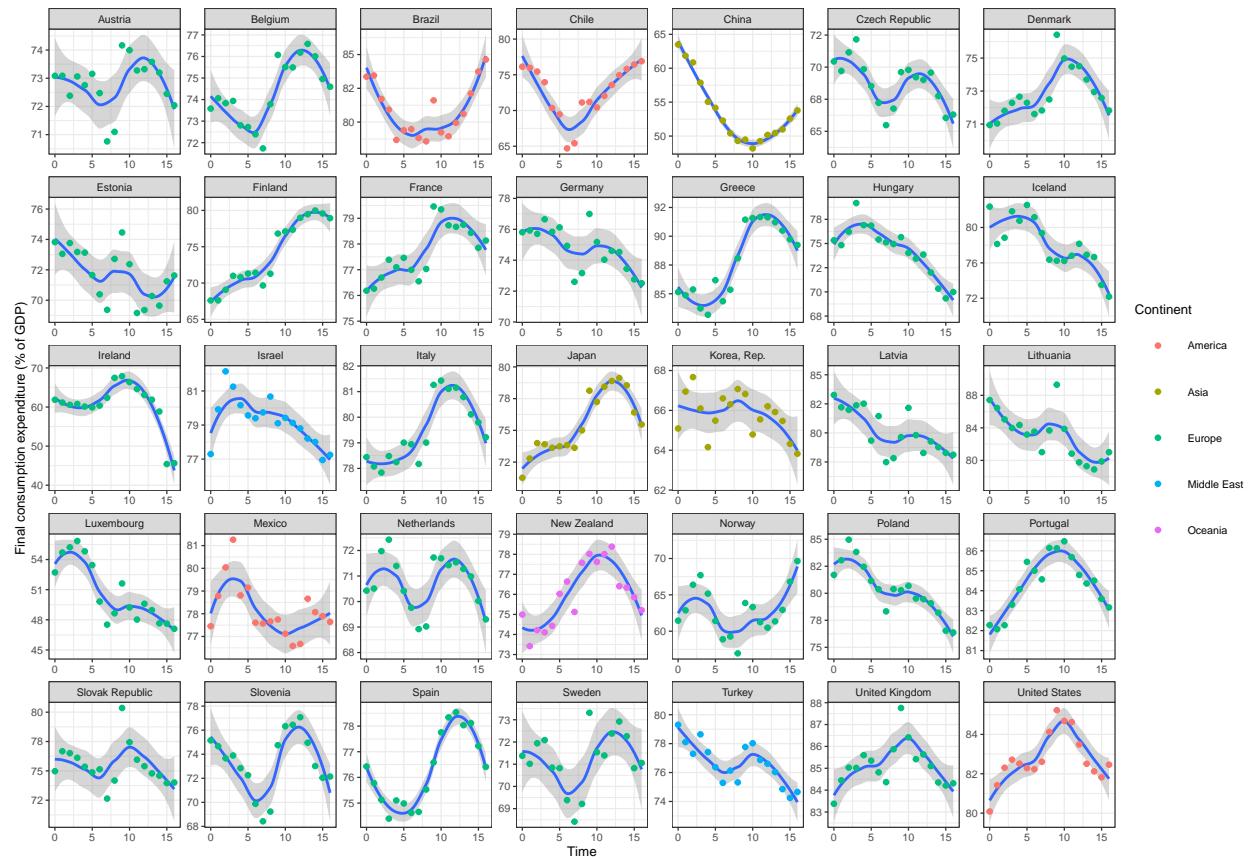


Figure 64: Trendline Final consumption expenditure (% of GDP) 2000 - 2017

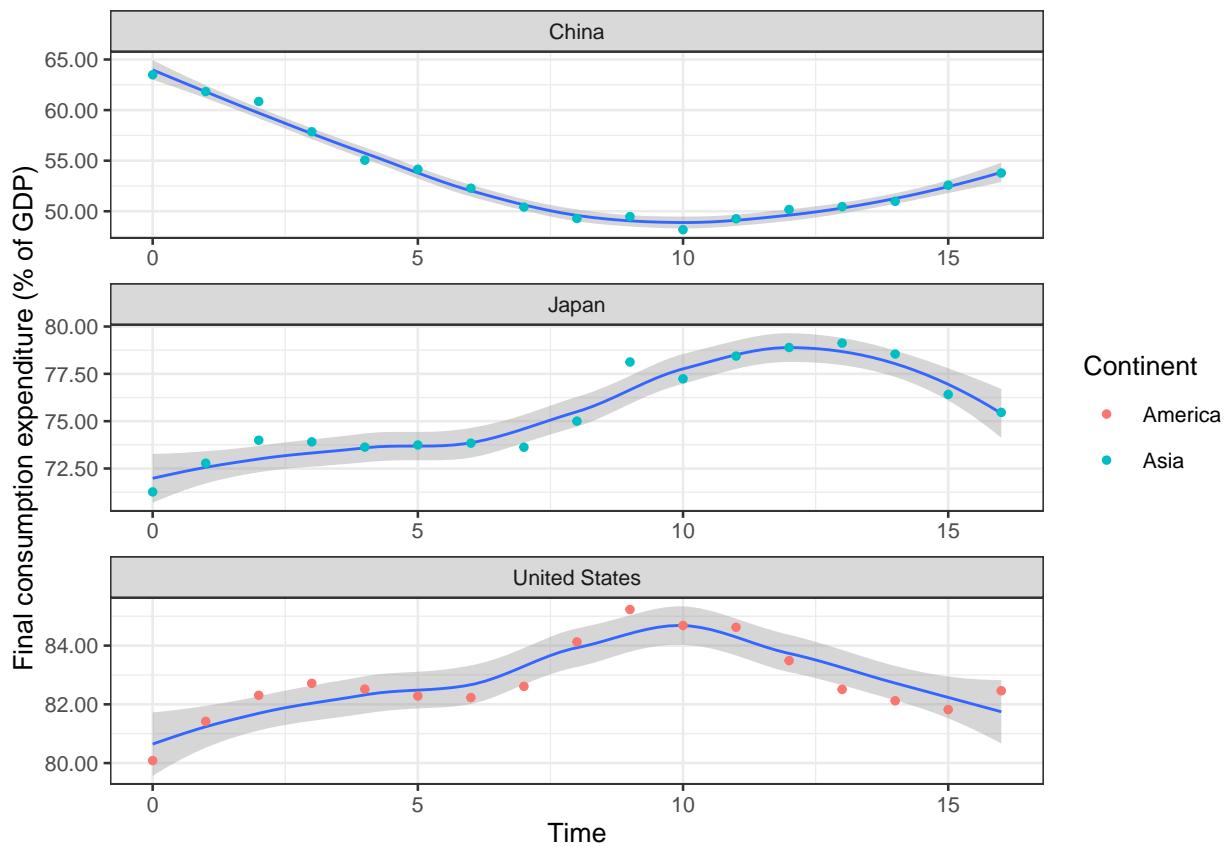


Figure 65: Trendline Final consumption expenditure (% of GDP) regions and biggest countries 2000 - 2017

Final consumption expenditure (annual % growth)

Average annual growth of final consumption expenditure based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. Final consumption expenditure (formerly total consumption) is the sum of household final consumption expenditure (formerly private consumption) and general government final consumption expenditure (formerly general government consumption). This estimate includes any statistical discrepancy in the use of resources relative to the supply of resources.

Table 40: Final consumption expenditure (annual % growth)

Country Name	Mean	SD
Austria	1.3	0.71
Belgium	1.2	0.65
Brazil	2.6	2.5
Chile	4.6	2.5
China	8.8	1.8
Czech Republic	2.1	1.7
Denmark	1.3	1.1
Estonia	3.7	5.2
European Union	1.4	1
Finland	1.8	1.3
France	1.5	0.75
Germany	1.1	0.72
Greece	0.37	4.3
Hungary	1.9	3.1
Iceland	2.5	4.1
Ireland	2.7	3.6
Israel	3.5	1.7
Italy	0.36	1.4
Japan	0.99	0.94
Korea, Rep.	3.5	2.2
Latin America & Caribbean	2.9	2
Latvia	3.4	6.4
Lithuania	3.8	5.5
Luxembourg	2.6	1.2
Mexico	2.3	2.5
Middle East & North Africa	4	2.3
Netherlands	1.3	1.3
New Zealand	3.3	1.5
Norway	2.8	0.87
Poland	3.2	1.5
Portugal	0.77	2.2
Slovak Republic	3.1	2.4
Slovenia	1.7	2.1
South Asia	5.7	1.5
Spain	1.7	2.7
Sub-Saharan Africa	4.8	3.9
Sweden	1.9	0.83
Turkey	4.7	3.8
United Kingdom	2	1.7
United States	2.1	1.3
World	2.7	0.79

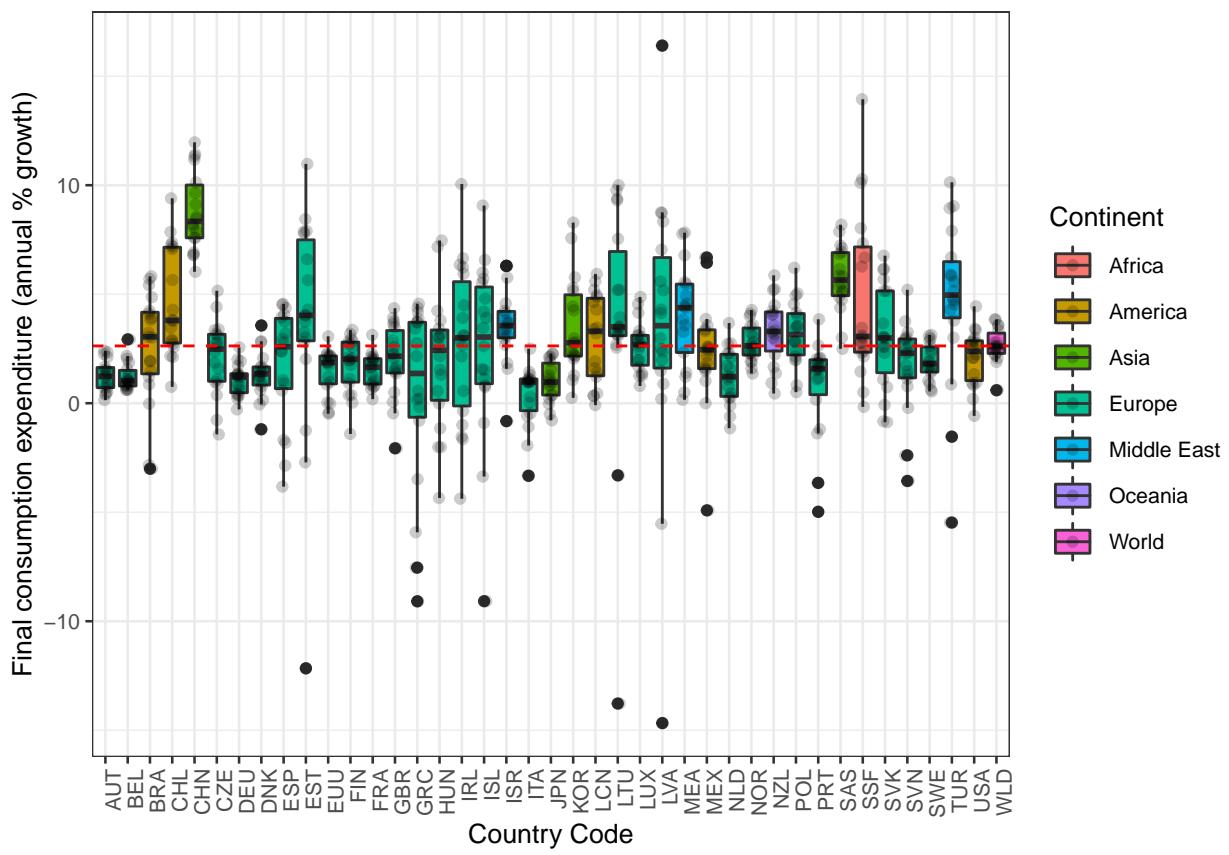


Figure 66: Boxplot Final consumption expenditure (annual % growth) 2000 - 2017

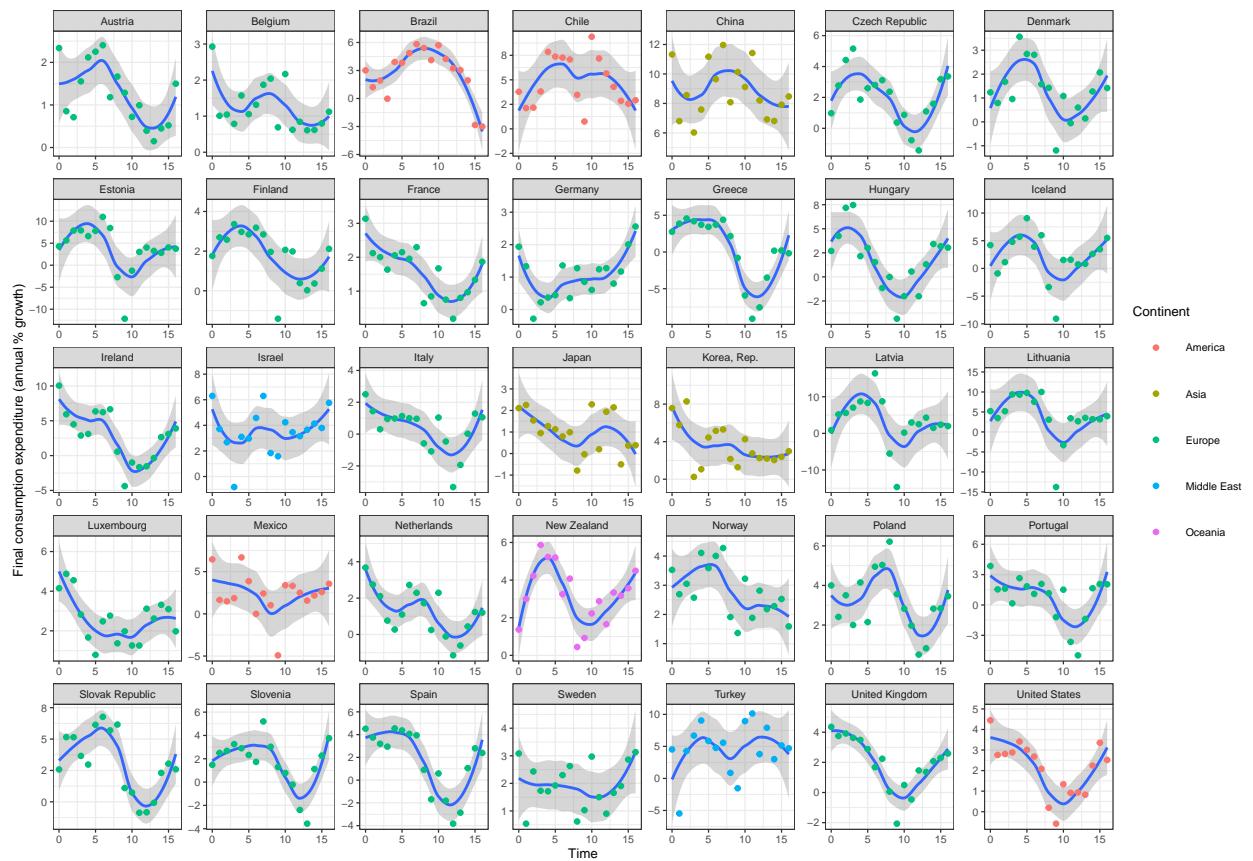


Figure 67: Trendline Final consumption expenditure (annual % growth) 2000 - 2017

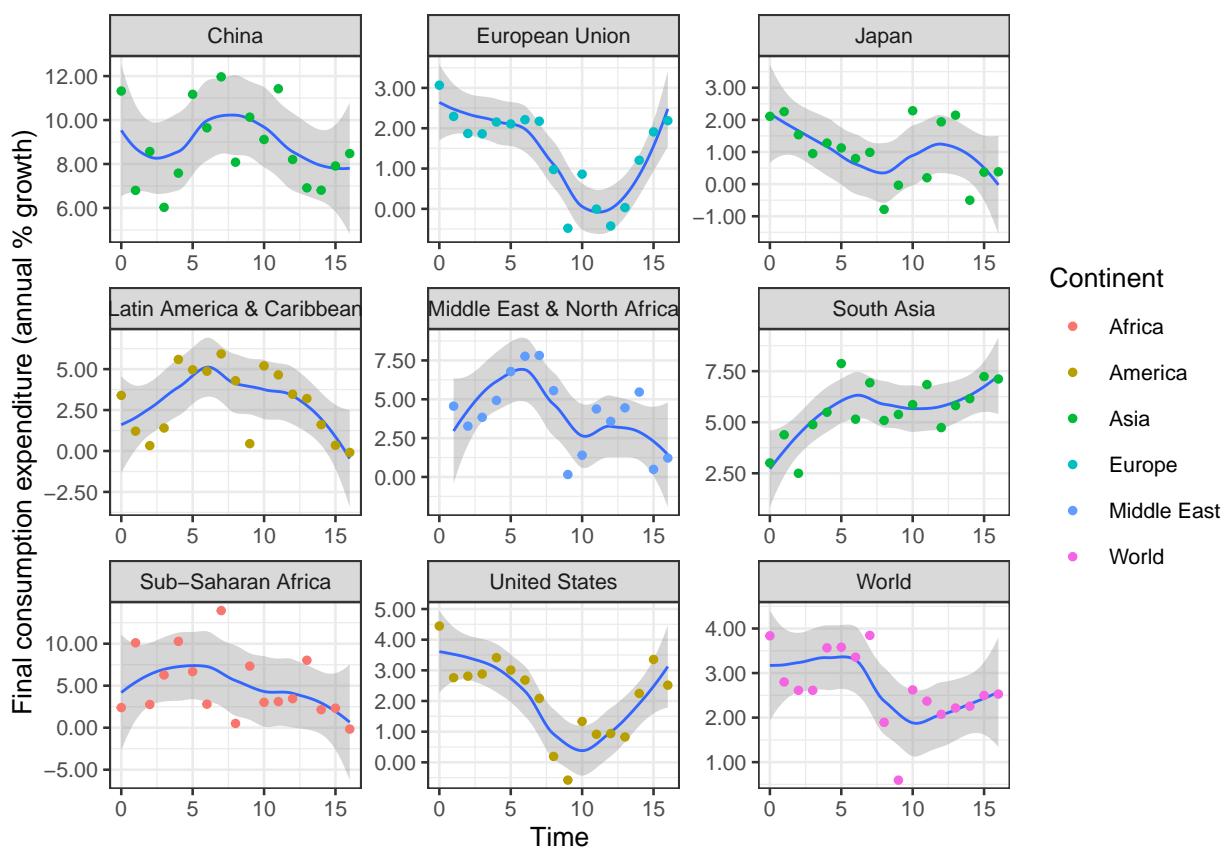


Figure 68: Trendline Final consumption expenditure (annual % growth) regions and biggest countries 2000 - 2017

Foreign direct investment, net inflows (% of GDP)

Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.

Data on equity flows are based on balance of payments data reported by the International Monetary Fund (IMF). Foreign direct investment (FDI) data are supplemented by the World Bank staff estimates using data from the United Nations Conference on Trade and Development (UNCTAD) and official national sources.

The internationally accepted definition of FDI (from the sixth edition of the IMF's Balance of Payments Manual [2009]), includes the following components: equity investment, including investment associated with equity that gives rise to control or influence; investment in indirectly influenced or controlled enterprises; investment in fellow enterprises; debt (except selected debt); and reverse investment. The Framework for Direct Investment Relationships provides criteria for determining whether cross-border ownership results in a direct investment relationship, based on control and influence. Distinguished from other kinds of international investment, FDI is made to establish a lasting interest in or effective management control over an enterprise in another country. A lasting interest in an investment enterprise typically involves establishing warehouses, manufacturing facilities, and other permanent or long-term organizations abroad. Direct investments may take the form of greenfield investment, where the investor starts a new venture in a foreign country by constructing new operational facilities; joint venture, where the investor enters into a partnership agreement with a company abroad to establish a new enterprise; or merger and acquisition, where the investor acquires an existing enterprise abroad. The IMF suggests that investments should account for at least 10 percent of voting stock to be counted as FDI. In practice many countries set a higher threshold. Many countries fail to report reinvested earnings, and the definition of long-term loans differs among countries. BoP refers to Balance of Payments.

FDI data do not give a complete picture of international investment in an economy. Balance of payments data on FDI do not include capital raised locally, an important source of investment financing in some developing countries. In addition, FDI data omit nonequity cross-border transactions such as intra-unit flows of goods and services.

The volume of global private financial flows reported by the World Bank generally differs from that reported by other sources because of differences in sources, classification of economies, and method used to adjust and disaggregate reported information. In addition, particularly for debt financing, differences may also reflect how some installments of the transactions and certain offshore issuances are treated.

Data on equity flows are shown for all countries for which data are available.

Note: Data starting from 2005 are based on the sixth edition of the IMF's Balance of Payments Manual (BPM6).

Table 41: Foreign direct investment, net inflows (% of GDP)

Country Name	Mean	SD
Austria	3.3	7.6
Belgium	11	13
Brazil	3.3	0.99
Chile	7	2.3
China	3.3	0.93
Czech Republic	5.1	2.7
Denmark	2.2	5.7
Estonia	8.5	5.4
European Union	4.7	2.1

Country Name	Mean	SD
Finland	3.8	3.8
France	2.1	1.1
Germany	2.4	2.7
Greece	0.8	0.62
Hungary	11	20
Iceland	5	12
Ireland	20	18
Israel	3.7	1.9
Italy	1.1	0.86
Japan	0.24	0.21
Korea, Rep.	1	0.4
Latin America & Caribbean	3.2	0.4
Latvia	3.6	2.2
Lithuania	2.9	1.7
Luxembourg	41	65
Mexico	2.7	0.65
Middle East & North Africa	2.6	1.6
Netherlands	26	20
New Zealand	0.92	2
Norway	2.3	2.6
Poland	3.4	1.6
Portugal	4.1	2.4
Slovak Republic	4.7	3.1
Slovenia	2.1	1.9
South Asia	1.5	0.69
Spain	3.2	1.7
Sub-Saharan Africa	2.5	0.63
Sweden	3.9	3.4
Turkey	1.6	0.9
United Kingdom	4.5	3.4
United States	1.8	0.66
World	3	0.91

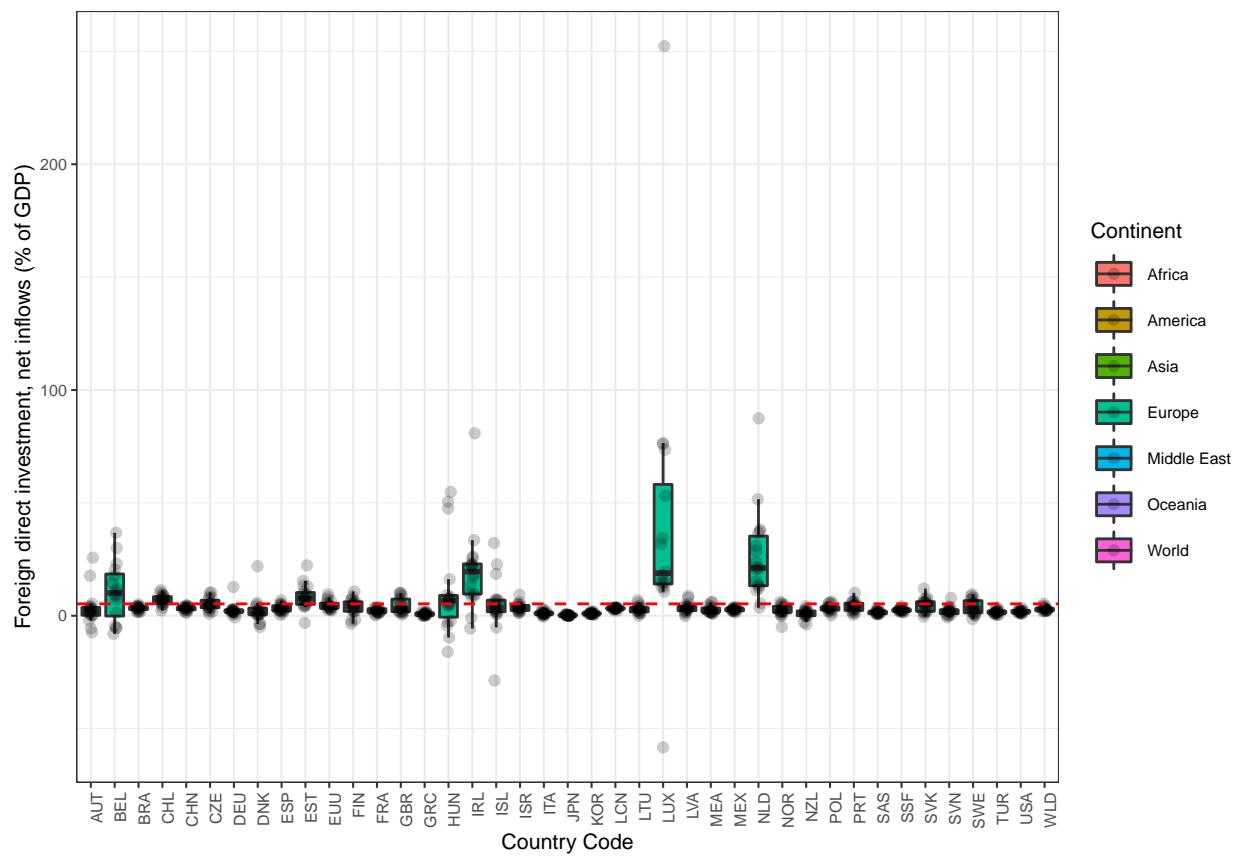


Figure 69: Boxplot Foreign direct investment, net inflows (% of GDP) 2000 - 2017

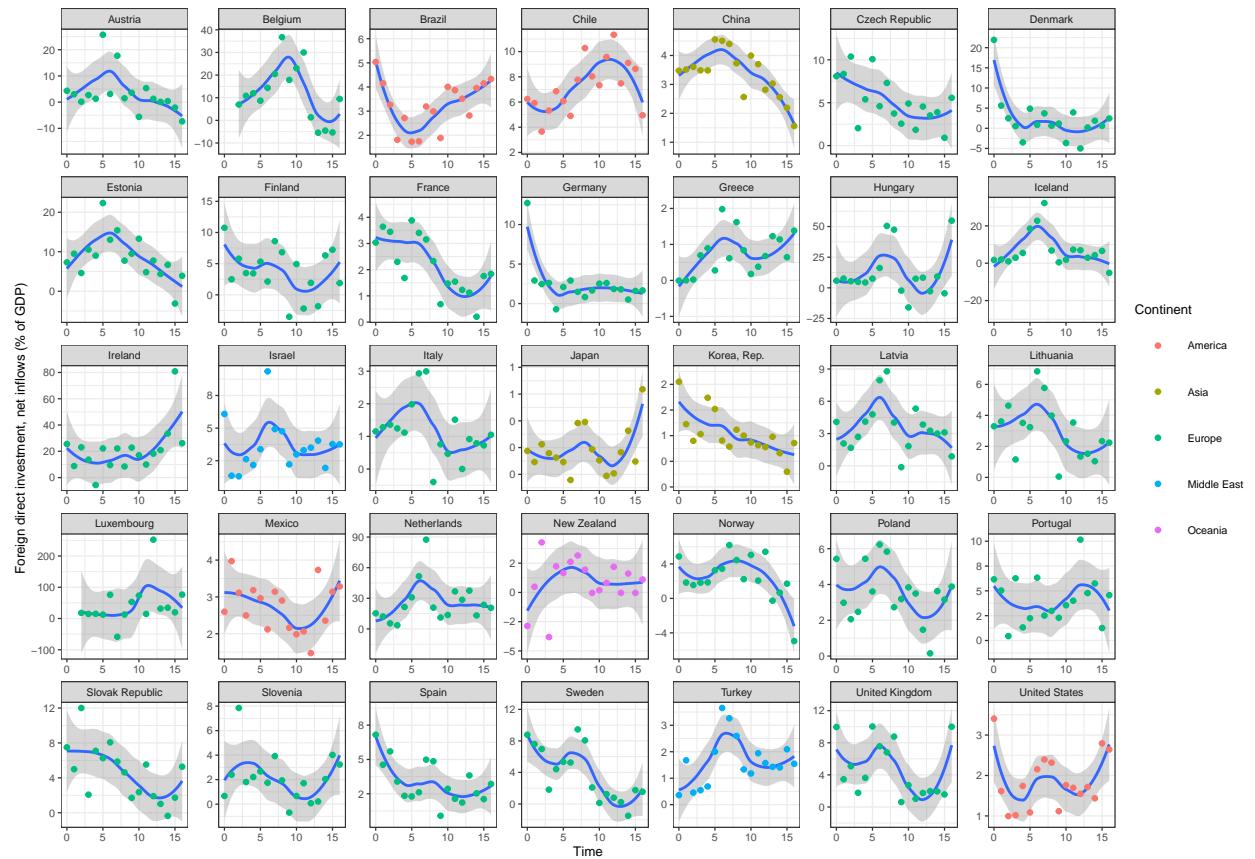


Figure 70: Trendline Foreign direct investment, net inflows (% of GDP) 2000 - 2017

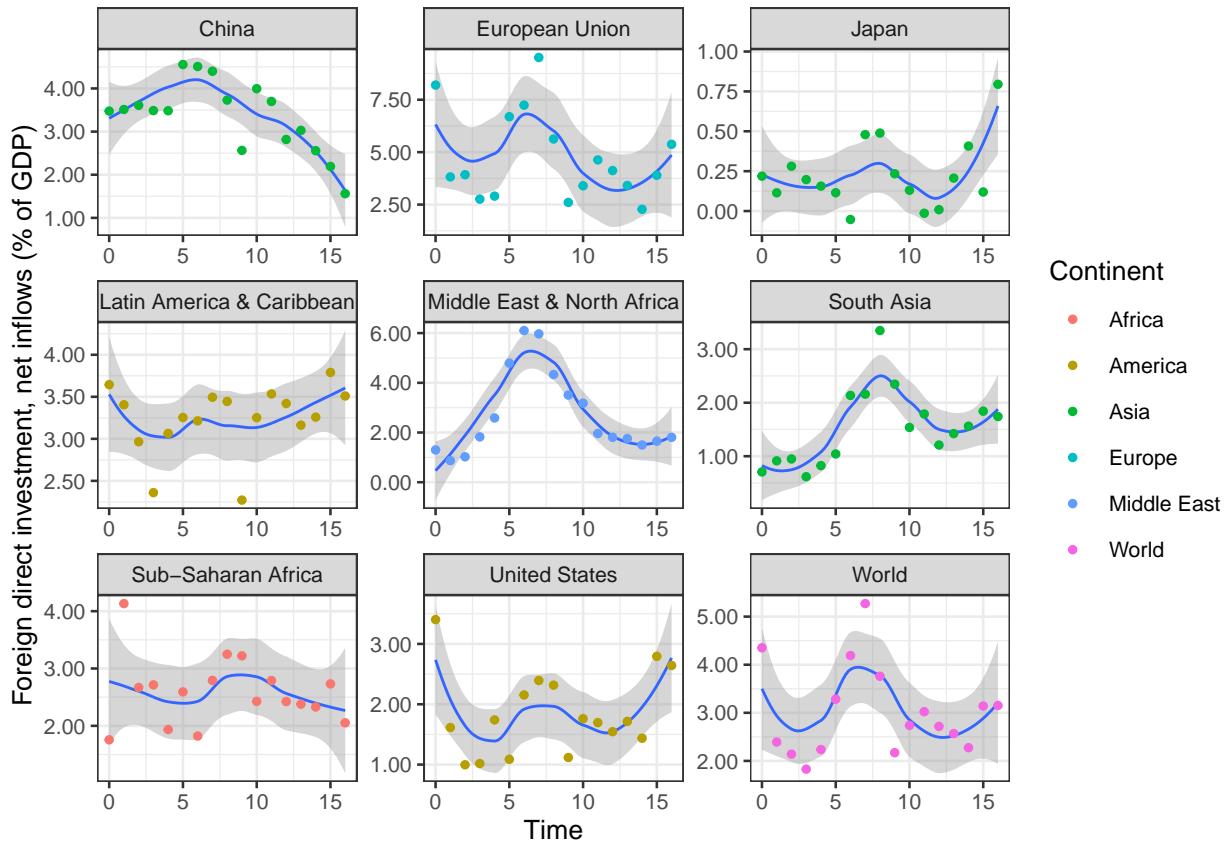


Figure 71: Trendline Foreign direct investment, net inflows (% of GDP) regions and biggest countries 2000 - 2017

Government

Expense (% of GDP)

Expense is cash payments for operating activities of the government in providing goods and services. It includes compensation of employees (such as wages and salaries), interest and subsidies, grants, social benefits, and other expenses such as rent and dividends.

Limitations and exceptions

For most countries central government finance data have been consolidated into one account, but for others only budgetary central government accounts are available. Countries reporting budgetary data are noted in the country metadata. Because budgetary accounts may not include all central government units (such as social security funds), they usually provide an incomplete picture. In federal states the central government accounts provide an incomplete view of total public finance.

Table 42: Expense is cash payments for operating activities of the government in providing goods and services ‘%’

Country Name	Mean	SD
Austria	46	1.2
Belgium	43	1.8
Brazil	28	4.6
Chile	20	1.8
China	13	3.8
Czech Republic	35	1.9
Denmark	39	3
Estonia	33	3.1
European Union	37	1.4
Finland	37	2.9
France	46	1.8
Germany	29	1.4
Greece	48	5.3
Hungary	43	1.5
Iceland	32	3.4
Ireland	34	9.1
Israel	40	3.3
Italy	40	1.8
Japan	17	1.3
Korea, Rep.	20	3.6
Latin America & Caribbean	26	3
Latvia	43	4.7
Lithuania	34	3.3
Luxembourg	38	2.2
Mexico	21	2.7
Netherlands	39	1.8
New Zealand	32	2.4
Norway	35	2.6
Poland	36	2
Portugal	42	2.8
Slovak Republic	40	3.5
Slovenia	41	3.9

Country Name	Mean	SD
Spain	19	2.3
Sub-Saharan Africa	20	1.1
Sweden	33	1
Turkey	31	2.1
United Kingdom	38	3.1
United States	22	2.3
World	26	1.4

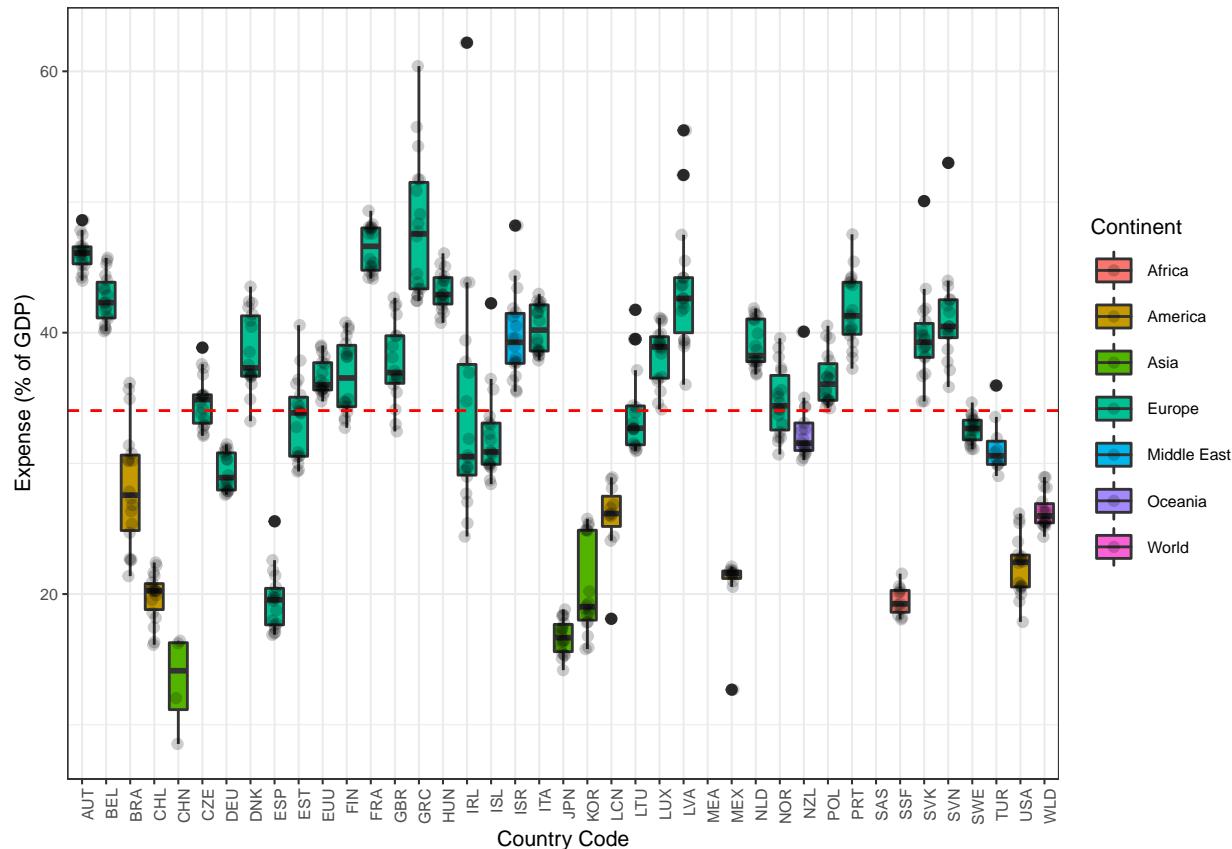


Figure 72: Boxplot Expense (% of GDP) 2000 - 2017

Goods and services expense (% of expense)

Goods and services include all government payments in exchange for goods and services used for the production of market and nonmarket goods and services. Own-account capital formation is excluded.

Table 43: Goods and services expense (% of expense)

Country Name	Mean	SD
Austria	5.9	0.83
Belgium	2.3	0.1
Brazil	8	5.6
Chile	9.7	0.83
Czech Republic	9.4	0.88
Denmark	7.9	0.26
Estonia	11	1.7
European Union	8.5	0.73
Finland	8	0.26
France	5.5	0.16
Germany	3.9	0.71
Greece	10	2.1
Hungary	9.6	2.1
Iceland	22	2
Ireland	9.1	2.2

Country Name	Mean	SD
Israel	20	0.59
Italy	3.6	0.38
Japan	5.3	0.32
Korea, Rep.	11	2.4
Latin America & Caribbean	14	1.2
Latvia	13	3
Lithuania	11	3.1
Luxembourg	6.6	0.25
Mexico	7.1	0.47
Middle East & North Africa	12	1.1
Netherlands	6.2	0.35
New Zealand	20	8.9
Norway	8.5	0.37
Poland	7	0.57
Portugal	12	3.5
Slovak Republic	9.8	0.81
Slovenia	11	0.69
South Asia	13	1
Spain	3.7	0.31
Sub-Saharan Africa	21	0.54
Sweden	5.7	0.26
Turkey	12	0.73
United Kingdom	13	0.9
United States	9	1.4
World	13	0.79

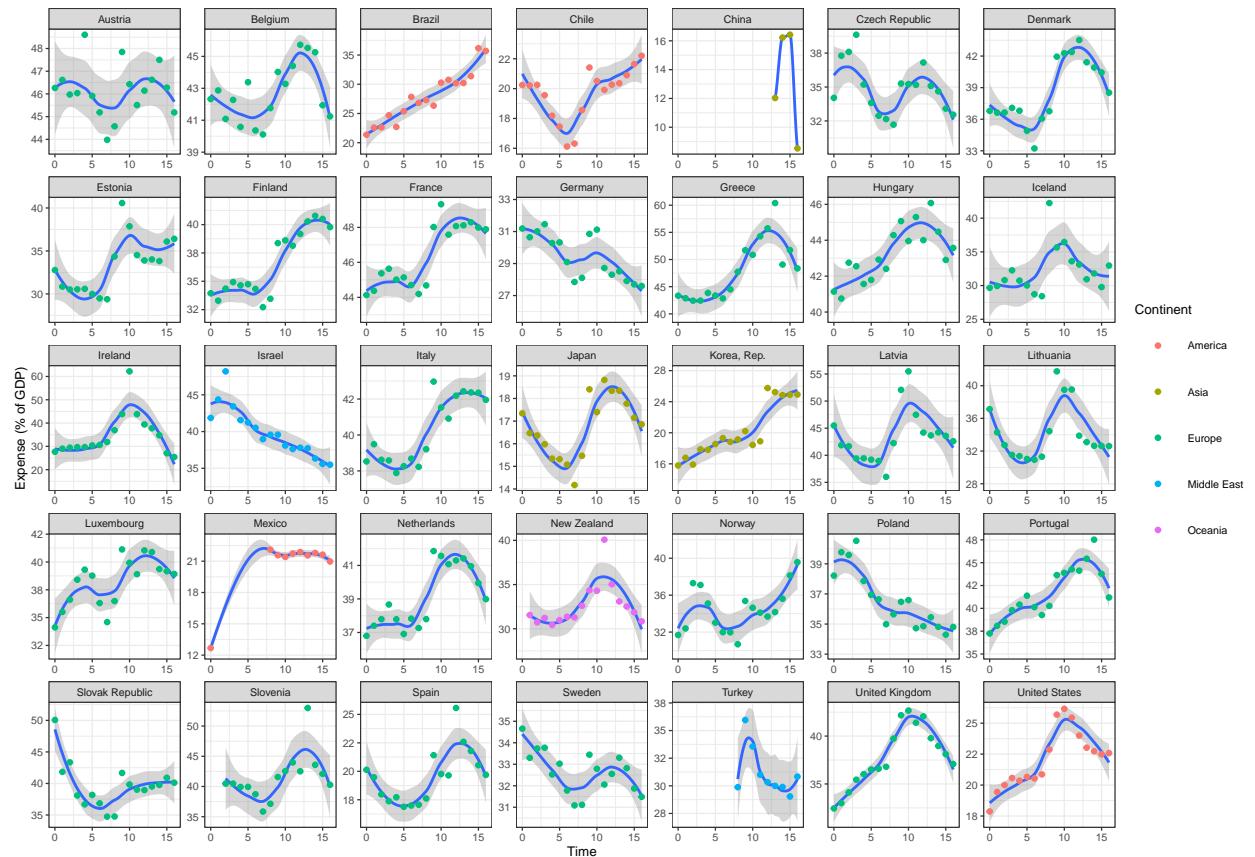


Figure 73: Trendline Expense (% of GDP) 2000 - 2017

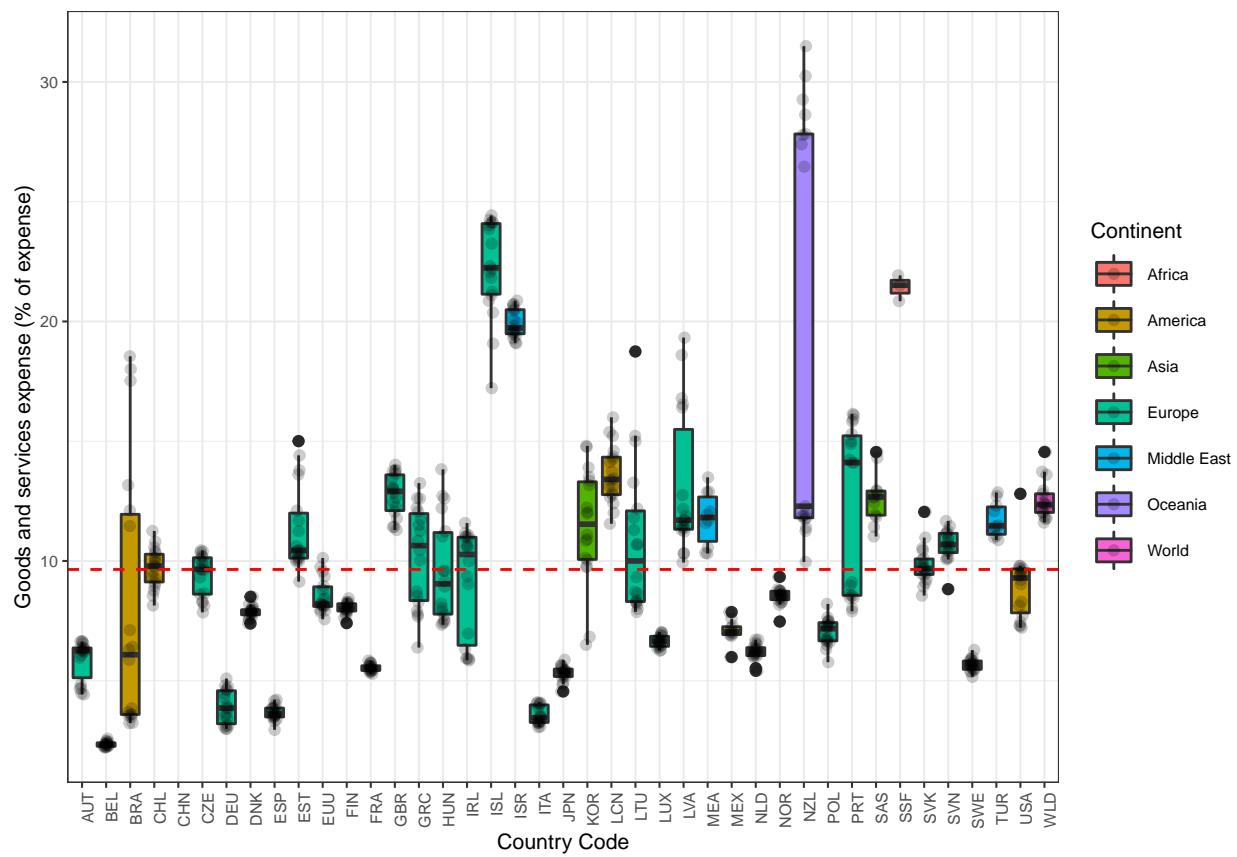


Figure 74: Boxplot Goods and services expense (% of expense) 2000 - 2017

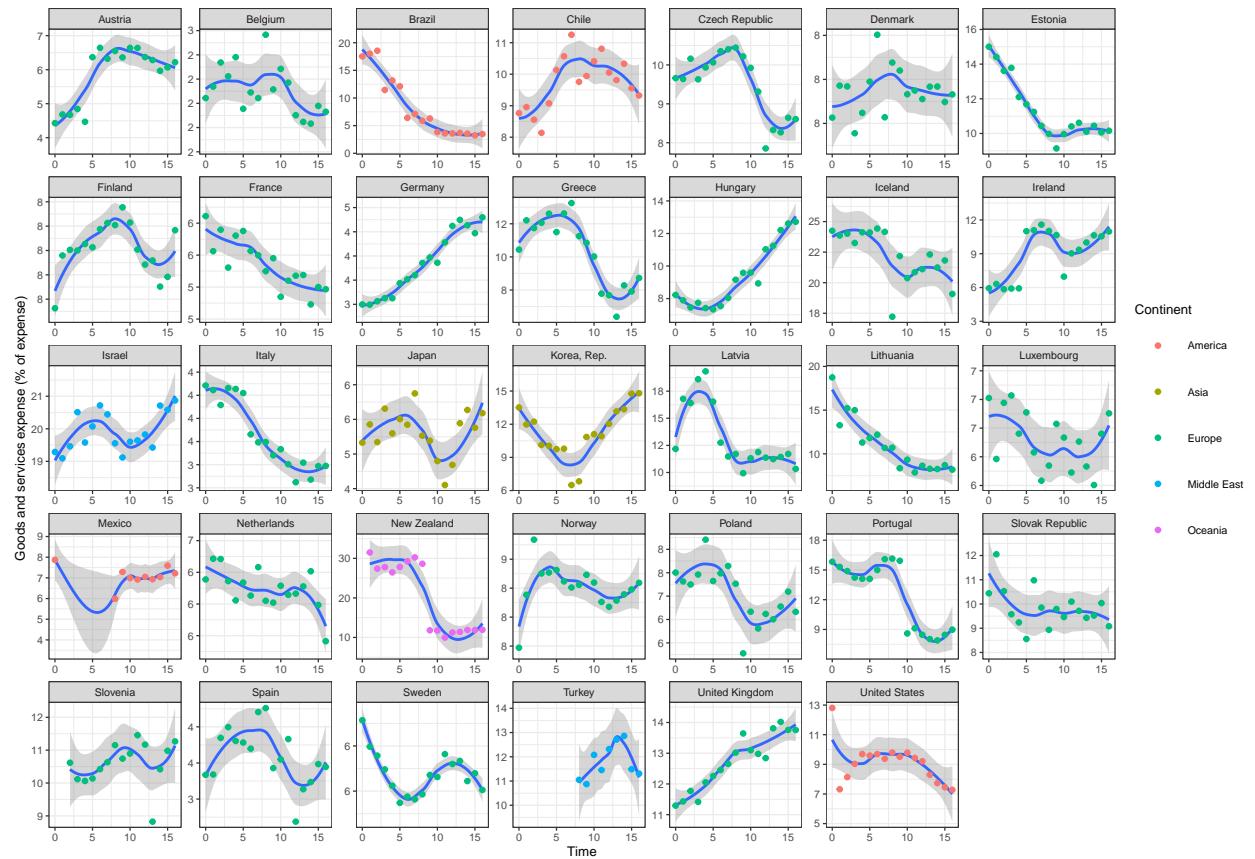


Figure 75: Trendline Goods and services expense (% of expense) 2000 - 2017

Interest payments (% of expense)

Interest payments include interest payments on government debt—including long-term bonds, long-term loans, and other debt instruments—to domestic and foreign residents.

Table 44: Interest payments (% of expense)

Country Name	Mean	SD
Austria	6.1	0.98
Belgium	8.8	2.8
Brazil	24	4.5
Chile	3.8	1.3
China	3.6	1.3
Czech Republic	3.1	0.52
Denmark	5.1	2.1
Estonia	0.36	0.12
European Union	5.3	0.9
Finland	4.1	1.5
France	5.2	0.8
Germany	4.9	1.4
Greece	10	2.8
Hungary	9.3	1.3
Iceland	10	3.4
Ireland	6.3	3
Israel	11	3.3
Italy	11	1.9
Japan	10	0.88
Korea, Rep.	5.7	0.74
Latin America & Caribbean	10	2.3
Latvia	3.3	1.2
Lithuania	3.9	1.5
Luxembourg	0.83	0.26
Mexico	11	1.2
Middle East & North Africa	6.9	2.6
Netherlands	4.6	1.3
New Zealand	4.5	0.96
Norway	3.2	2
Poland	6.2	0.97
Portugal	9.9	1.3
Slovak Republic	4.9	1.8
Slovenia	4.8	1.6
South Asia	15	6
Spain	11	2.3
Sub-Saharan Africa	4.9	0.72
Sweden	3.8	2.3
Turkey	9.4	3.1
United Kingdom	6.1	0.96
United States	12	1.6
World	6.3	1.3

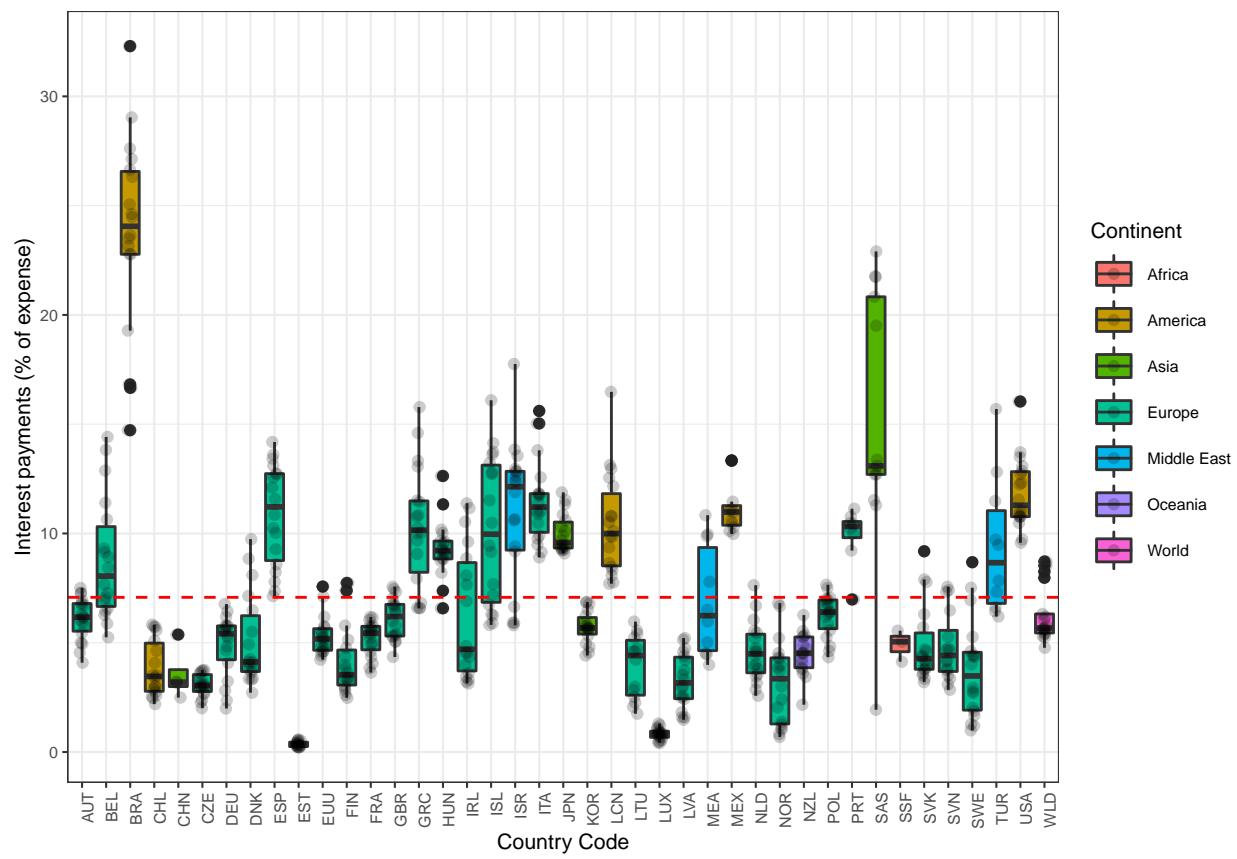


Figure 76: Boxplot Interest payments (% of expense) 2000 - 2017

Benefit incidence of social insurance programs to poorest quintile (% of total social insurance benefits)

Benefit incidence of social insurance programs to poorest quintile shows the percentage of total social insurance benefits received by the poorest 20% of the population. Social insurance programs include old age contributory pensions (including survivors and disability) and social security and health insurance benefits (including occupational injury benefits, paid sick leave, maternity and other social insurance). Estimates include both direct and indirect beneficiaries.

When interpreting ASPIRE performance indicators based on household surveys, it is important to note that the extent to which information on specific transfers and programs is captured in the household surveys can vary a lot across countries. Moreover, household surveys do not capture the universe of social protection programs in the country, in best practice cases just the largest programs. As a consequence, ASPIRE indicators are not fully comparable across program categories and countries; however, they provide approximate measures of social protection systems performance. In addition, there may be cases where ASPIRE performance indicators differ from official WB country reports as ASPIRE indicators are based on a first level analysis of original survey data and unified methodology that does not necessarily reflect country-specific knowledge and in depth country analysis relying on administrative program level data and/or imputations.

Table 45: Benefit incidence (% of total social insurance benefits)

Country Name	Mean	SD
Brazil	1.6	0.18
Chile	4.9	0.24
China	2.2	NA
Hungary	11	NA
Latvia	15	1.4
Lithuania	19	NA
Mexico	1.2	0.17
Poland	8.2	0.73
Slovak Republic	6.2	NA
Turkey	4.1	0.93

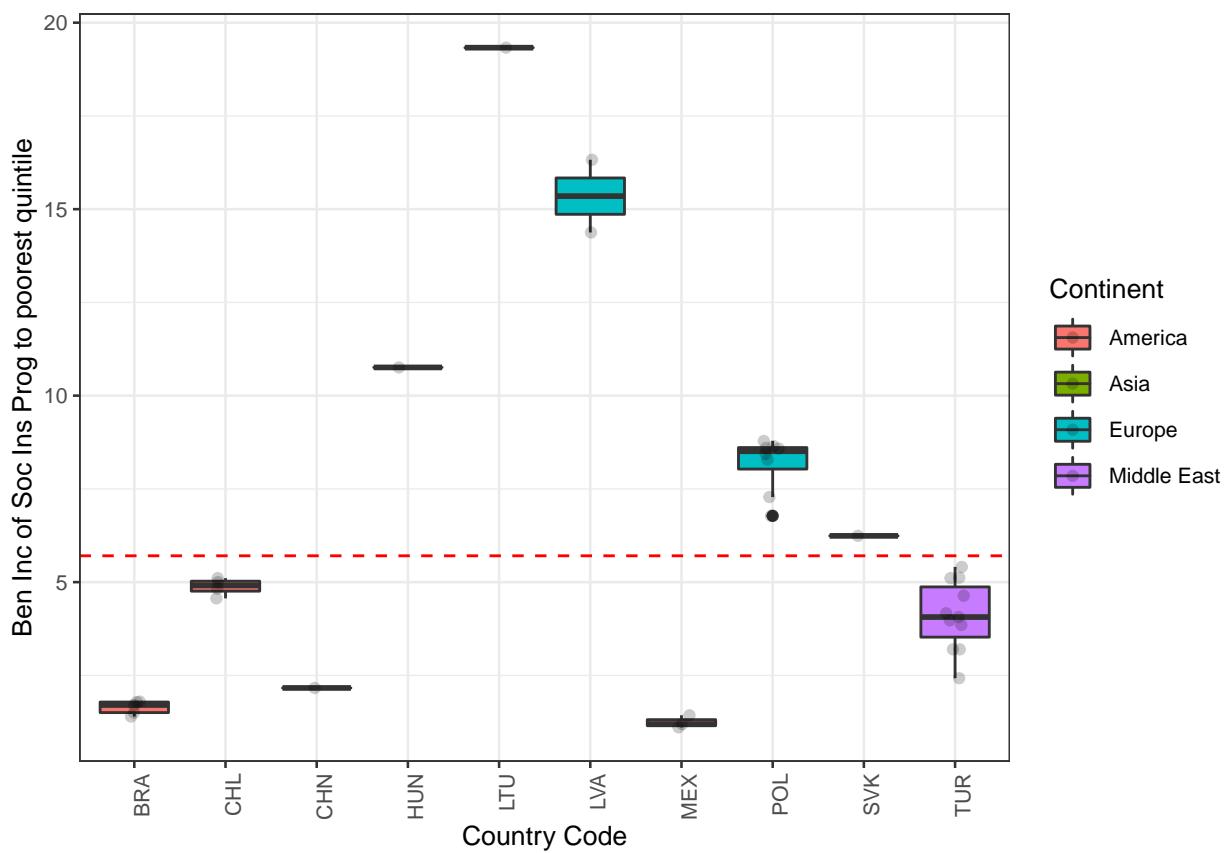


Figure 77: Boxplot Interest payments (% of expense) 2000 - 2017

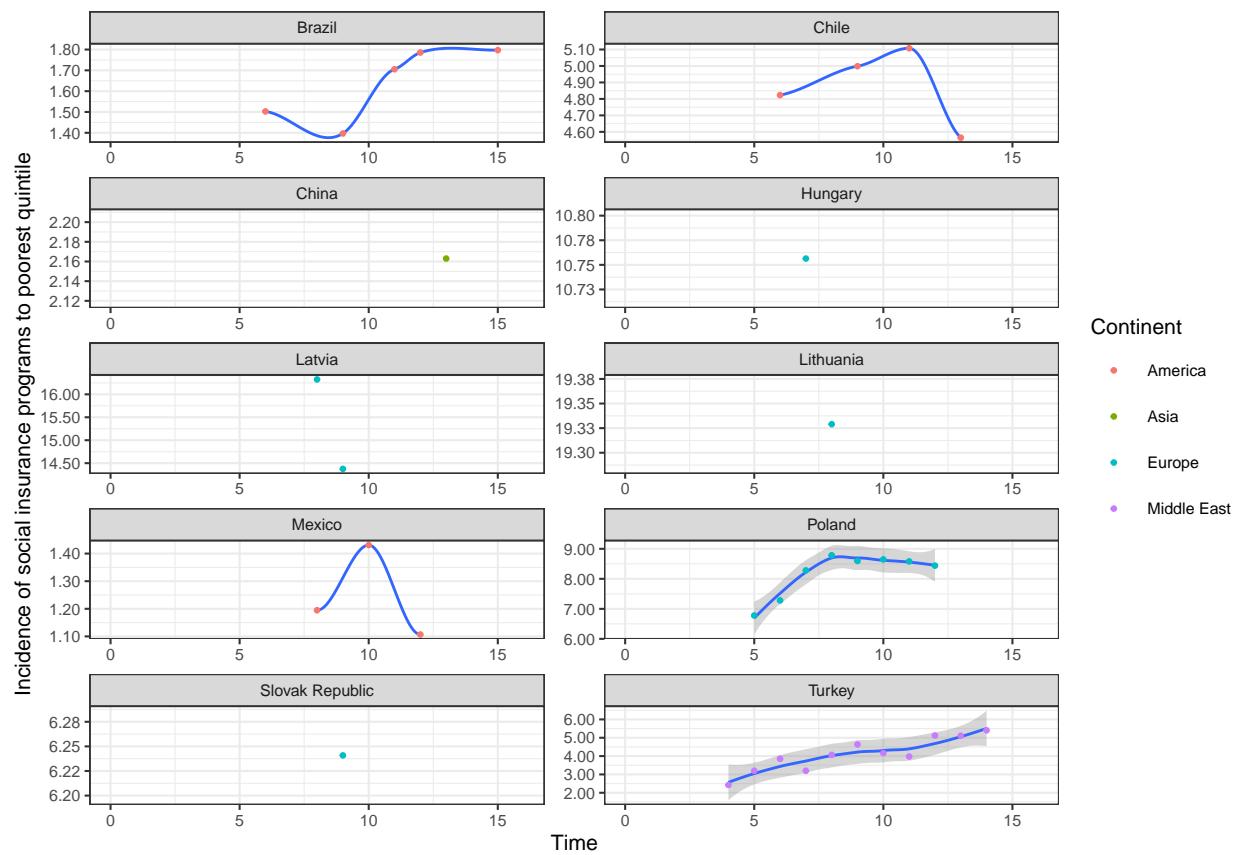


Figure 78: Trendline Interest payments (% of expense) 2000 - 2017

Ease of doing business index (1=most business-friendly regulations)

Ease of doing business ranks economies from 1 to 190, with first place being the best. A high ranking (a low numerical rank) means that the **regulatory environment** is conducive to business operation. The index averages the country's percentile rankings on 10 topics covered in the World Bank's Doing Business. The ranking on each topic is the simple average of the percentile rankings on its component indicators.

Data are collected by the World Bank with a standardized survey that uses a simple business case to ensure comparability across economies and over time - with assumptions about the legal form of the business, its size, its location, and nature of its operation. Surveys are administered through more than 9,000 local experts, including lawyers, business consultants, accountants, freight forwarders, government officials, and other professionals who routinely administer or advise on legal and regulatory requirements.

The economic health of a country is measured not only in macroeconomic terms but also by other factors that shape daily economic activity such as laws, regulations, and institutional arrangements. The data measure business regulation, gauge regulatory outcomes, and measure the extent of legal protection of property, the flexibility of employment regulation, and the tax burden on businesses.

The fundamental premise of this data is that economic activity requires good rules and regulations that are efficient, accessible to all who need to use them, and simple to implement. Thus sometimes there is more emphasis on more regulation, such as stricter disclosure requirements in related-party transactions, and other times emphasis is on for simplified regulations, such as a one-stop shop for completing business startup formalities.

Entrepreneurs may not be aware of all required procedures or may avoid legally required procedures altogether. But where regulation is particularly onerous, levels of informality are higher, which comes at a cost: firms in the informal sector usually grow more slowly, have less access to credit, and employ fewer workers - and those workers remain outside the protections of labor law. The indicator can help policymakers understand the business environment in a country and - along with information from other sources such as the World Bank's Enterprise Surveys - provide insights into potential areas of reform. The Doing Business methodology has limitations that should be considered when interpreting the data. First, the data collected refer to businesses in the economy's largest city and may not represent regulations in other locations of the economy. To address this limitation, subnational indicators are being collected for selected economies. These subnational studies point to significant differences in the speed of reform and the ease of doing business across cities in the same economy. Second, the data often focus on a specific business form - generally a limited liability company of a specified size - and may not represent regulation for other types of businesses such as sole proprietorships. Third, transactions described in a standardized business case refer to a specific set of issues and may not represent the full set of issues a business encounters. Fourth, the time measures involve an element of judgment by the expert respondents. When sources indicate different estimates, the Doing Business time indicators represent the median values of several responses given under the assumptions of the standardized case. Fifth, the methodology assumes that a business has full information on what is required and does not waste time when completing procedures.

Data are presented for the survey year instead of publication year. Data before 2013 are not comparable with data from 2013 onward due to methodological changes.

Table 46: Ease of doing business index (1=most business-friendly regulations)

Country Name	Mean	SD
Austria	26	26
Belgium	45	45
Brazil	109	109
Chile	56	56
China	46	46
Czech Republic	35	35

Country Name	Mean	SD
Denmark	3	3
Estonia	16	16
Finland	17	17
France	32	32
Germany	24	24
Greece	72	72
Hungary	53	53
Iceland	21	21
Ireland	23	23
Israel	49	49
Italy	51	51
Japan	39	39
Korea, Rep.	5	5
Latvia	19	19
Lithuania	14	14
Luxembourg	66	66
Mexico	54	54
Netherlands	36	36
New Zealand	1	1
Norway	7	7
Poland	33	33
Portugal	34	34
Slovak Republic	42	42
Slovenia	40	40
Spain	30	30
Sweden	12	12
Turkey	43	43
United Kingdom	9	9
United States	8	8

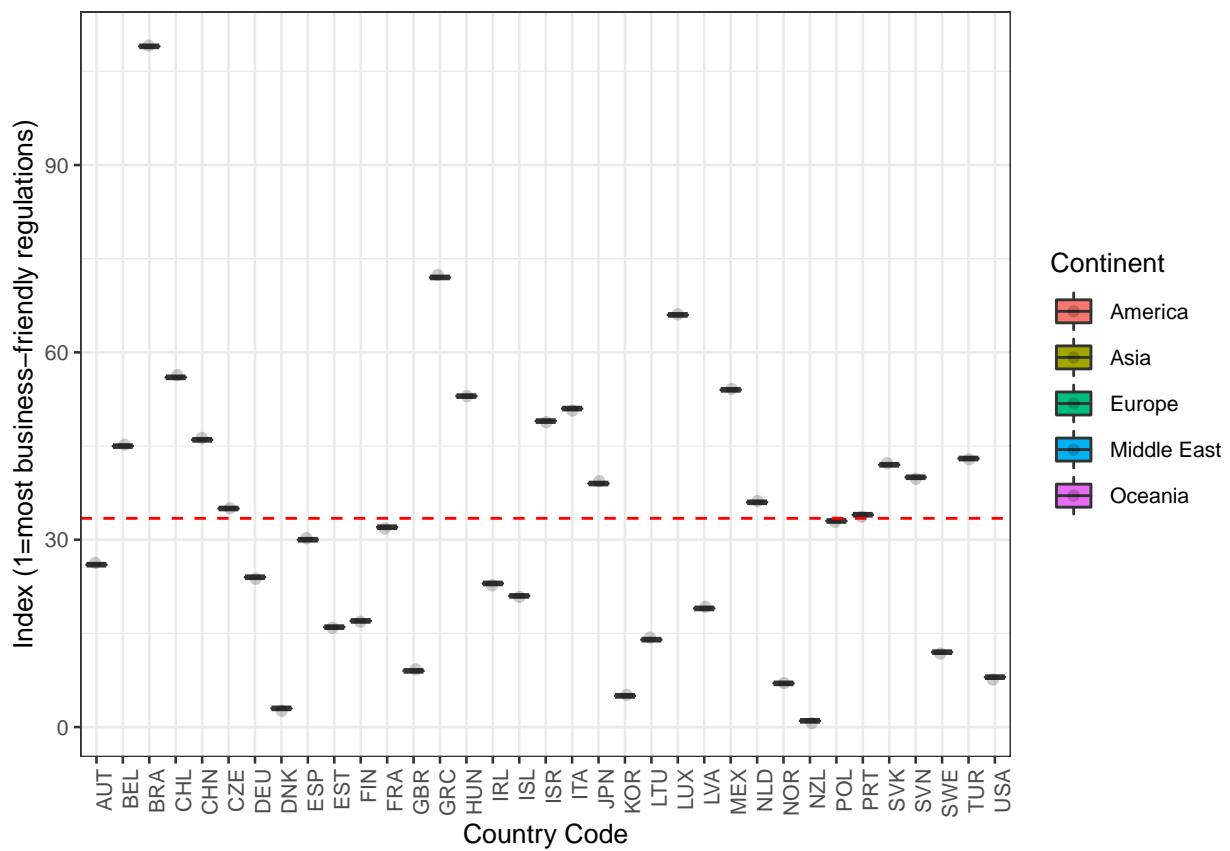


Figure 79: Boxplot Ease of doing business index (1=most business-friendly regulations) 2000 - 2017

Health

Domestic general government health expenditure (% of GDP)

Share of current health expenditures funded from domestic public sources for health. Domestic public sources include domestic revenue as internal transfers and grants, transfers, subsidies to voluntary health insurance beneficiaries, non-profit institutions serving households (NPISH) or enterprise financing schemes as well as compulsory prepayment and social health insurance contributions. They do not include external resources spent by governments on health.

The health expenditure estimates have been prepared by the World Health Organization under the framework of the System of Health Accounts 2011 (SHA 2011). The Health SHA 2011 tracks all health spending in a given country over a defined period of time regardless of the entity or institution that financed and managed that spending. It generates consistent and comprehensive data on health spending in a country, which in turn can contribute to evidence-based policy-making.

Table 47: Domestic general government health expenditure (% of GDP)

Country Name	Mean	SD
Austria	7.2	0.27
Belgium	7.7	0.75
Brazil	3.3	0.64
Chile	4	0.49
China	1.9	0.71
Czech Republic	5.7	0.43
Denmark	8	0.68
Estonia	4.2	0.52
European Union	7.1	0.64
Finland	6.5	0.79
France	8.3	0.53
Germany	8.4	0.77
Greece	5.3	0.61
Hungary	5	0.34
Iceland	7.2	0.43
Ireland	6.3	1.1
Israel	4.4	0.13
Italy	6.5	0.45
Japan	7.3	1.4
Korea, Rep.	3.3	0.67
Latin America & Caribbean	3.3	0.48
Latvia	3.3	0.31
Lithuania	4.2	0.48
Luxembourg	5.5	0.41
Mexico	2.6	0.34
Middle East & North Africa	2.6	0.34
Netherlands	7.3	1.6
New Zealand	7	0.72
Norway	7.4	0.71
Poland	4.3	0.3
Portugal	6.3	0.32
Slovak Republic	5.2	0.38
Slovenia	5.9	0.29
South Asia	0.83	0.062

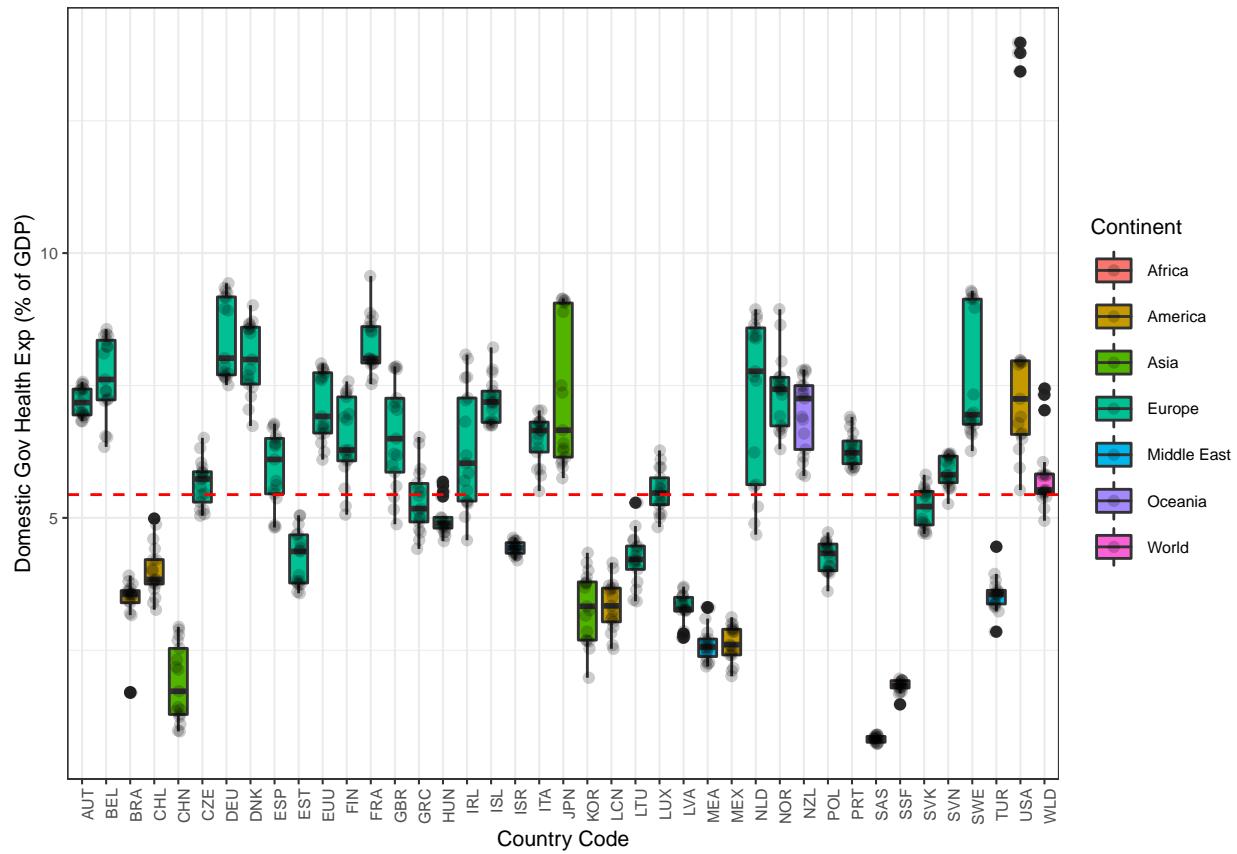


Figure 80: Boxplot Domestic general government health expenditure (% of GDP) 2000 - 2017

Country Name	Mean	SD
Spain	5.9	0.7
Sub-Saharan Africa	1.8	0.12
Sweden	7.6	1.2
Turkey	3.6	0.34
United Kingdom	6.6	1
United States	8.2	2.7
World	5.9	0.73

Domestic general government health expenditure (% of general government expenditure)

Share of current health expenditures funded from domestic public sources for health. Domestic public sources include domestic revenue as internal transfers and grants, transfers, subsidies to voluntary health insurance beneficiaries, non-profit institutions serving households (NPISH) or enterprise financing schemes as well as compulsory prepayment and social health insurance contributions. They do not include external resources spent by governments on health.

Statistical concept and methodology

The health expenditure estimates have been prepared by the World Health Organization under the framework of the System of Health Accounts 2011 (SHA 2011). The Health SHA 2011 tracks all health spending in a given country over a defined period of time regardless of the entity or institution that financed and managed that spending. It generates consistent and comprehensive data on health spending in a country, which in turn can contribute to evidence-based policy-making.

Table 48: Domestic general government health expenditure (% of general government expenditure)

Country Name	Mean	SD
Austria	14	0.54
Belgium	15	0.87
Brazil	8.7	1.6
Chile	18	1.1
China	7.9	1.3
Czech Republic	13	1.1
Denmark	15	1
Estonia	11	0.65
European Union	15	0.91
Finland	12	0.77
France	15	0.48
Germany	19	1.9
Greece	11	1.2
Hungary	10	0.64
Iceland	16	1.6
Ireland	17	1.7
Israel	10	0.97
Italy	13	0.59
Japan	19	2.8
Korea, Rep.	11	1.6
Latin America & Caribbean	11	0.59
Latvia	8.8	0.74
Lithuania	11	0.98
Luxembourg	13	0.77
Mexico	11	0.52
Middle East & North Africa	8.2	0.43
Netherlands	16	3.1
New Zealand	20	1.6
Norway	17	0.78
Poland	9.8	0.77
Portugal	13	0.84
Slovak Republic	13	1.3

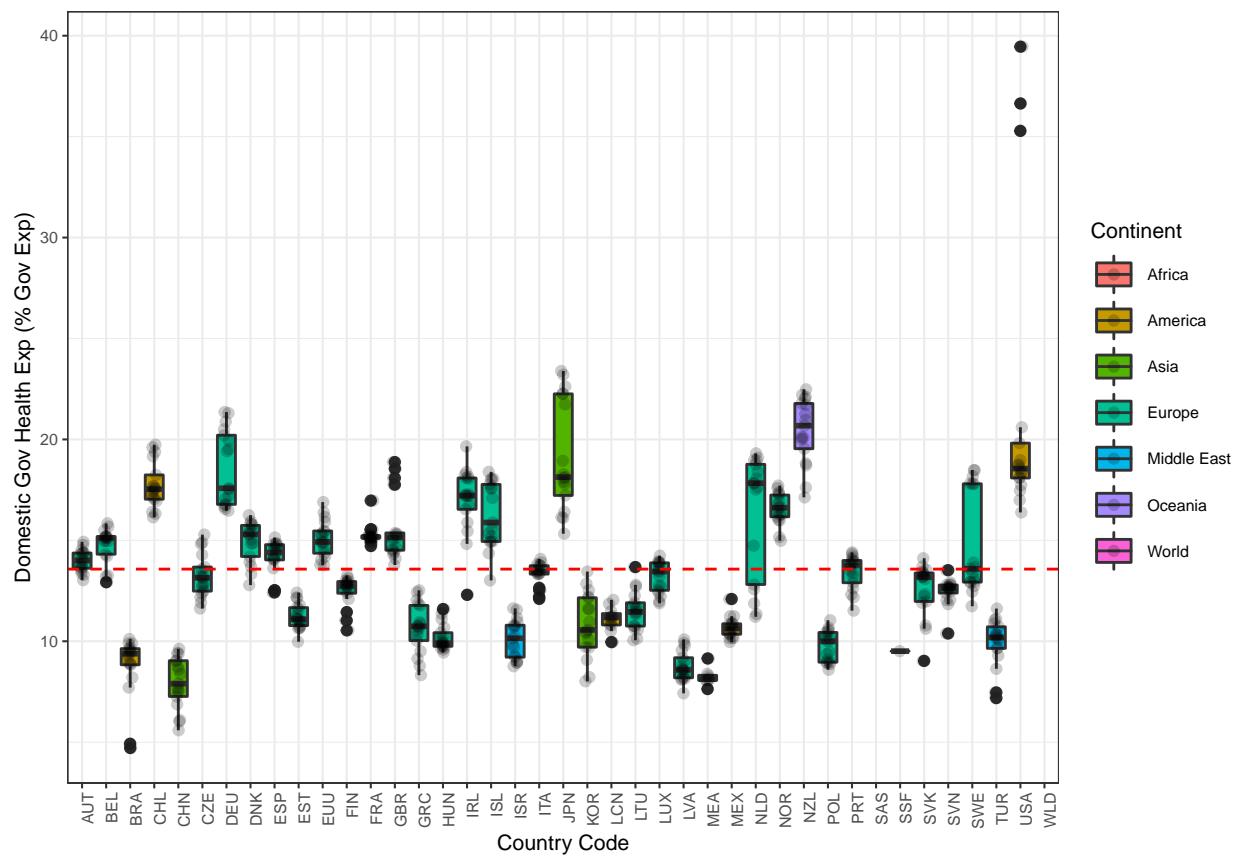


Figure 81: Boxplot Domestic general government health expenditure (% of general government expenditure) 2000 - 2017

Country Name	Mean	SD
Slovenia	12	0.66
Spain	14	0.87
Sub-Saharan Africa	9.5	NA
Sweden	15	2.5
Turkey	9.9	1.2
United Kingdom	16	1.6
United States	22	7.5

Births attended by skilled health staff (% of total)

Births attended by skilled health staff are the percentage of deliveries attended by personnel trained to give the necessary supervision, care, and advice to women during pregnancy, labor, and the postpartum period; to conduct deliveries on their own; and to care for newborns.

Reproductive health is a state of physical and mental well-being in relation to the reproductive system and its functions and processes. Means of achieving reproductive health include education and services during pregnancy and childbirth, safe and effective contraception, and prevention and treatment of sexually transmitted diseases. Complications of pregnancy and childbirth are the leading cause of death and disability among women of reproductive age in developing countries.

Table 49: Births attended by skilled health staff (% of total)

Country Name	Mean	SD
Austria	98	0.1
Brazil	99	0.52
Chile	100	0.55
China	98	1.4
Czech Republic	100	0.083
Denmark	98	1.5
Estonia	100	0.2
European Union	99	0.55
Finland	100	0.47
France	98	0.75
Germany	98	0.15
Hungary	99	0.26
Iceland	99	0.63
Ireland	100	0.093
Italy	100	0.11
Japan	100	0.026
Korea, Rep.	100	0.071
Latin America & Caribbean	91	5.3
Latvia	99	0.66
Lithuania	100	0
Luxembourg	100	0
Mexico	95	3.1
Middle East & North Africa	82	5.2
Netherlands	100	NA
New Zealand	97	1.4
Norway	99	0.066
Poland	100	0.16
Portugal	99	0.48
Slovak Republic	99	0.38
Slovenia	100	0.028
South Asia	56	28
Sub-Saharan Africa	50	12
Turkey	92	5.6
United States	99	0.22
World	71	12

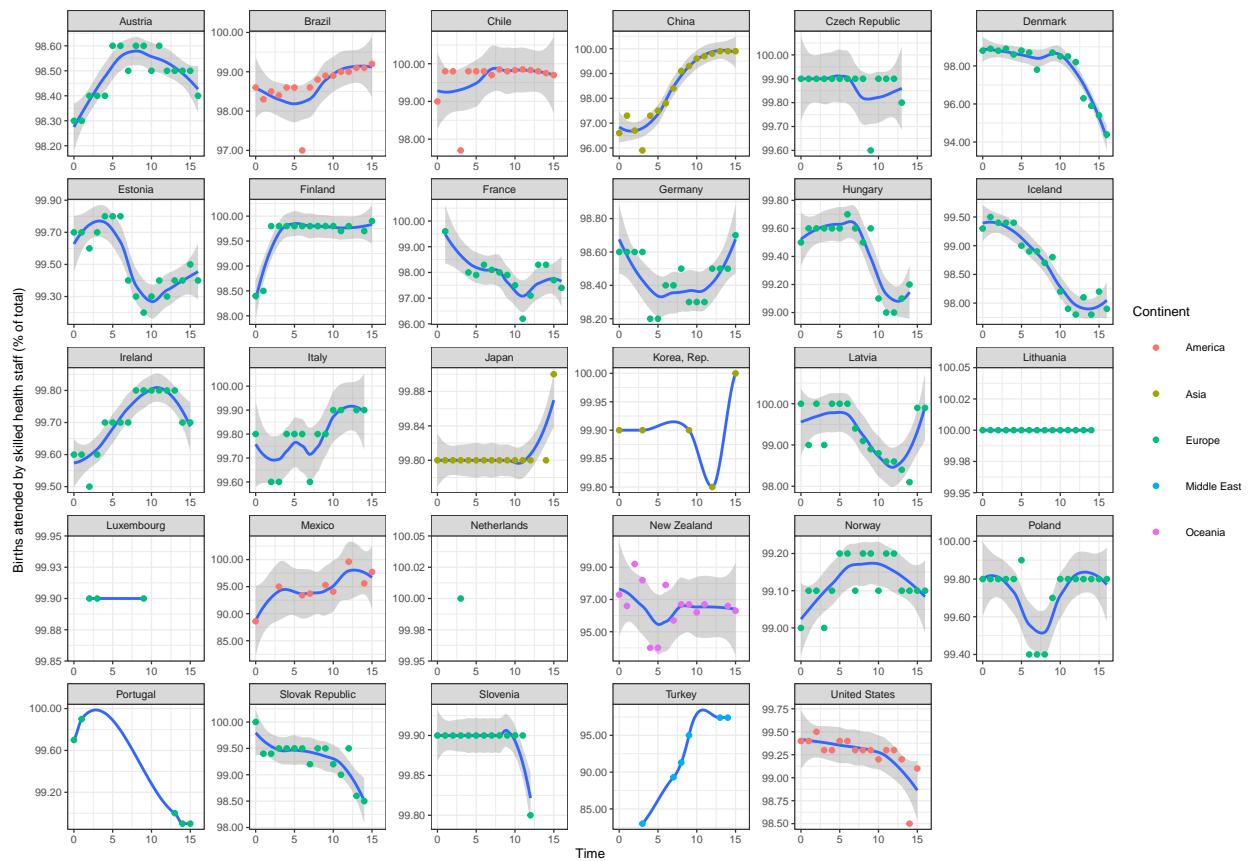


Figure 82: Trendline Births attended by skilled health staff (% of total) 2000 - 2017

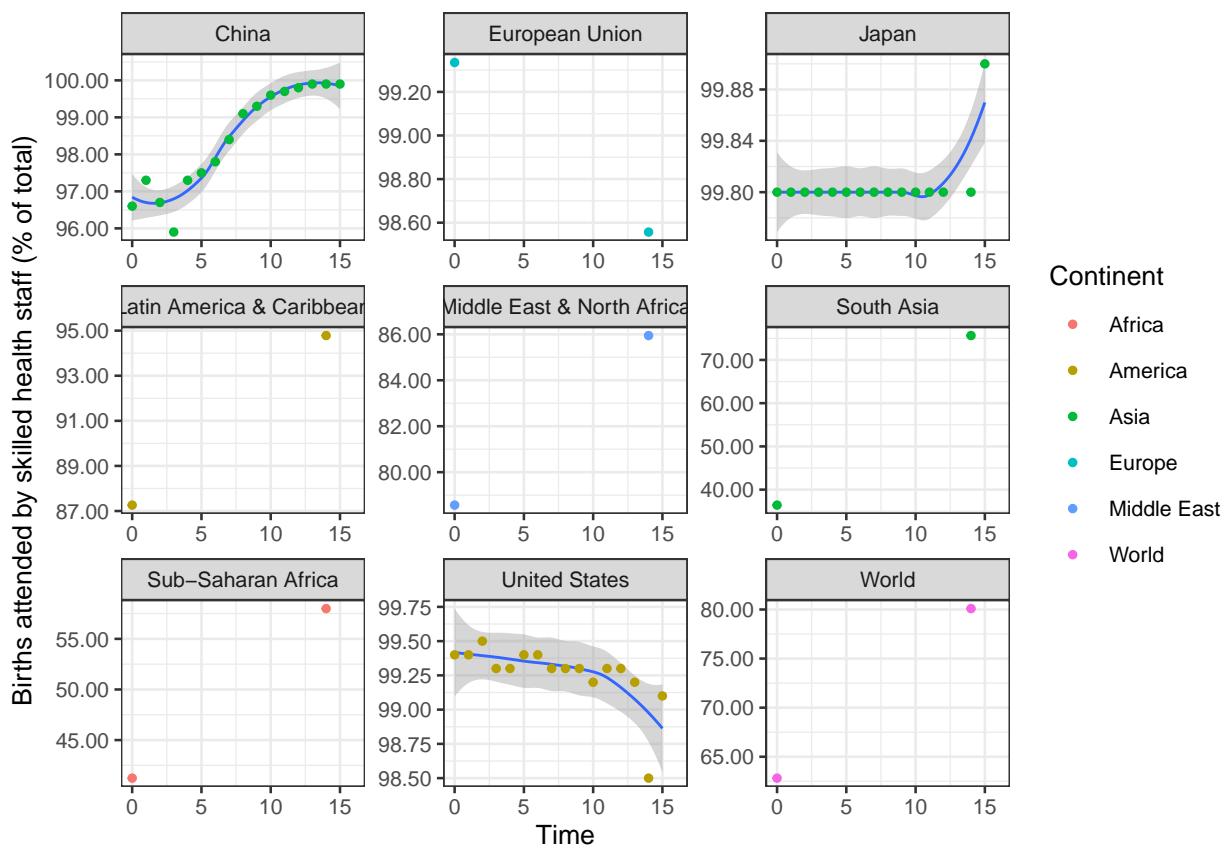


Figure 83: Trendline Births attended by skilled health staff (% of total) regions and biggest countries 2000 - 2017

Hospital beds (per 1,000 people)

Hospital beds include inpatient beds available in public, private, general, and specialized hospitals and rehabilitation centers. In most cases beds for both acute and chronic care are included.

Table 50: Hospital beds (per 1,000 people)

Country Name	Mean	SD
Austria	7.7	0.073
Belgium	6.9	0.59
Brazil	2.4	0.12
Chile	2.2	0.18
China	3	0.78
Czech Republic	7.3	0.47
Denmark	3.7	0.52
Estonia	5.6	0.55
European Union	5.8	0.33
Finland	6.4	1
France	7.3	0.61
Germany	8.5	0.33
Greece	4.7	0.16
Hungary	7.5	0.45
Iceland	4.1	1.4
Ireland	4.6	1.4
Israel	3.6	0.69
Italy	4	0.42
Japan	14	0.52
Korea, Rep.	8.8	2.3
Latin America & Caribbean	2.1	0.11
Latvia	7.3	1.1
Lithuania	7.5	0.57
Luxembourg	5.6	0.47
Mexico	1.4	0.27
Middle East & North Africa	1.6	0.24
Netherlands	4.6	0.16
New Zealand	3.8	2.1
Norway	4.4	0.67
Poland	6.4	0.52
Portugal	3.5	0.12
Slovak Republic	6.7	0.66
Slovenia	4.8	0.27
South Asia	0.76	0.098
Spain	3.3	0.21
Sub-Saharan Africa	NaN	NaN
Sweden	2.9	0.28
Turkey	2.4	0.19
United Kingdom	3.5	0.48
United States	3.2	0.21
World	2.9	0.15

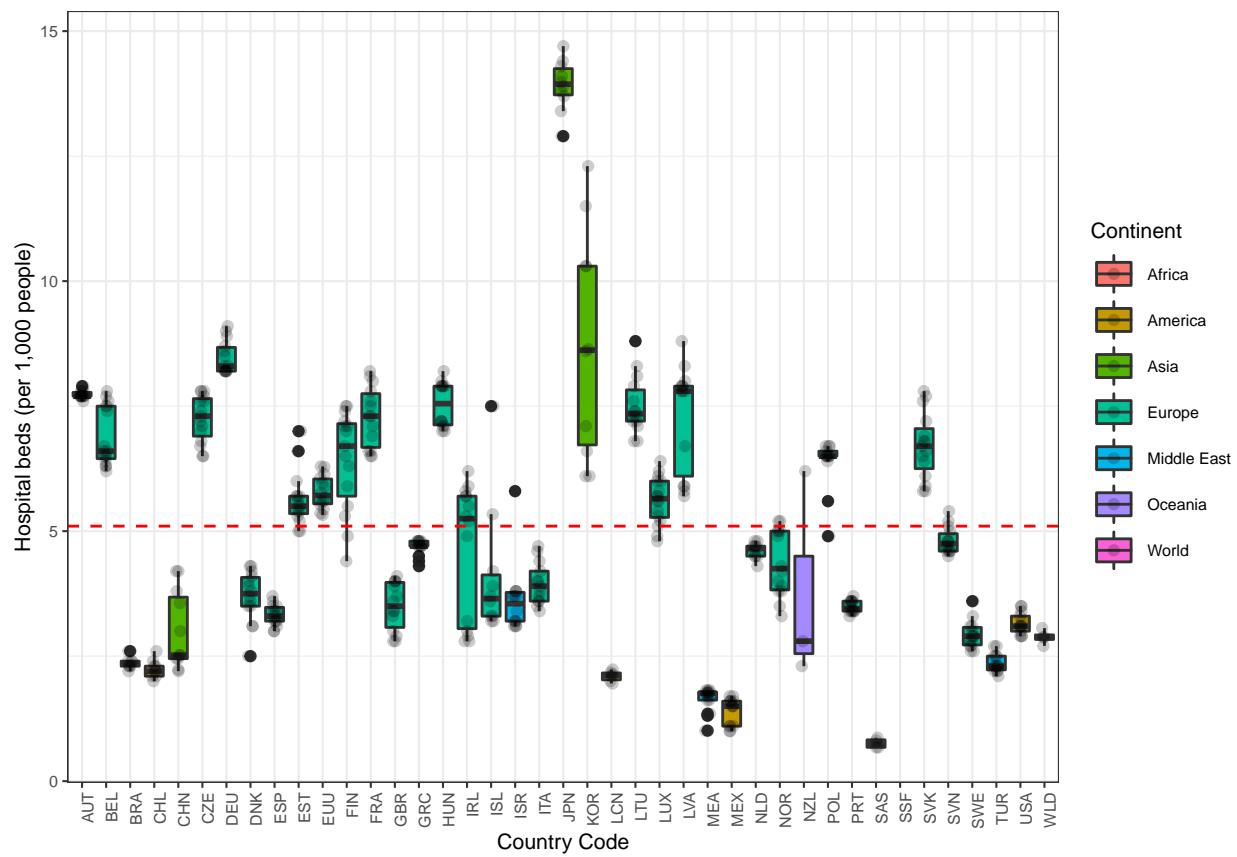


Figure 84: Boxplot Hospital beds (per 1,000 people) 2000 - 2017

Demographics

Population, total

Table 51: Population, total

Country Name	Mean	SD
Austria	8,348,563	228,752
Belgium	10,790,215	392,045
Brazil	193,378,349	10,611,493
Chile	16,711,945	879,690
China	1,326,576,111	37,679,538
Czech Republic	10,381,383	151,437
Denmark	5,519,388	131,322
Estonia	1,343,018	26,643
European Union	500,757,595	7,755,772
Finland	5,333,805	113,678
France	64,323,747	1,958,121
Germany	81,891,776	777,055
Greece	10,954,080	118,705
Hungary	10,009,199	130,595
Iceland	311,214	18,736
Ireland	4,378,747	327,395
Israel	7,442,750	752,086
Italy	58,864,560	1,366,414
Japan	127,546,017	427,203
Korea, Rep.	49,236,661	1,405,901
Latin America & Caribbean	585,371,161	37,650,858
Latvia	2,145,543	139,775
Lithuania	3,166,409	223,932
Luxembourg	502,324	50,941
Mexico	114,885,325	8,867,085
Middle East & North Africa	377,909,531	40,887,993
Netherlands	16,526,986	347,938
New Zealand	4,282,417	268,872
Norway	4,837,087	267,777
Poland	38,110,054	94,710
Portugal	10,455,424	96,104
Slovak Republic	5,394,419	22,313
Slovenia	2,029,455	30,254
South Asia	1,592,833,605	125,902,261
Spain	44,792,714	2,253,877
Sub-Saharan Africa	851,309,476	122,934,714
Sweden	9,324,682	373,596
Turkey	71,409,152	5,395,175
United Kingdom	62,160,366	2,348,606
United States	304,547,144	13,646,683
World	6,814,079,822	442,366,995

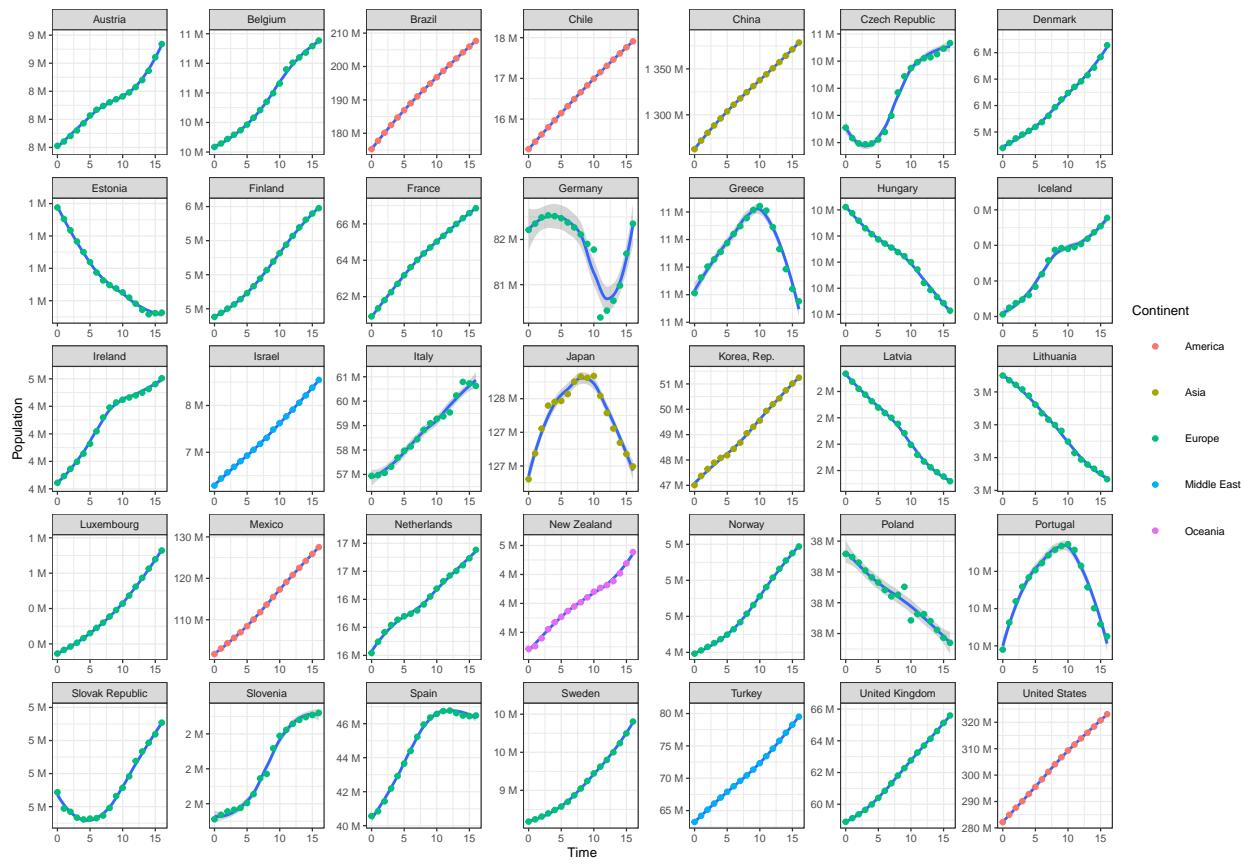


Figure 85: Trendline Population, total 2000 - 2017

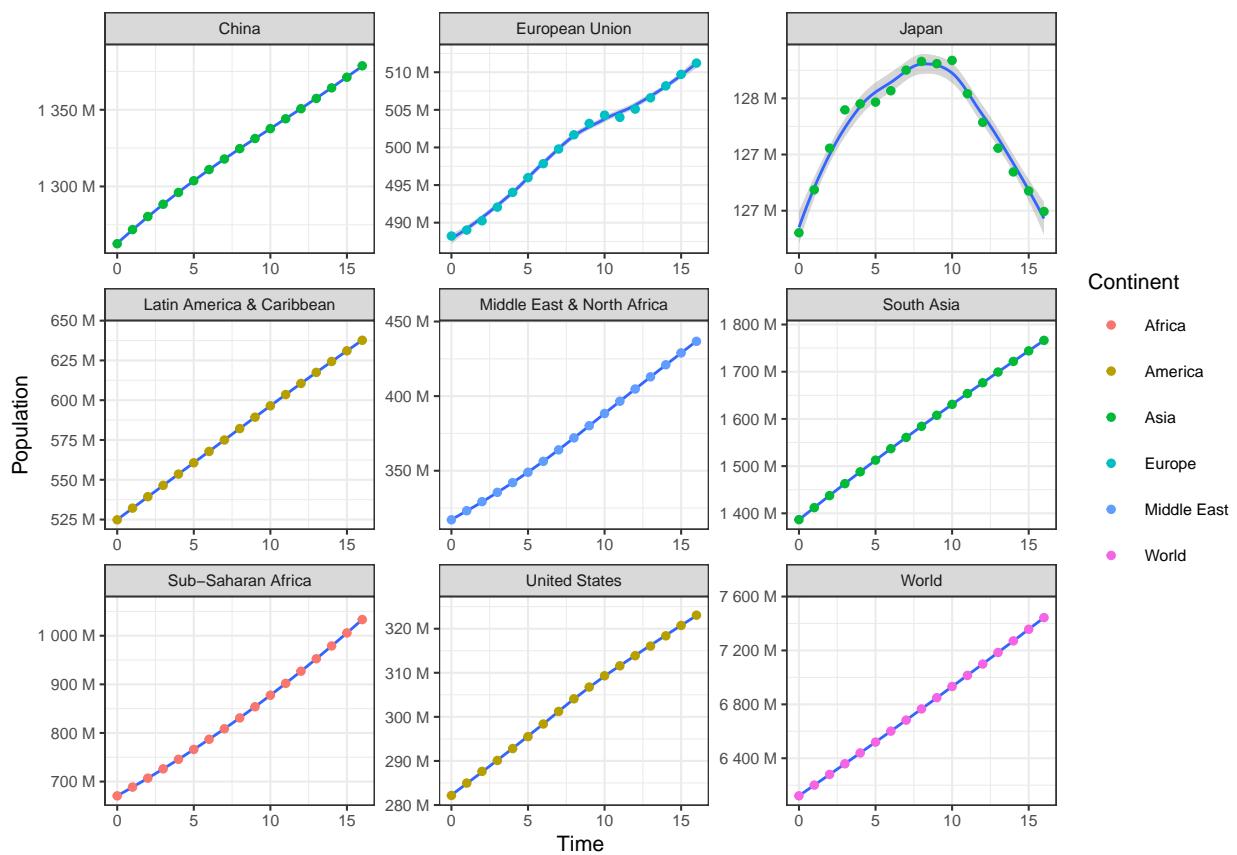


Figure 86: Trendline Population, total regions and biggest countries 2000 - 2017

Table 52: Male and Female, %

Country Name	Male Mean	Female Mean
Austria	49	51
Belgium	49	51
Brazil	49	51
Chile	49	51
China	51	49
Czech Republic	49	51
Denmark	50	50
Estonia	47	53
European Union	49	51
Finland	49	51
France	49	51
Germany	49	51
Greece	49	51
Hungary	47	53
Iceland	50	50
Ireland	50	50
Israel	49	51
Italy	49	51
Japan	49	51
Korea, Rep.	50	50
Latin America & Caribbean	49	51
Latvia	46	54
Lithuania	46	54
Luxembourg	50	50
Mexico	50	50
Middle East & North Africa	51	49
Netherlands	50	50
New Zealand	49	51
Norway	50	50
Poland	48	52
Portugal	48	52
Slovak Republic	49	51
Slovenia	49	51
South Asia	52	48
Spain	49	51
Sub-Saharan Africa	50	50
Sweden	50	50
Turkey	49	51
United Kingdom	49	51
United States	49	51
World	50	50

Life expectancy at birth, total (years)

Table 53: Life expectancy at birth (years)

Country Name	Mean	SD
Austria	80	1
Belgium	80	1
Brazil	73	2
Chile	78	1
China	75	1
Czech Republic	77	1
Denmark	79	2
Estonia	74	3
European Union	79	1
Finland	80	1
France	81	1
Germany	80	1
Greece	80	1
Hungary	74	2
Iceland	82	1
Ireland	80	2
Israel	81	1
Italy	82	1
Japan	83	1
Korea, Rep.	79	2
Latin America & Caribbean	74	1
Latvia	73	2
Lithuania	73	1
Luxembourg	80	2
Mexico	76	1
Middle East & North Africa	72	1
Netherlands	80	1
New Zealand	80	1
Norway	81	1
Poland	76	1
Portugal	79	2
Slovak Republic	75	1
Slovenia	79	2
South Asia	66	2
Spain	81	2
Sub-Saharan Africa	56	4
Sweden	81	1
Turkey	73	2
United Kingdom	80	1
United States	78	1
World	70	1

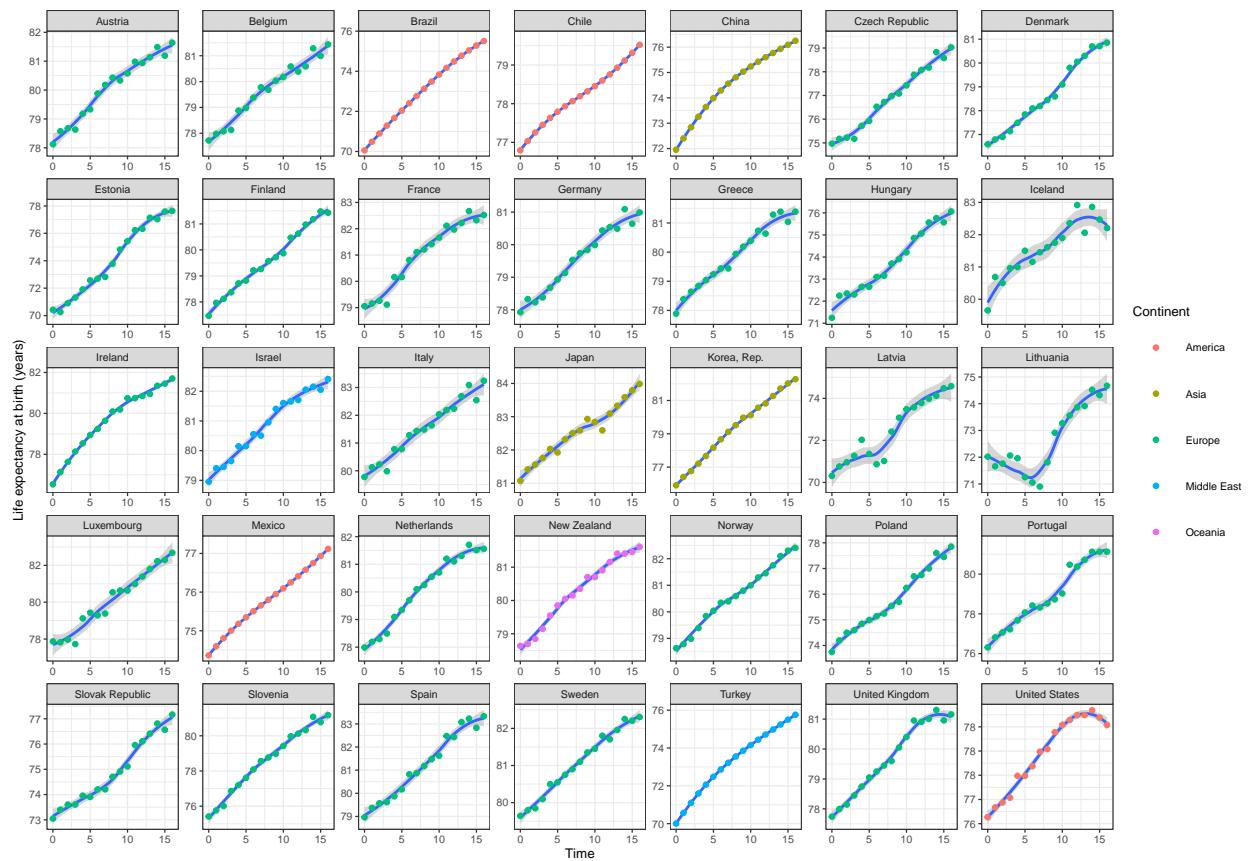


Figure 87: Trendline Life expectancy at birth, total (years) 2000 - 2017

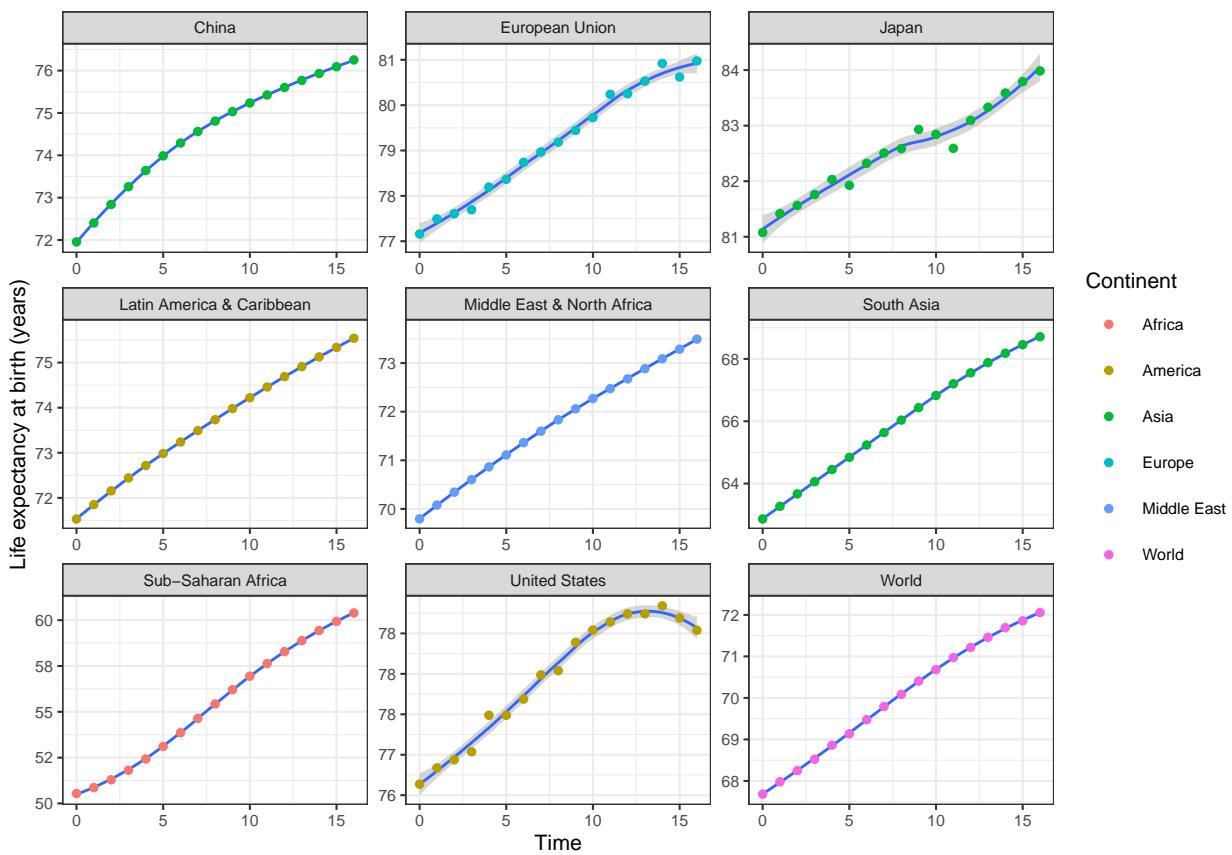


Figure 88: Trendline Life expectancy at birth, total (years) regions and biggest countries 2000 - 2017

Fertility rate, total (births per woman)

Table 54: Fertility rate (births per woman)

Country Name	Mean	SD
Austria	1.4	0.053
Belgium	1.7	0.071
Brazil	1.9	0.18
Chile	1.9	0.11
China	1.6	0.039
Czech Republic	1.4	0.17
Denmark	1.8	0.063
Estonia	1.5	0.13
European Union	1.5	0.058
Finland	1.8	0.091
France	2	0.051
Germany	1.4	0.078
Greece	1.4	0.08
Hungary	1.3	0.086
Iceland	2	0.14
Ireland	1.9	0.081
Israel	3	0.085
Italy	1.4	0.067
Japan	1.4	0.057
Korea, Rep.	1.2	0.093
Latin America & Caribbean	2.3	0.18
Latvia	1.5	0.17
Lithuania	1.5	0.16
Luxembourg	1.6	0.091
Mexico	2.4	0.17
Middle East & North Africa	2.9	0.11
Netherlands	1.7	0.04
New Zealand	2	0.11
Norway	1.8	0.086
Poland	1.3	0.062
Portugal	1.4	0.082
Slovak Republic	1.3	0.098
Slovenia	1.4	0.16
South Asia	2.9	0.34
Spain	1.3	0.057
Sub-Saharan Africa	5.3	0.31
Sweden	1.8	0.13
Turkey	2.2	0.14
United Kingdom	1.8	0.098
United States	2	0.11
World	2.5	0.072

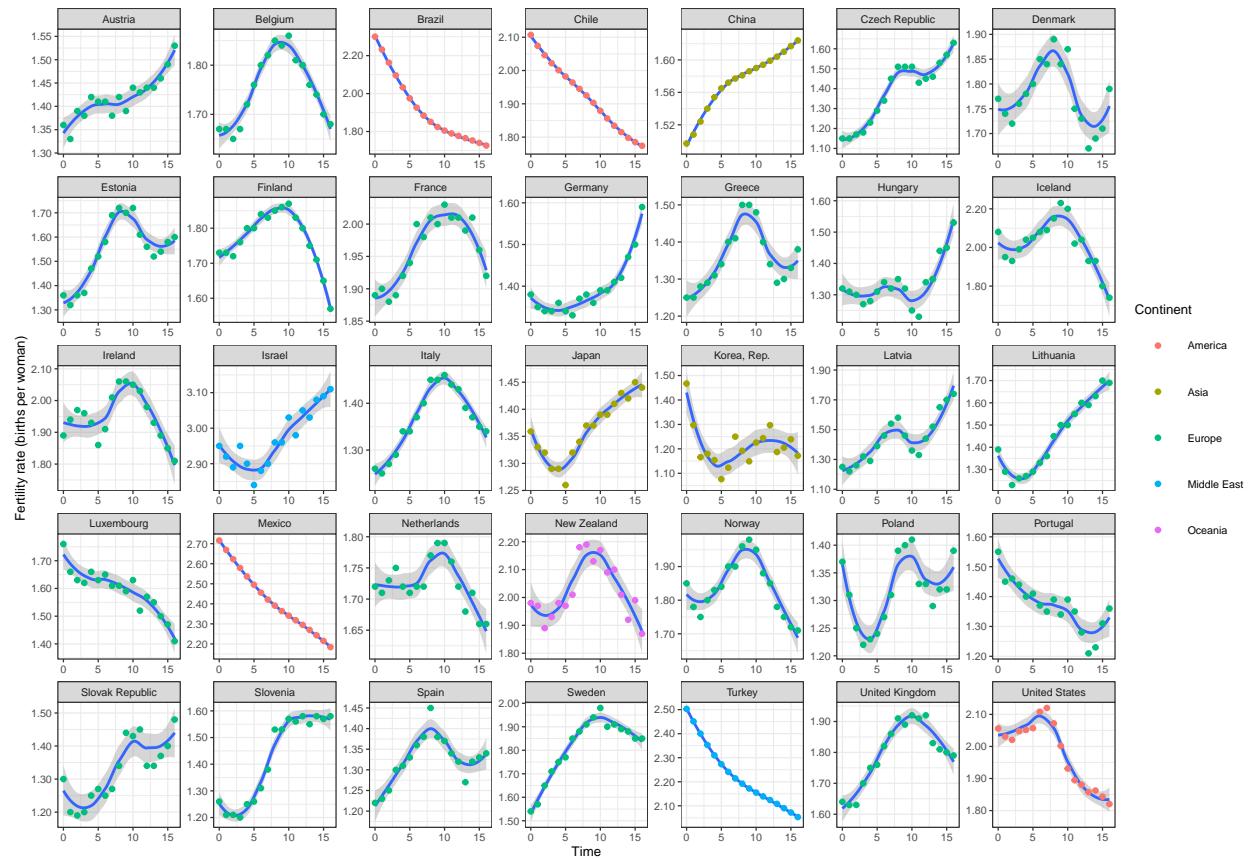


Figure 89: Trendline Fertility rate, total (births per woman) 2000 - 2017

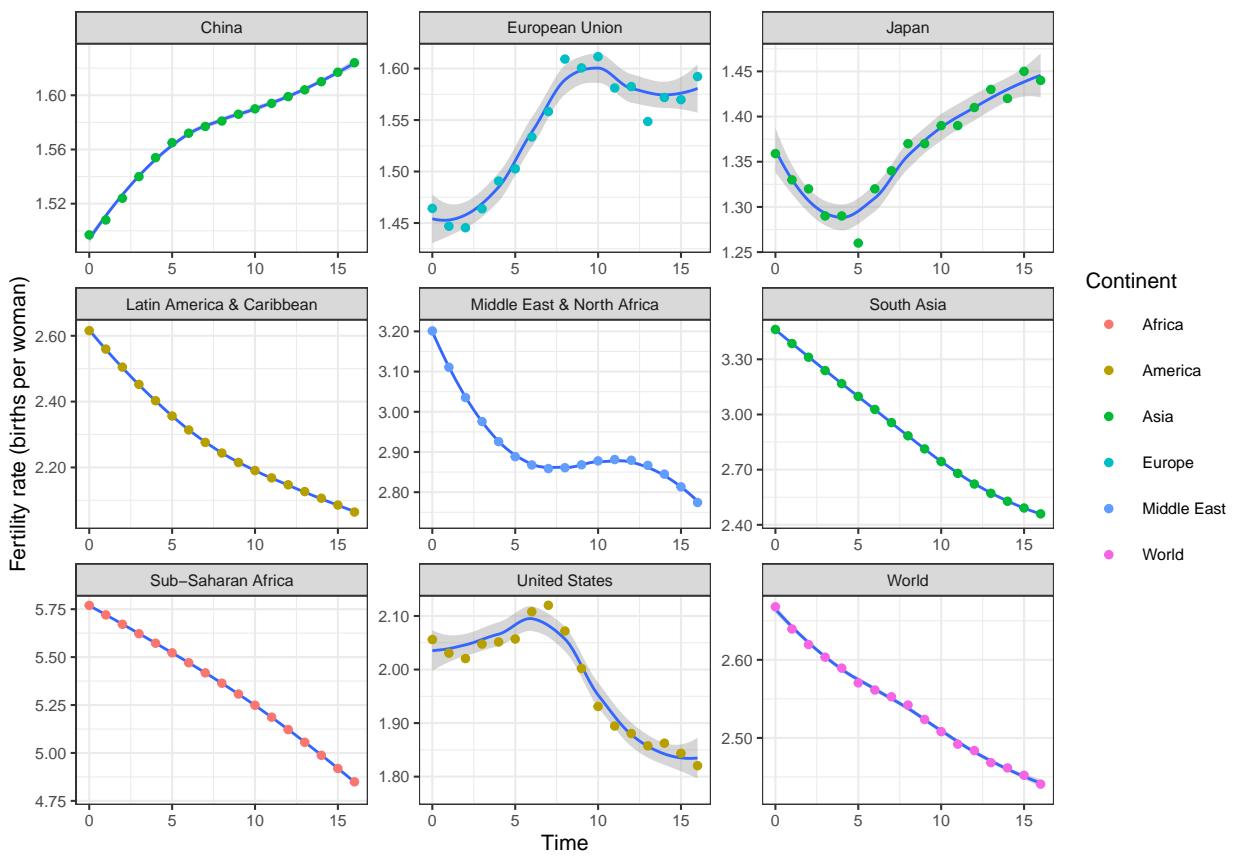


Figure 90: Trendline Fertility rate, total (births per woman) regions and biggest countries 2000 - 2017

Age dependency ratio, old (% of working-age population)

Age dependency ratio, old, is the ratio of older dependents—people older than 64—to the working-age population—those ages 15–64. Data are shown as the proportion of dependents per 100 working-age population.

Dependency ratios capture variations in the proportions of children, elderly people, and working-age people in the population that imply the dependency burden that the working-age population bears in relation to children and the elderly. But dependency ratios show only the age composition of a population, not economic dependency. Some children and elderly people are part of the labor force, and many working-age people are not.

Table 55: Age dependency ratio, old (% of working-age population)

Country Name	Mean	SD
Austria	26	2.1
Belgium	27	0.89
Brazil	9.7	1.3
Chile	13	1.5
China	12	1.4
Czech Republic	22	3.2
Denmark	25	3
Estonia	26	2.3
European Union	26	2.2
Finland	27	3.8
France	27	2.3
Germany	30	2.7
Greece	28	2.1
Hungary	24	1.6
Iceland	19	1.4
Ireland	17	2.2
Israel	17	1.1
Italy	31	2.9
Japan	34	6.5
Korea, Rep.	14	2.8
Latin America & Caribbean	10	0.92
Latvia	26	2.5
Lithuania	25	2.3
Luxembourg	21	0.52
Mexico	9.1	0.6
Middle East & North Africa	7.2	0.17
Netherlands	23	3
New Zealand	20	1.9
Norway	23	1.1
Poland	20	2
Portugal	28	2.9
Slovak Republic	18	1.7
Slovenia	24	2.5
South Asia	7.8	0.45
Spain	26	1.8
Sub-Saharan Africa	5.7	0.021
Sweden	28	1.9
Turkey	11	0.75
United Kingdom	26	1.7
United States	20	1.7

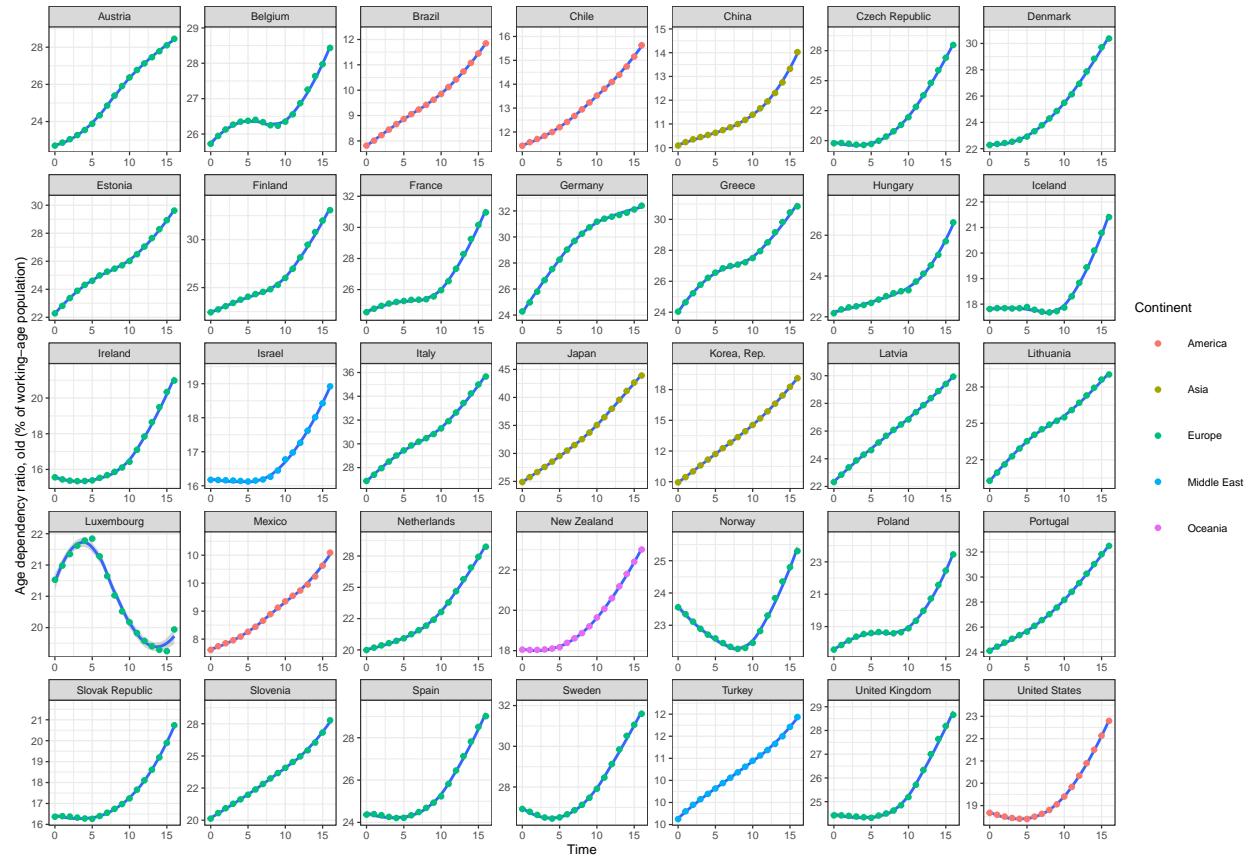


Figure 91: Trendline Age dependency ratio, old (% of working-age population) 2000 - 2017

Country Name	Mean	SD
World	12	0.68

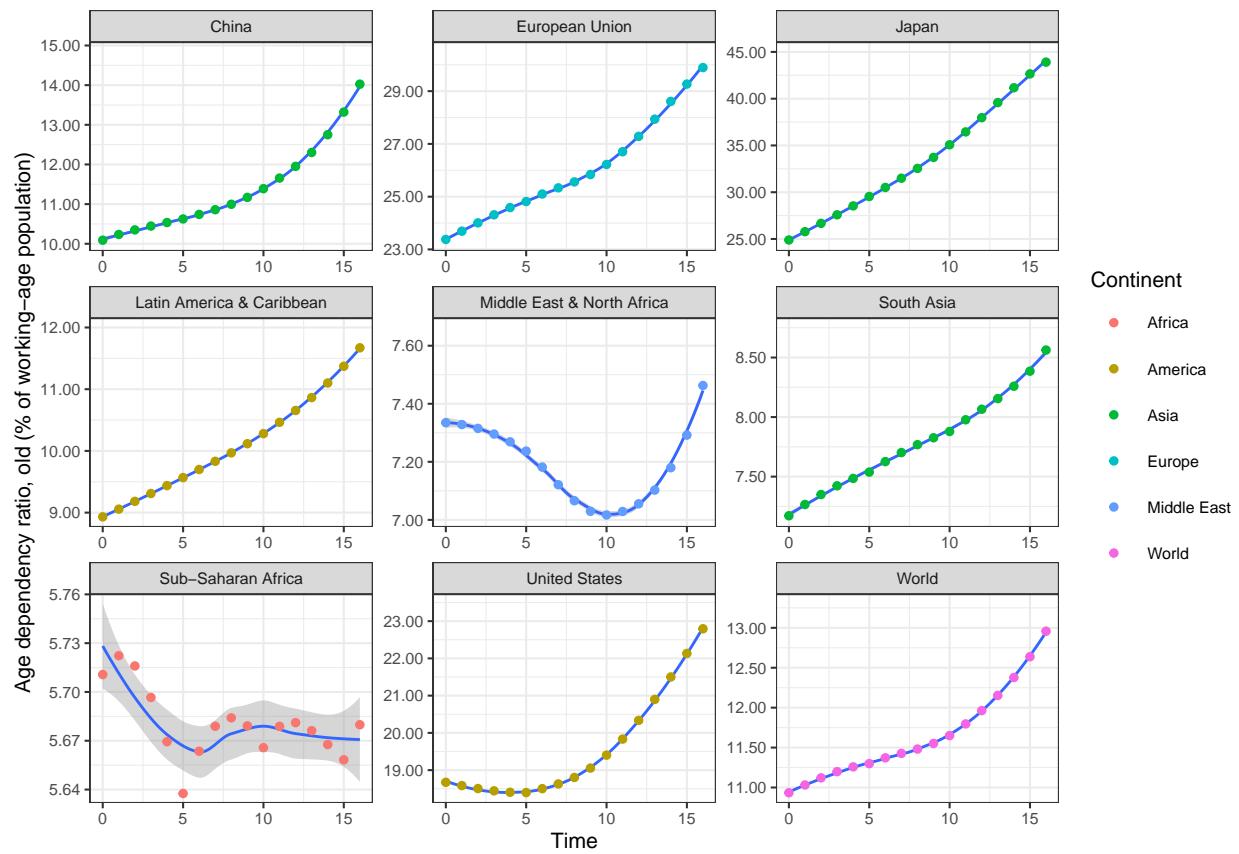


Figure 92: Trendline Age dependency ratio, old (% of working-age population) regions and biggest countries 2000 - 2017

Age dependency ratio, young (% of working-age population)

Age dependency ratio, young, is the ratio of younger dependents—people younger than 15—to the working-age population—those ages 15–64. Data are shown as the proportion of dependents per 100 working-age population.

Table 56: Age dependency ratio, young (% of working-age population)

Country Name	Mean	SD
Austria	23	1.3
Belgium	26	0.33
Brazil	38	4.9
Chile	35	3.8
China	27	3.9
Czech Republic	22	1.2
Denmark	27	0.84
Estonia	24	1.3
European Union	24	0.64
Finland	26	0.63
France	29	0.31
Germany	21	1.1
Greece	22	0.22
Hungary	22	1.1
Iceland	32	1.7
Ireland	31	1.6
Israel	45	0.71
Italy	21	0.12
Japan	21	0.3
Korea, Rep.	23	3.5
Latin America & Caribbean	44	4.6
Latvia	22	1.7
Lithuania	24	2.9
Luxembourg	26	1.8
Mexico	48	5.3
Middle East & North Africa	50	5.3
Netherlands	26	0.69
New Zealand	32	1.4
Norway	29	1.3
Poland	23	2.3
Portugal	23	0.76
Slovak Republic	23	2.3
Slovenia	21	1
South Asia	52	4.9
Spain	22	0.64
Sub-Saharan Africa	82	1.6
Sweden	27	1
Turkey	42	3.4
United Kingdom	27	0.78
United States	31	1.3
World	42	2.6

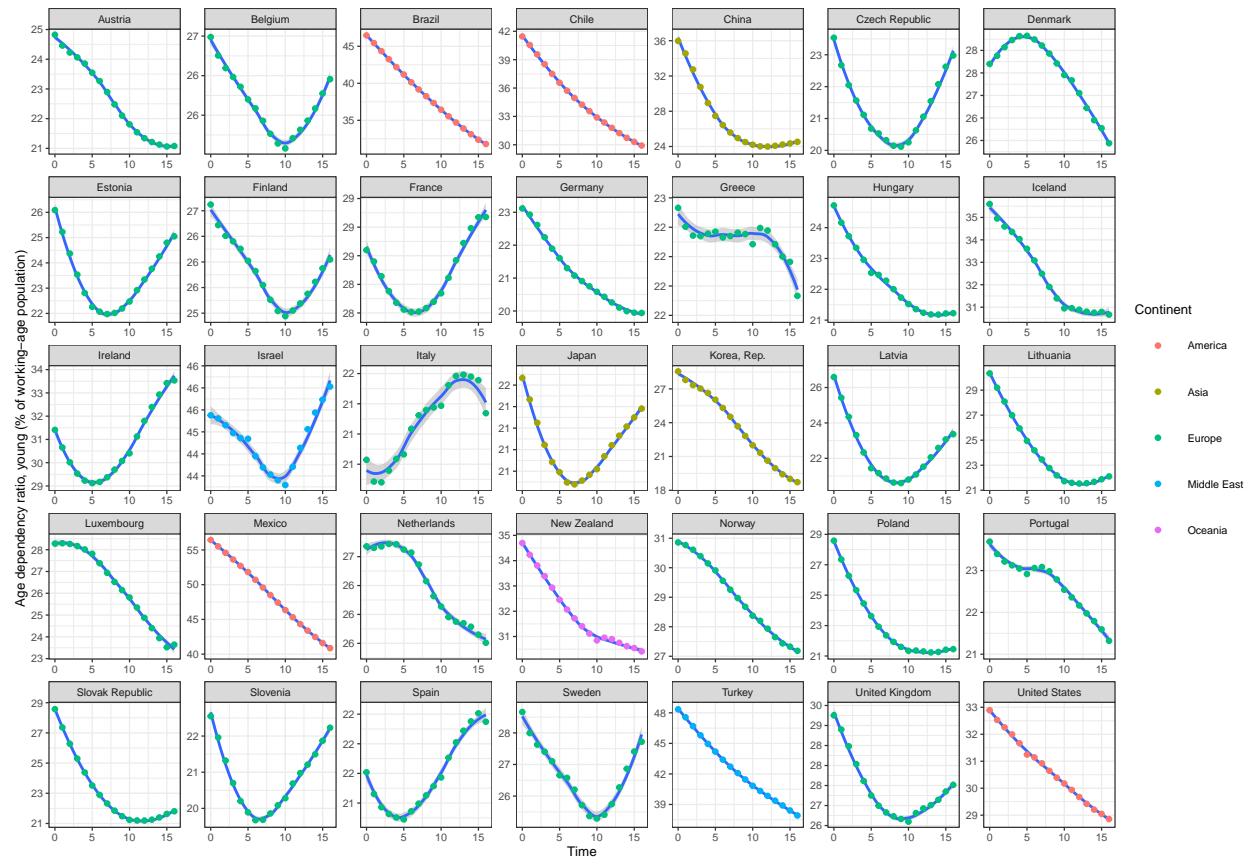


Figure 93: Trendline Age dependency ratio, young (% of working-age population) 2000 - 2017

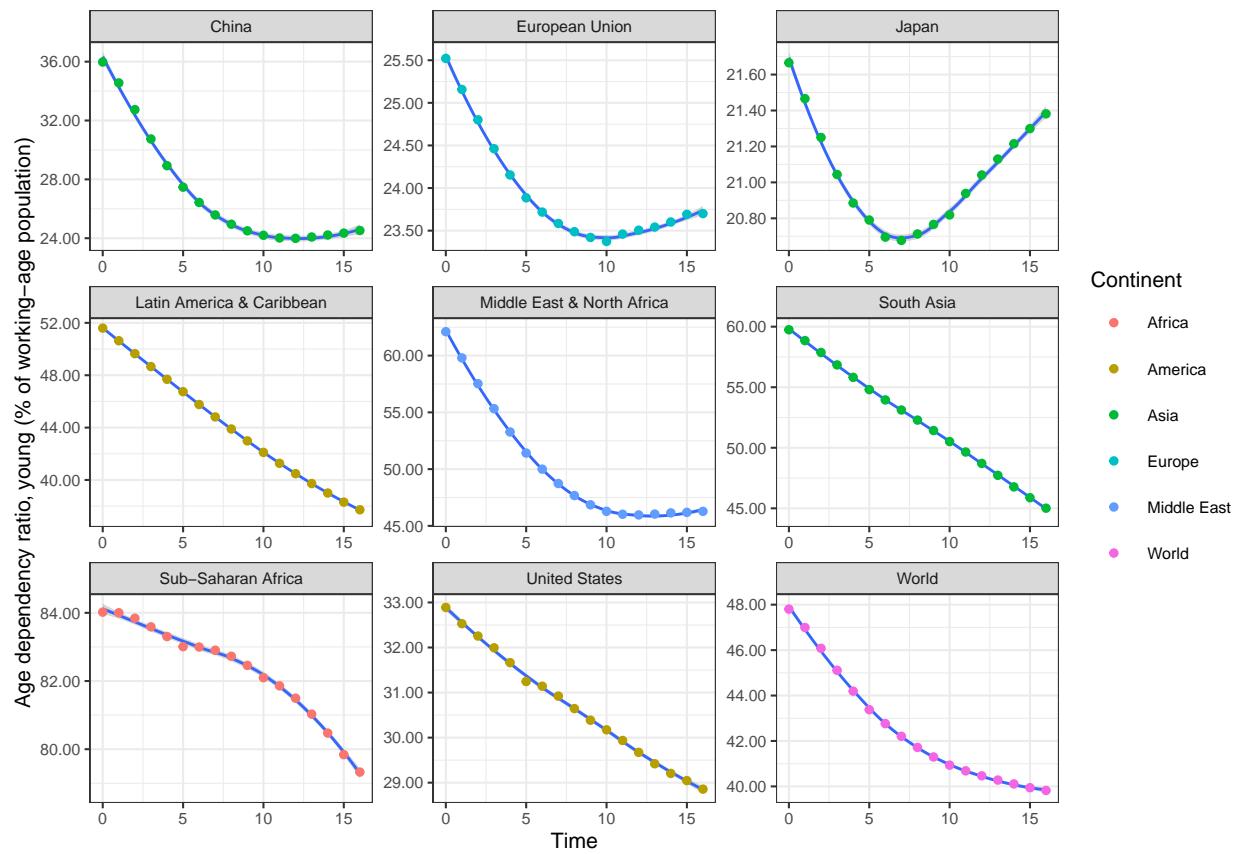


Figure 94: Trendline Age dependency ratio, young (% of working-age population) regions and biggest countries 2000 - 2017

Poverty headcount ratio at national poverty lines (% of population)

National poverty headcount ratio is the percentage of the population living below the national poverty lines. National estimates are based on population-weighted subgroup estimates from household surveys.

Poverty headcount ratio among the population is measured based on national (i.e. country-specific) poverty lines. A country may have a unique national poverty line or separate poverty lines for rural and urban areas, or for different geographic areas to reflect differences in the cost of living or sometimes to reflect differences in diets and consumption baskets.

Poverty estimates at national poverty lines are computed from household survey data collected from nationally representative samples of households. These data must contain sufficiently detailed information to compute a comprehensive estimate of total household income or consumption (including consumption or income from own production), from which it is possible to construct a correctly weighted distribution of per capita consumption or income.

National poverty lines are the benchmark for estimating poverty indicators that are consistent with the country's specific economic and social circumstances. National poverty lines reflect local perceptions of the level and composition of consumption or income needed to be non-poor. The perceived boundary between poor and non-poor typically rises with the average income of a country and thus does not provide a uniform measure for comparing poverty rates across countries. While poverty rates at national poverty lines should not be used for comparing poverty rates across countries, they are appropriate for guiding and monitoring the results of country-specific national poverty reduction strategies.

Almost all national poverty lines are anchored to the cost of a food bundle - based on the prevailing national diet of the poor - that provides adequate nutrition for good health and normal activity, plus an allowance for nonfood spending. National poverty lines must be adjusted for inflation between survey years to remain constant in real terms and thus allow for meaningful comparisons of poverty over time. Because diets and consumption baskets change over time, countries periodically recalculate the poverty line based on new survey data. In such cases the new poverty lines should be deflated to obtain comparable poverty estimates from earlier years. The data is based on the two most recent years for which survey data are available.

Survey year is the year in which the underlying household survey data were collected or, when the data collection period bridged two calendar years, the year in which most of the data were collected.

Table 57: Poverty (% of population)

Country Name	Mean	SD
Brazil	26	0.57
Chile	23	11
China	8.6	4.6
Czech Republic	9.4	0.59
Estonia	22	NA
Hungary	14	1.3
Latvia	22	2.6
Lithuania	20	1
Mexico	45	1.1
Poland	18	1.3
Slovak Republic	12	1
Slovenia	13	1.2
Turkey	16	1.4

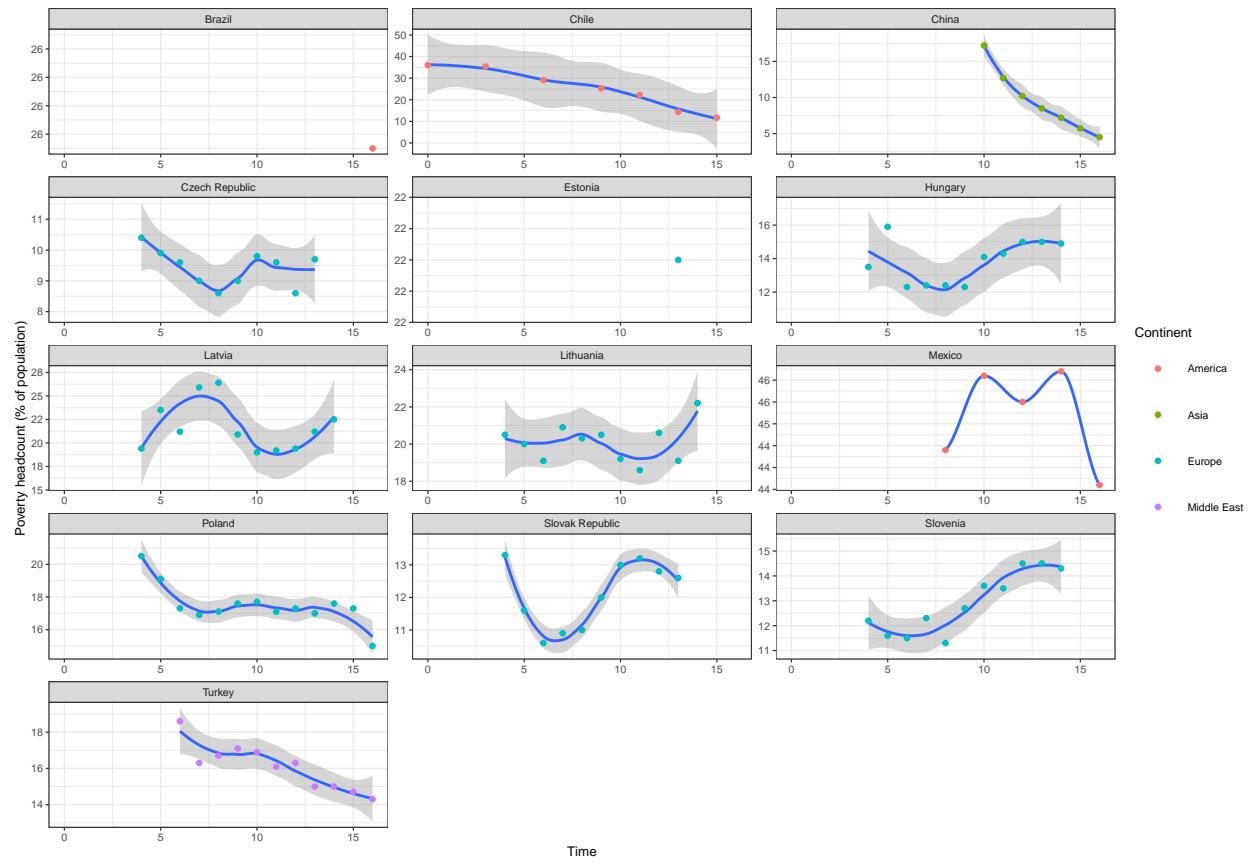


Figure 95: Trendline Poverty headcount ratio at national poverty lines (% of population) 2000 - 2017

Access to electricity (% of population)

Table 58: Access to electricity (% of population)

Country Name	Mean	SD
Austria	100	0
Belgium	100	0
Brazil	98	1.6
Chile	99	0.92
China	99	1.4
Czech Republic	100	0
Denmark	100	0
Estonia	100	0
European Union	100	0
Finland	100	0
France	100	0
Germany	100	0
Greece	100	0
Hungary	100	0
Iceland	100	0
Ireland	100	0
Israel	100	0
Italy	100	0
Japan	100	0
Korea, Rep.	100	0
Latin America & Caribbean	95	2
Latvia	100	0
Lithuania	100	0
Luxembourg	100	0
Mexico	99	0.76
Middle East & North Africa	95	2.1
Netherlands	100	0
New Zealand	100	0
Norway	100	0
Poland	100	0
Portugal	100	0
Slovak Republic	100	0
Slovenia	100	0
South Asia	71	9.7
Spain	100	0
Sub-Saharan Africa	32	4.8
Sweden	100	0
Turkey	98	1.9
United Kingdom	100	0
United States	100	0
World	82	3.1

Educational attainment, at least completed primary, population 25+ years, total (%) (cumulative)

The percentage of population ages 25 and over that attained or completed primary education.

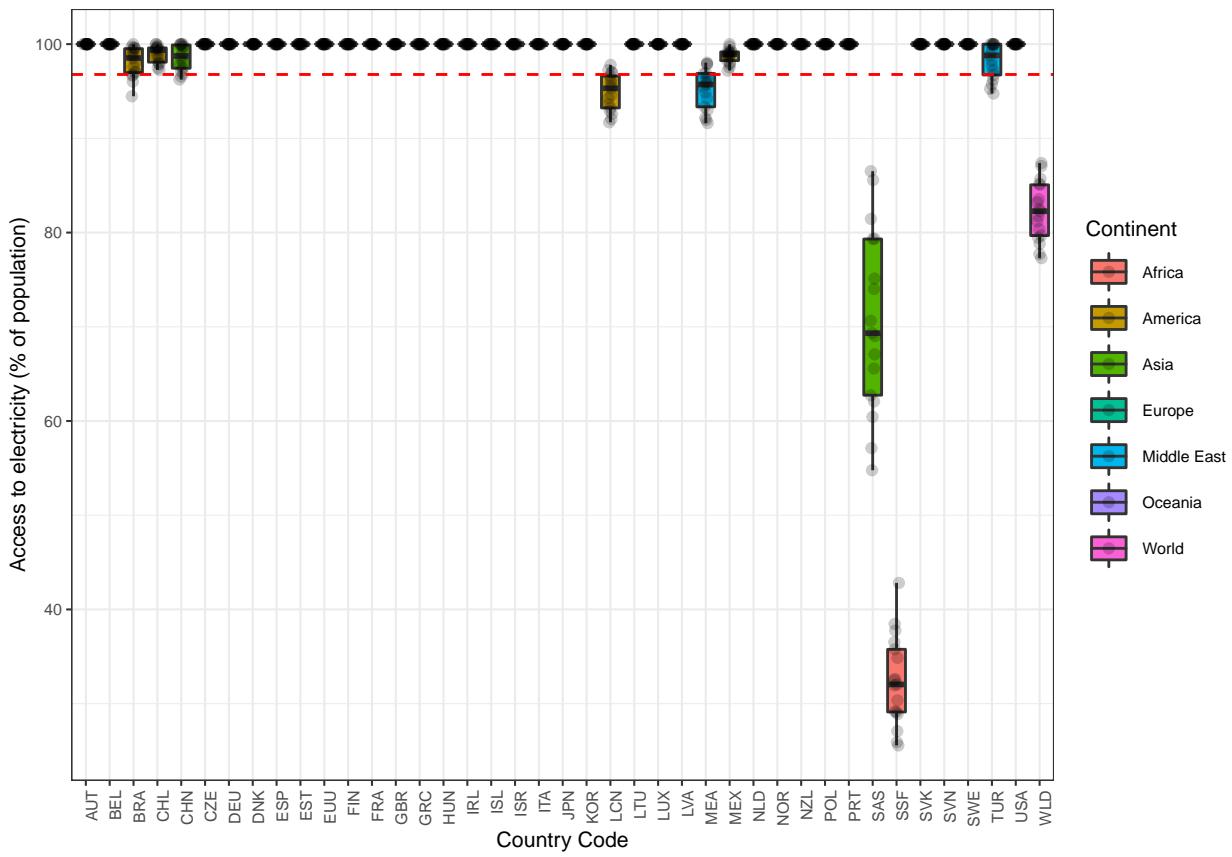


Figure 96: Boxplot Access to electricity (% of population) 2000 - 2017

It is calculated by dividing the number of population **ages 25 and older** who attained or completed primary education by the total population of the same age group and multiplying by 100. The number 0 means zero or small enough that the number would round to zero.

Data are collected by the UNESCO Institute for Statistics mainly from national population census, household survey, and labour force survey. All the data are mapped to the International Standard Classification of Education (ISCED) to ensure the comparability of education programs at the international level. The current version was formally adopted by UNESCO Member States in 2011.

A relative high concentration of the adult population in a given level of education reflects the capacity of the educational system in the corresponding level of education. Educational attainment is closely related to the skills and competencies of a country's population, and could be seen as a proxy of both the quantitative and qualitative aspects of the stock of human capital.

Caution is required when using this indicator for cross-country comparison, since the countries do not always classify degrees and qualifications at the same International Standard Classification of Education (ISCED) levels, even if they are received at roughly the same age or after a similar number of years of schooling. Also, certain educational programmes and study courses cannot be easily classified according to ISCED. This indicator only measures educational attainment in terms of level of education attained, i.e. years of schooling, and do not necessarily reveal the quality of the education (learning achievement and other impacts).

Data retrieved via API in March 2019. For detailed information on the observation level (e.g. National Estimation, UIS Estimation, or Category not applicable), please visit UIS.Stat (<http://data.uis.unesco.org/>).

Table 59: Educational attainment, at least completed primary, population 25+ years, total (%) (cumulative)

Country Name	Mean	SD
Belgium	93	1.1
Brazil	75	2.7
Chile	85	2.7
Czech Republic	100	0.014
Denmark	100	0
France	98	0.6
Germany	100	0
Greece	93	1.5
Hungary	99	0.47
Israel	91	11
Italy	93	1.1
Japan	100	NA
Korea, Rep.	93	1.9
Latvia	100	0.23
Lithuania	98	0.36
Luxembourg	98	2.9
Mexico	74	4.8
Netherlands	98	0.11
New Zealand	100	NA
Norway	100	0.17
Poland	99	0.64
Portugal	86	3.9
Slovak Republic	100	0.073
Slovenia	99	0.42
Spain	88	1.7
Sweden	100	0
Turkey	83	3.6
United Kingdom	100	0.034
United States	99	0.15

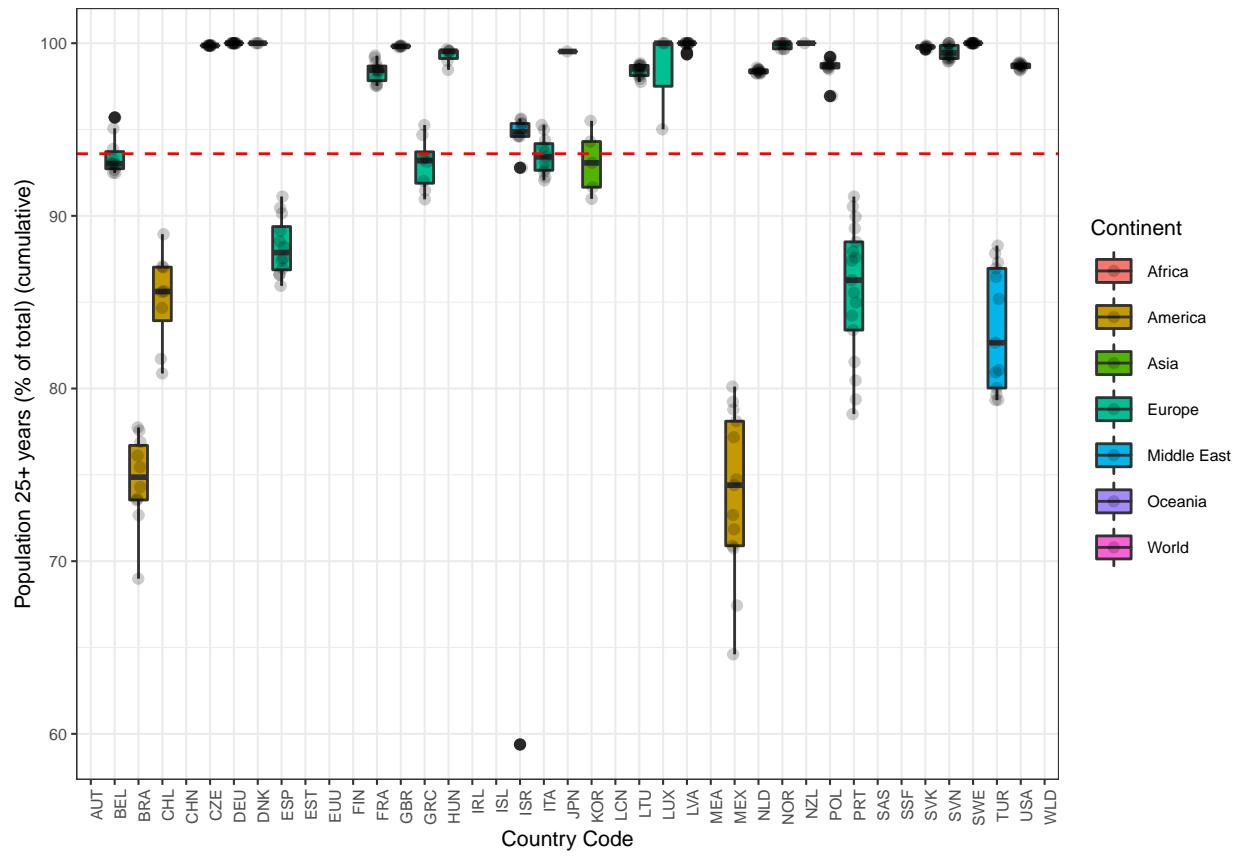


Figure 97: Boxplot Educational attainment, at least completed primary, population 25+ years, total (%) (cumulative)

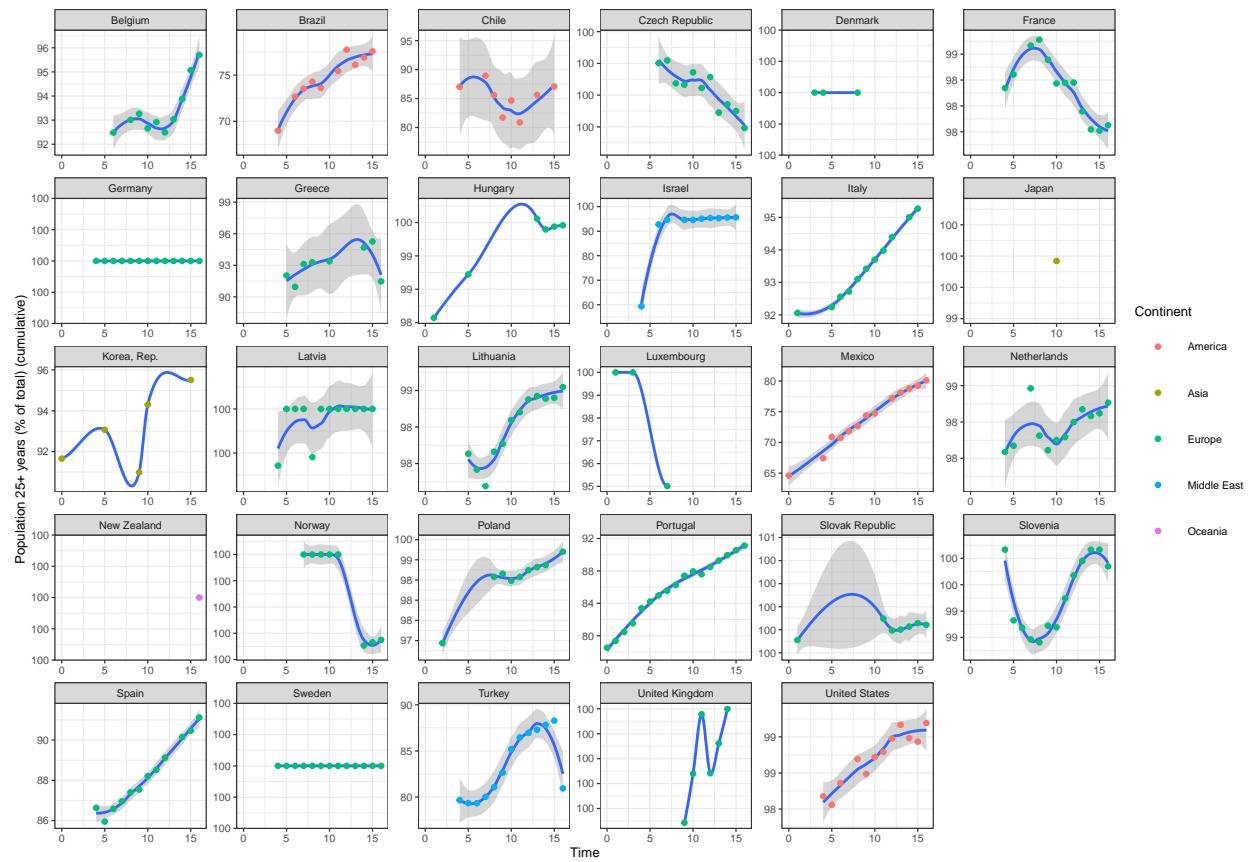


Figure 98: Trendline Educational attainment, at least completed primary, population 25+ years, total (%) (cumulative) 2000 - 2017

Educational attainment, at least completed lower secondary, population 25+, total (%) (cumulative)

The percentage of population ages 25 and over that attained or completed lower secondary education.

It is calculated by dividing the number of population **ages 25 and older** who attained or completed lower secondary education by the total population of the same age group and multiplying by 100. The number 0 means zero or small enough that the number would round to zero.

Data are collected by the UNESCO Institute for Statistics mainly from national population census, household survey, and labour force survey. All the data are mapped to the International Standard Classification of Education (ISCED) to ensure the comparability of education programs at the international level. The current version was formally adopted by UNESCO Member States in 2011.

Table 60: Educational attainment, at least completed lower secondary, population 25+ years, total (%) (cumulative)

Country Name	Mean	SD
Austria	99	NA
Belgium	81	2.5
Brazil	51	4.8
Chile	76	1.9
China	59	9.2
Czech Republic	100	0.014
Denmark	97	4
Estonia	89	NA
France	79	3.1
Germany	97	0.32
Greece	62	5
Hungary	96	3.8
Iceland	96	NA
Ireland	82	3.9
Israel	82	11
Italy	73	4.1
Korea, Rep.	81	3.6
Latvia	99	0.84
Lithuania	91	2.4
Luxembourg	79	15
Mexico	53	5.5
Netherlands	90	0.32
New Zealand	100	NA
Norway	100	0.25
Poland	82	2.1
Portugal	39	9.6
Slovak Republic	99	0.14
Slovenia	96	1.6
Spain	68	5.1
Sweden	89	1.5
Turkey	43	11
United Kingdom	100	0.034
United States	95	0.62

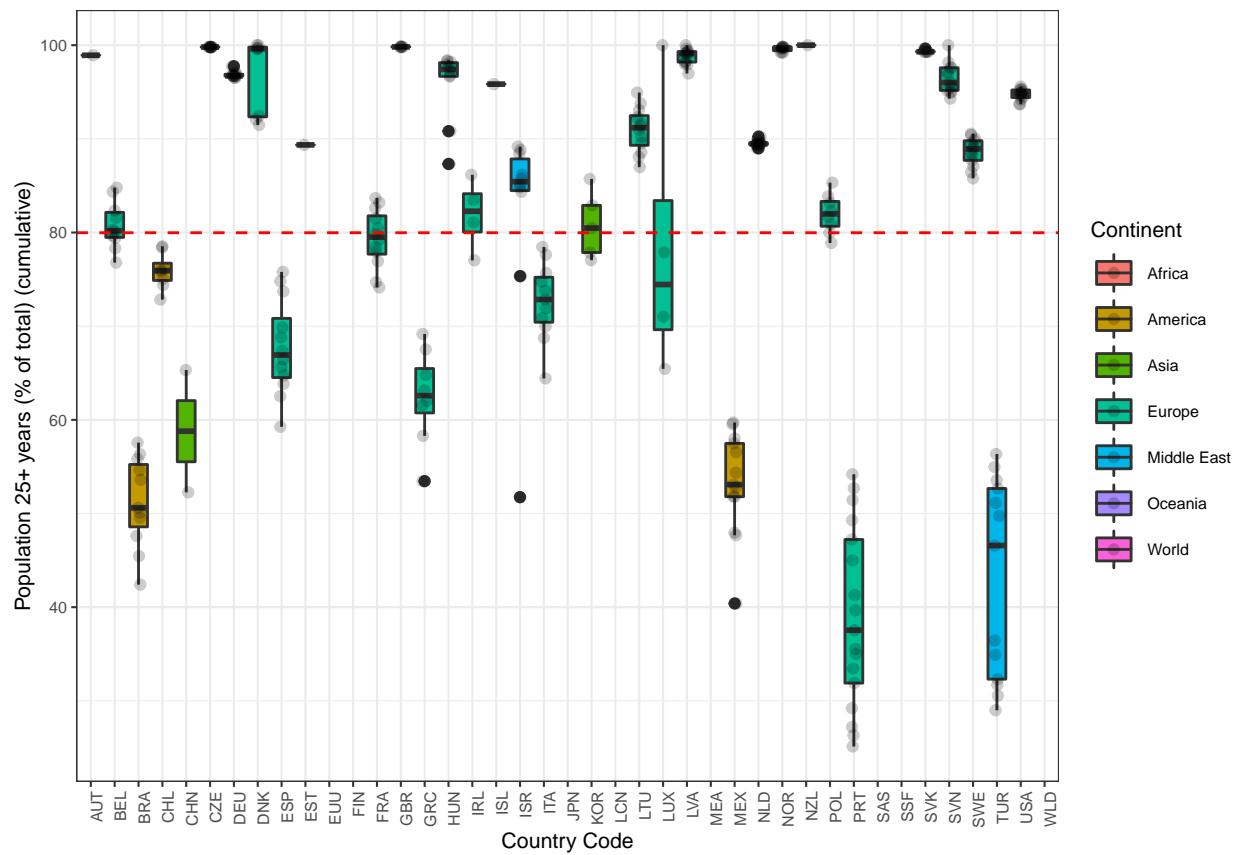


Figure 99: Boxplot Educational attainment, at least completed lower secondary, population 25+, total (%) (cumulative)

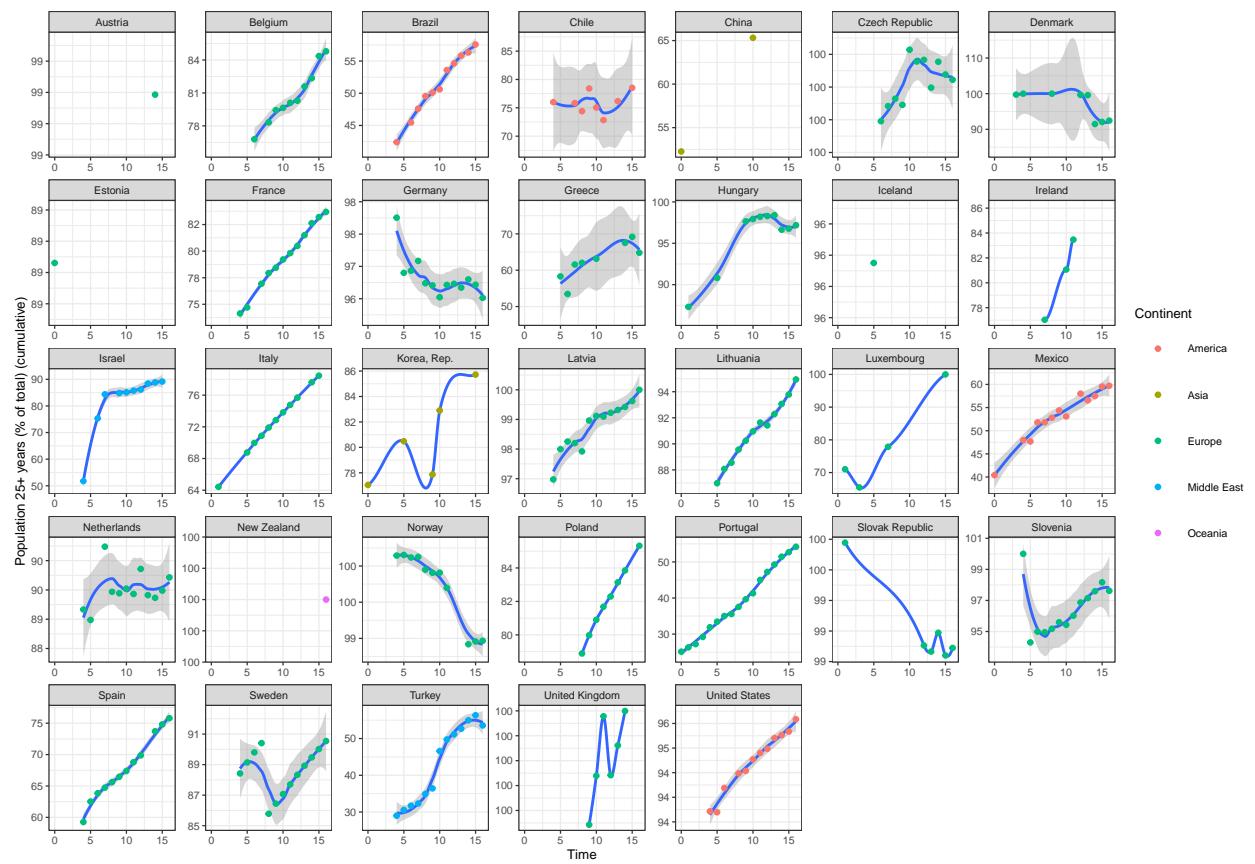


Figure 100: Trendline Educational attainment, at least completed lower secondary, population 25+, total (%) (cumulative) 2000 - 2017

Educational attainment, at least completed post-secondary, population 25+, total (%) (cumulative)

The percentage of population ages 25 and over that attained or completed post-secondary non-tertiary education.

It is calculated by dividing the number of population **ages 25 and older** who attained or completed post-secondary non-tertiary education by the total population of the same age group and multiplying by 100. The number 0 means zero or small enough that the number would round to zero.

Data are collected by the UNESCO Institute for Statistics mainly from national population census, household survey, and labour force survey. All the data are mapped to the International Standard Classification of Education (ISCED) to ensure the comparability of education programs at the international level. The current version was formally adopted by UNESCO Member States in 2011.

Table 61: Educational attainment, at least completed post-secondary secondary, population 25+ years, total (%) (cumulative)

Country Name	Mean	SD
Austria	26	2.1
Belgium	32	1.8
Brazil	11	1.8
Chile	18	4.1
China	4.3	NA
Czech Republic	17	2.4
Denmark	34	1.4
Estonia	31	NA
Finland	35	0.38
France	25	3.4
Germany	31	2.7
Greece	26	3.9
Hungary	23	5.7
Iceland	31	NA
Ireland	41	3.3
Israel	43	5.4
Italy	12	1.6
Japan	34	NA
Korea, Rep.	34	5.3
Latvia	34	3.7
Lithuania	49	2.2
Luxembourg	42	23
Mexico	14	2
Netherlands	31	0.86
New Zealand	45	1.9
Norway	34	3.2
Poland	24	3.7
Portugal	13	3.9
Slovak Republic	18	2.9
Slovenia	22	3.1
Spain	26	2.6
Sweden	35	1.9
Turkey	12	3.4
United Kingdom	35	3
United States	40	2.4

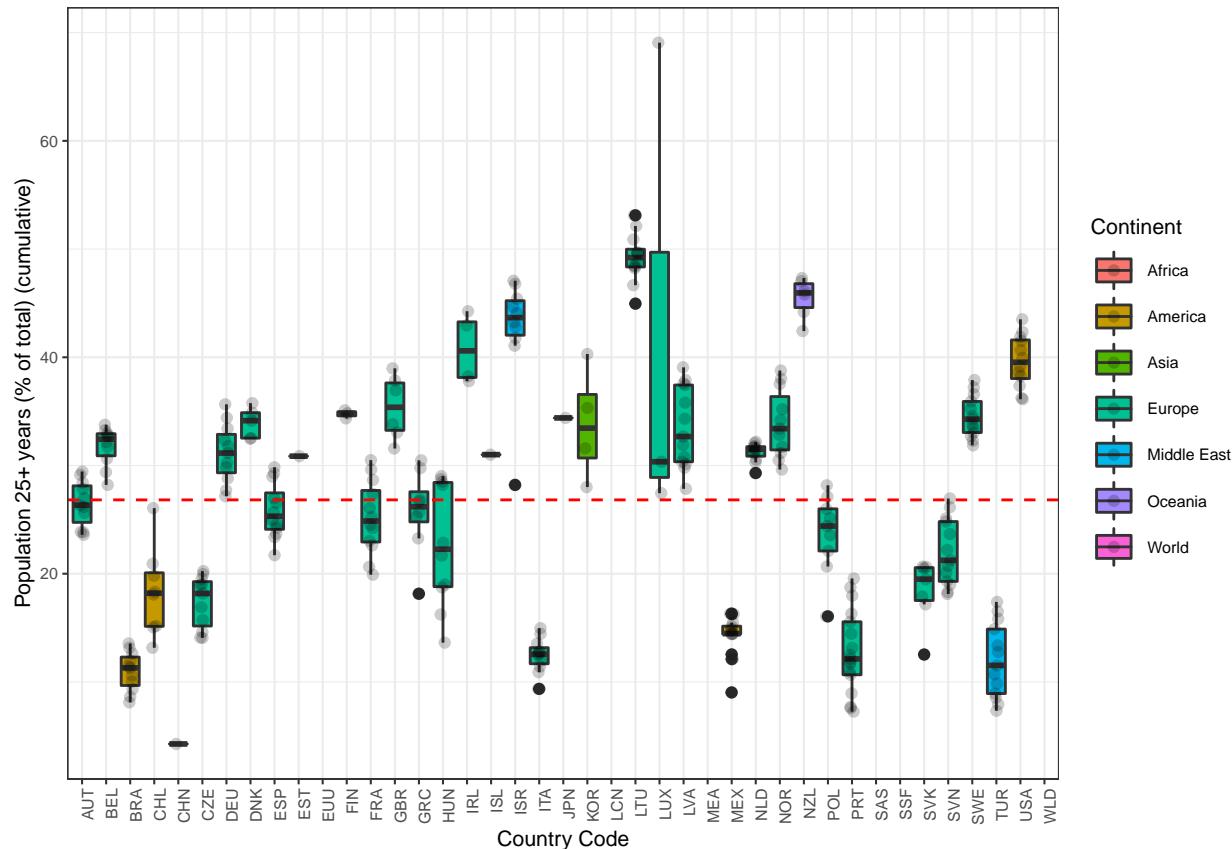


Figure 101: Boxplot Educational attainment, at least completed post-secondary, population 25+, total (%) (cumulative)

Educational attainment, at least Bachelor's or equivalent, population 25+, total (%) (cumulative)

The percentage of population ages 25 and over that attained or completed Bachelor's or equivalent.

It is calculated by dividing the number of population **ages 25 and older** who attained or completed Bachelor's or equivalent by the total population of the same age group and multiplying by 100. The number 0 means zero or small enough that the number would round to zero.

Data are collected by the UNESCO Institute for Statistics mainly from national population census, household survey, and labour force survey. All the data are mapped to the International Standard Classification of Education (ISCED) to ensure the comparability of education programs at the international level. The current version was formally adopted by UNESCO Member States in 2011.

Table 62: Educational attainment, at least Bachelor's or equivalent, population 25+, total (%) (cumulative)

Country Name	Mean	SD
Austria	13	0.45
Belgium	31	0.82
Chile	12	1.4
China	3.6	NA
Czech Republic	19	0.63

Country Name	Mean	SD
Denmark	30	1
Finland	22	0.82
France	17	0.67
Germany	25	0.7
Greece	22	1.4
Hungary	20	0.55
Ireland	29	3.1
Israel	32	0.95
Japan	20	NA
Korea, Rep.	27	3.1
Latvia	28	1.1
Lithuania	31	3.4
Mexico	14	0.82
Netherlands	28	0.96
New Zealand	27	1.2
Norway	27	0.8
Poland	24	1.2
Portugal	12	3.7
Slovak Republic	19	0.36
Slovenia	19	0.72
Spain	21	NA
Sweden	23	0.62
United Kingdom	29	0.67
United States	32	0.78

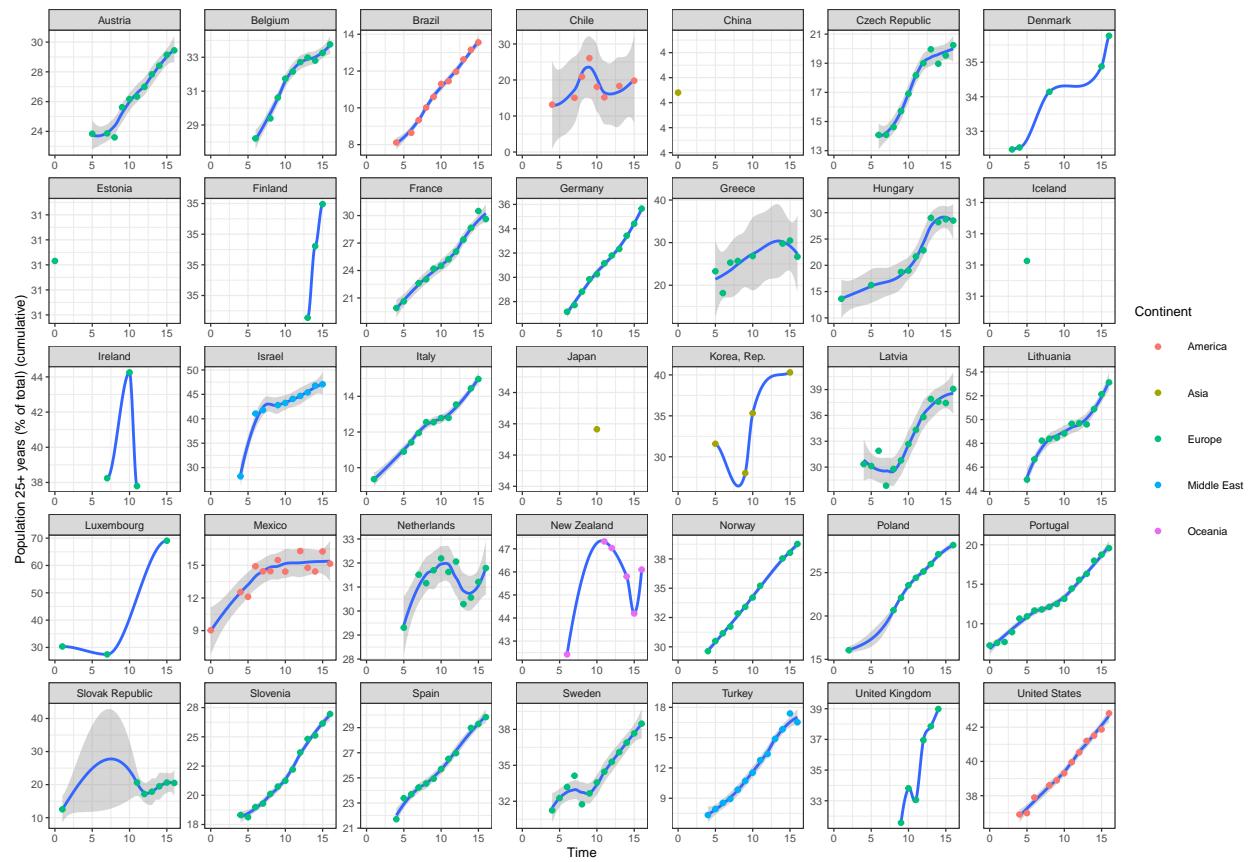


Figure 102: Trendline Educational attainment, at least completed post-secondary, population 25+, total (%) (cumulative) 2000 - 2017

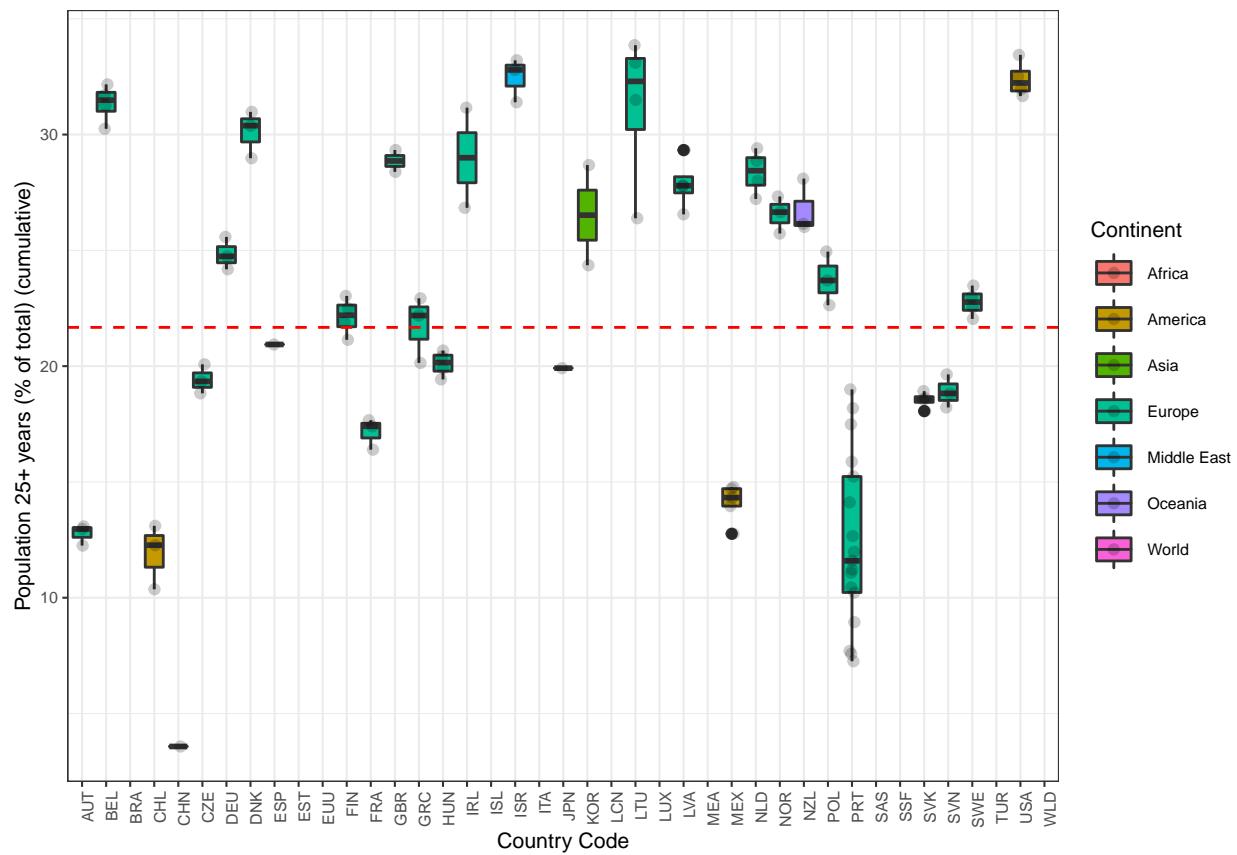


Figure 103: Boxplot Educational attainment, at least Bachelor's or equivalent, population 25+, total (%) (cumulative)

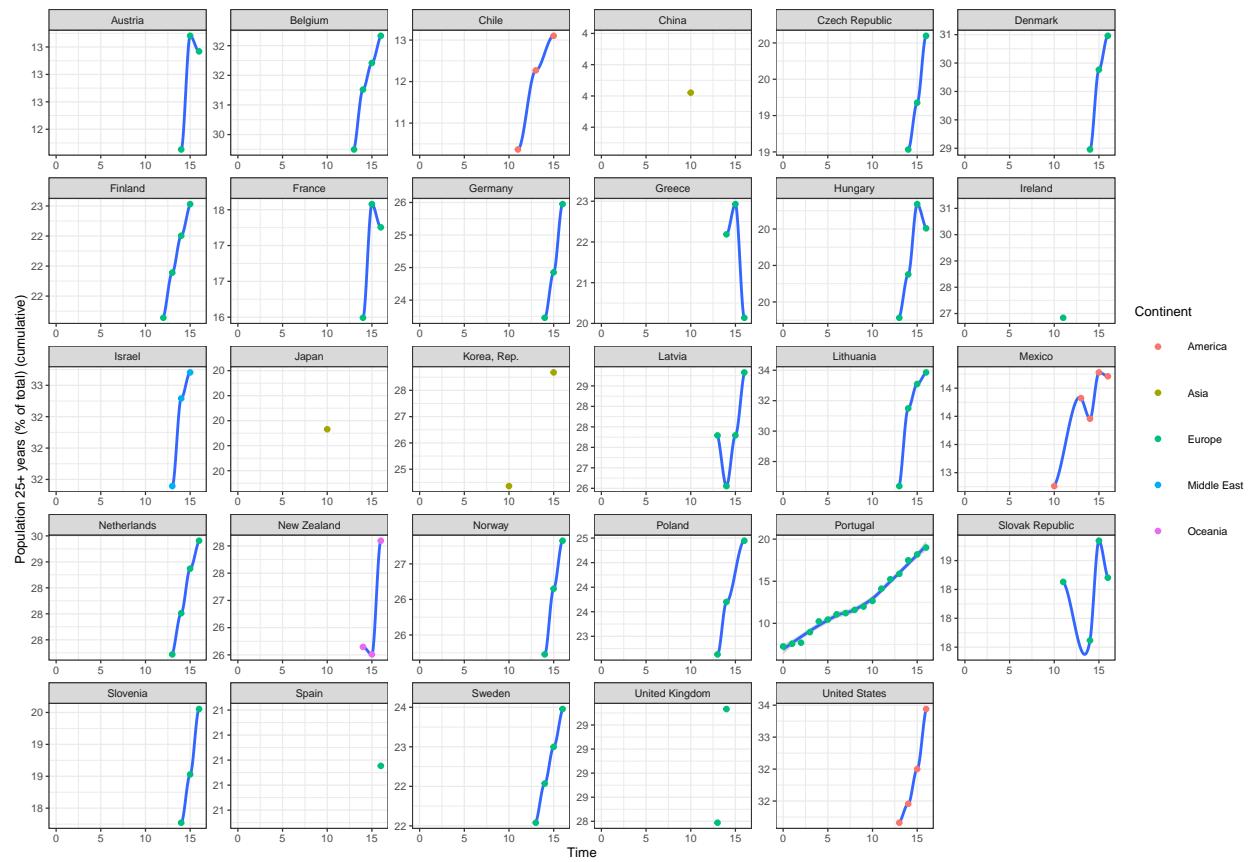


Figure 104: Trendline Educational attainment, at least Bachelor's or equivalent, population 25+, total (%) (cumulative) 2000 - 2017

Educational attainment, at least Master's or equivalent, population 25+, total (%) (cumulative)

The percentage of population ages 25 and over that attained or completed Master's or equivalent.

It is calculated by dividing the number of population **ages 25 and older** who attained or completed Master's or equivalent by the total population of the same age group and multiplying by 100. The number 0 means zero or small enough that the number would round to zero.

Data are collected by the UNESCO Institute for Statistics mainly from national population census, household survey, and labour force survey. All the data are mapped to the International Standard Classification of Education (ISCED) to ensure the comparability of education programs at the international level. The current version was formally adopted by UNESCO Member States in 2011.

Table 63: Educational attainment, at least Master's or equivalent, population 25+, total (%) (cumulative)

Country Name	Mean	SD
Austria	11	0.13
Belgium	13	0.6
Chile	0.89	0.36
China	0.38	NA
Czech Republic	15	0.55
Denmark	11	0.7
Finland	11	0.37
France	8.7	0.38
Germany	11	0.38
Greece	2.3	0.15
Hungary	8.4	0.59
Ireland	10	1.5
Israel	12	0.35
Korea, Rep.	4	0.64
Latvia	11	0.58
Lithuania	14	0.42
Mexico	1.5	0.35
Netherlands	11	0.4
New Zealand	4.5	0.31
Norway	10	0.4
Poland	19	0.68
Portugal	14	0.39
Slovak Republic	17	1
Slovenia	14	0.74
Spain	13	NA
Sweden	11	0.31
Turkey	1.6	0.084
United Kingdom	8.7	0.15
United States	12	0.45

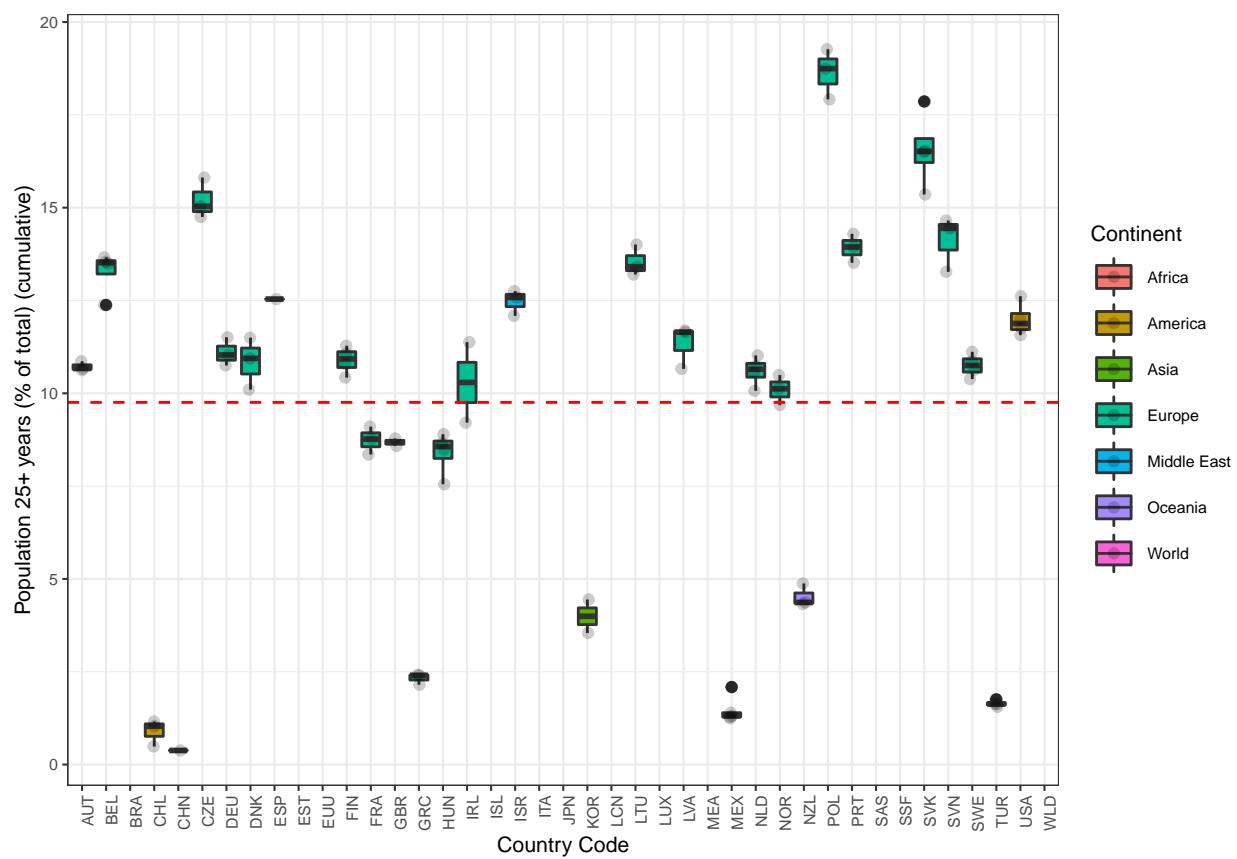


Figure 105: Boxplot Educational attainment, at least Master's or equivalent, population 25+, total (%) (cumulative)

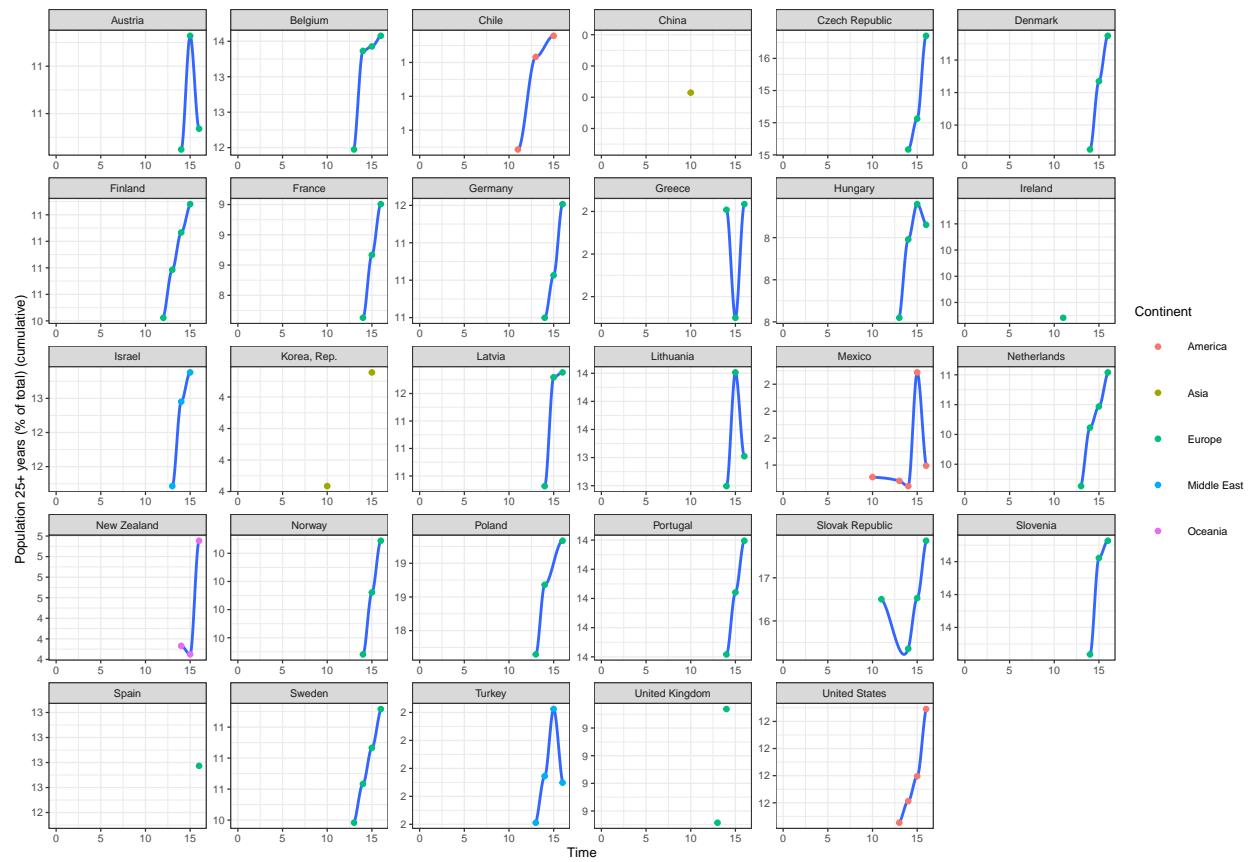


Figure 106: Trendline Educational attainment, at least Master's or equivalent, population 25+, total (%) (cumulative) 2000 - 2017

Educational attainment, Doctoral or equivalent, population 25+, total (%) (cumulative)

The percentage of population ages 25 and over that attained or completed Doctoral or equivalent. It is calculated by dividing the number of population **ages 25 and older** who attained or completed Doctoral or equivalent by the total population of the same age group and multiplying by 100. The number 0 means zero or small enough that the number would round to zero.

Data are collected by the UNESCO Institute for Statistics mainly from national population census, household survey, and labour force survey. All the data are mapped to the International Standard Classification of Education (ISCED) to ensure the comparability of education programs at the international level. The current version was formally adopted by UNESCO Member States in 2011.

Table 64: Educational attainment, Doctoral or equivalent, population 25+, total (%) (cumulative)

Country Name	Mean	SD
Austria	0.79	0.31
Belgium	0.56	0.057
Czech Republic	0.59	0.075
Denmark	0.49	0.44
Finland	1	0.036
France	0.76	0.046
Germany	1.3	0.031
Greece	0.51	0.027
Hungary	0.66	0.11
Ireland	0.89	0.14
Israel	1.4	0.018
Korea, Rep.	0.68	0.14
Latvia	0.48	0.053
Lithuania	0.53	0.083
Mexico	0.12	0.063
Netherlands	0.57	0.011
New Zealand	0.86	0.073
Norway	0.94	0.057
Poland	0.51	0.067
Portugal	0.48	0.023
Slovak Republic	0.47	0.41
Slovenia	1.9	0.36
Spain	0.69	NA
Sweden	1.2	0.027
Turkey	0.34	0.01
United Kingdom	0.9	0.023
United States	1.8	0.079

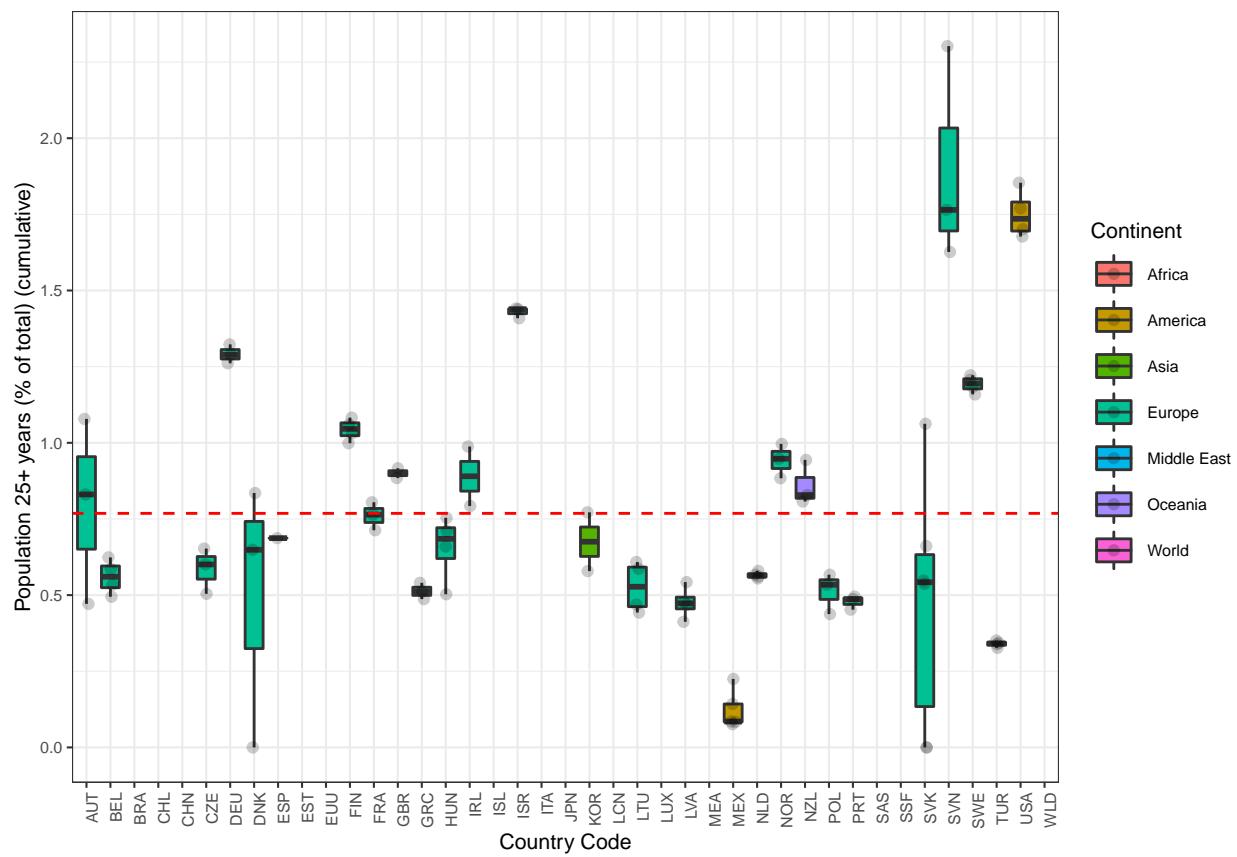


Figure 107: Boxplot Educational attainment, Doctoral or equivalent, population 25+, total (%) (cumulative)

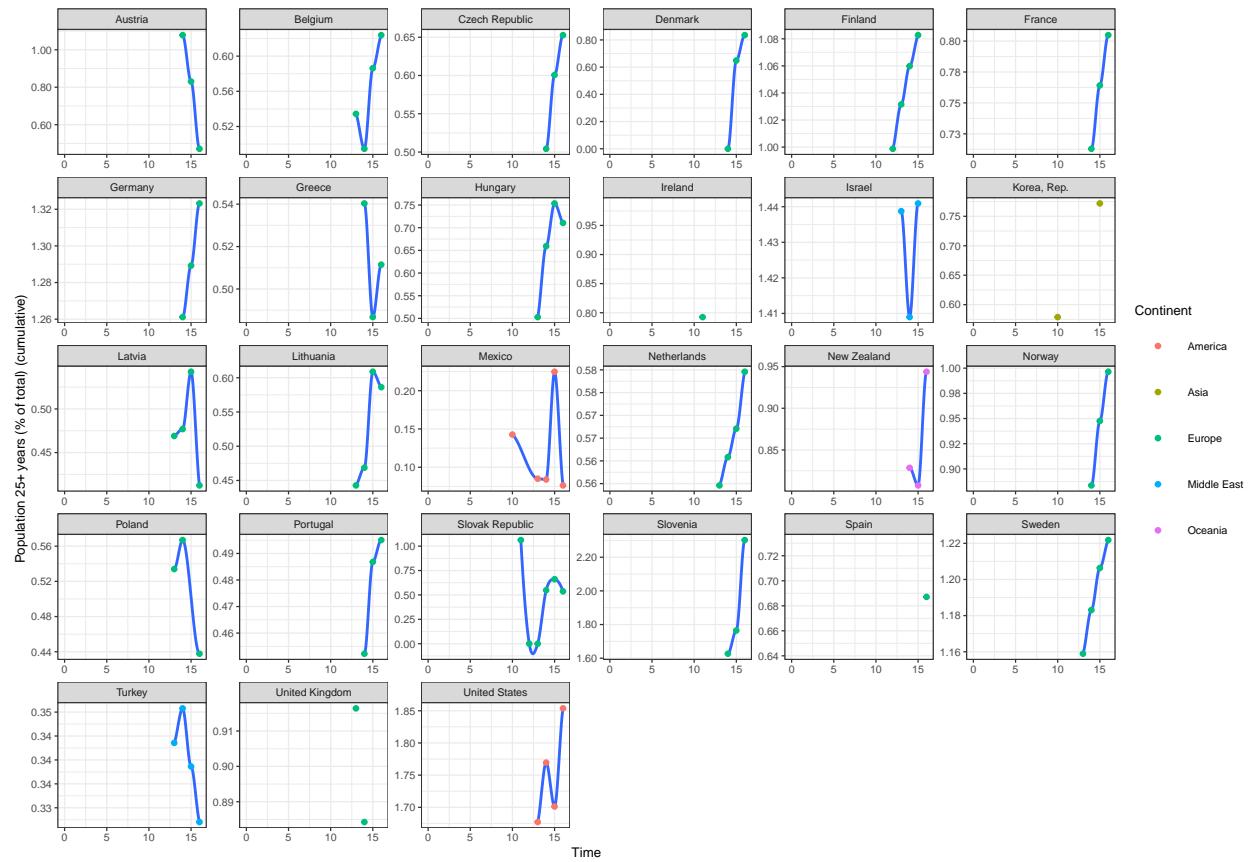


Figure 108: Trendline Educational attainment, Doctoral or equivalent, population 25+, total (%) (cumulative)
2000 - 2017