

## Appendix 1: Statistical Appendix for Chapter 2 of *World Happiness Report 2024*

March 12, 2024

### 1 Data Sources and Variable Definitions

- Happiness score or subjective well-being (variable name *ladder*): The survey measure of SWB is from the February 15, 2024 release of the Gallup World Poll (GWP) covering years from 2005/06 to 2023. Unless stated otherwise, it is the national average response to the question of life evaluations. The English wording of the question is “Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?” This measure is also referred to as *Cantril life ladder*, or just *life ladder* in our analysis.
- The statistics of GDP per capita (variable name *gdp*) in purchasing power parity (PPP) at constant 2017 international dollar prices are from World Development Indicators (WDI, version 23, Metadata last updated on - Sep 27, 2023). The GDP figures for Taiwan, Syria, Palestinian Territories, Venezuela, Djibouti and Yemen are from the Penn World Table 10.01.
  - GDP per capita in 2023 are not yet available as of October 2023. We extend the GDP-per-capita time series from 2022 to 2023 using country-specific forecasts of real GDP growth in 2023 first from the Economic Outlook No 113 (June 2023) and then, if missing, forecasts from World Bank’s Global Economic Prospects (Last Updated: 06/06/2023). The GDP growth forecasts are adjusted for population growth with the subtraction of 2021-22 population growth as the projected 2022-23 growth. A few countries/territories have their GDP figures from the Penn World Table that ends in 2019. We derive their 2021-2023 GDP values based on the 2019 values and the projected growth rates if they are available.
- Healthy Life Expectancy (HLE). Healthy life expectancies at birth are based on the data extracted from the World Health Organization’s (WHO) Global Health Observatory data repository (Last updated: 2020-12-04). The data at

the source are available for the years 2000, 2010, 2015 and 2019. To match this report's sample period, interpolation and extrapolation are used.

- Social support (or having someone to count on in times of trouble) is the national average of the binary responses (either 0 or 1) to the GWP question "If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?"
- Freedom to make life choices is the national average of responses to the GWP question "Are you satisfied or dissatisfied with your freedom to choose what you do with your life?"
- Generosity is the residual of regressing national average of response to the GWP question "Have you donated money to a charity in the past month?" on GDP per capita.
- Corruption Perception: The measure is the national average of the survey responses to two questions in the GWP: "Is corruption widespread throughout the government or not" and "Is corruption widespread within businesses or not?" The overall perception is just the average of the two 0-or-1 responses. In case the perception of government corruption is missing, we use the perception of business corruption as the overall perception. The corruption perception at the national level is just the average response of the overall perception at the individual level.
- Positive affect is defined as the average of three positive affect measures in GWP: laugh, enjoyment and doing interesting things in the Gallup World Poll. These measures are the responses to the following three questions, respectively: "Did you smile or laugh a lot yesterday?", and "Did you experience the following feelings during A LOT OF THE DAY yesterday? How about Enjoyment?", "Did you learn or do something interesting yesterday?"
- Negative affect is defined as the average of three negative affect measures in GWP. They are worry, sadness and anger, respectively the responses to "Did you experience the following feelings during A LOT OF THE DAY yesterday? How about Worry?", "Did you experience the following feelings during A LOT OF THE DAY yesterday? How about Sadness?", and "Did you experience the following feelings during A LOT OF THE DAY yesterday? How about Anger?"
- Institutional trust: The first principal component of the following five measures: confidence in the national government, confidence in the judicial system and courts, confidence in the honesty of elections, confidence in the local police force, and perceived corruption in business. This principal component is then used to create a binary measure of high institutional trust using the 75th percentile in the global distribution as the cutoff point; this way a country whose population tends to have a low level of institutional trust in the global distribution will have a low average institutional trust at the national level. This measure is

not available for all countries since not all surveys in all countries ask all of the questions that are used to derive the principal component.

## **2 Coverage, Summary Statistics and Regression Tables**

WP5 is GWP’s coding of countries including some sub-country territories such as Hong Kong. Not all the countries and territories appear in all the years. Our analysis does not cover all of the country/territories that have valid happiness scores.

To appear in regression analysis that uses data from outside the GWP survey, a wp5-year pair needs to have the necessary external information (GDP, healthy life expectancy, etc). The regression analysis thus does not necessarily cover all of the countries/territories in the GWP. Nor does it necessarily cover all the countries/territories that are ranked by their happiness scores in this report. The underlying principle is that we always use the largest available sample. For different kinds of analysis/ranking, the largest available samples can be different.

Regions: Some of the analysis includes dummy indicator for regions, namely Western Europe, Central and Eastern Europe, Commonwealth of Independent States, Southeast Asia, South Asia, East Asia, Latin America and Caribbean, North America and ANZ, Middle East and North Africa, and Sub-Saharan Africa. A later set of tables lists individual countries by their region grouping.

## **3 Imputed Missing Values in Our Exercise of Explaining Ladder Scores with Six Factors**

We do not make use of any imputed missing values in our rankings of happiness and its supporting factors. The only place where we make use of imputation is when we try to decompose a country’s average ladder score into components explained by six hypothesized underlying determinants (GDP per person, healthy life expectancy, social support, perceived freedom to make life choice, generosity and perception of corruption). A small number of countries have missing values in one or more of these factors. The most prominent is about the perception of corruption in businesses and governments. In several countries, the relevant questions were not asked in the Gallup World Poll. For these countries we impute the missing values using the “control of corruption” indicator from the Worldwide Governance Indicators (WGI) project. Specifically, the imputed value is calculated as the predicted value using estimates from a model that regresses Gallup World Poll’s perception of corruption on WGI’s control of corruption. In all, less than 10 countries, listed in a later table, have the measure of corruption perception imputed in this way.

Another prominent imputation is data on healthy life expectancy. The data, from the WHO, is available up to the year 2019, before the pandemic hits. Some of our regression analysis (again, not our headline ranking) must use data for years in 2021

to 2023. We follow our approach in previous rounds of WHR to extend the time series to the end of our sample period. Our pooled-sample regression from 2005 to 2023 may be affected by the imputation. But the impact is likely small, because the extrapolated movements in health life expectancy from 2019 to 2023 is small, and our main regression specification always includes year fixed effects to remove world-wide trends.

In a few cases, countries are missing one or more of the happiness factors in the most recent years, but the information is available in earlier years; for example they may have GDP statistics in 2017 but not in the period from 2018 to 2020. In this case we use the information from the last available year. There is a limit of 3 years for how far back we go in search of those missing values. A few territories/countries do not have data on healthy life expectancy in the World Health Organization's (WHO) Global Health Observatory data repository. For Hong Kong, we calculate the health life-to-life expectancy ratio using estimates reported in "Healthy life expectancy in Hong Kong Special Administrative Region of China," by C.K. Law, & P.S.F. Yip, published at the *Bulletin of the World Health Organization*, 2003, 81 (1). The same ratio information for Eswatini in the period 2005-2010 can be found in "Healthy life expectancy for 187 countries, 1990 - 2010: a systematic analysis for the Global Burden Disease Study 2010," by Joshua A Salomon et al, *The Lancet*, Volume 380, Issue 9859. We then multiply the ratios for Hong Kong and Eswatini, respectively, with their life expectancy time series in the WDI to get the health life expectancy. The time series is then extrapolated to the end of our sample period just like for other countries. The Lancet article also provides information for Taiwan and the Palestinian Territories. But the WDI does not provide life expectancy data for these two regions. For these two, we use their 2010 healthy life expectancy. For Kosovo, we adjust its time series of life expectancy (available in the World Development Indicators) to a time series of health life expectancy by assuming that its health life-to-life expectancy ratio equals to the world average. We note again we do not use any of the imputed values to generate country rankings. We use them only for our decomposition exercises, and the ranking of countries does not depend on those exercises.

Table 1: Number of ladder (WP16) observations for WP5-years - Part 1

Country/territory (ID)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
United States (1)		1001	1225	1004	1003	1005	1008	2094	1005	2048	1019	1032	1013	1004	1026	1007	1005	1003	1005
Egypt (2)	999		1024	1105	2112	2053	5296	4186	1149	1000	1000	1000	1000	1000	2070	1002	1002	1001	1001
Morocco (3)						1006	1001	3000	1007		2050	1008	1006	1001	1015	1006	1001	1015	1015
Lebanon (4)	996	1000		1000	2010	2027	2007	2013	1000	1000	1000	1000	1000	1000	1040	1050	1000	1000	1000
Saudi Arabia (5)	1004		1006	1150	2052	2038	2022	1077	2036	2035	1012	1000	1002	1003	1045	1043	1008	1023	1021
Jordan (6)	1000		1016	1007	2016	2000	2000	2000	1000	1000	1000	1000	1012	1002	1001	1012	1000	1000	1000
Syria (7)				1209	2100	2035	2041	2043	1022		1002								
Turkiye (8)	995		1001	1004	999	1000	1001	2000	1000	2003	1002	1001	1000	1000	2059	1000	1000	1000	1000
Pakistan (9)	1001		1502	2484	3122	1030	1000	3012	1000	1000	1000	1000	1600	1000	1091	1000	1000	1012	1001
Indonesia (10)		1180	1000	1050	1080	1080	1000	3000	1000	1000	1000	1000	1000	1000	2192	1062	1063	1002	1000
Bangladesh (11)		1048	1200	1000	1000	1000	1000	3000	1000	1000	1000	1000	1000	1000	3072	1013	1000	1000	1000
United Kingdom (12)	1037		1204	1001	1002	1000	9239	13408	750	2000	1000	1000	1000	1000	1025	1000	1000	1000	1000
France (13)	1002	1220		1006	1000	1004	1001	2005	751	2000	1000	1000	1000	1000	1025	1000	1000	1000	1000
Germany (14)	1001		1221	3016	2010	1007	9105	13269	751	2014	1000	2000	1000	1000	1025	1000	1000	1002	1001
Netherlands (15)	1000		1000	1000		1001	1000	1000	751	2002	1003	1000	1001	1002	1029	1006	1000	1006	1016
Belgium (16)	1003		1022	1002		1003	1002	1001	1006	2004	1037	1000	1001	1011	1025	1005	1010	1000	1000
Spain (17)	1000		1004	1009	1005	1000	1006	2003	1004	2000	1000	1000	1000	1000	1025	1000	1000	1000	1002
Italy (18)	1002		1008	1008	1005	1000	1005	2007	1004	2000	1000	1000	1000	1000	1025	1000	1000	1000	1000
Poland (19)	1000		1000		1000	2000	1029	1000	1000	1000	1000	1000	1000	1000	1080	1010	1001	1000	1002
Hungary (20)	1025		1010		1008	1008	1014	1004	1019	1003	1000	1000	1000	1000	1080	1001	1000	1009	1006
Czechia (21)	1001		1072			2082	1000	1005	1001	1008	1000	1000	1000	1000	1004	1008	1003	1003	1003
Romania (22)	1022		1000		1000	1000	1008	1000	1000	998	1001	1001	1001	1002	1080	1000	1009	1000	1000
Sweden (23)	1000		1001	1000	1002	1002	1006	1000	750	2001	1000	1000	1000	1001	1025	1000	1010	1001	1001
Greece (24)	1002		1000		1000	1000	1000	1000	1003	1000	1000	1000	1000	1000	1080	1002	1006	1000	1006
Denmark (25)	1004		1009	1001	1000	1000	1005	1001	753	2002	1005	1000	1000	1000	1025	1000	1010	1001	1008
Iran (26)	1300		1004	1040			1003	3507	1000	2009	1001	1000	1000	1002	1058	1009	1011	1007	1007
Hong Kong S.A.R. of China (27)		800		751	755	756	1028	1006		2017		1005	1007		1004	1005	1007	1004	
Singapore (28)		1095	1000	2551	1005	1001	1000		1000	1000	1000	1000	1000	1000	1040		1000	1028	1000
Japan (29)		1000		1150	3000	1000	1000	1000	2000	1001	2006	1003	1002	1003	1023	1016	1007	1005	1009
China (30)		3730	3733	3712	3833	4151	4220	9413	4244	4696	4265	4373	4141	3649	3709	3503	3500	2221	
India (31)		2100	3186	2000	3010	6000	3518	10080	5540	3000	3000	3000	3000	3000	6643	9453	3000	3000	3009
Venezuela (32)	1000	1000		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080	1000	1000	1000	1002
Brazil (33)	1029		1038	1032	1031	1043	1042	1002	2006	1007	1004	1001	1000	1000	3001	1002	1005	1000	1000

Table 2: Number of ladder (WP16) observations for WP5-years - Part 2

Country/territory (ID)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Mexico (34)	1007		999	1000	1000	1000	1000	2000	1000	1017	1031	1000	1000	1034	1001	1010	1000	1000	1000
Nigeria (35)		1000	1000	1000	1000	1000		2000	1002		1000	1000	1000	1000	3000	1004	1000	1000	1000
Kenya (36)		1000	1000	2200	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1001	1008	1000	1000	1002
Tanzania (37)		1000	1000	1000	1000	1000	1000	1000	1008	1008	1000	1000	1000	1000	1000	1001	1000	1001	1004
Israel (38)		1002	1001	1001	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1010	1095	1057	1001	1001
Palestinian Territories (39)		1000	1000	1000	2014	2000	2000	2000	1000	1000	1000	1000	1000	1000	1000	1090		1000	1000
Ghana (40)		1000	1000	1000	1000	1000	1000	1000	1008	1000	1000	1000	1000	1000	1000	1010	1000	1000	1000
Uganda (41)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1016	1000	1000	1000
Benin (42)		1000		1000			1000	1000	1000	1000	1000	1000	1000	1000	1000	1042	1000	1000	1000
Madagascar (43)		1000		1000			1000	1000	1008	1008	1000	1000	1000	1000	1000	1000		1000	1000
Malawi (44)		1000	1000		1000		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1002
South Africa (45)		1001	1000	1000	1000	1000	1000	2000	1000	1000	1000	1000	1000	1000	1060	1019	1032	1007	1000
Canada (46)	1355		1010	1005	1011	1007	1013	2003	1021	2025	1011	1016	1005	1009	1031	1006	1008	1014	1004
Australia (47)	1000		1205	1005		1000	1010	1002	1002	2002	1001	1004	1003	1001	1047	1003	1000	1000	1002
Philippines (48)		1200	1000	1000	1000	1000	1000	2000	1000	1000	1000	1000	1000	1000	2090	1000	1000	1000	1000
Sri Lanka (49)		1033	1000	1000	1000	1030	1000	2031	1030	1062	1062		1104	1109	1083	1000	1005	1000	1000
Vietnam (50)		1023	1015	1016	1008	1000	1000	2000	1017	1000	1000	1039	1002	1012	2000	1000	1020	1000	1000
Thailand (51)		1410	1006	1038	1019	1000	1000	2000	1000	1000	1000	1000	1000	1000	2000	1000	1006	1000	1000
Cambodia (52)		1000	1000	1024	1000	1000	1000	1000	1000	1000	1000	1000	1600	1000	1000	1002	1000	1000	1000
Laos (53)		1001	1000	1000			1000	1000					1000	2504	1070	1000	1000	1000	1000
Myanmar (54)								1020	1020	1020	1020	1020	1600	1000	1100	1000	1000	1000	1000
New Zealand (55)		1028	750	750		750	1000	1008	500	2001	1007	1004	1001	1001	1042	1002	1000	1000	1000
Angola (56)							1000	1000	1000	1000									
Botswana (57)		1000		1000		1000	1000	1000	1000	1000	1000	1000	1000	1002	1114		1003	1005	
Ethiopia (60)								1500	1000	1004	1000	1000	1000	1000	2222	1003		1000	1000
Mali (61)		1000		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1130	1000	1000	1000	1000
Mauritania (62)			1000	1000	1984	2000	2000	1000	1008	1000	1000	1000	1000	1000	1100		1000	1000	1000
Mozambique (63)		1000	1000	1000			1000				1000		1000	1000	1000		1000	1000	1000
Niger (64)		1000	1000	1000	1000	1000	1000	1000	1008	1008	1000	1000	1000	1000	1000	1000		1000	1000
Rwanda (65)		1504	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		1000	1000
Senegal (66)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Zambia (67)		1001	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1026	1000	1000	1000
South Korea (68)		1100	1000	1000	1000	1000	1001	2000	1000	2000	1000	1000	1000	1000	1015	1016	1005	1001	1010

Table 3: Number of ladder (WP16) observations for WP5-years - Part 3

Country/territory (ID)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Taiwan Province of China (69)	1002			1000		1000	1001	1000	1000	2000	1000	1000	1000	1000	1030	1000	1000	1000	1003
Afghanistan (70)				1010	2000	1000	1000	2000	1000	1000	1000	1000	1000	1000	1127		1000	1000	1000
Belarus (71)	1092	1114	1091	1077	1013	1007	1052	1032	1036	1034	1039	1053	1061	1128					
Georgia (72)	1000	1000	1080	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080	1003	1001	1000	1000
Kazakhstan (73)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080	1000	1000	1000	1000
Kyrgyzstan (74)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080	1000	1001	1000	1000
Moldova (75)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080	1000	1000	1000	1000
Russia (76)	2011	2949	2019	2042	4000	2000	3000	2000	2000	2000	2000	2000	2000	2000	3003	2022	2001	2006	2017
Ukraine (77)	1102	1066	1074	1081	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080	1001	1000	1000	1000
Burkina Faso (78)	1000	1000	1000		1000	1000	1000	1000	1008	1000	1000	1000	1000	1000	1000	1007	1000		1000
Cameroon (79)	1000	1000	1000	1000	1200	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Sierra Leone (80)	1000	1000	1000		1000	1000			1008	1008	1000	1000	1000	1000	1133		1000	1000	1000
Zimbabwe (81)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1082	1004	1000	1000	1000
Costa Rica (82)	1002	1002	1000	1000	1006	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1001	1000	1000
Albania (83)		981		1000	1000	1000	1006	1029	1035	999	1000	999	1000	1000	1080	1000	1000	1000	1000
Algeria (84)					1000	2001	2027		1002			1001	1016	1000	1100	1016	1005	821	
Argentina (87)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1060	1000	1000	1005	1007
Armenia (88)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080		1002	1003	1000
Austria (89)	1004		1001		2000	1004	1001	1000	2000	2000	1000	1000	1000	1000	1025	1000	1000	1000	1000
Azerbaijan (90)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080			1028	1000
Bahrain (92)				2128	2032	2010	1000	1000	1002	1005	2004	1010	1064		1060	1009			1009
Belize (94)		502							504										
Bhutan (95)									1000	1020	1020								
Bolivia (96)	1000	1000	1003	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1001	1004	1000	1000
Bosnia and Herzegovina (97)		2002		1002	1000	1009	1005	1010	1001	1000	1000	1000	1000	1000	1080	1001	1000	1000	1000
Bulgaria (99)		1003			2000	1006	1000	1000	1000	1000	1000	1000	1000	1001	1080	1000	1005	1000	1000
Burundi (100)			1000	1000		1000			1000					1000					
Central African Republic (102)												1000	1000						
Chad (103)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1111			1000	1000
Chile (104)	1007	1023	1108	1009	1007	1009	1003	1001	1032	1040	1008	1040	1000	1000	1060	1000	1001	1000	1000
Colombia (105)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1003
Comoros (106)				2000	2000	2000	1000							1000	1000			1000	1001
Congo (Kinshasa) (107)				1000		1000	1000	1000	1000	1000	1000	1000	1000					1000	1000

Table 4: Number of ladder (WP16) observations for WP5-years - Part 4

Country/territory (ID)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Congo Brazzaville (108)			1000				1000	500	1000	1000	1000	1000	1000	1000	1090	1002	1000	1000	1000
Croatia (109)			1000		1009	1029	1029	1000	1000	1000	1000	1000	1000	1000	1080	1002	1002	1002	1004
Cuba (110)	1000																		
Cyprus (111)	1000				502	1005	1005	500	500	2000	1029	1006	1008	1026	1043	1005	1019	1014	1022
Djibouti (112)				1000	2000	1000	1000												
Dominican Republic (114)				1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1078	1000	1001	1000	1000
Ecuador (115)	1067	1061	1001	1000	1000	1000	1003	1003	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
El Salvador (116)	1000	1001	1000	1000	1006	1001	1000	1000	1000	1000	1000	1000	1000	1000	1080	1000	1001	1000	1000
Estonia (119)	1003	1001	601	608			1007	1004	1010	1000	1000	1000	1000	1000	1080	1000	1024	1004	1006
Finland (121)	1010			1005		1000	1000	1000	750	2001	1000	1000	1000	1000	1025	1000	1005	1000	1011
Gabon (122)							1000	1000	1008	1008	1000	1000	1000	1000	1070	1000	1000	1000	1000
Guatemala (124)	1021	1000	1000	1015	1015	1014	1000	1000	1000	1000	1000	1000	1000	1000	1100			1000	1000
Guinea (125)							1000	1000	1008	1000	1000	1000	1000	1000	1140	1005	1000	1000	1000
Guyana (127)			501																
Haiti (128)	505			500		504	504	504	504	504	504	504	504	500					
Honduras (129)	1000	1000	1000	1000	1002	1000	1002	1000	1000	1000	1000	1000	1000	1000	1000		1005	1000	1000
Iceland (130)				502				1002	502		596	529	500		504	501	500	500	507
Iraq (131)				990	2001	2000	2000	2000	1003	2010	1009	1011	1000	2097		1000	1002	1046	1035
Ireland (132)	1000			1001	500	1001	1000	1000	1000	2000	1000	1000	1000	1000	1025	1000	1000	1000	1002
Ivory Coast (134)					1000				1008	1000	1000	1000	1000	1000	1000	1021	1000	1000	1000
Jamaica (135)	543						506		504	504			504		501	502	505	500	
Kuwait (137)	1000				2002	2004	2000	1000	1008	1013	2000	1000	1000		2023		1004	1071	
Latvia (138)	1000	1017	513	515			1006	1001	1000	1002	1001	1019	1002	1021	1080	1001	1017	1014	1001
Lesotho (139)							1000					1000	1000		1000			1010	
Liberia (140)			1000	1000		1000				1000	1000	1000	1000	1000	1000			1001	1000
Libya (141)								1002			1006	1001	1007	1004	1040			1000	1016
Lithuania (143)	1015	1007	506		500	1001	1000	1000	1000	1000	1000	1000	1000	1000	1080	1002	1009	1000	1000
Luxembourg (144)					500	1002	1000	1001	500	2000	1000	1000	1000	1000	1025			1000	1000
North Macedonia (145)					1008	1000	1018	1025	1020	1000	1024	1024	1008	1008	1080	1003	1024	1000	1000
Malaysia (146)																			
Maldives (147)	1012	1233	1000	1011	1000	1000	1000	1000	1000	2008	1002			1000	1060	1000	1000	1000	1000
Malta (148)														1000					
Mauritius (150)					508	1008	1004	1004	500	2013	1002	1011	1004	1010	1027	1001	1001	1002	1002
							1000			1000		1000	1000	1000	1059	1000	1000	1000	1000



Table 5: Number of ladder (WP16) observations for WP5-years - Part 5

Country/territory (ID)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Mongolia (153)			1000	1000		1000	1000	1000	1000	1000	1000	1000	1000	1000	1070	1000	1000	1000	1000
Montenegro (154)			834		1003	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080	1004		1000	1000
Namibia (155)			1000							1000				1000	1005	1002	1000	1001	1003
Nepal (157)		1002	1000	1003	1002	1000	1000	2000	1050	1050	1000	1000	1000	1000	2095	1000	1000	1000	1000
Nicaragua (158)		1001	1000	1000	1012	1000	1003	1000	1000	1000	1000	1000	1000	1000	1080	1002	1010	1000	1000
Norway (160)		1001		1000				1004		2000	1005	2000	1000	1000	1025	1000	1007	1002	1004
Oman (161)							2016												
Panama (163)		1005	1000	1004	1018	1000	1000	1001	1000	1000	1000	1000	1000	1000	1080		1003	1000	1000
Paraguay (164)		1001	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	2000		1079	1000	1001	1000	1000
Peru (165)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1006	1000	1000	1000
Portugal (166)		1007		1002		2002	1000	1001	1001	2020	1021	1008	1000	1003	1026	1002	1002	1002	1003
Qatar (168)					2028	1000	1032	2000			1000								
Serbia (173)			1556		1008	1000	1001	1023	1030	1000	1000	1000	1000	1000	1080	1002	1000	1001	1000
Slovakia (175)		1018				1007	1012	1007	1004	1000	1000	1000	1000	1000	1080	1001	1003	1001	1001
Slovenia (176)		1009			500	1002	1001	1000	1001	2020	1002	1000	1000	1000	1025	1001	1001	1030	1000
Somalia (178)										1000	1000	1191							
Sudan (181)					1784	1808	2000	1000		1000									
Suriname (182)								504											
Eswatini (183)							1000								1000	1110		1000	
Switzerland (184)		1000			1003			1000		2010	501	1000	1000	1000	1025	1000	1000	1000	1001
Tajikistan (185)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	3000	1080	1000	1000	1001
The Gambia (186)															1000	1120		1000	1000
Togo (187)		1000		1000			1000			1000	1000	1000	1000	1000	1130		1000	1000	1000
Trinidad and Tobago (189)		508		502			504		504				504						
Tunisia (190)					1006	2085	2034	2053	1053	1056	1000	1001	1001	1001	1000	1003	1000	1000	1000
Turkmenistan (191)					1000		1000	1000	1000	1000	1000	1000	1000	1000	1089				
United Arab Emirates (193)		1013			2054	2066	2036	2016	1000	1002	2903	1855	1850	1857	1413	2928	1002	1030	1000
Uruguay (194)		1004	1004	1005	1000	1000	1000	1009	1000	1000	1000	1000	1000	1000	1080	1001	1000	1000	1000
Uzbekistan (195)		1000		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1080	1000	1000	1000	1000
Yemen (197)			1000		2000	2000	2000	2000	1000	1000	1000	1000	1000	1000	1140			1000	1000
Kosovo (198)			1046	1047	1000	1017	1047	1024	1000	1001	1000	1000	1000	1000	1088	1000	1000	1000	1001
Somaliland region (199)																			
South Sudan (205)					2000	2000	2000	1000		1000	1000	1000	1000						

Figure 1: Country-by-country trajectory plots - part 1

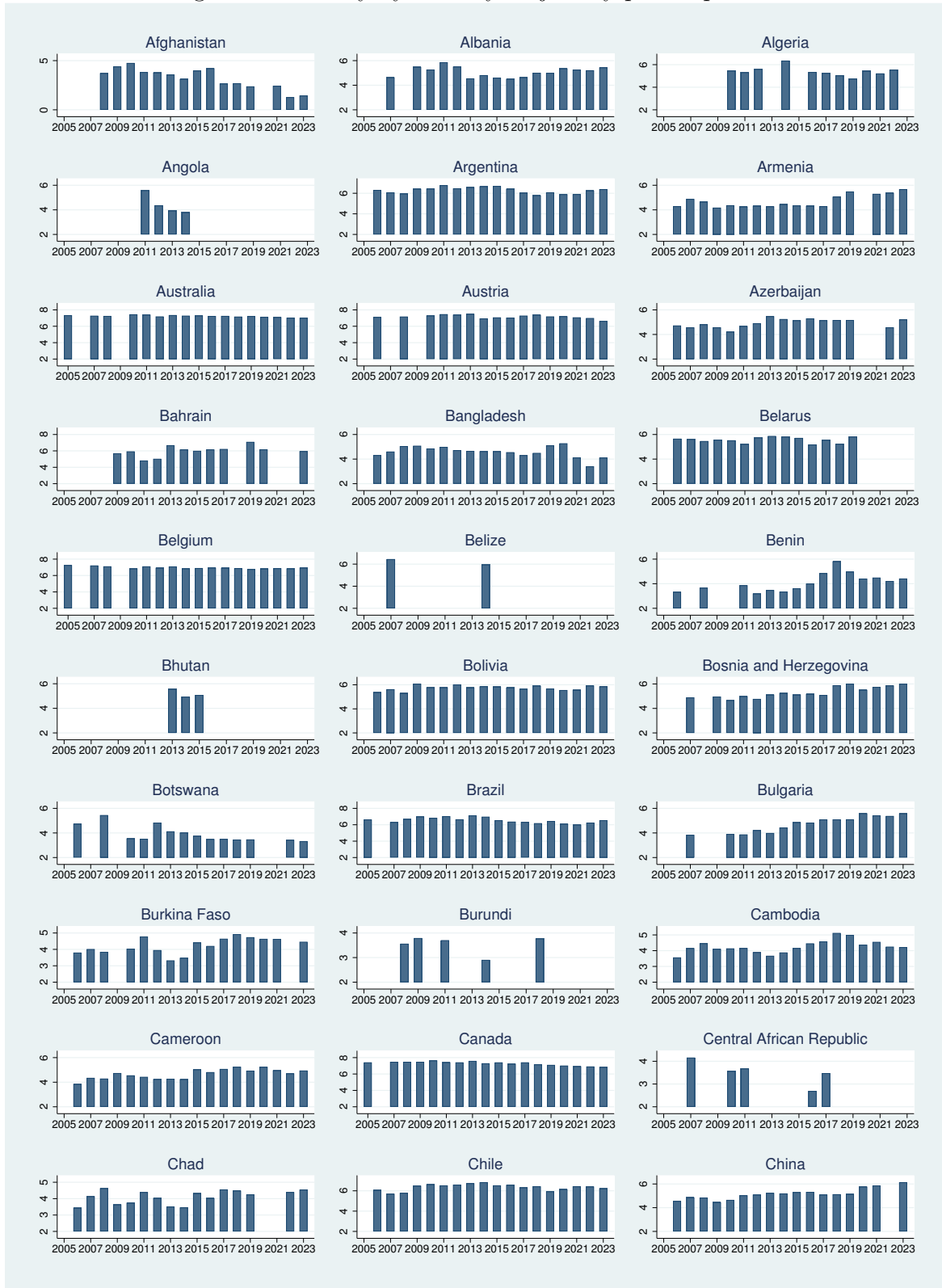


Figure 2: Country-by-country trajectory plots - part 2



Figure 3: Country-by-country trajectory plots - part 3

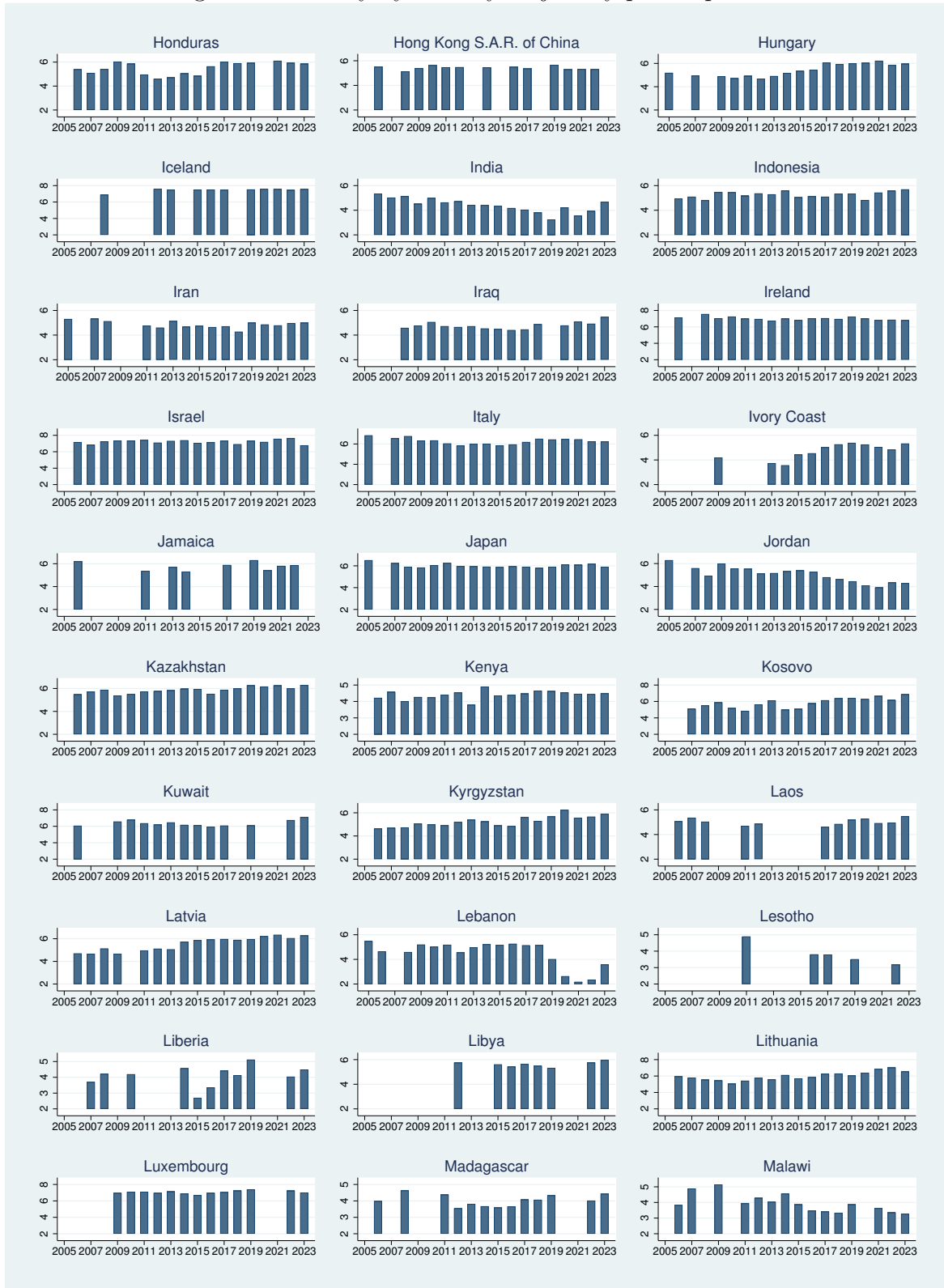


Figure 4: Country-by-country trajectory plots - part 4

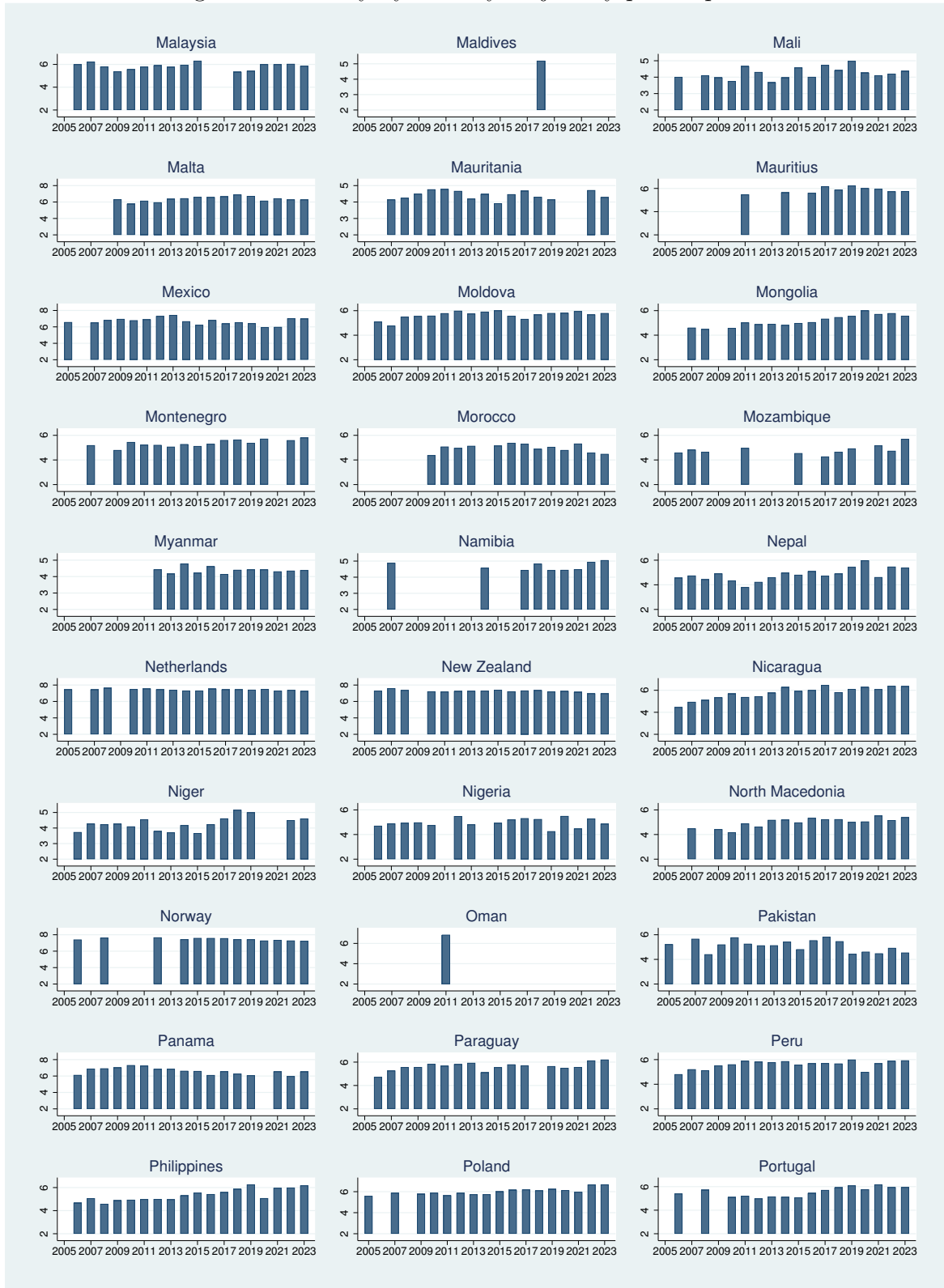


Figure 5: Country-by-country trajectory plots - part 5

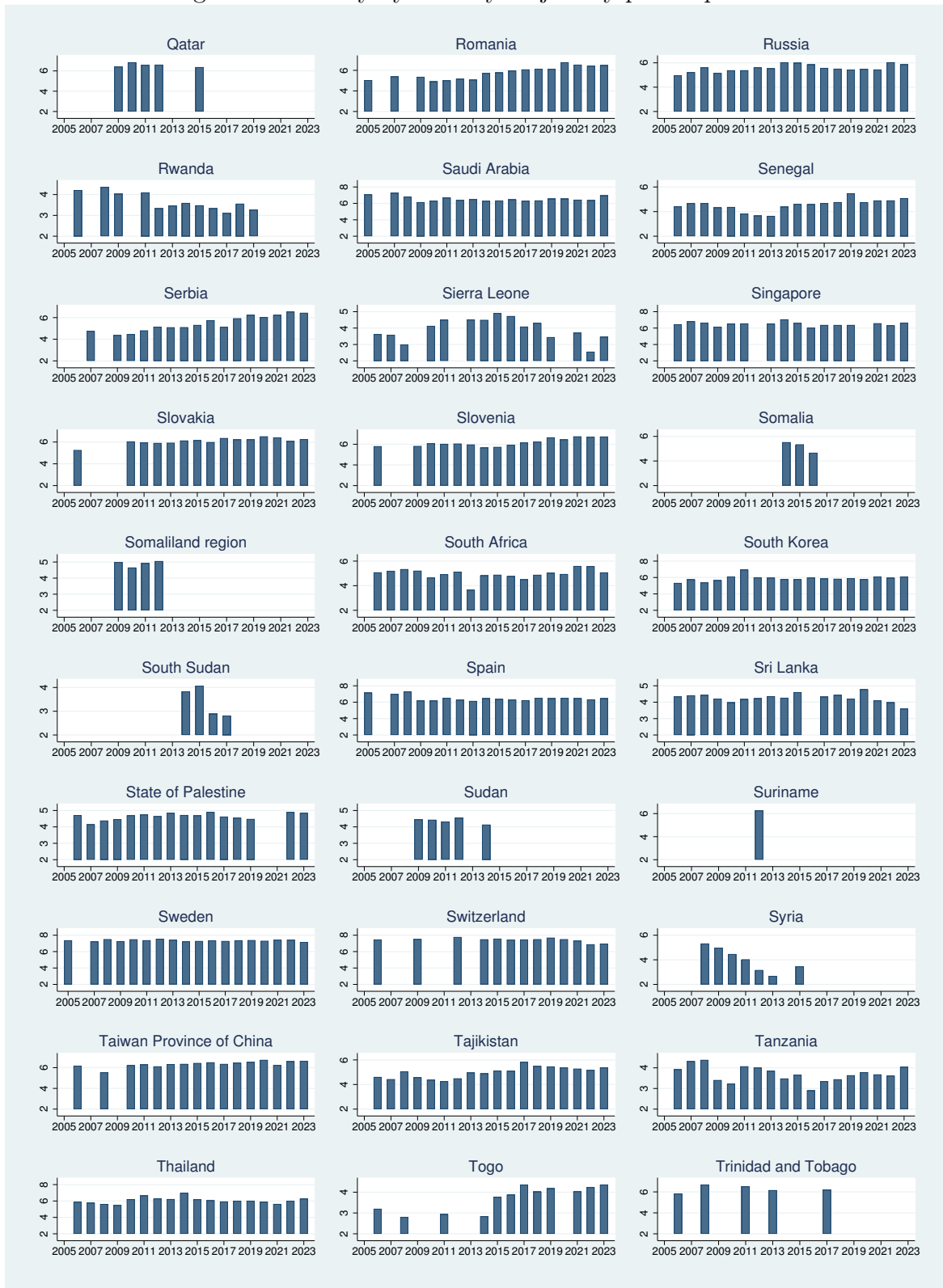


Figure 6: Country-by-country trajectory plots - part 6



Figure 7: Country-by-country trajectory plots by age group - part 1

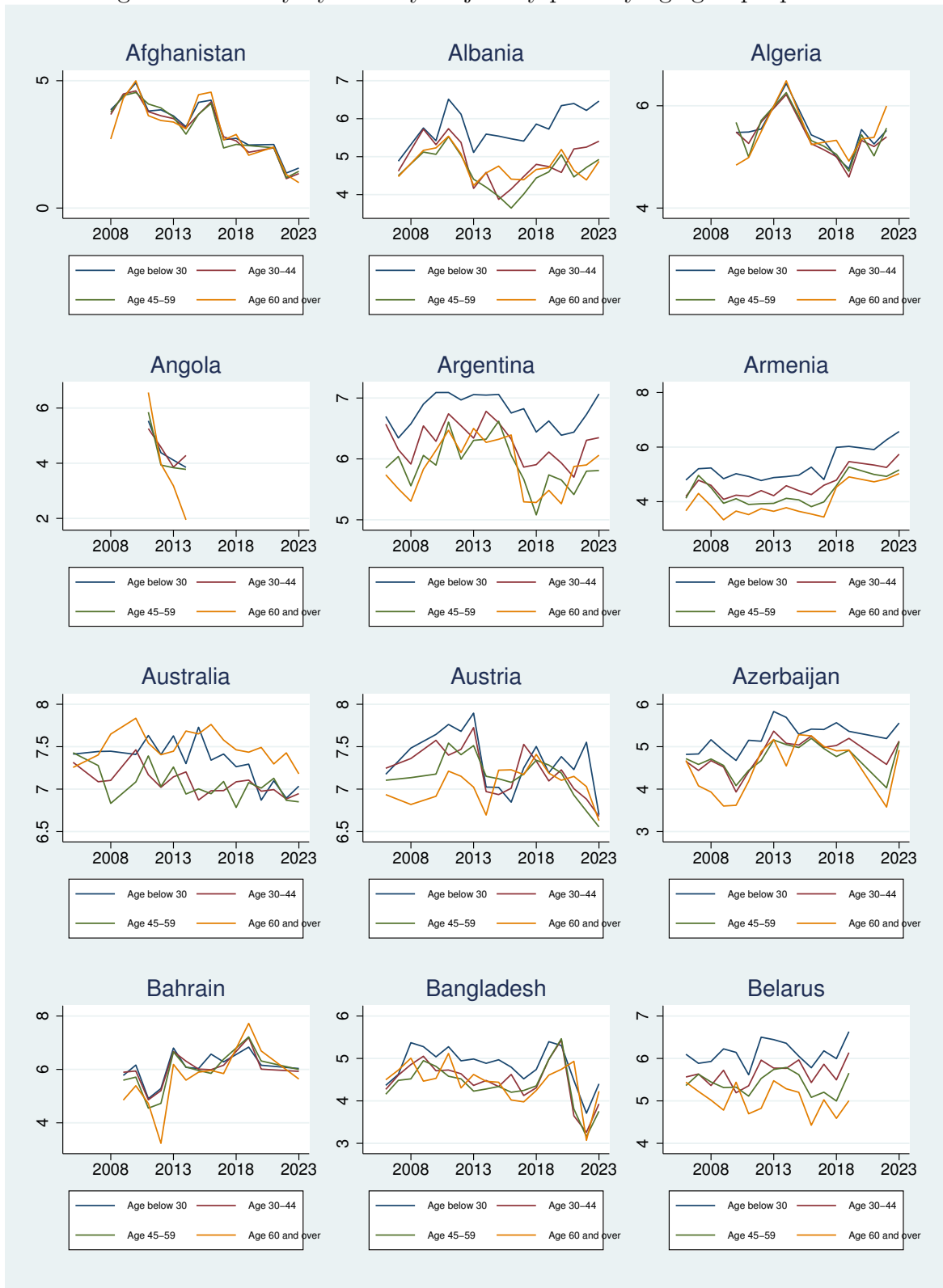




Figure 8: Country-by-country trajectory plots by age group - part 2

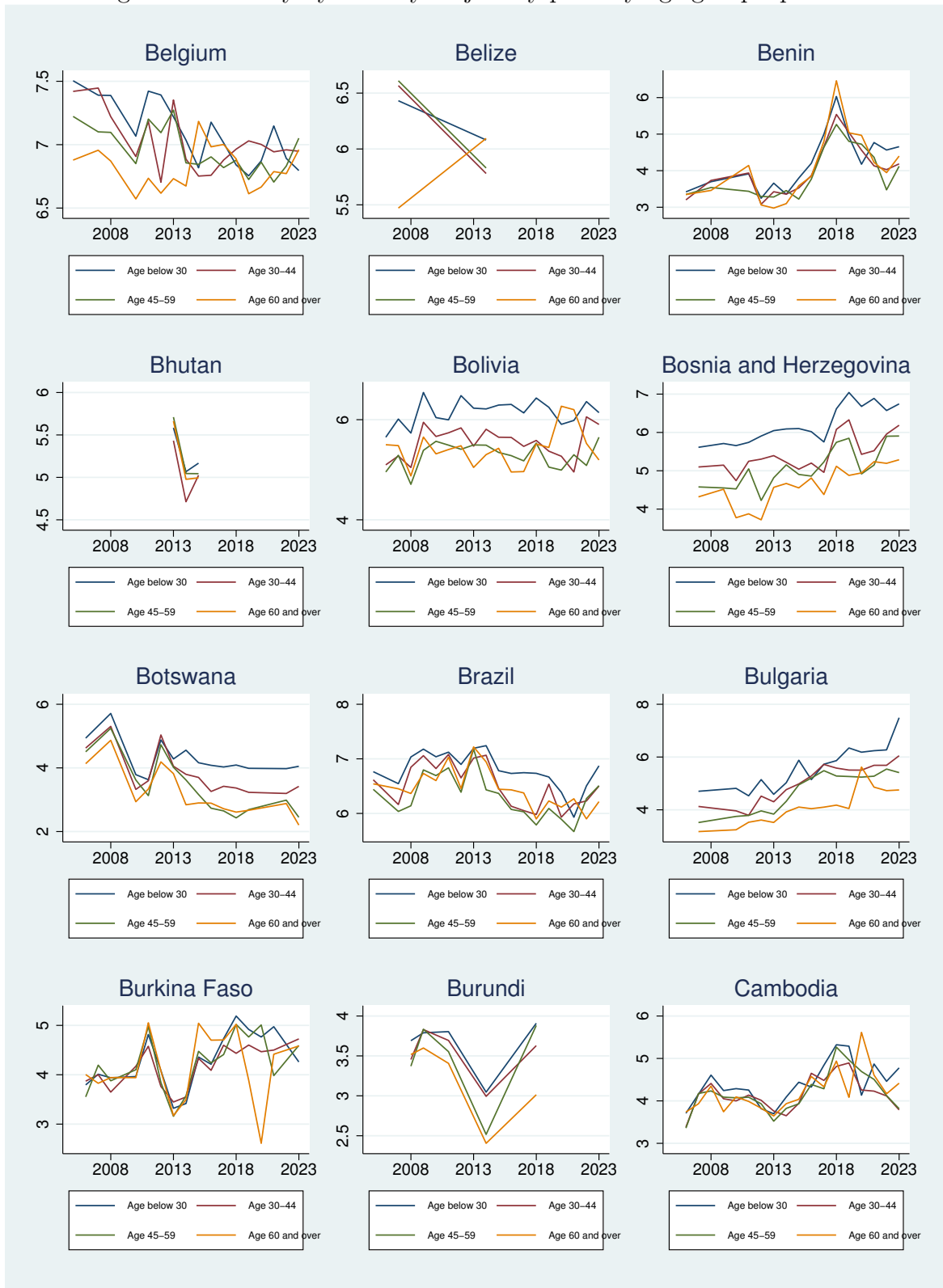


Figure 9: Country-by-country trajectory plots by age group - part 3

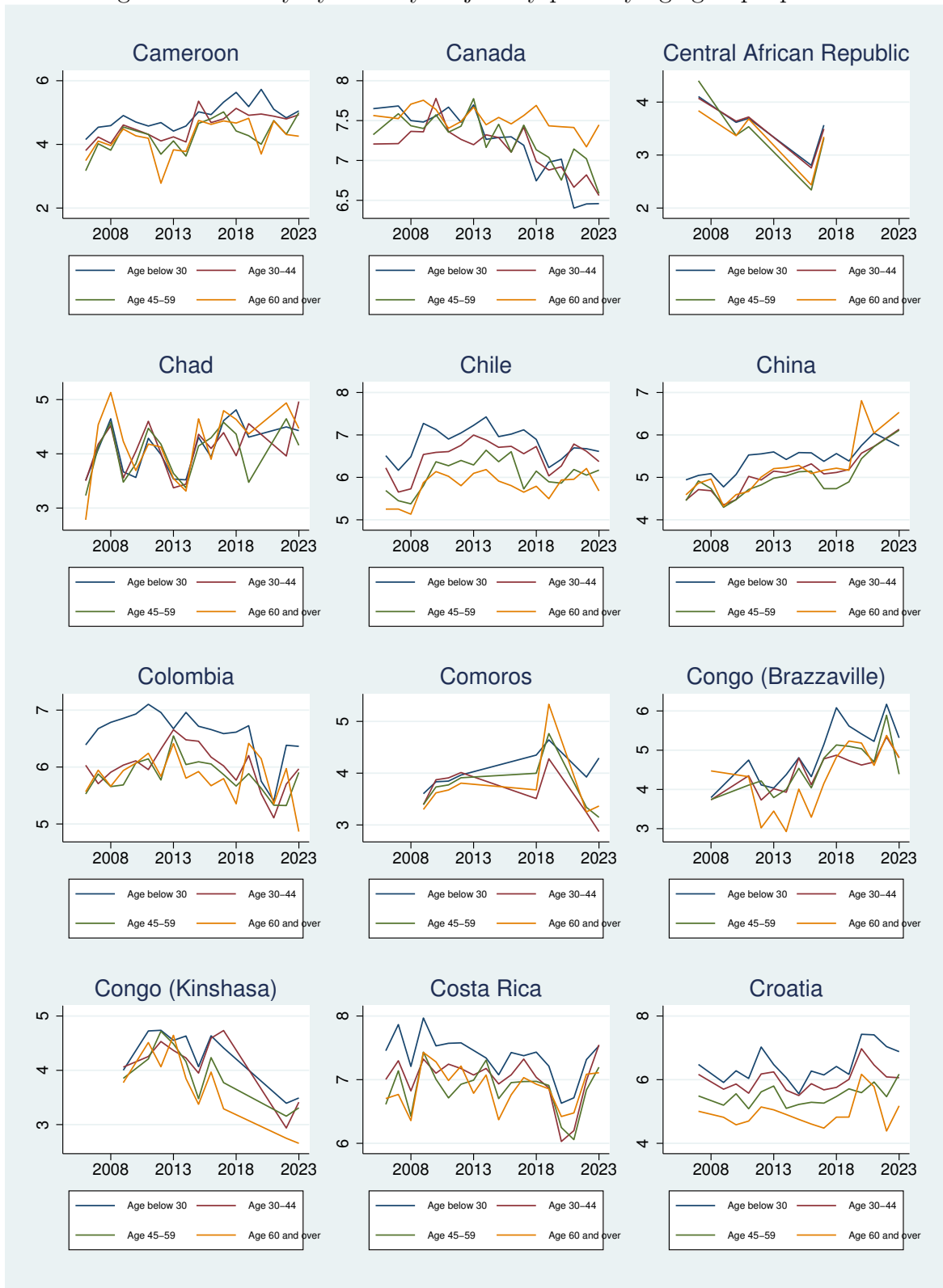


Figure 10: Country-by-country trajectory plots by age group - part 4

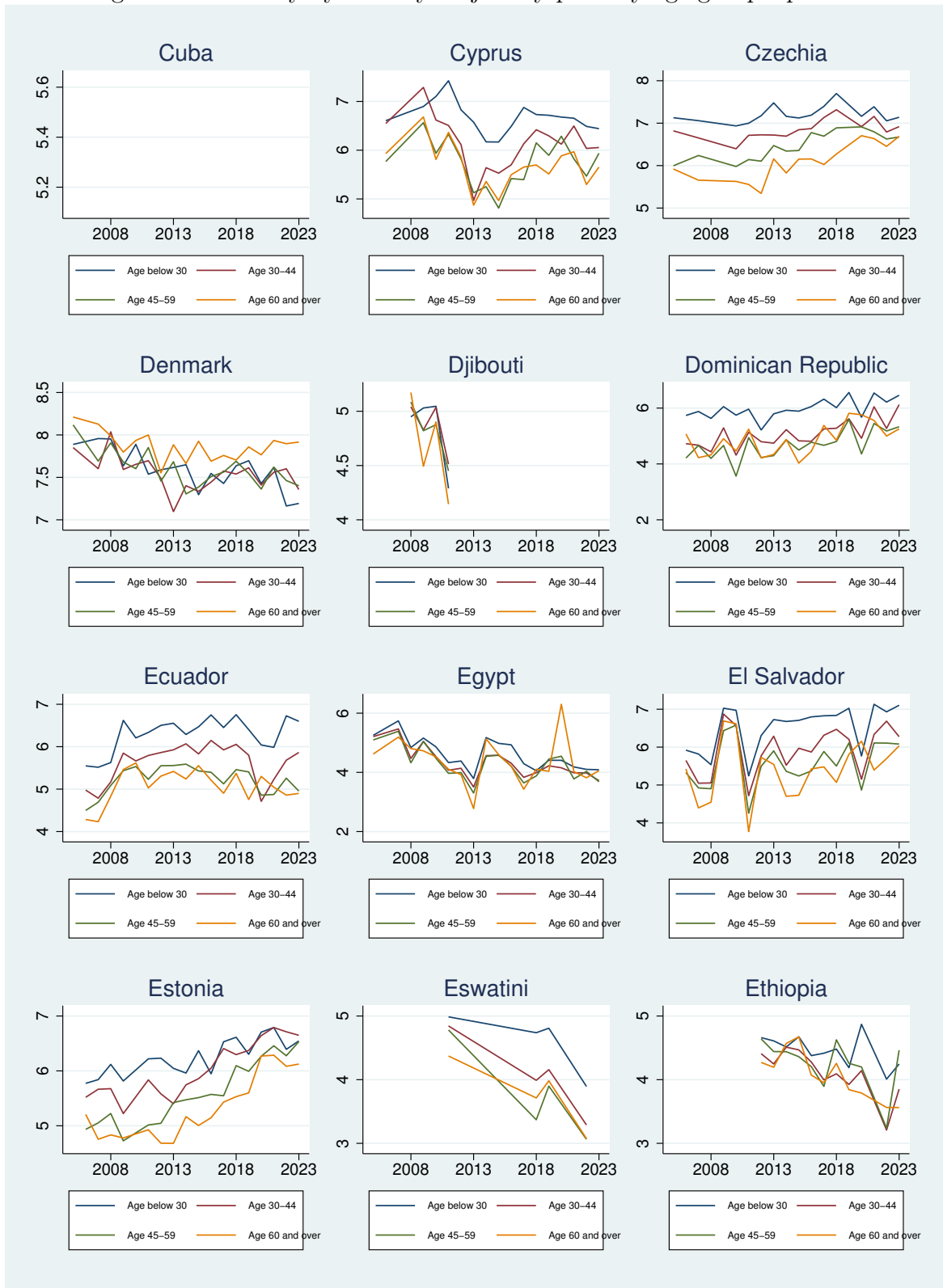


Figure 11: Country-by-country trajectory plots by age group - part 5

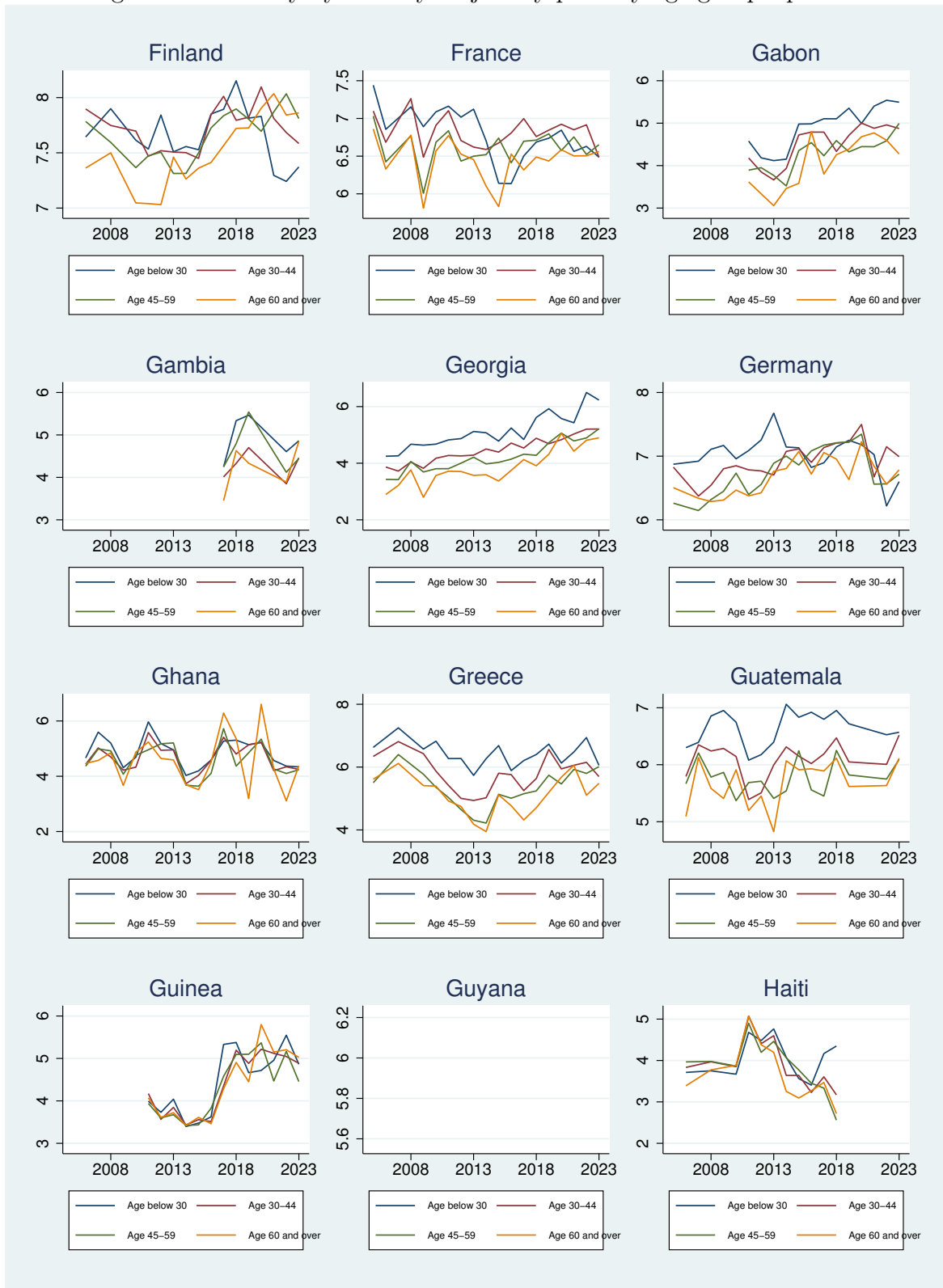


Figure 12: Country-by-country trajectory plots by age group - part 6

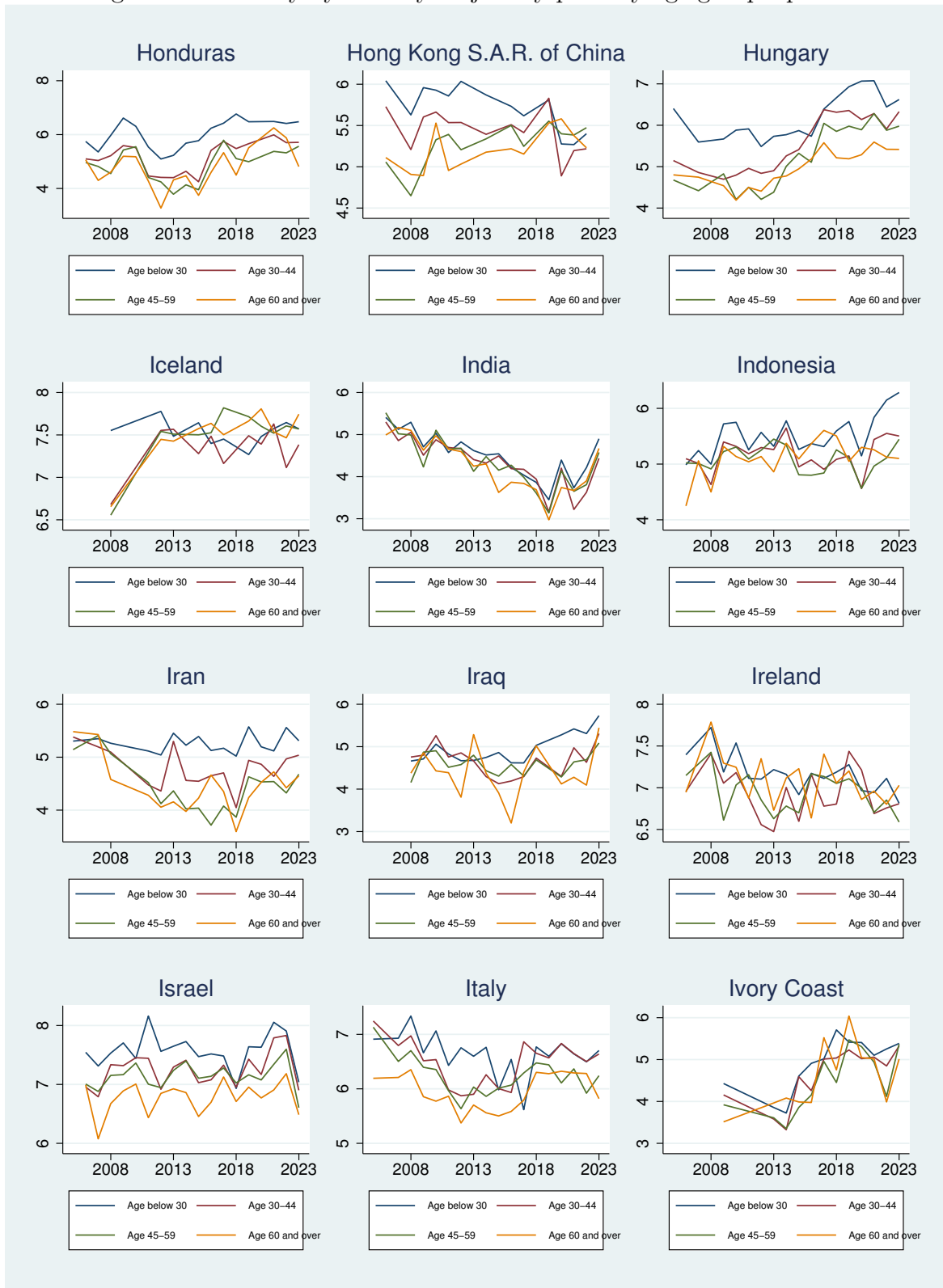


Figure 13: Country-by-country trajectory plots by age group - part 7

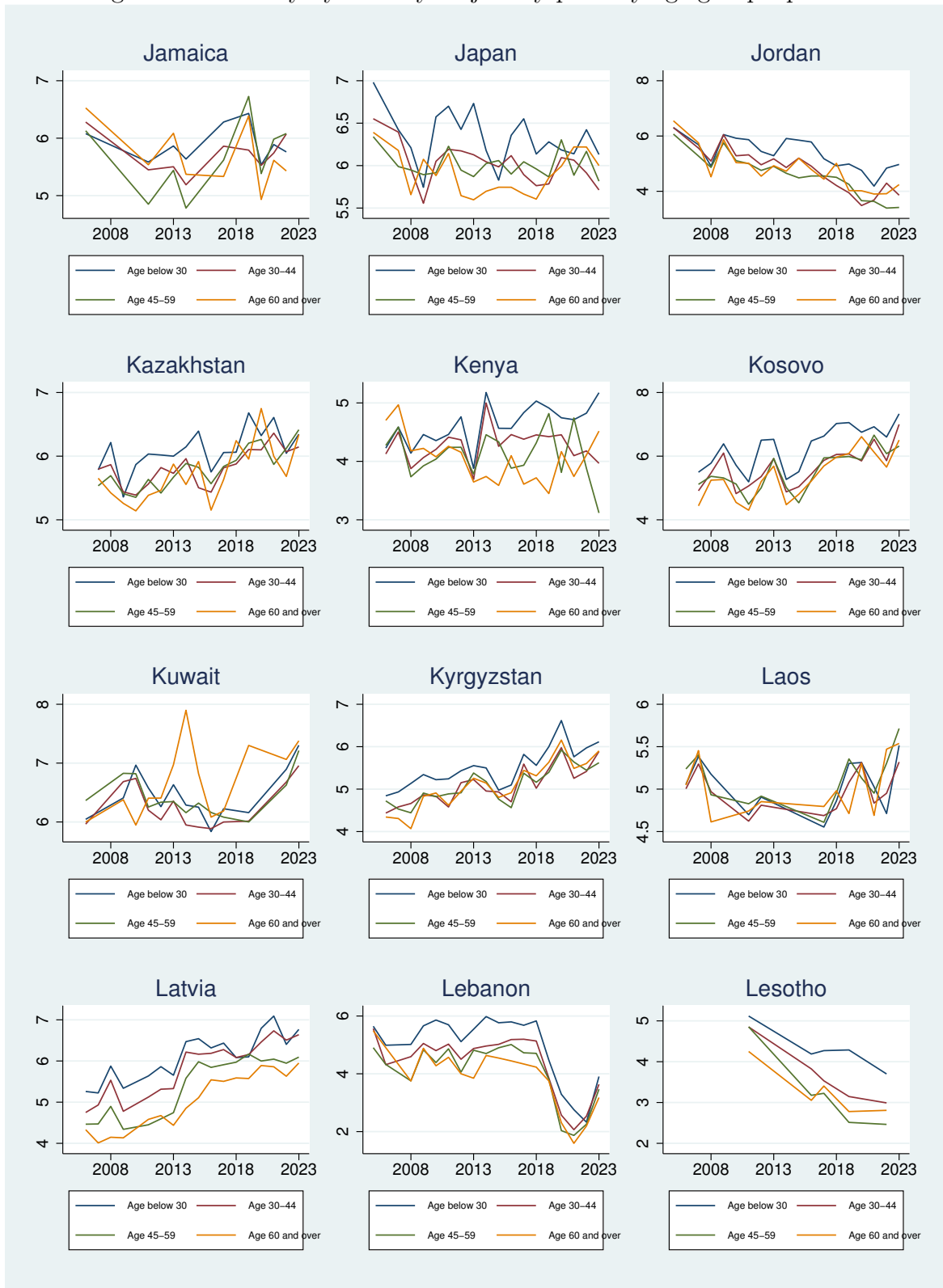


Figure 14: Country-by-country trajectory plots by age group - part 8

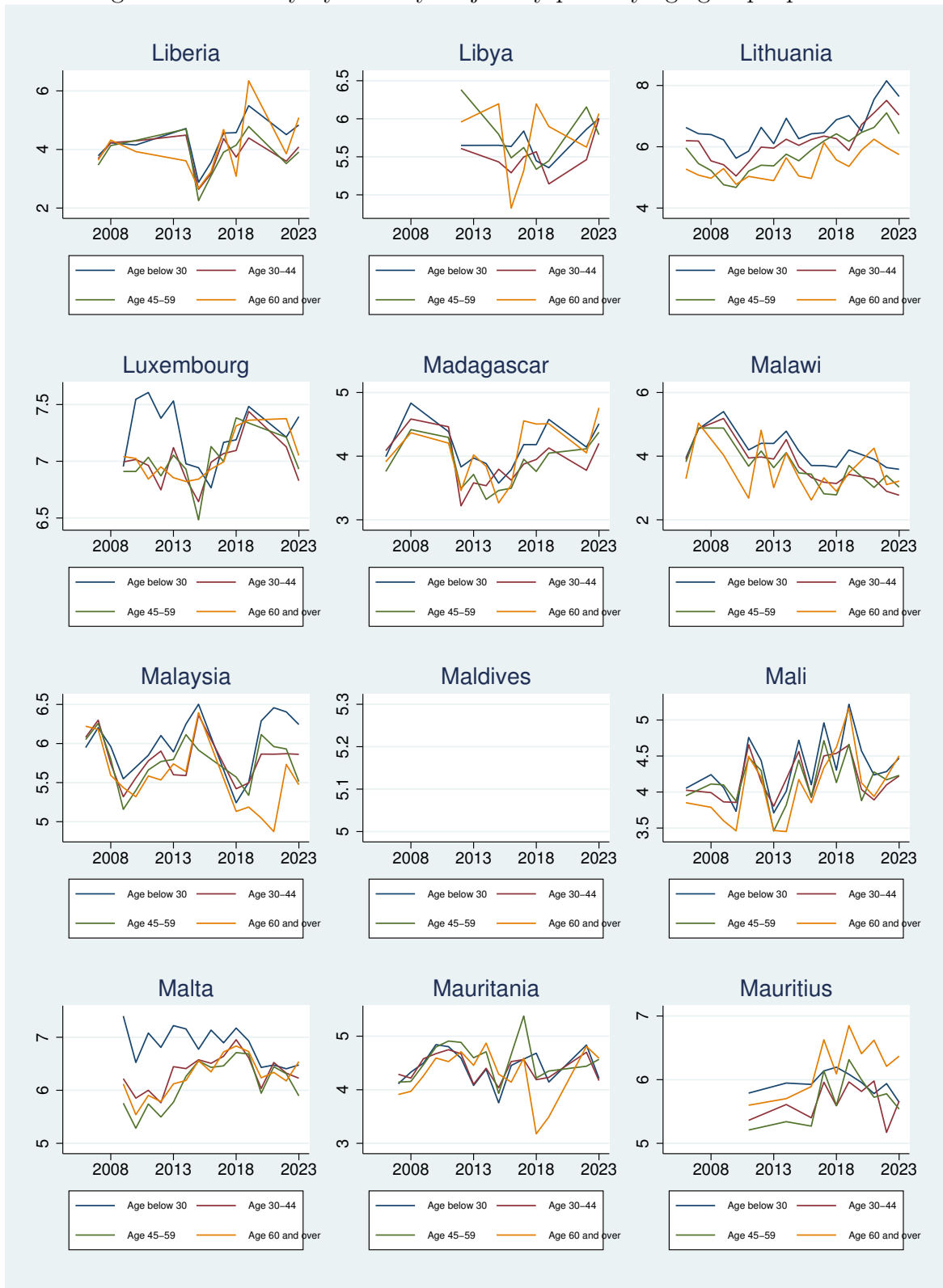


Figure 15: Country-by-country trajectory plots by age group - part 9

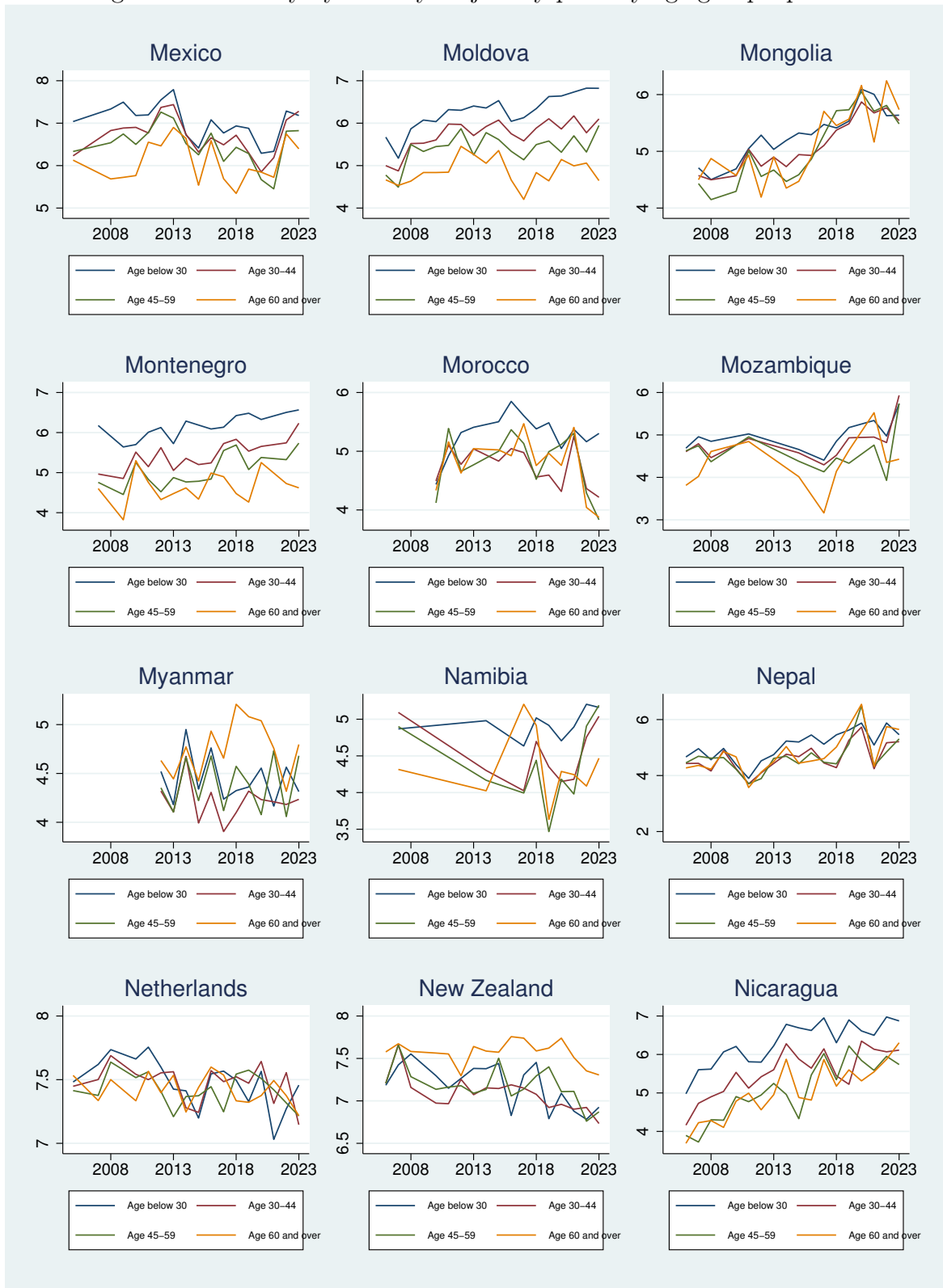




Figure 16: Country-by-country trajectory plots by age group - part 10

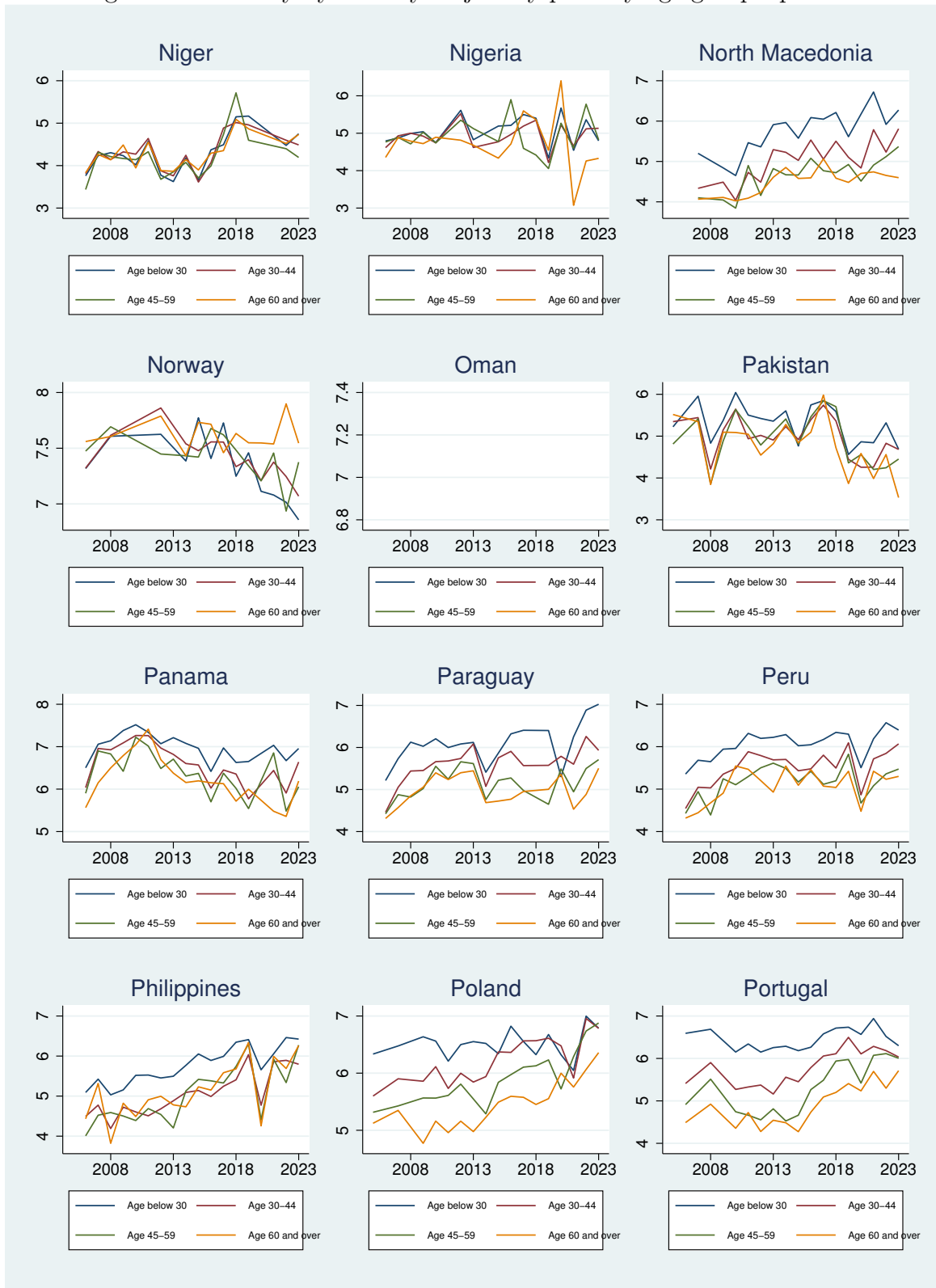


Figure 17: Country-by-country trajectory plots by age group - part 11

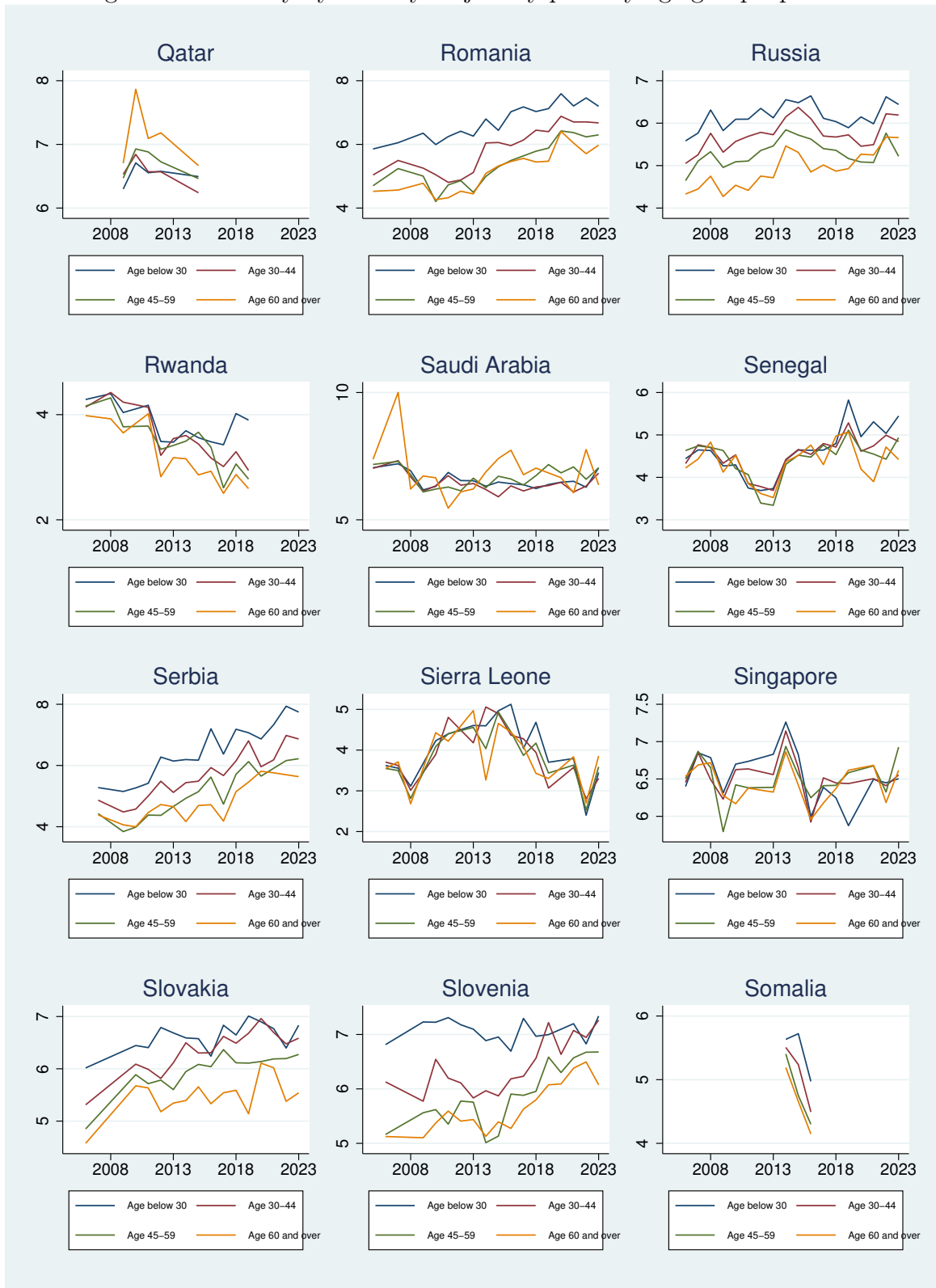


Figure 18: Country-by-country trajectory plots by age group - part 12

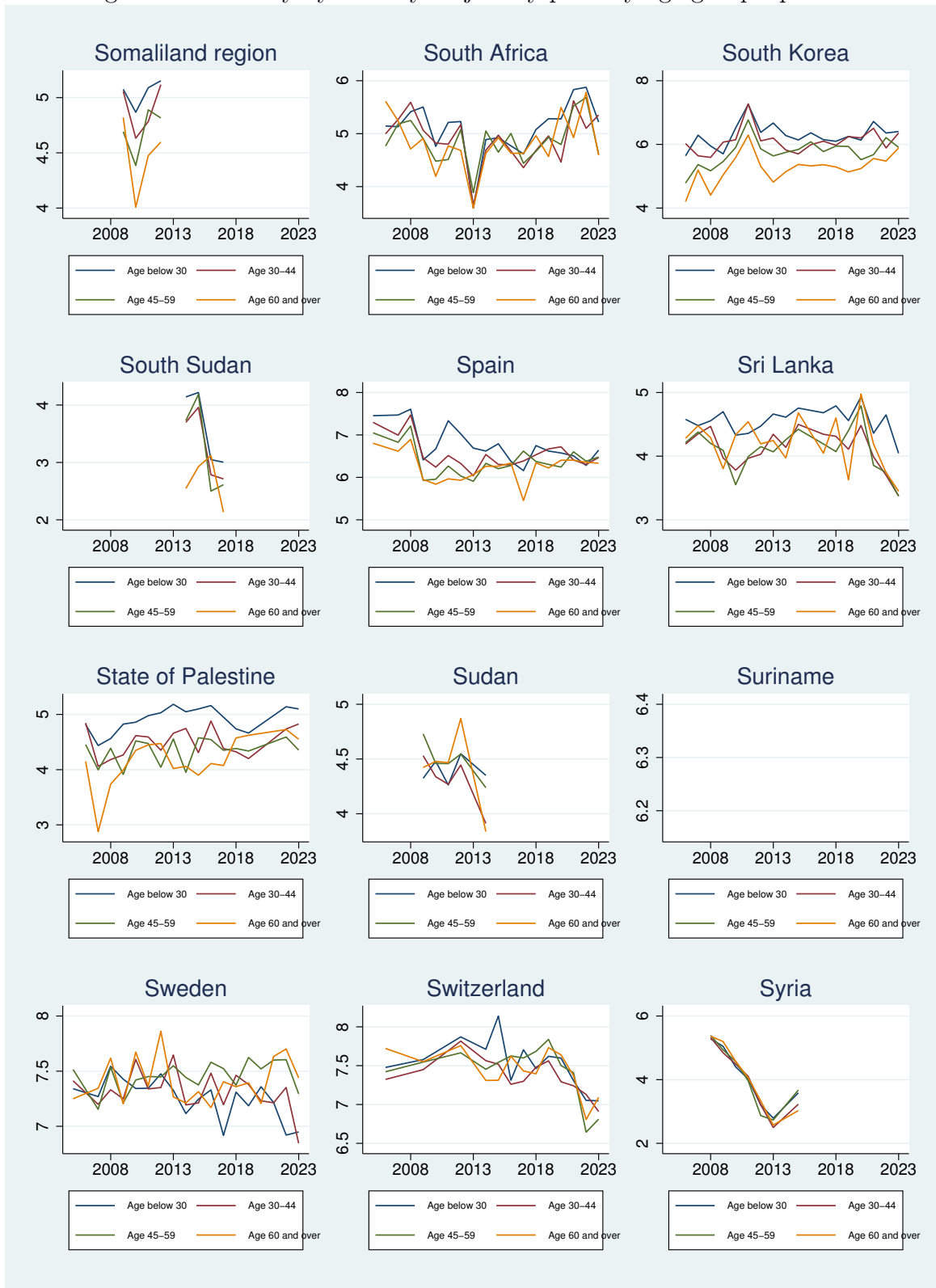


Figure 19: Country-by-country trajectory plots by age group - part 13

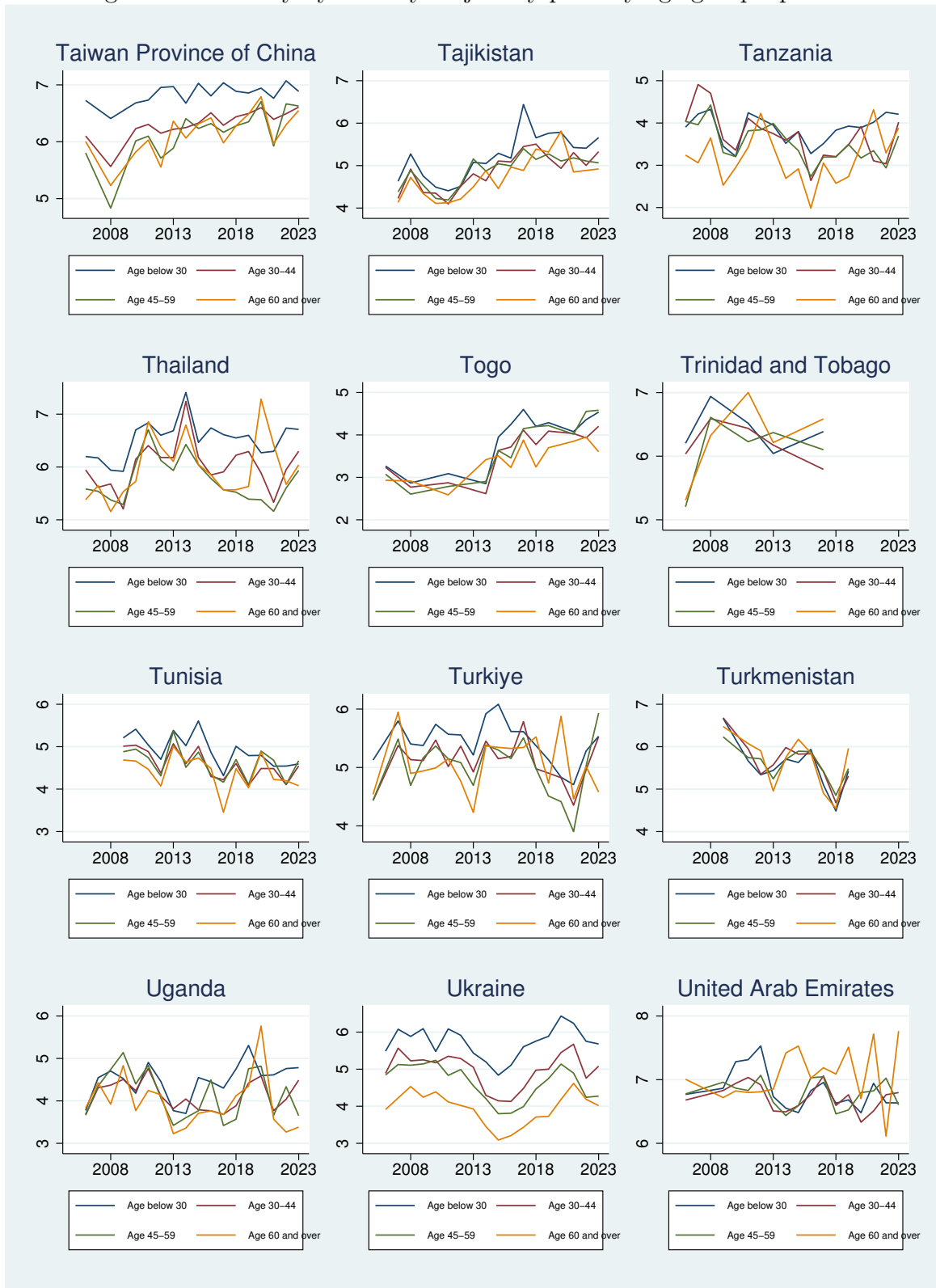


Figure 20: Country-by-country trajectory plots by age group - part 14

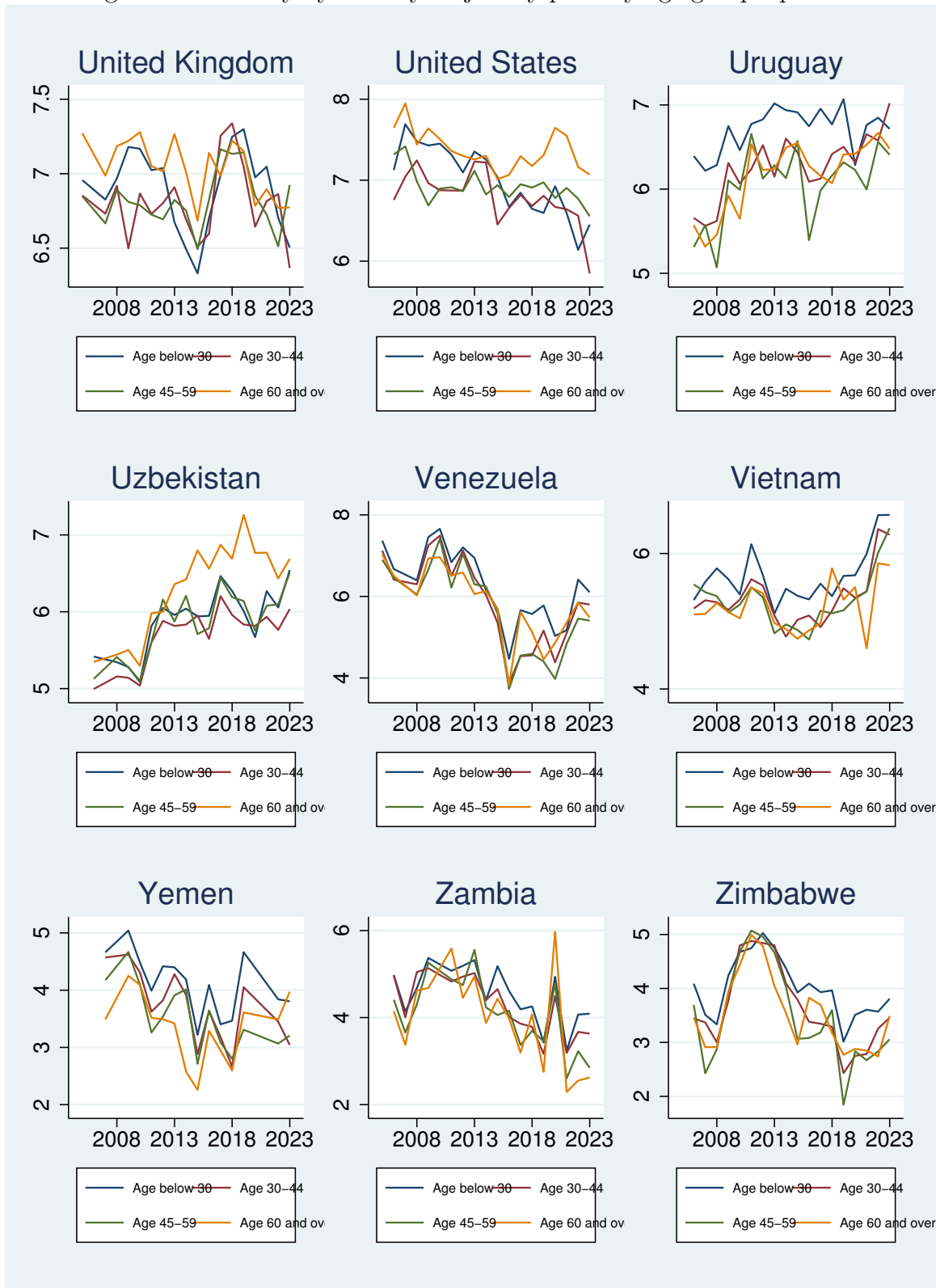


Figure 21: Country-by-country trajectory plots by birth cohort - part 1

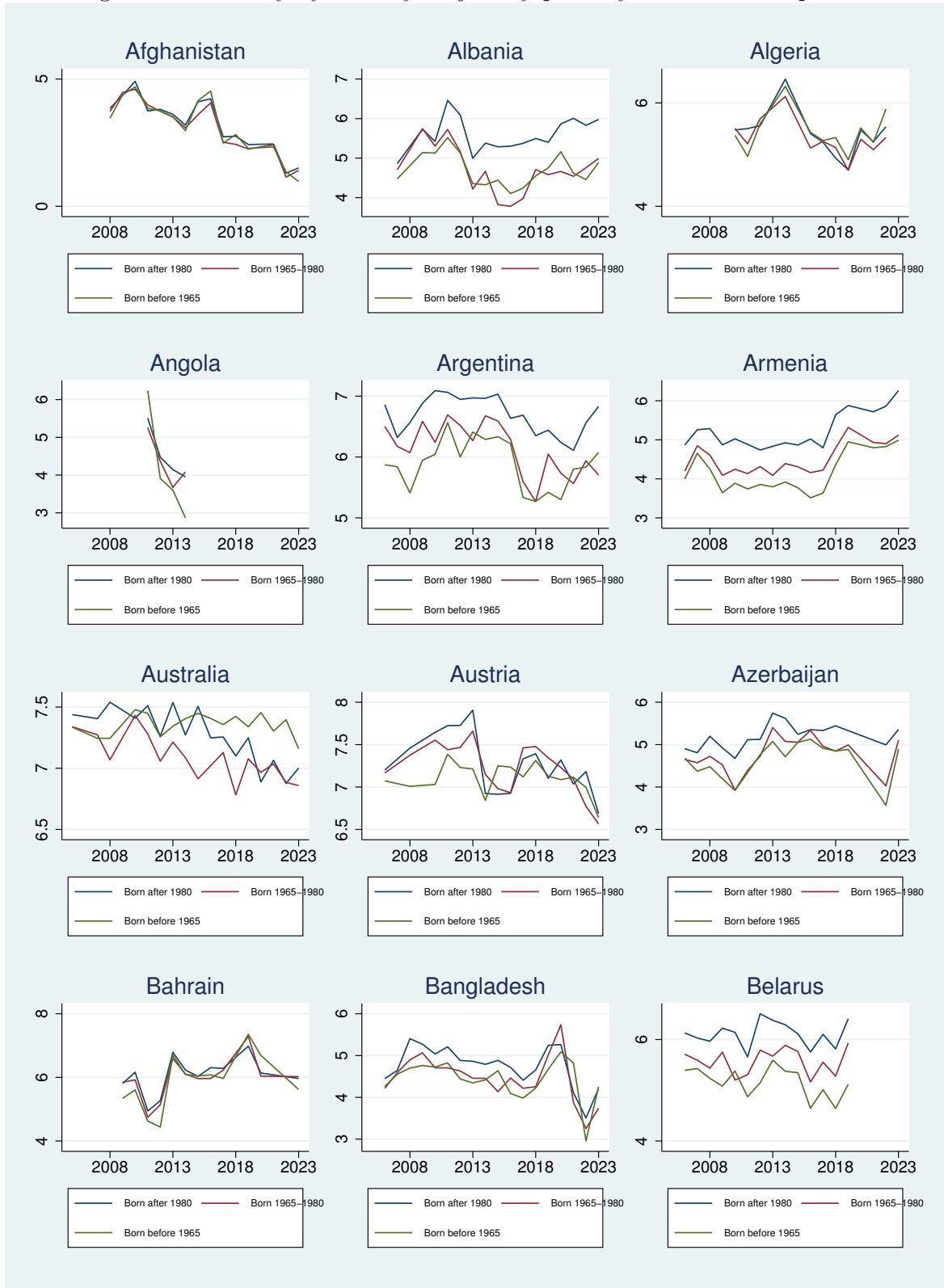


Figure 22: Country-by-country trajectory plots by birth cohort - part 2

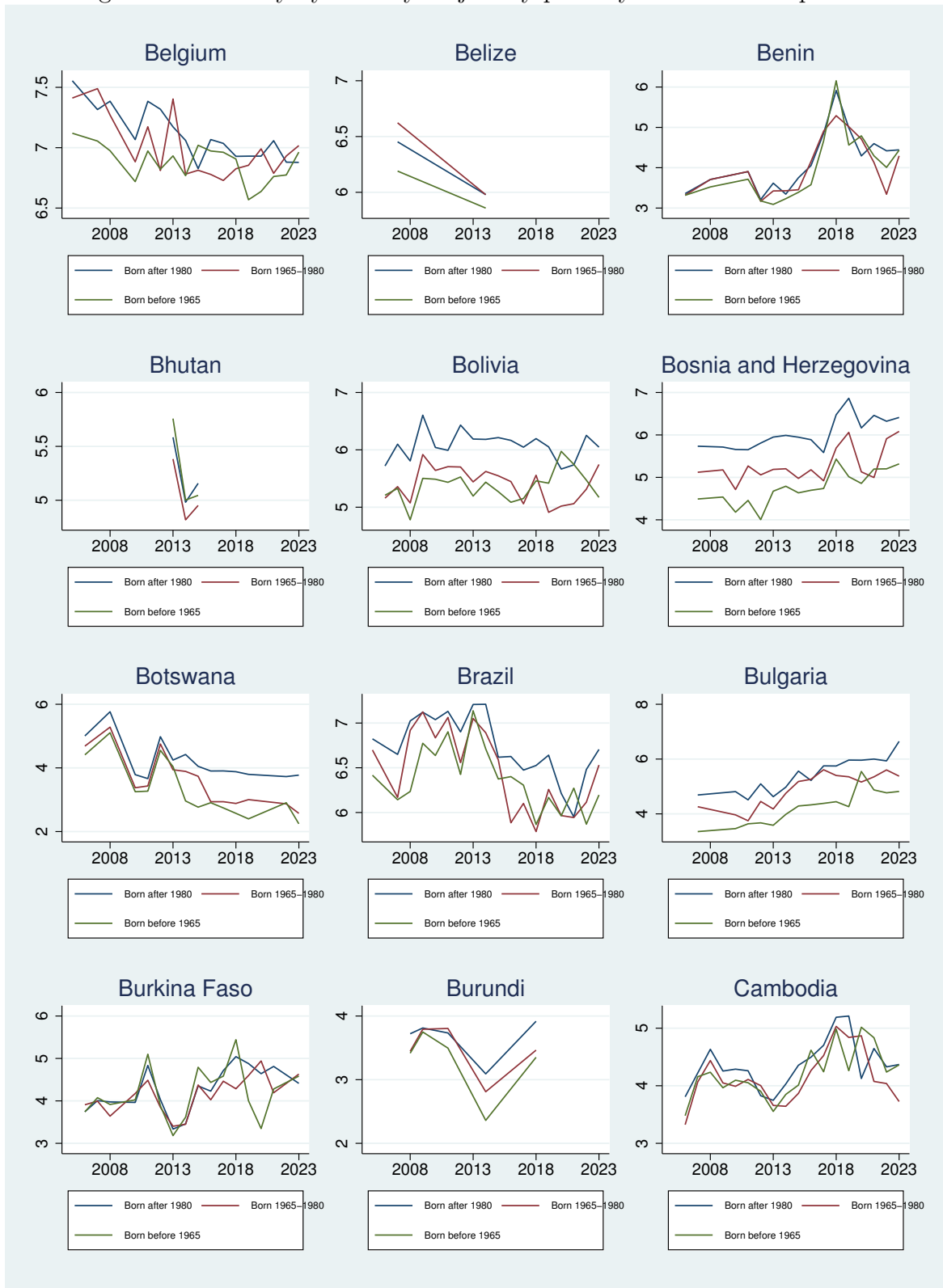


Figure 23: Country-by-country trajectory plots by birth cohort - part 3

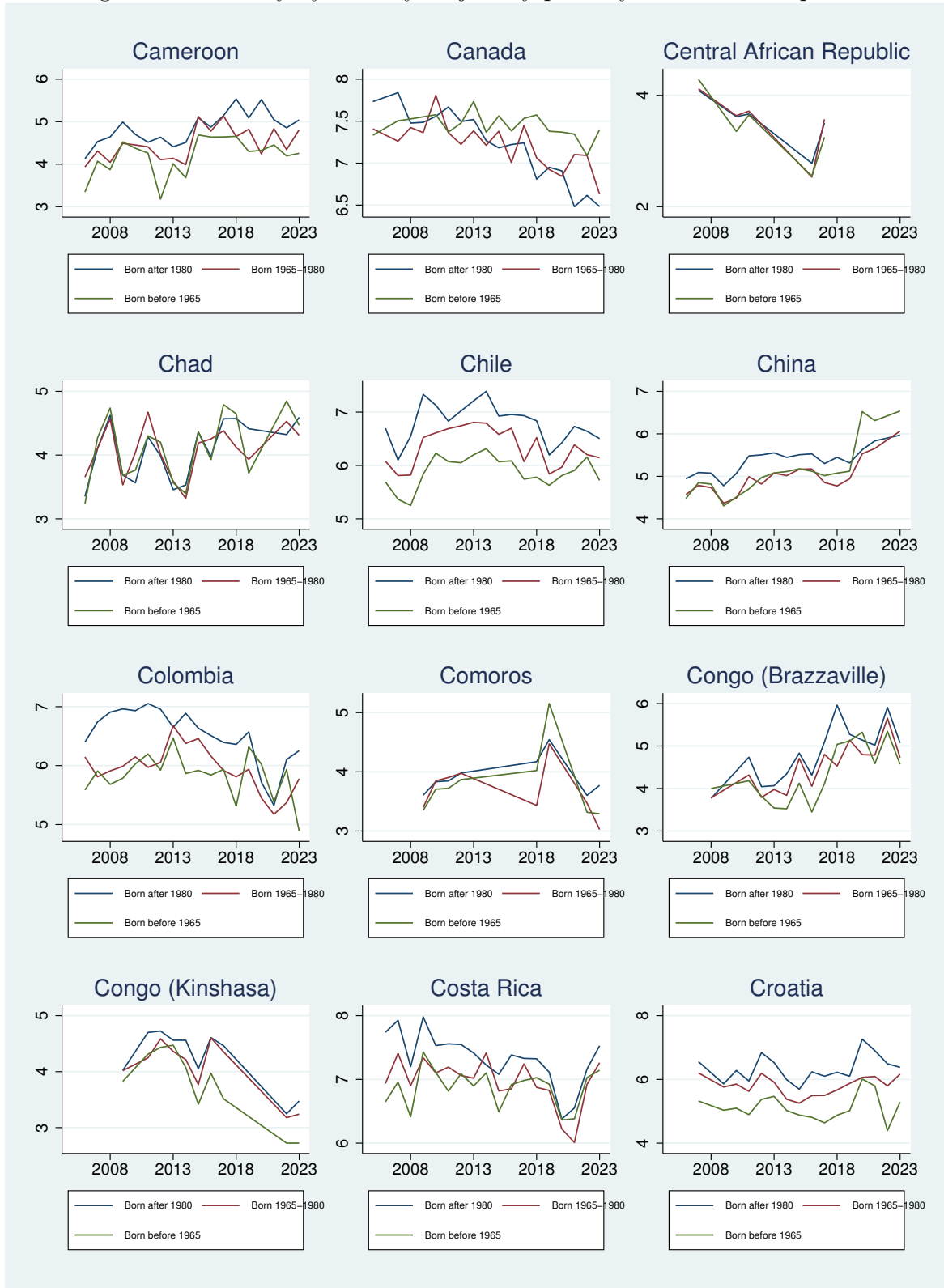




Figure 24: Country-by-country trajectory plots by birth cohort - part 4

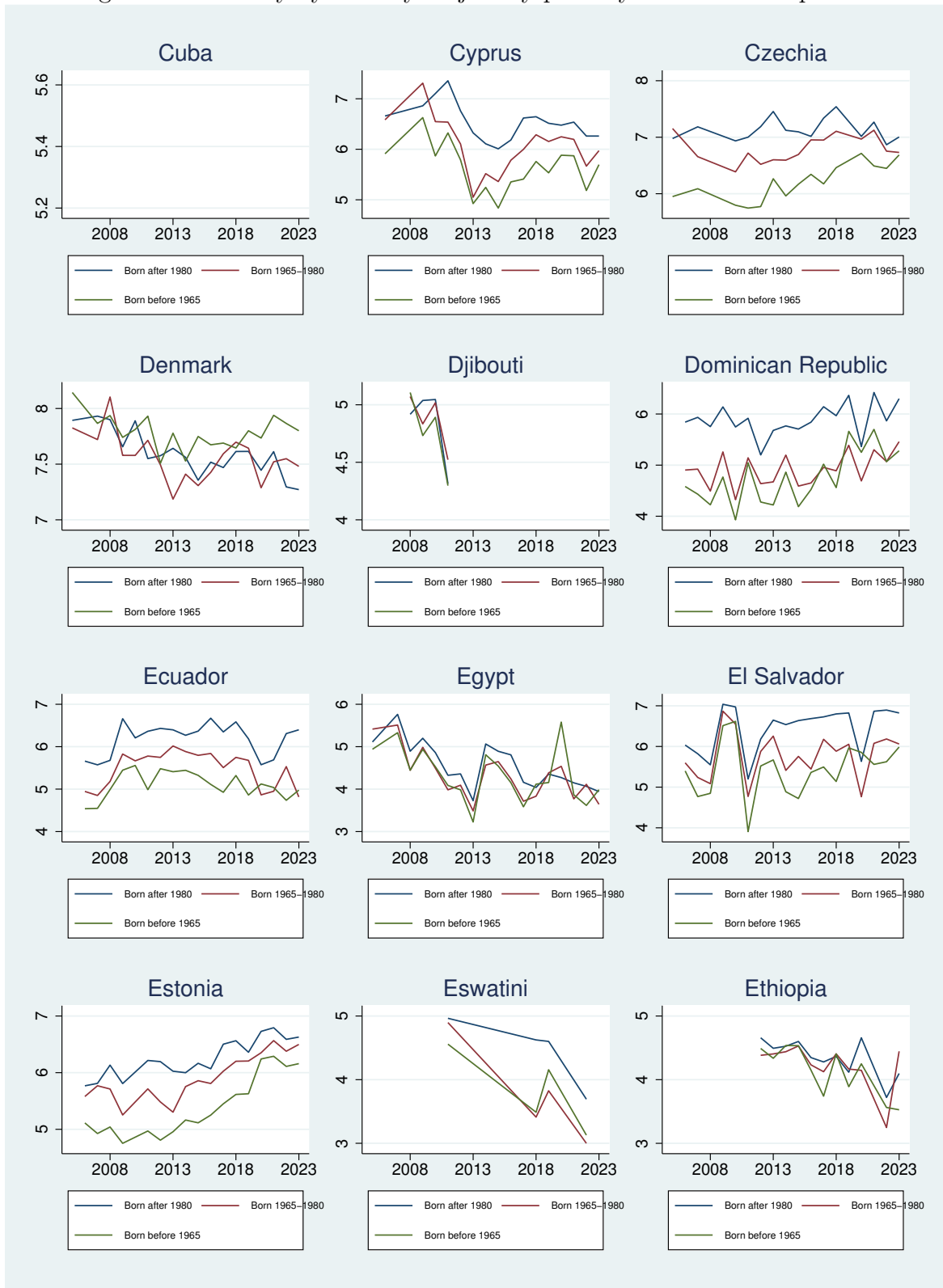


Figure 25: Country-by-country trajectory plots by birth cohort - part 5

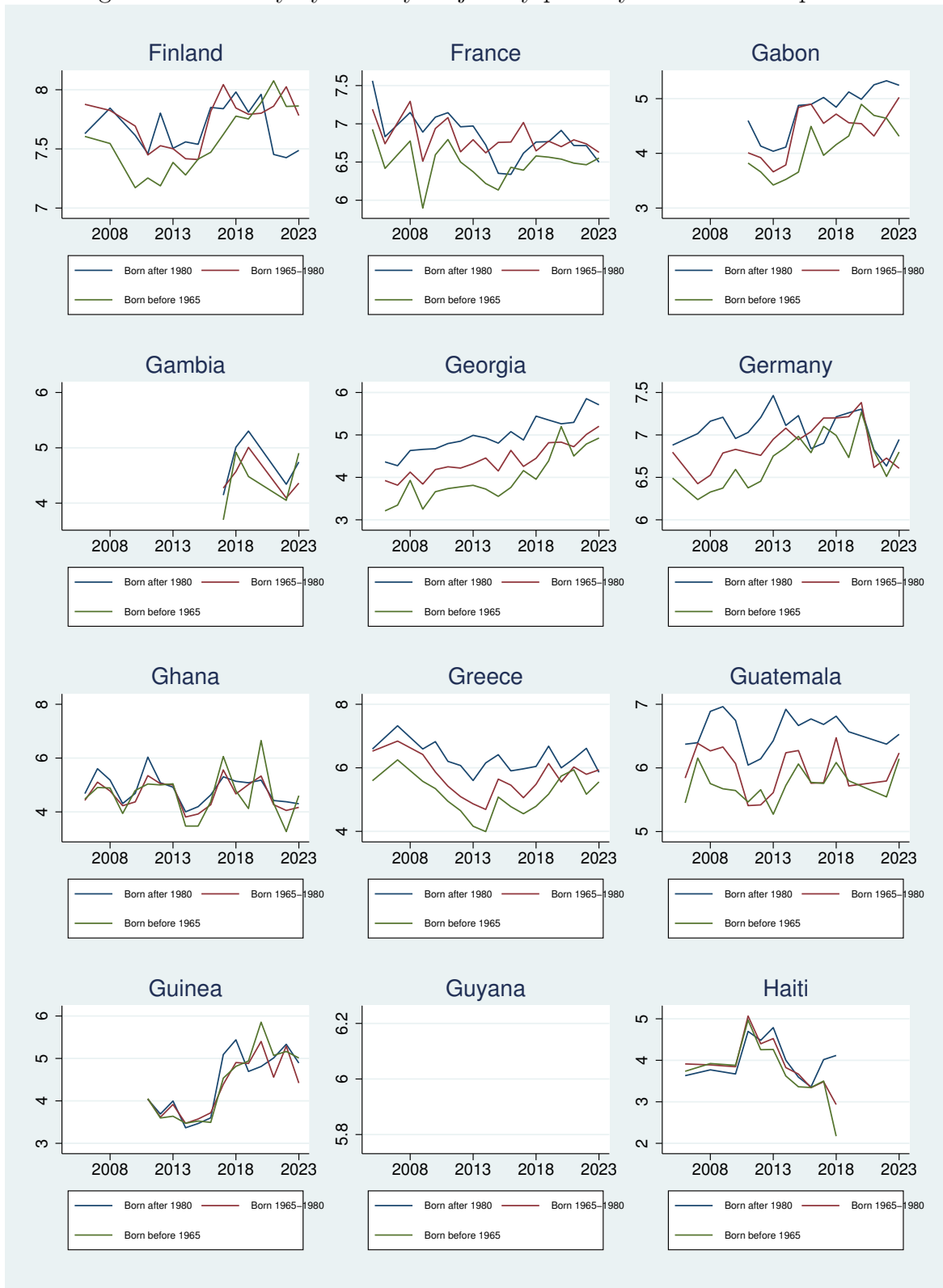


Figure 26: Country-by-country trajectory plots by birth cohort - part 6

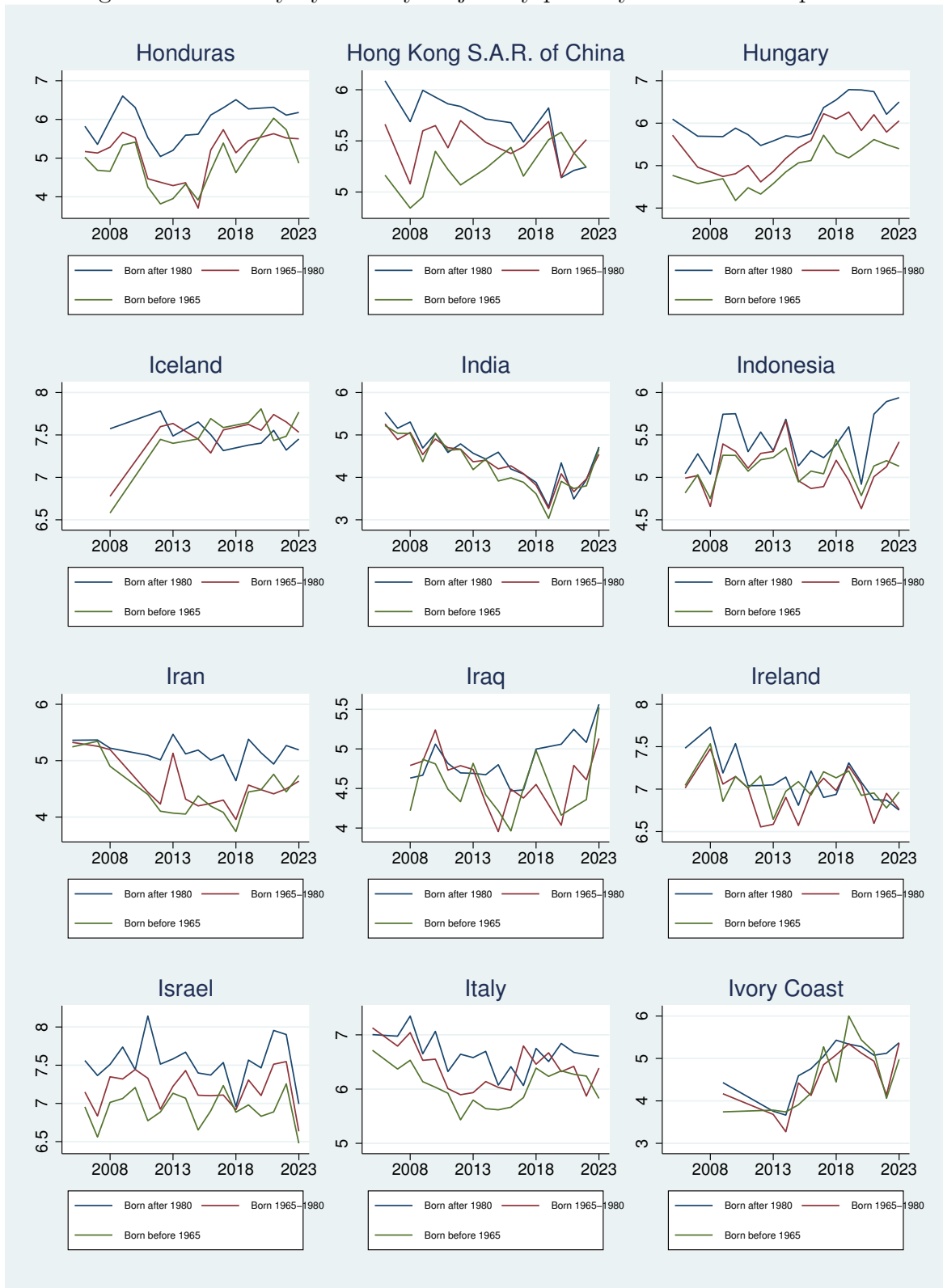


Figure 27: Country-by-country trajectory plots by birth cohort - part 7

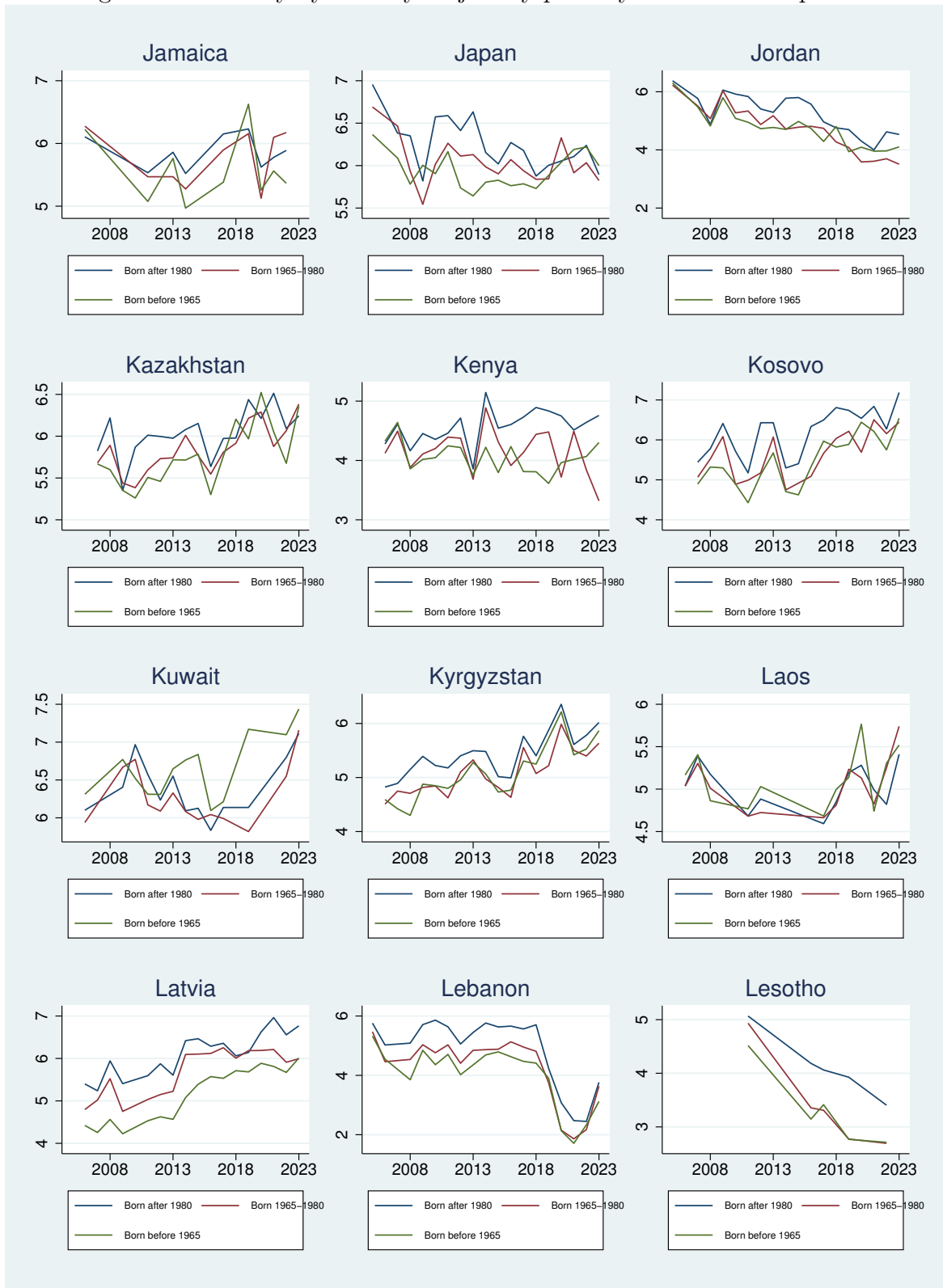


Figure 28: Country-by-country trajectory plots by birth cohort - part 8

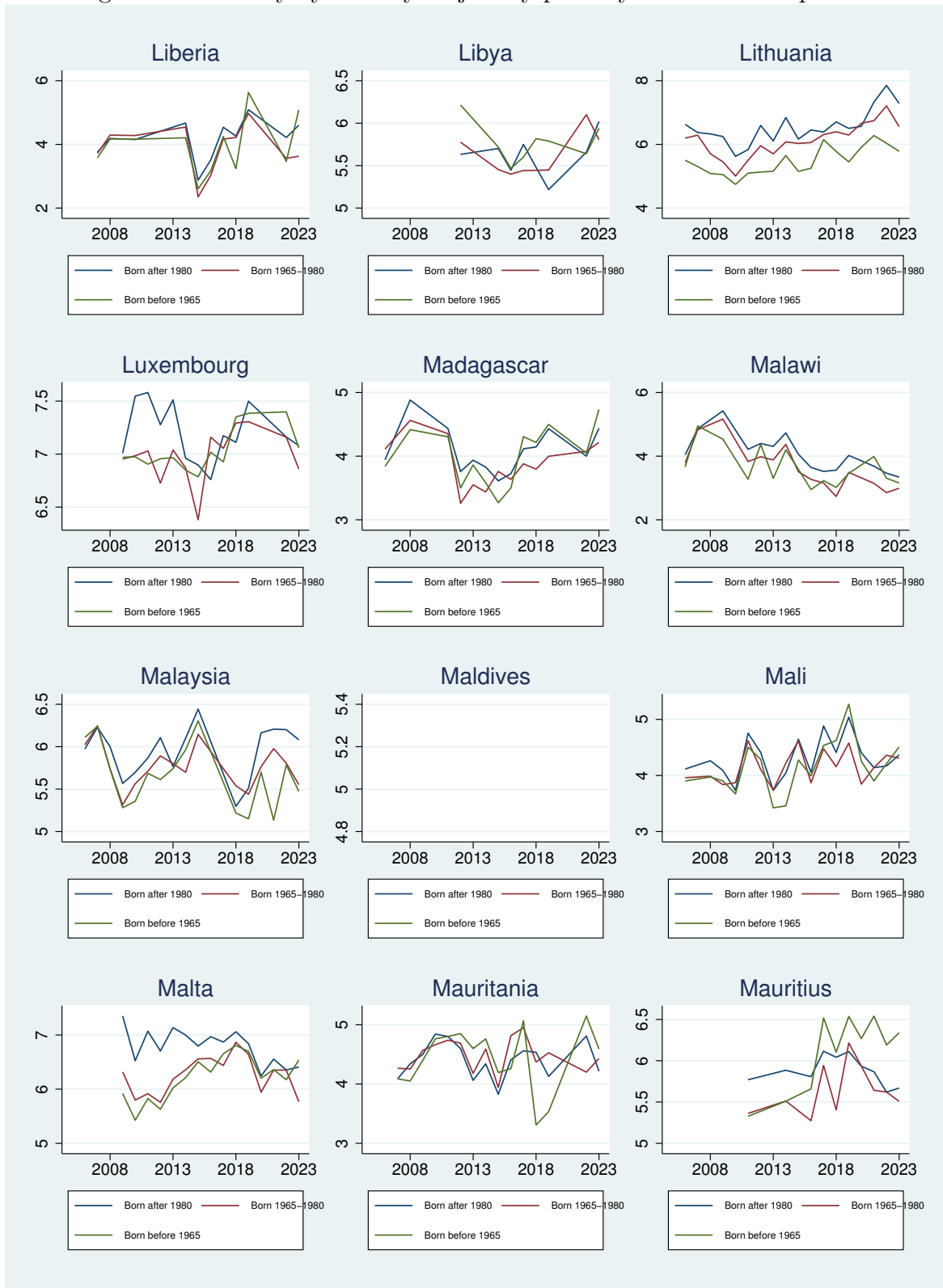


Figure 29: Country-by-country trajectory plots by birth cohort - part 9

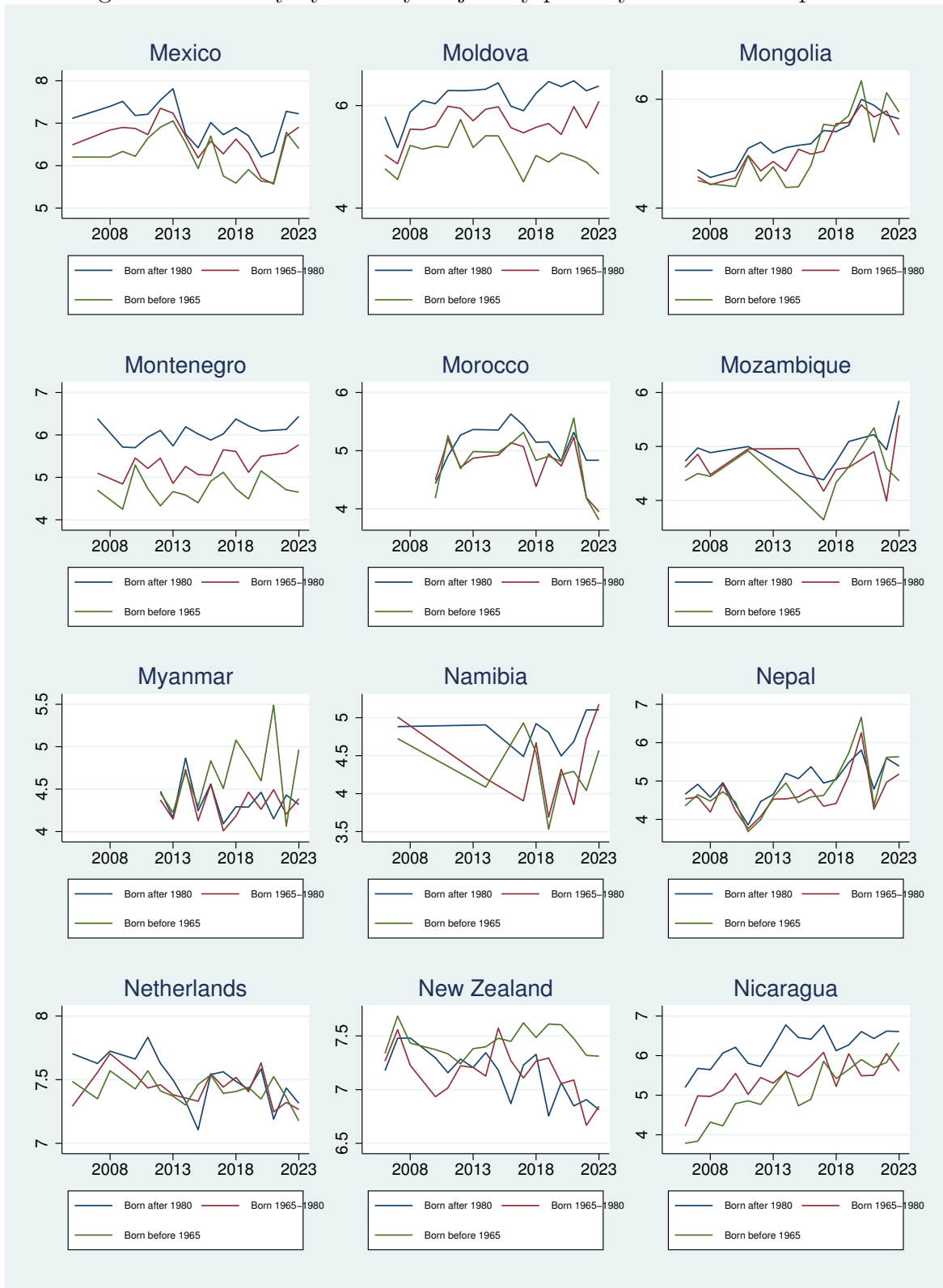


Figure 30: Country-by-country trajectory plots by birth cohort - part 10

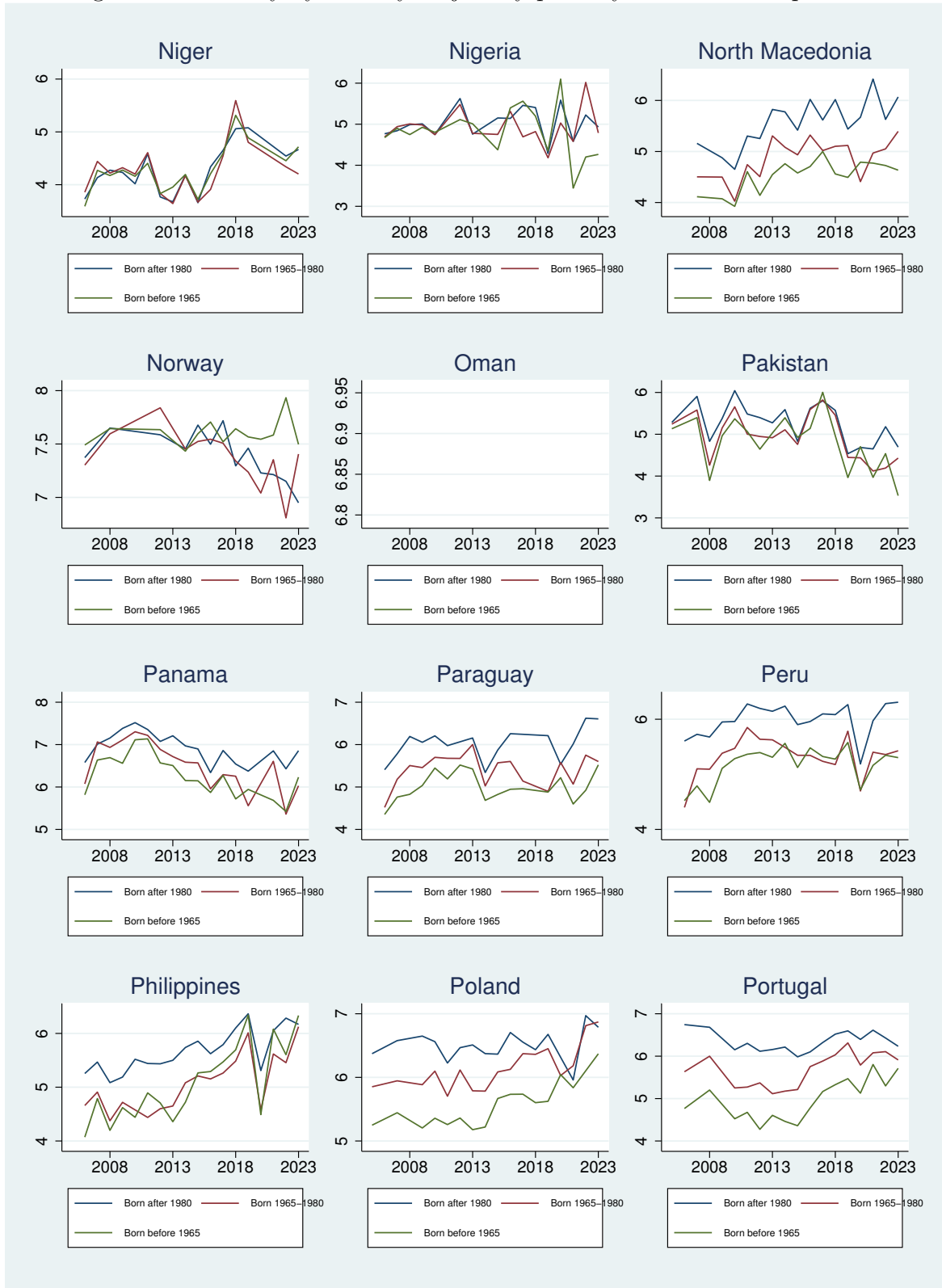


Figure 31: Country-by-country trajectory plots by birth cohort - part 11

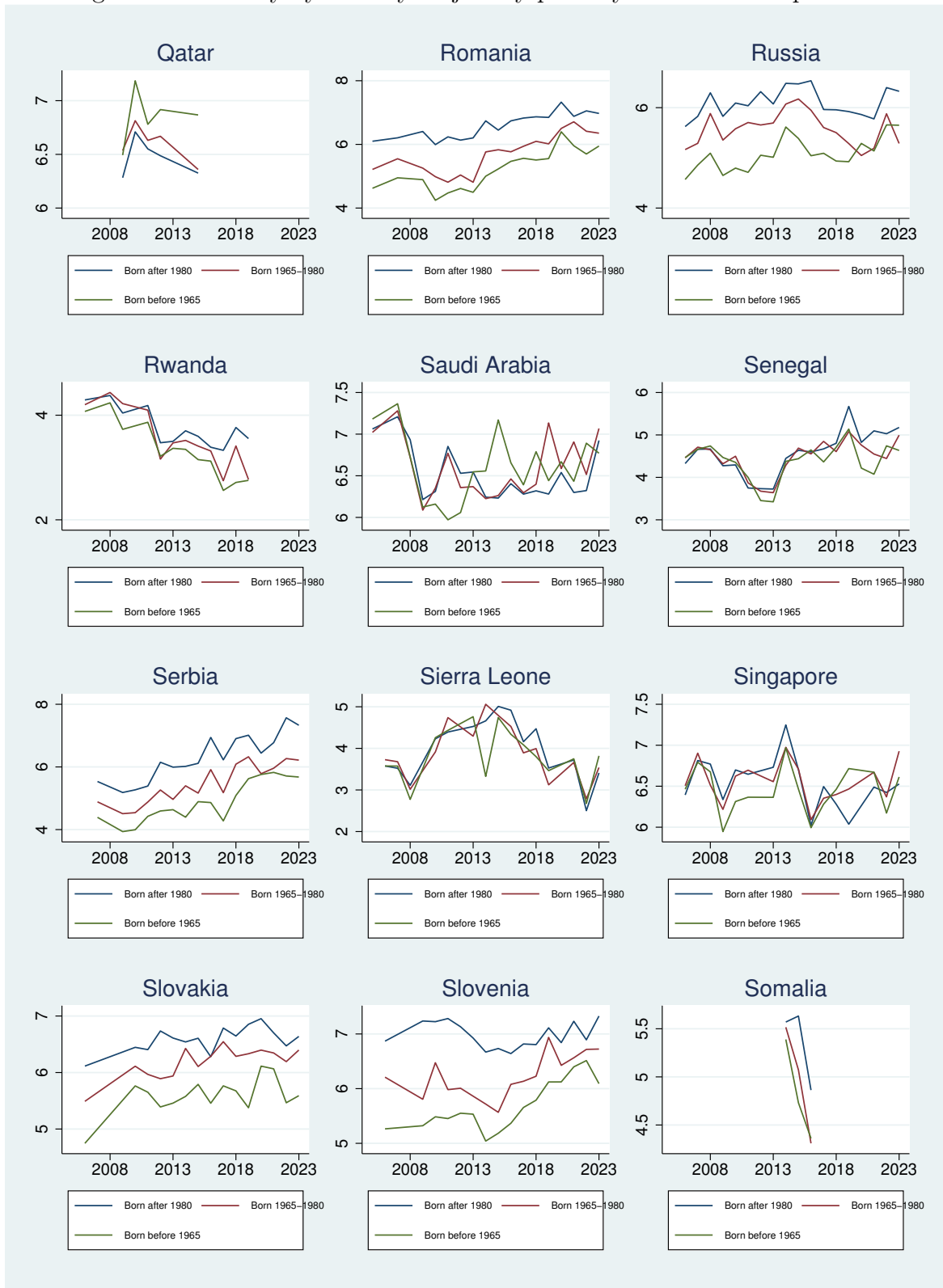




Figure 32: Country-by-country trajectory plots by birth cohort - part 12

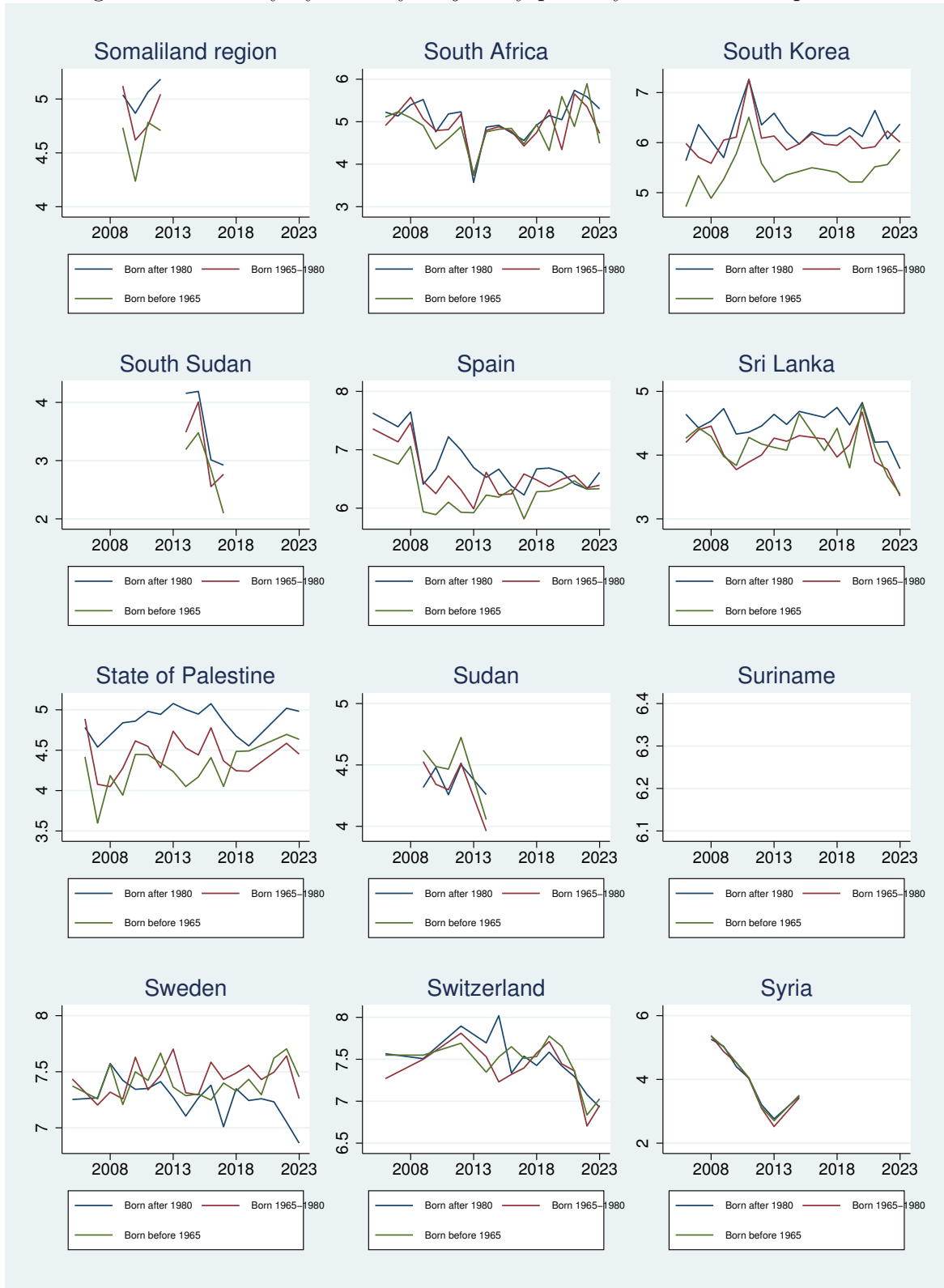


Figure 33: Country-by-country trajectory plots by birth cohort - part 13

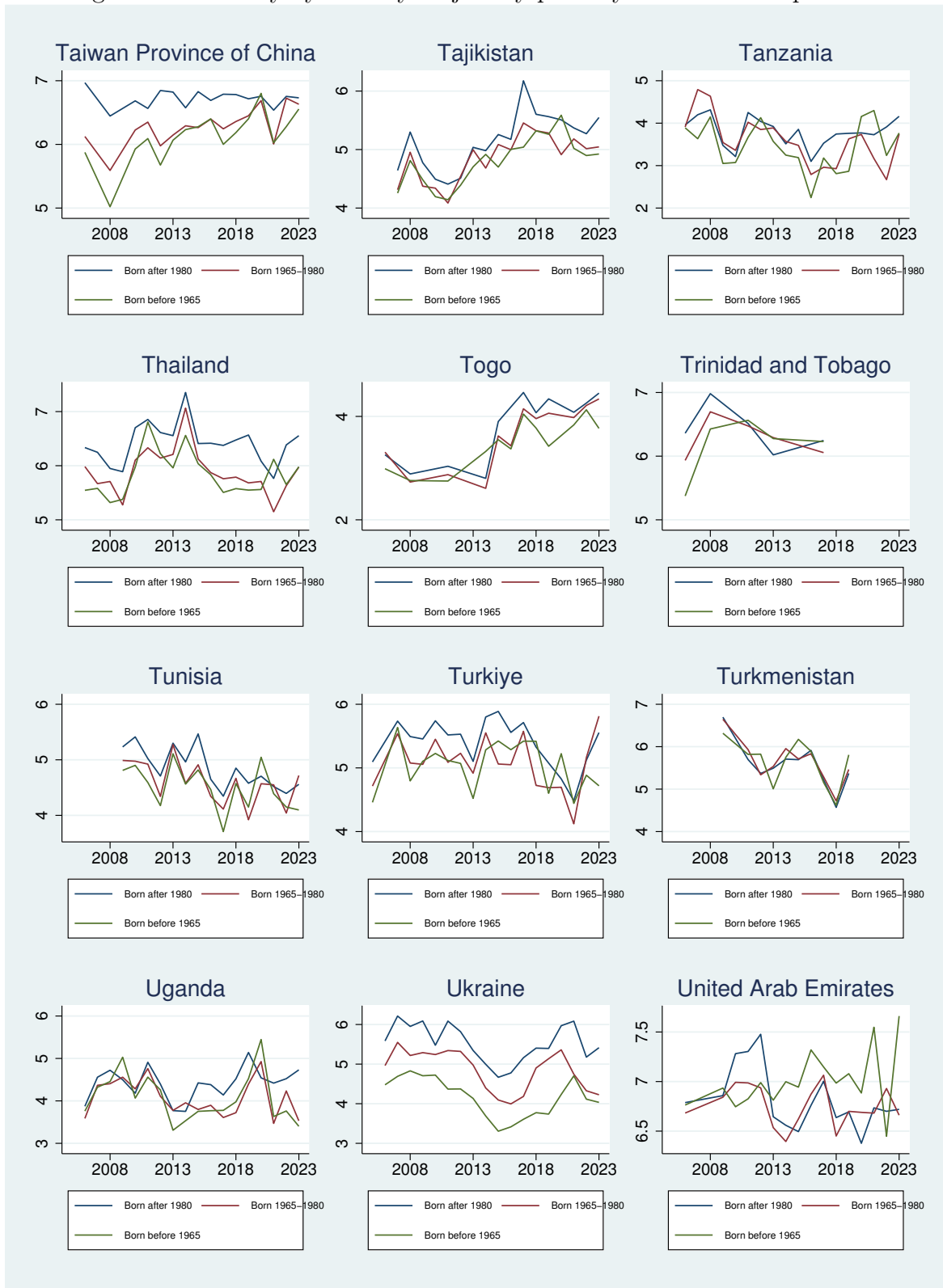


Figure 34: Country-by-country trajectory plots by birth cohort - part 14

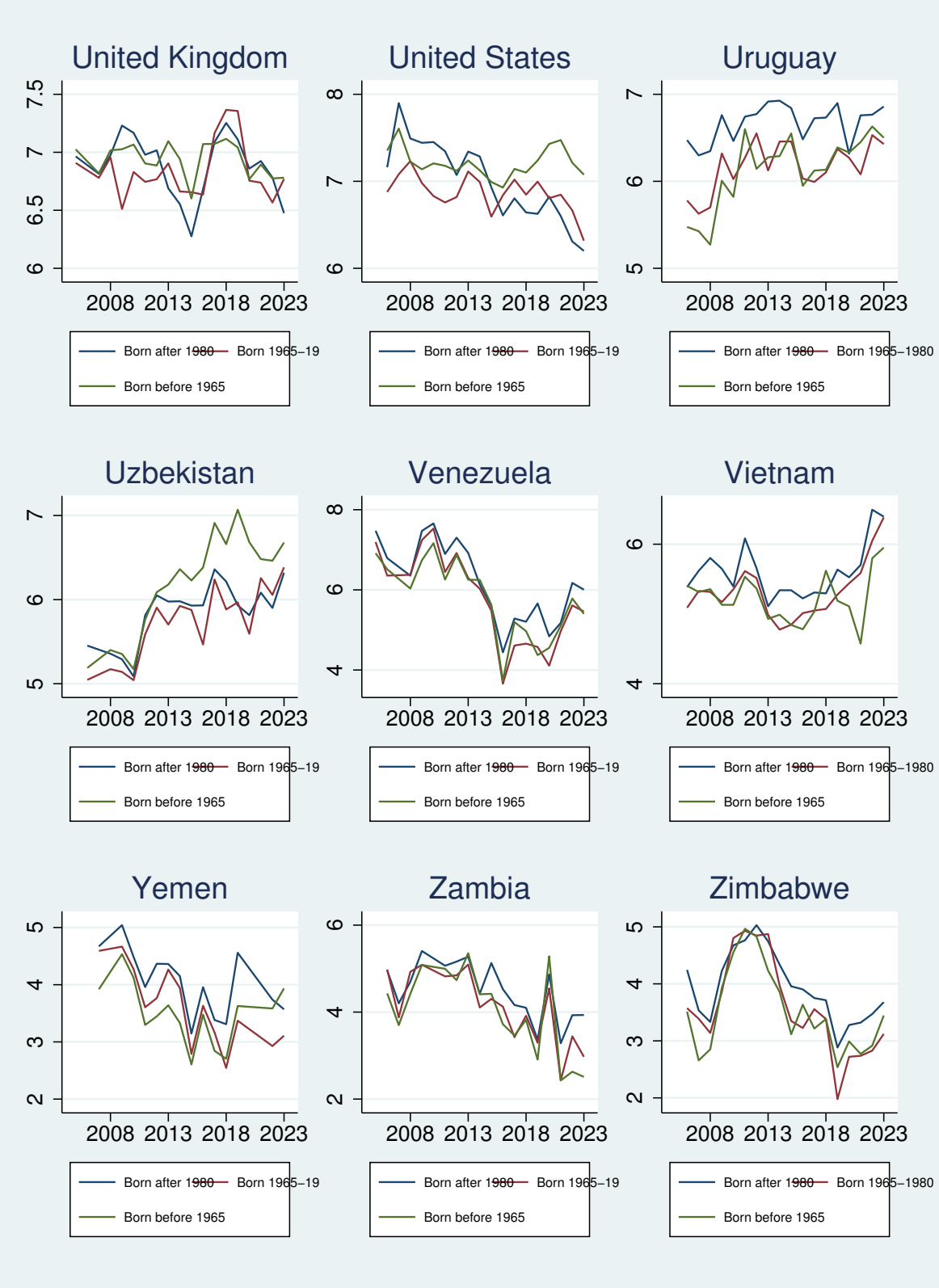


Table 6: Summary statistics for country-year observations with valid happiness scores  
- Fullest sample

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>	<b>N</b>
Life Ladder	5.48	1.13	1.28	8.02	2363
Positive affect	0.65	0.11	0.18	0.88	2339
Negative affect	0.27	0.09	0.08	0.70	2347
Log GDP per capita	9.4	1.15	5.53	11.68	2335
Social support	0.81	0.12	0.23	0.99	2350
Healthy life expectancy at birth	63.4	6.84	6.72	74.60	2300
Freedom to make life choices	0.75	0.14	0.23	0.99	2327
Generosity	0	0.16	-0.34	0.70	2282
Perceptions of corruption	0.74	0.18	0.04	0.98	2238

Table 7: Summary statistics for country-year observations with valid happiness scores  
- Period from 2021 to 2023

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>	<b>N</b>
Life Ladder	5.58	1.17	1.28	7.79	400
Positive affect	0.65	0.11	0.18	0.84	400
Negative affect	0.29	0.09	0.1	0.61	400
Log GDP per capita	9.55	1.13	7.03	11.68	384
Social support	0.8	0.13	0.23	0.98	400
Healthy life expectancy at birth	65.12	5.64	46.15	74.60	390
Freedom to make life choices	0.79	0.12	0.23	0.98	395
Generosity	0.03	0.16	-0.32	0.6	384
Perceptions of corruption	0.72	0.18	0.14	0.95	385

Table 8: Regressions to Explain Average Happiness across Countries (Pooled OLS with year fixed effects)

	Ladder	PosAffect	NegAffect	LadderAgain
	(1)	(2)	(3)	(4)
Log GDP per capita	0.349 (0.068)***	-.015 (0.009)	-.002 (0.007)	0.382 (0.066)***
Social support	2.563 (0.349)***	0.315 (0.056)***	-.342 (0.045)***	1.936 (0.349)***
Healthy life expectancy at birth	0.028 (0.011)***	-.0007 (0.001)	0.003 (0.001)***	0.029 (0.011)***
Freedom to make life choices	1.378 (0.295)***	0.376 (0.044)***	-.090 (0.039)**	0.571 (0.273)**
Generosity	0.487 (0.252)*	0.084 (0.032)***	0.029 (0.027)	0.296 (0.241)
Perceptions of corruption	-.733 (0.256)***	-.012 (0.027)	0.093 (0.022)***	-.724 (0.243)***
Positive affect				2.206 (0.33)***
Negative affect				0.193 (0.381)
Year 2005	0.373 (0.083)***	-.002 (0.009)	0.029 (0.008)***	0.375 (0.078)***
Year 2006	-.042 (0.061)	-.002 (0.01)	0.001 (0.009)	-.029 (0.061)
Year 2007	0.223 (0.062)***	0.011 (0.009)	-.029 (0.007)***	0.217 (0.061)***
Year 2008	0.337 (0.059)***	0.021 (0.008)***	-.040 (0.007)***	0.304 (0.063)***
Year 2009	0.214 (0.058)***	0.006 (0.008)	-.025 (0.008)***	0.209 (0.056)***
Year 2010	0.133 (0.049)***	-.003 (0.007)	-.026 (0.006)***	0.147 (0.05)***
Year 2011	0.148 (0.049)***	-.014 (0.007)**	-.021 (0.006)***	0.185 (0.05)***
Year 2012	0.128 (0.042)***	-.0004 (0.006)	-.015 (0.006)**	0.134 (0.043)***
Year 2013	0.025 (0.041)	0.003 (0.005)	-.006 (0.006)	0.021 (0.041)
Year 2015	0.006 (0.039)	-.0001 (0.005)	0.002 (0.004)	0.008 (0.038)
Year 2016	-.031 (0.046)	-.007 (0.005)	0.017 (0.005)***	-.016 (0.044)
Year 2017	0.04 (0.054)	-.018 (0.006)***	0.022 (0.006)***	0.078 (0.051)
Year 2018	0.054 (0.061)	-.016 (0.007)**	0.028 (0.006)***	0.086 (0.057)
Year 2019	0.045 (0.063)	-.018 (0.007)**	0.025 (0.007)***	0.082 (0.059)
Year 2020	0.058 (0.068)	-.017 (0.007)**	0.039 (0.006)***	0.091 (0.064)
Year 2021	0.021 (0.064)	-.018 (0.007)***	0.019 (0.007)***	0.059 (0.059)
Year 2022	-.008 (0.059)	-.014 (0.007)**	0.023 (0.007)***	0.02 (0.057)
Year 2023	0.079 (0.057)	-.017 (0.007)**	0.016 (0.007)**	0.115 (0.056)**
Obs.	2103	2098	2102	2097
e(N-clust)	155	155	155	155
e(r2-a)	0.757	0.43	0.343	0.781

Notes: 1). Standard errors in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at 10 percent, 5 percent and 1 percent levels. All standard errors are cluster-adjusted at the country level. The row “e(N-clust)” indicates the number of countries. 2). See section “Data Sources and Variable Definitions” for more information.

Table 9: Regressions to Explain Average Happiness across Countries (Pooled OLS without year fixed effects)

	Ladder	PosAffect	NegAffect	LadderAgain
	(1)	(2)	(3)	(4)
Log GDP per capita	0.357 (0.067)***	-.014 (0.009)	-.004 (0.007)	0.388 (0.066)***
Social support	2.627 (0.345)***	0.33 (0.053)***	-.375 (0.044)***	1.886 (0.341)***
Healthy life expectancy at birth	0.026 (0.01)**	-.001 (0.001)	0.004 (0.001)***	0.028 (0.01)***
Freedom to make life choices	1.230 (0.276)***	0.352 (0.039)***	-.036 (0.036)	0.448 (0.255)*
Generosity	0.517 (0.249)**	0.091 (0.031)***	0.017 (0.027)	0.316 (0.239)
Perceptions of corruption	-.742 (0.25)***	-.014 (0.027)	0.098 (0.023)***	-.707 (0.241)***
Positive affect				2.235 (0.334)***
Negative affect				-.017 (0.357)
Obs.	2103	2098	2102	2097
e(N-clust)	155	155	155	155
e(r2-a)	0.753	0.426	0.288	0.778

Notes: 1). Standard errors in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at 10 percent, 5 percent and 1 percent levels. All standard errors are cluster-adjusted at the country level. The row “e(N-clust)” indicates the number of countries. 2). See section “Data Sources and Variable Definitions” for more information.

Table 10: Individual-Level Regressions by Sample Period and Age Group, with Year/Period Fixed Effects and Country Fixed Effects

	Y2017To2023 Below30 Age30To59 Age60above Y2009To2016 Below30B Age30To59B Age60aboveB							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log of household income	0.305 (0.015)***	0.227 (0.015)***	0.345 (0.017)***	0.339 (0.02)***	0.412 (0.014)***	0.349 (0.014)***	0.448 (0.015)***	0.431 (0.018)***
Social support	0.814 (0.022)***	0.816 (0.035)***	0.784 (0.022)***	0.819 (0.03)***	0.649 (0.024)***	0.627 (0.028)***	0.627 (0.023)***	0.691 (0.029)***
Unemployed	-0.428 (0.022)***	-0.348 (0.027)***	-0.535 (0.029)***	-0.521 (0.067)***	-0.360 (0.029)***	-0.271 (0.028)***	-0.466 (0.036)***	-0.500 (0.078)***
Freedom to make life choices	0.508 (0.018)***	0.473 (0.022)***	0.49 (0.021)***	0.64 (0.03)***	0.364 (0.02)***	0.31 (0.022)***	0.374 (0.021)***	0.442 (0.032)***
University degree	0.312 (0.019)***	0.157 (0.021)***	0.363 (0.023)***	0.323 (0.03)***	0.319 (0.02)***	0.18 (0.026)***	0.371 (0.023)***	0.369 (0.033)***
Married or domestic partner	-0.031 (0.02)	-0.214 (0.02)***	0.096 (0.023)***	0.183 (0.039)***	-0.101 (0.016)***	-0.224 (0.019)***	0.051 (0.019)***	0.052 (0.038)
Separated, divorced or widowed	-0.218 (0.024)***	-0.507 (0.051)***	-0.133 (0.025)***	0.094 (0.039)***	-0.291 (0.017)***	-0.458 (0.048)***	-0.178 (0.022)***	-0.054 (0.036)
Generosity	0.242 (0.014)***	0.174 (0.021)***	0.239 (0.015)***	0.274 (0.021)***	0.244 (0.012)***	0.182 (0.017)***	0.248 (0.013)***	0.31 (0.022)***
Foreign born indicator	-0.073 (0.03)***	-0.071 (0.042)***	-0.073 (0.036)***	0.006 (0.042)	-0.098 (0.029)***	-0.086 (0.04)***	-0.103 (0.032)***	-0.044 (0.039)
Perception of corruption	-0.228 (0.017)***	-0.179 (0.025)***	-0.232 (0.017)***	-0.264 (0.034)***	-0.173 (0.018)***	-0.126 (0.023)***	-0.179 (0.021)***	-0.211 (0.027)***
Health problems	-0.483 (0.027)***	-0.300 (0.038)***	-0.443 (0.024)***	-0.611 (0.023)***	-0.428 (0.021)***	-0.234 (0.023)***	-0.424 (0.02)***	-0.586 (0.022)***
TIDA	0.279 (0.016)***	0.277 (0.021)***	0.265 (0.018)***	0.296 (0.028)***	0.236 (0.02)***	0.216 (0.024)***	0.242 (0.021)***	0.271 (0.025)***
Female	0.237 (0.021)***	0.235 (0.023)***	0.242 (0.021)***	0.13 (0.023)***	0.149 (0.016)***	0.166 (0.015)***	0.153 (0.016)***	0.121 (0.021)***
Age below 30	0.299 (0.022)***				0.26 (0.023)***			
Age 60 and above	0.127 (0.03)***				0.043 (0.023)***			
Female age below 30	-0.020 (0.02)				-0.003 (0.014)			
Female age 60 and above	-0.115 (0.024)***				-0.043 (0.021)***			
covid2020To22	-0.015 (0.027)	-0.029 (0.036)	-0.031 (0.027)	0.063 (0.029)***				
year2023	0.085 (0.032)***	0.066 (0.04)	0.106 (0.035)***	0.087 (0.035)***				
Obs.	731394	222980	364314	142394	720654	233961	365172	120084
e(N-clust)	145	145	145	145	150	150	150	150
e(r2-a)	0.25	0.216	0.274	0.287	0.303	0.295	0.314	0.328

Notes: 1) All regressions include country fixed effects (estimates not shown here for space reason). The pre-2017 regressions include year fixed effects. The post-2017 regressions, in order to show the impact of the covid pandemic more concisely, includes a dummy indicator of covid years (namely 2020, 2021 and 2022), and another dummy indicator for post-covid period which includes, so far, only 2023. The comparator group is pre-covid years (2006-2019). 2) Standard errors in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at 10 percent, 5 percent and 1 percent levels. All standard errors are cluster-adjusted at the country level. The row “e(N-clust)” indicates the number of countries. 3). See section “Data Sources and Variable Definitions” for more information.

Table 11: Individual-Level Regressions with Cohort Fixed Effects, Year Fixed Effects and Country Fixed Effects

	AllYears	NAandANZ	AllYears2	NAandANZ2	Y2017To2023	Y2009To2016
	(1)	(2)	(3)	(4)	(5)	(6)
Log of household income			0.358 (0.015)***	0.258 (0.033)***	0.307 (0.015)***	0.412 (0.014)***
Social support			0.726 (0.019)***	0.991 (0.149)***	0.801 (0.021)***	0.641 (0.023)***
Unemployed			-.397 (0.021)***	-.527 (0.082)***	-.426 (0.022)***	-.355 (0.028)***
Freedom to make life choices			0.439 (0.017)***	0.712 (0.102)***	0.506 (0.018)***	0.363 (0.02)***
University degree			0.338 (0.018)***	0.158 (0.057)***	0.343 (0.019)***	0.346 (0.02)***
Married or domestic partner			0.024 (0.015)	0.23 (0.048)***	0.052 (0.018)***	-.017 (0.015)
Separated, divorced or widowed			-.179 (0.016)***	-.078 (0.048)	-.156 (0.022)***	-.210 (0.017)***
Generosity			0.262 (0.012)***	0.222 (0.011)***	0.245 (0.014)***	0.249 (0.012)***
Foreign born indicator			-.085 (0.026)***	-.147 (0.043)***	-.072 (0.03)**	-.099 (0.028)***
Perception of corruption			-.208 (0.015)***	-.174 (0.021)***	-.222 (0.017)***	-.168 (0.018)***
Health problems			-.436 (0.023)***	-.714 (0.052)***	-.477 (0.026)***	-.414 (0.021)***
Institutional trust (TIDA)			0.258 (0.016)***	0.321 (0.035)***	0.272 (0.016)***	0.232 (0.02)***
Female	0.088 (0.014)***	0.126 (0.022)***	0.171 (0.014)***	0.151 (0.012)***	0.207 (0.018)***	0.135 (0.014)***
Age	-.047 (0.003)***	-.047 (0.004)***	-.052 (0.003)***	-.050 (0.007)***	-.054 (0.003)***	-.047 (0.004)***
Age squared divided by 100	0.032 (0.003)***	0.051 (0.005)***	0.044 (0.003)***	0.06 (0.006)***	0.045 (0.003)***	0.039 (0.003)***
Born 1965-1980	0.136 (0.012)***	0.18 (0.036)***	0.161 (0.014)***	0.139 (0.087)	0.187 (0.017)***	0.113 (0.017)***
Born before 1965	0.207 (0.022)***	0.262 (0.038)***	0.252 (0.024)***	0.196 (0.106)*	0.277 (0.033)***	0.192 (0.028)***
Obs.	2668183	74858	1448905	36971	729688	719217
e(N-clust)	165	4	155	4	145	150
e(r2-a)	0.198	0.026	0.268	0.196	0.252	0.304

Notes: 1) All regressions include country fixed effects and year fixed effects (estimates not shown here for space reason). 2). Standard errors in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at 10 percent, 5 percent and 1 percent levels. All standard errors are cluster-adjusted at the country level. The row “e(N-clust)” indicates the number of countries. 3). See section “Data Sources and Variable Definitions” for more information.



Table 12: Individual-Level Regressions by Birth Cohort, Year Fixed Effects and Country Fixed Effects

	All	GenY	GenX	Boomer
	(1)	(2)	(3)	(4)
Log of household income	0.358 (0.015)***	0.304 (0.015)***	0.406 (0.016)***	0.409 (0.016)***
Social support	0.726 (0.019)***	0.722 (0.023)***	0.699 (0.021)***	0.73 (0.019)***
Unemployed	-.397 (0.021)***	-.341 (0.021)***	-.539 (0.03)***	-.518 (0.038)***
Freedom to make life choices	0.439 (0.017)***	0.407 (0.017)***	0.432 (0.02)***	0.493 (0.023)***
University degree	0.338 (0.018)***	0.313 (0.017)***	0.345 (0.022)***	0.337 (0.026)***
Married or domestic partner	0.024 (0.015)	-.024 (0.016)	0.106 (0.021)***	0.121 (0.026)***
Separated, divorced or widowed	-.179 (0.016)***	-.255 (0.024)***	-.116 (0.024)***	-.018 (0.023)
Generosity	0.262 (0.012)***	0.216 (0.015)***	0.273 (0.015)***	0.278 (0.013)***
Foreign born indicator	-.085 (0.026)***	-.085 (0.031)***	-.075 (0.035)**	-.037 (0.028)
Perception of corruption	-.208 (0.015)***	-.163 (0.016)***	-.219 (0.017)***	-.250 (0.021)***
Health problems	-.436 (0.023)***	-.278 (0.026)***	-.396 (0.021)***	-.568 (0.017)***
Institutional trust (TIDA)	0.258 (0.016)***	0.249 (0.017)***	0.251 (0.019)***	0.289 (0.021)***
Female	0.171 (0.014)***	0.185 (0.017)***	0.191 (0.016)***	0.145 (0.017)***
Age	-.052 (0.003)***	-.030 (0.001)***	-.002 (0.001)	0.006 (0.001)***
Age squared divided by 100	0.044 (0.003)***			
Born 1965-1980	0.161 (0.014)***			
Born before 1965	0.252 (0.024)***			
Obs.	1448905	652369	386441	410095
e(N-clust)	155	155	155	155
e(r2-a)	0.268	0.249	0.29	0.305

Notes: 1) All regressions include country fixed effects and year fixed effects (estimates not shown here for space reason). 2). Standard errors in parentheses. \*, \*\*, and \*\*\* indicate statistical significance at 10 percent, 5 percent and 1 percent levels. All standard errors are cluster-adjusted at the country level. The row “e(N-clust)” indicates the number of countries. 3). See section “Data Sources and Variable Definitions” for more information.

Table 13: Countries/territories that are missing 2023 information

Country name	2021 samplesize	2022 samplesize	2023 samplesize
Algeria	992	820	
Eswatini		989	
Hong Kong S.A.R. of China	1006	1003	
Jamaica	495	492	
Lesotho		995	

Figure 35: Ranking of Happiness: 2021-2023 (Part 1)

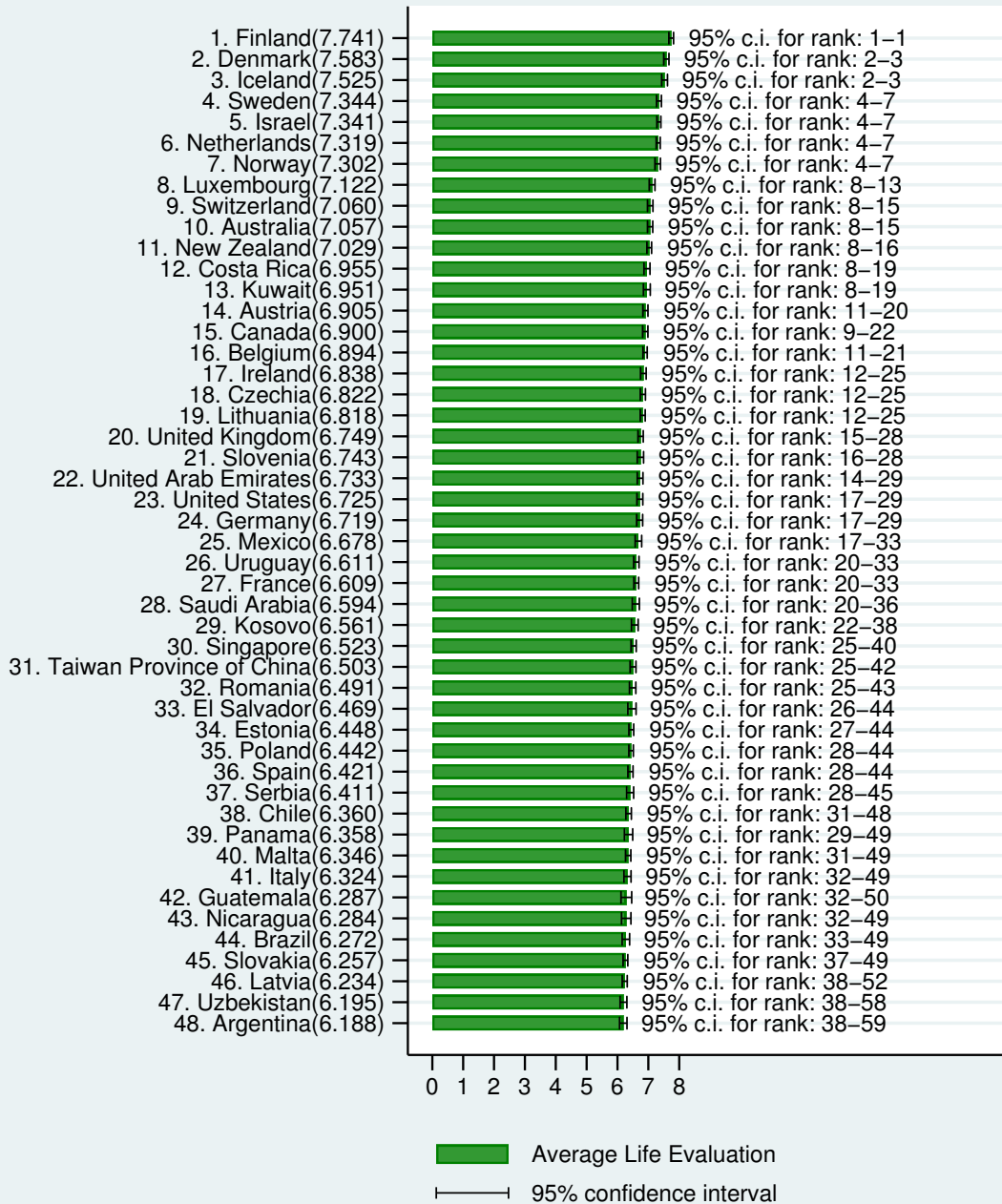


Figure 36: Ranking of Happiness: 2021-2023 (Part 2)

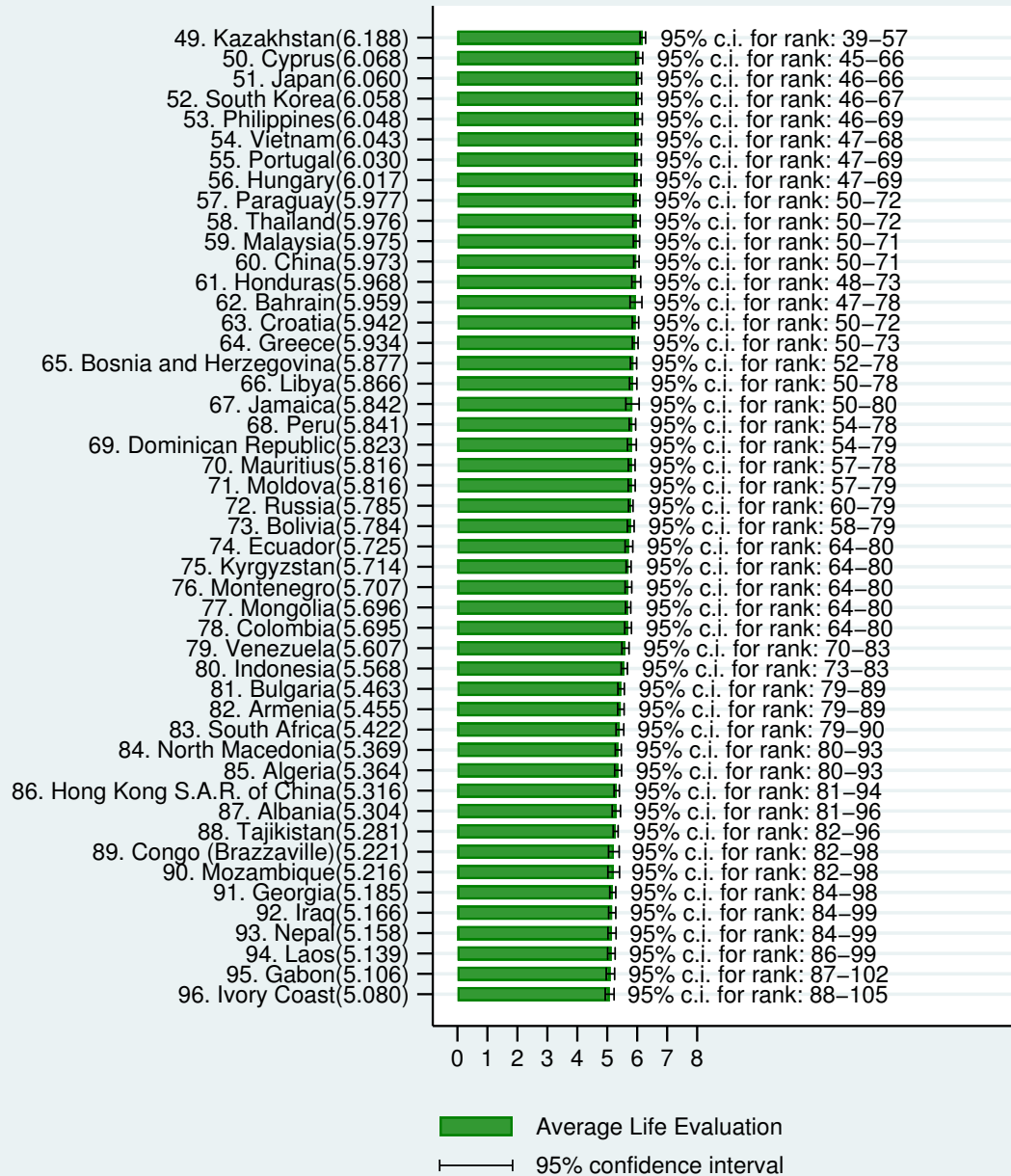


Figure 37: Ranking of Happiness: 2021-2023 (Part 3)

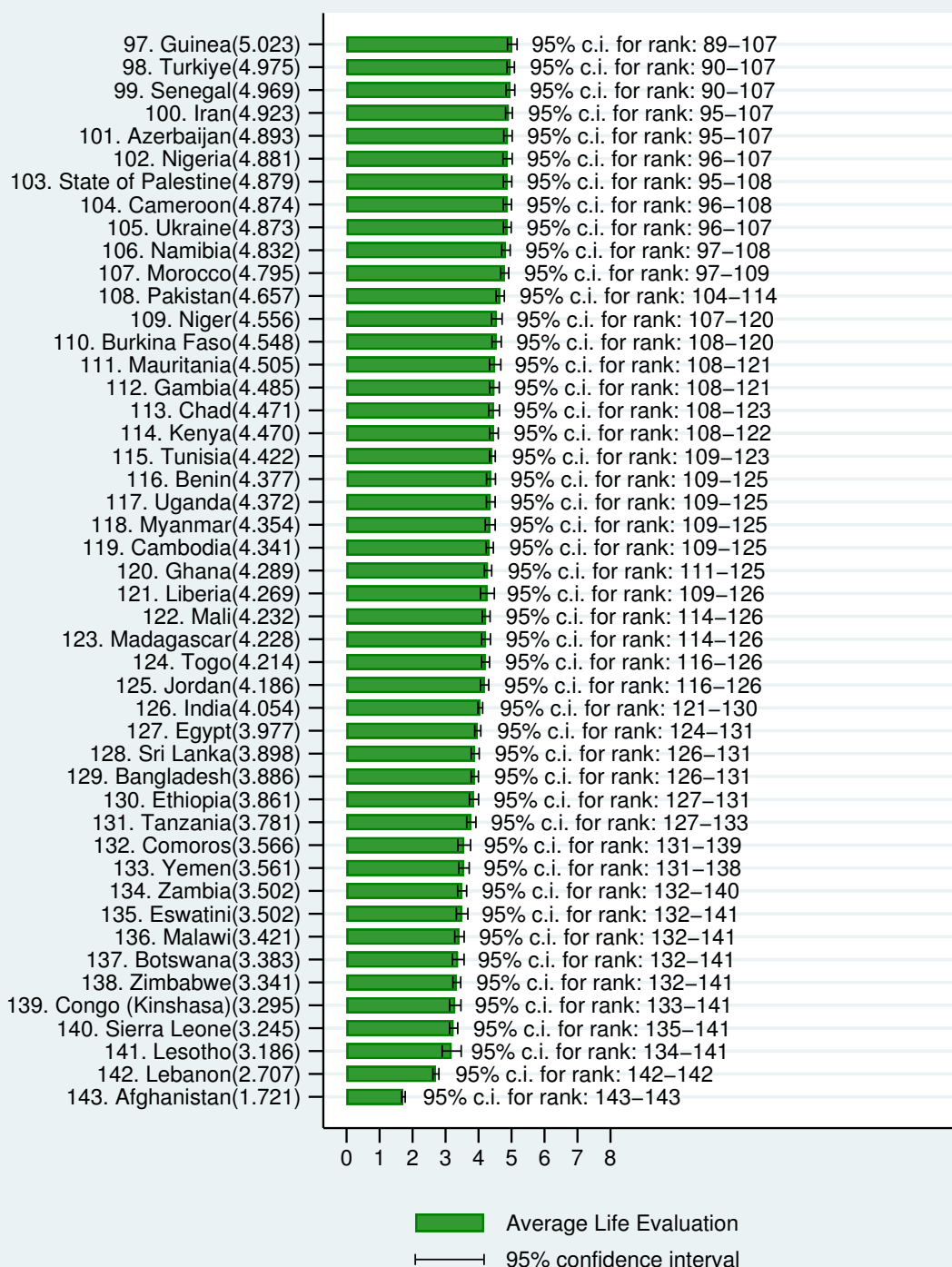


Figure 38: Ranking of Happiness - the Young (Age Below 30): 2021-2023 (Part 1)

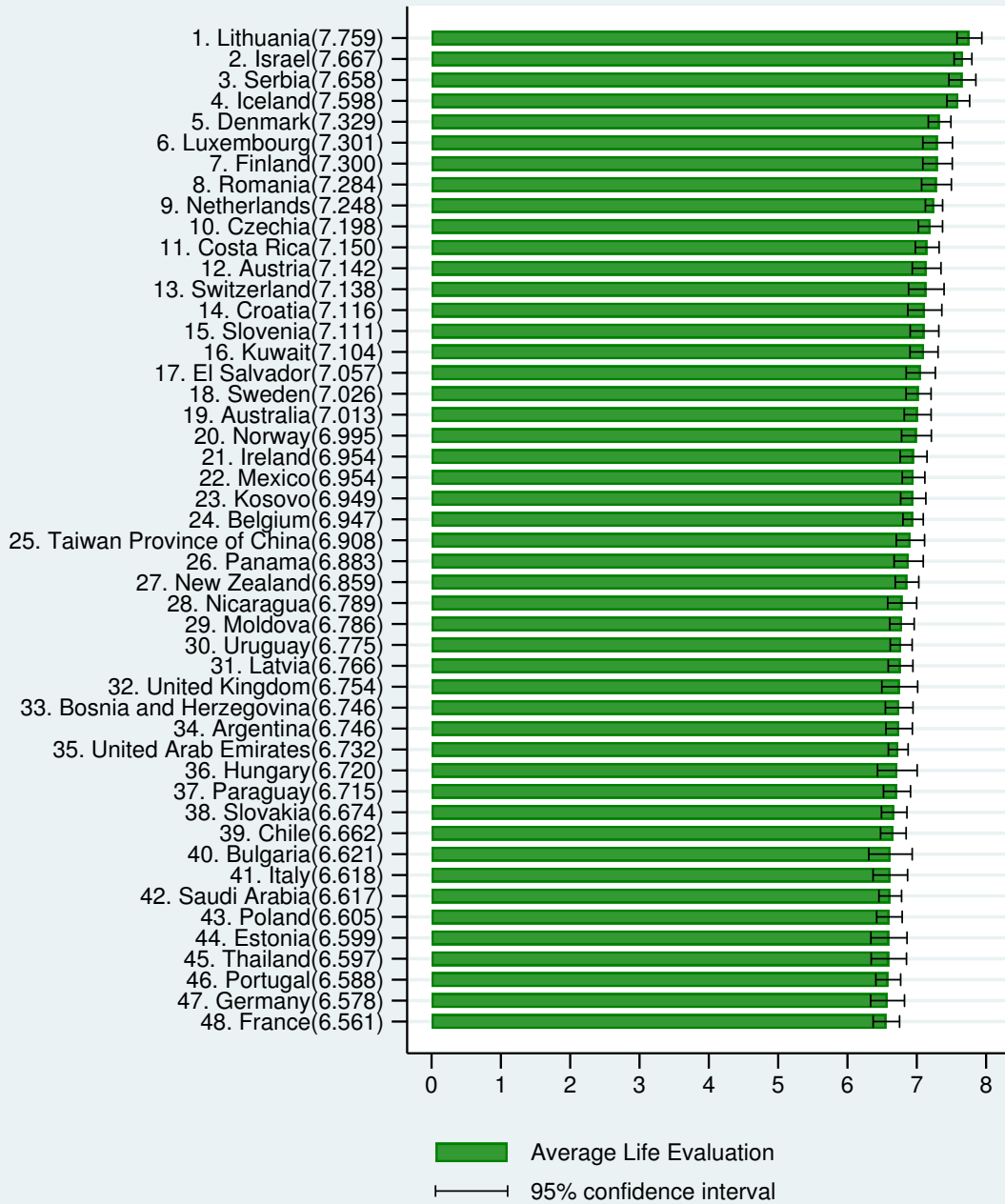


Figure 39: Ranking of Happiness - the Young (Age Below 30): 2021-2023 (Part 2)

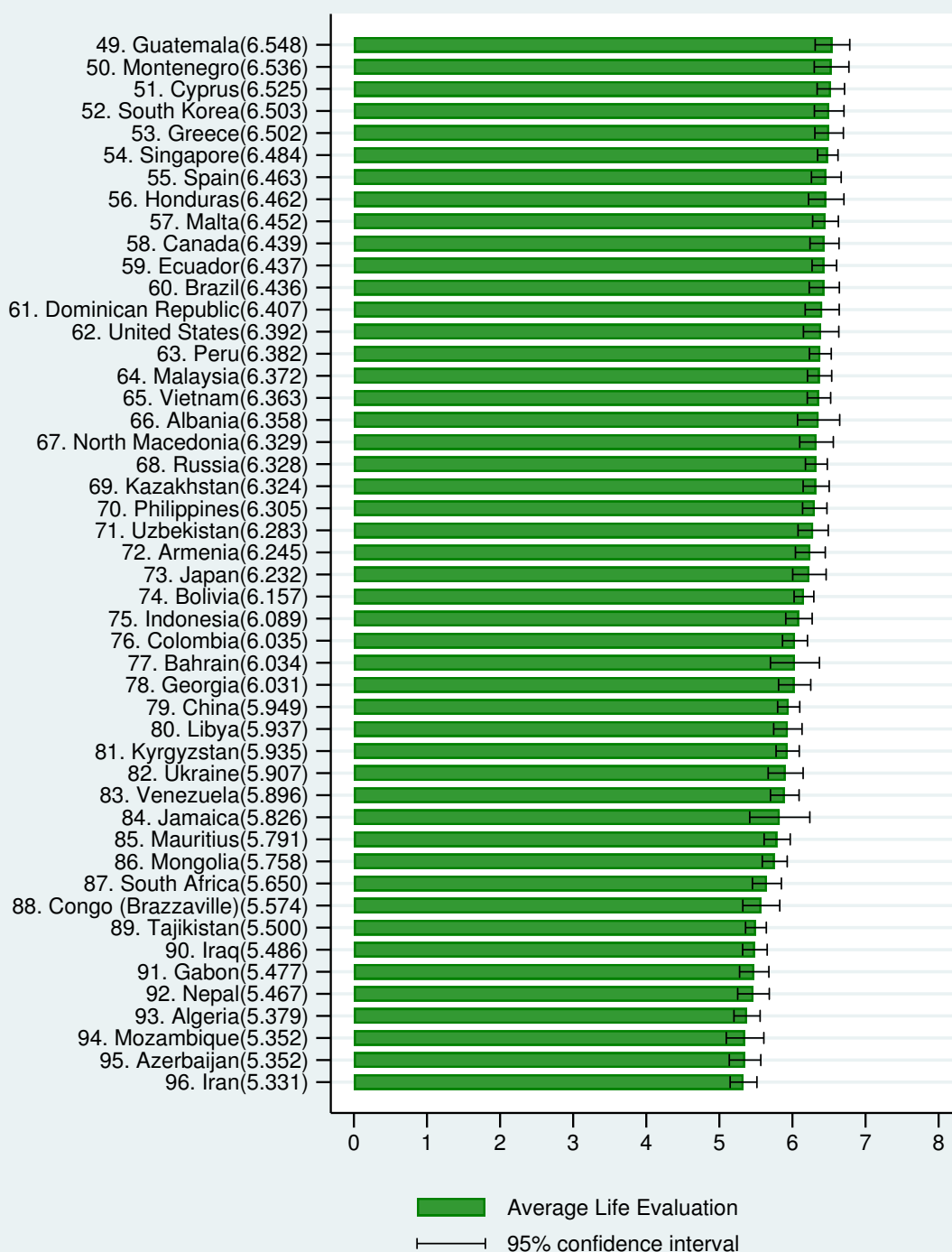


Figure 40: Ranking of Happiness - the Young (Age Below 30): 2021-2023 (Part 3)

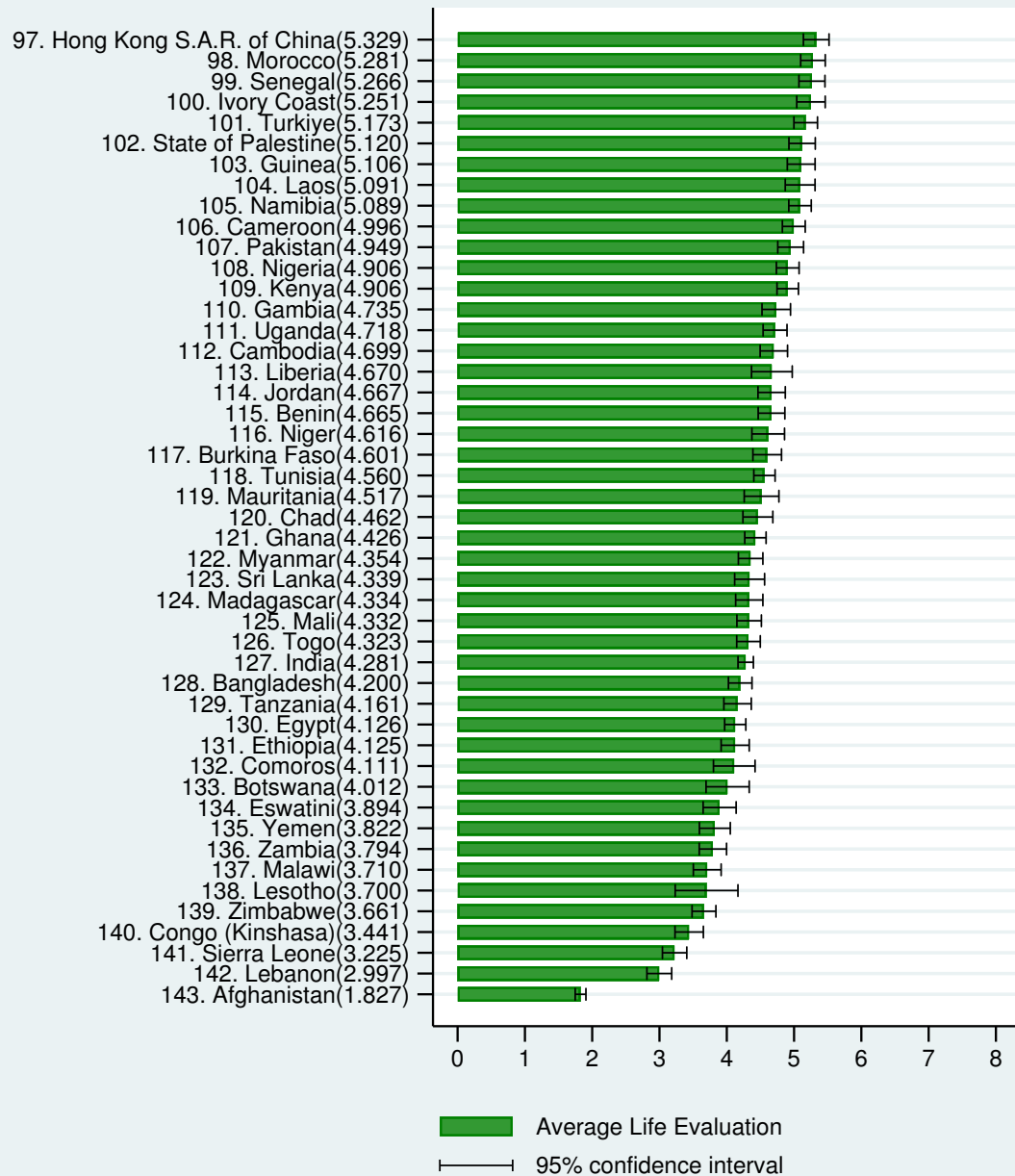




Figure 41: Ranking of Happiness - the Lower Middle Age (between 30 and 44): 2021-2023 (Part 1)

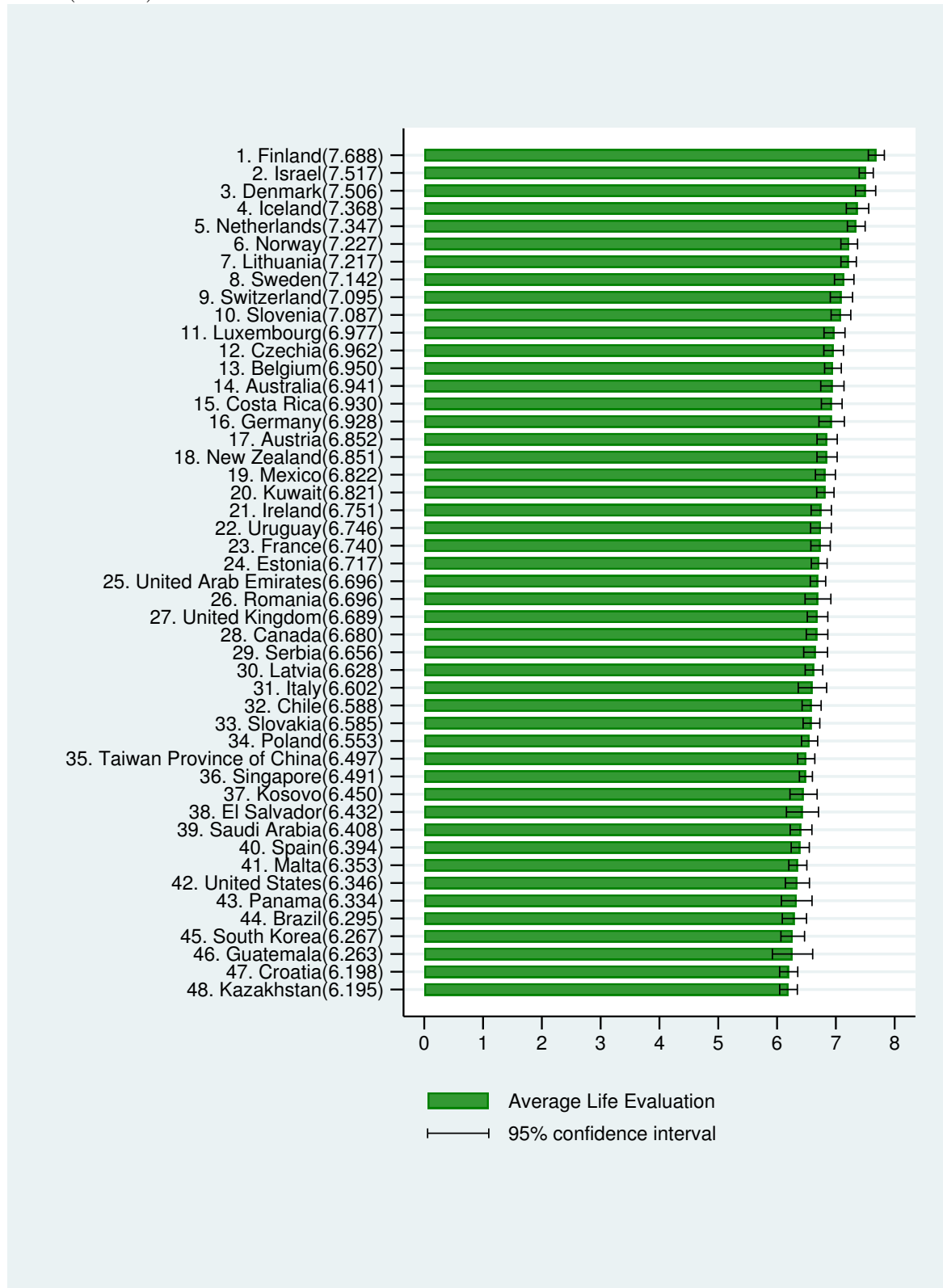


Figure 42: Ranking of Happiness - the Lower Middle Age (between 30 and 44): 2021-2023 (Part 2)

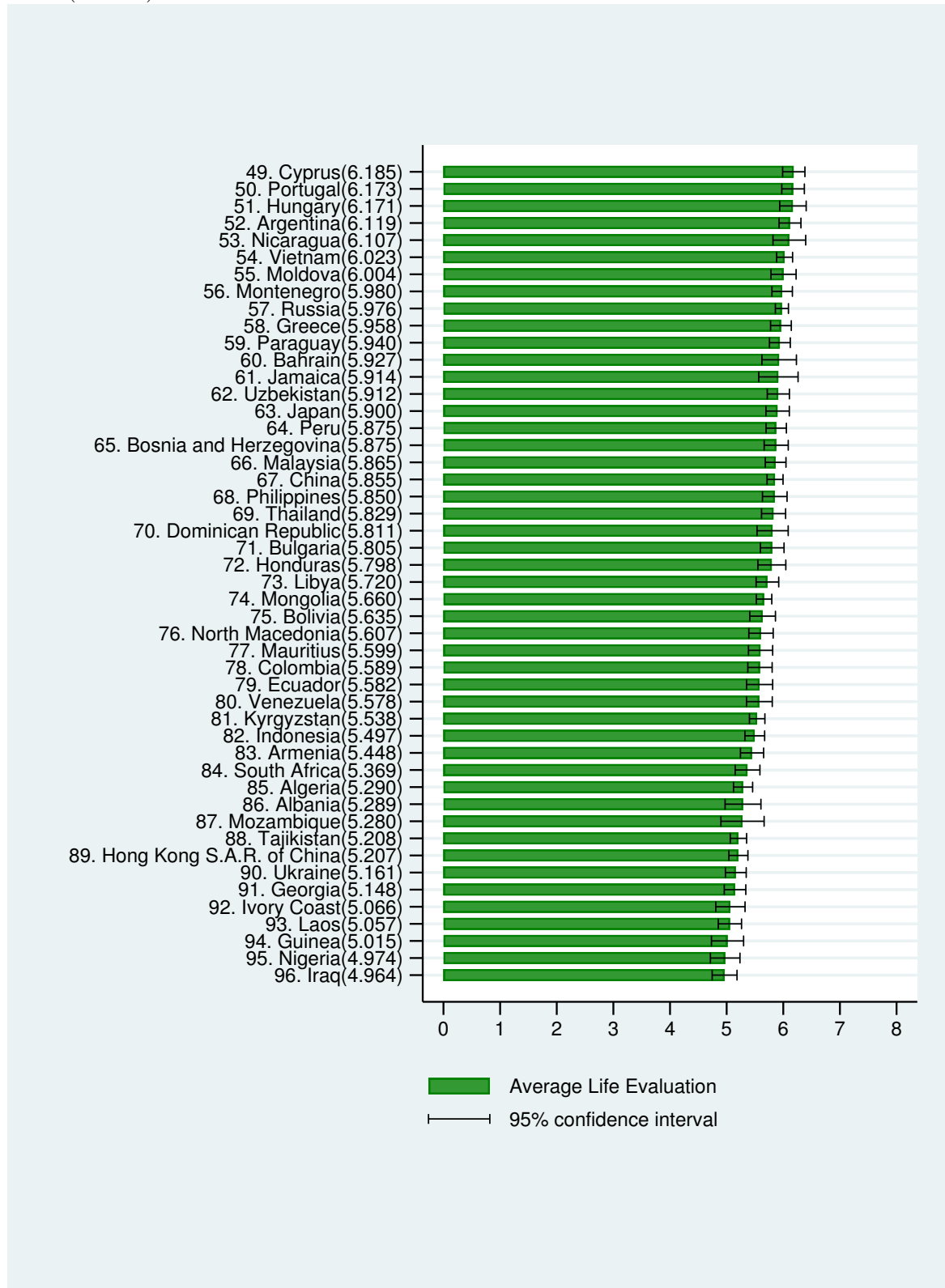


Figure 43: Ranking of Happiness - the Lower Middle Age (between 30 and 44): 2021-2023 (Part 3)

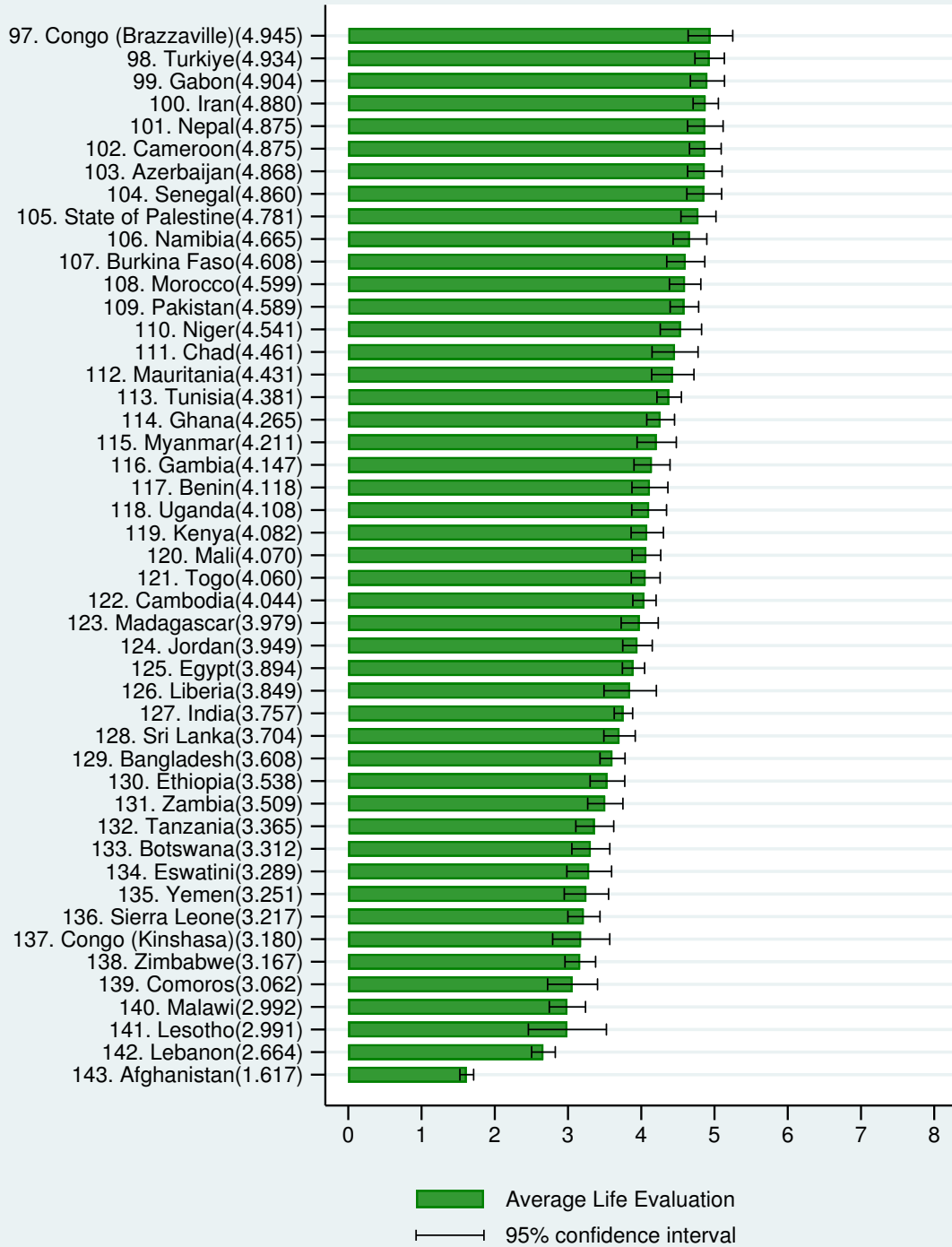


Figure 44: Ranking of Happiness - the Upper Middle Age (between 45 and 60): 2021-2023 (Part 1)

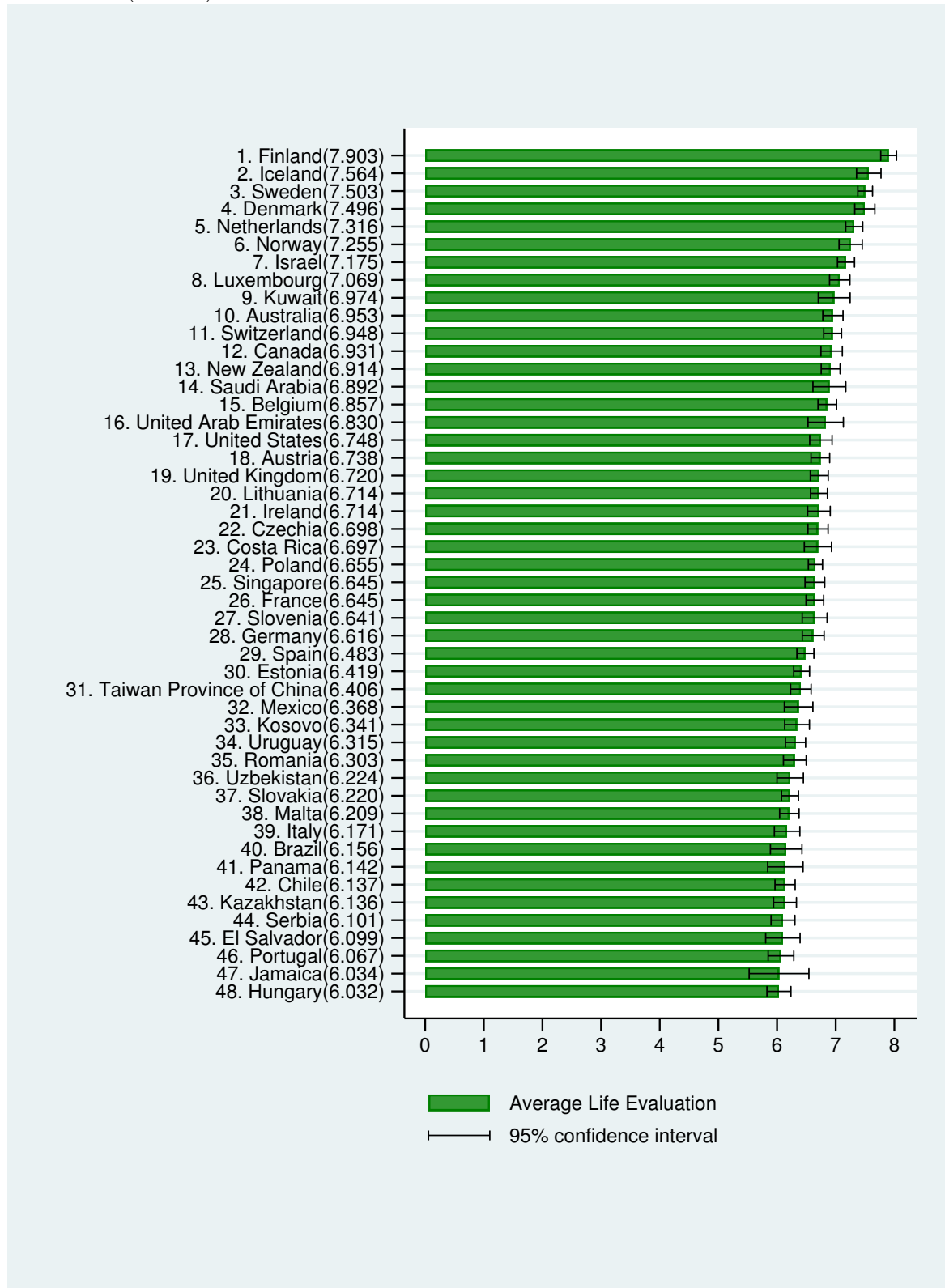


Figure 45: Ranking of Happiness - the Upper Middle Age (between 45 and 60): 2021-2023 (Part 2)

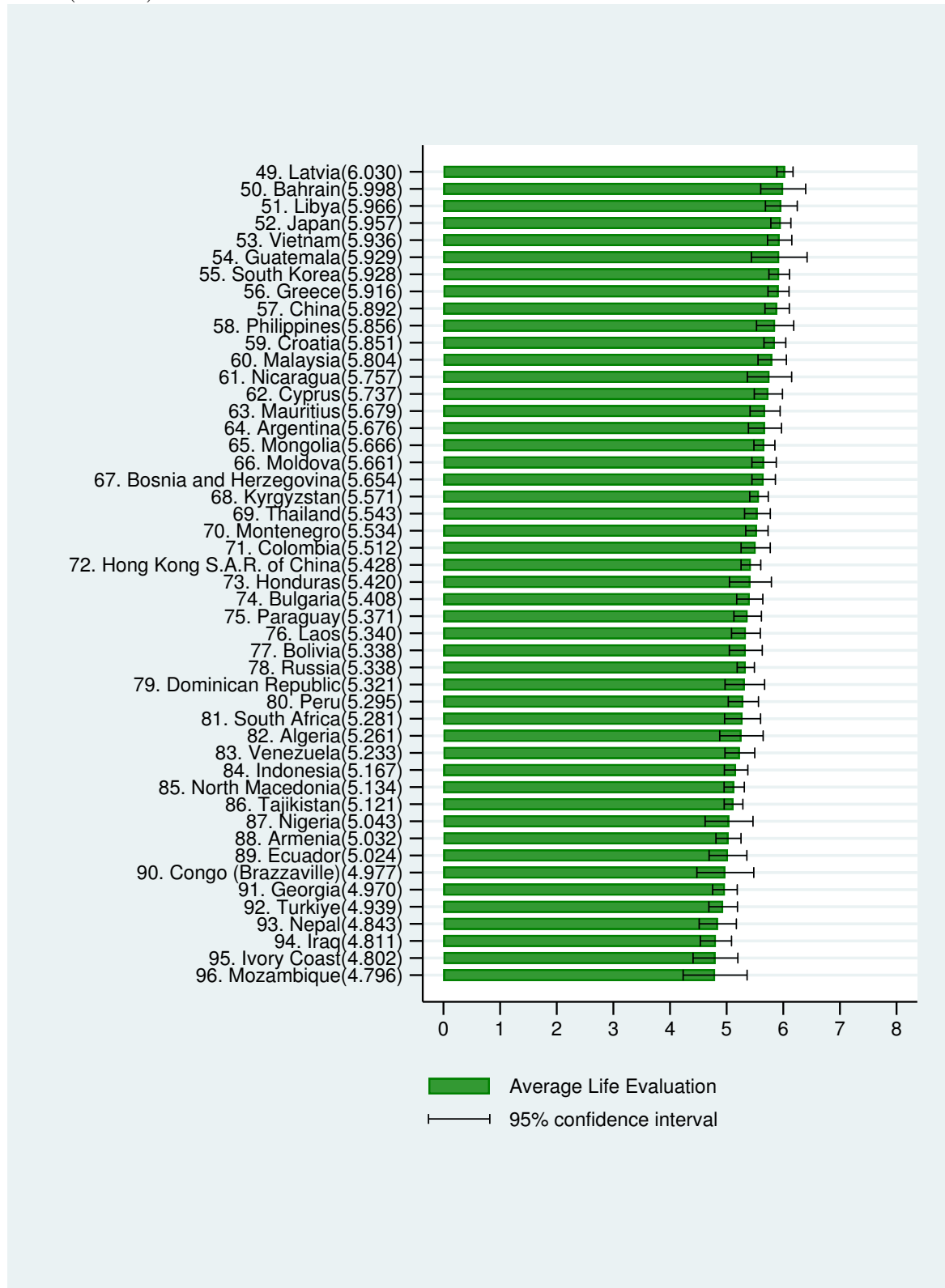


Figure 46: Ranking of Happiness - the Upper Middle Age (between 45 and 60): 2021-2023 (Part 3)

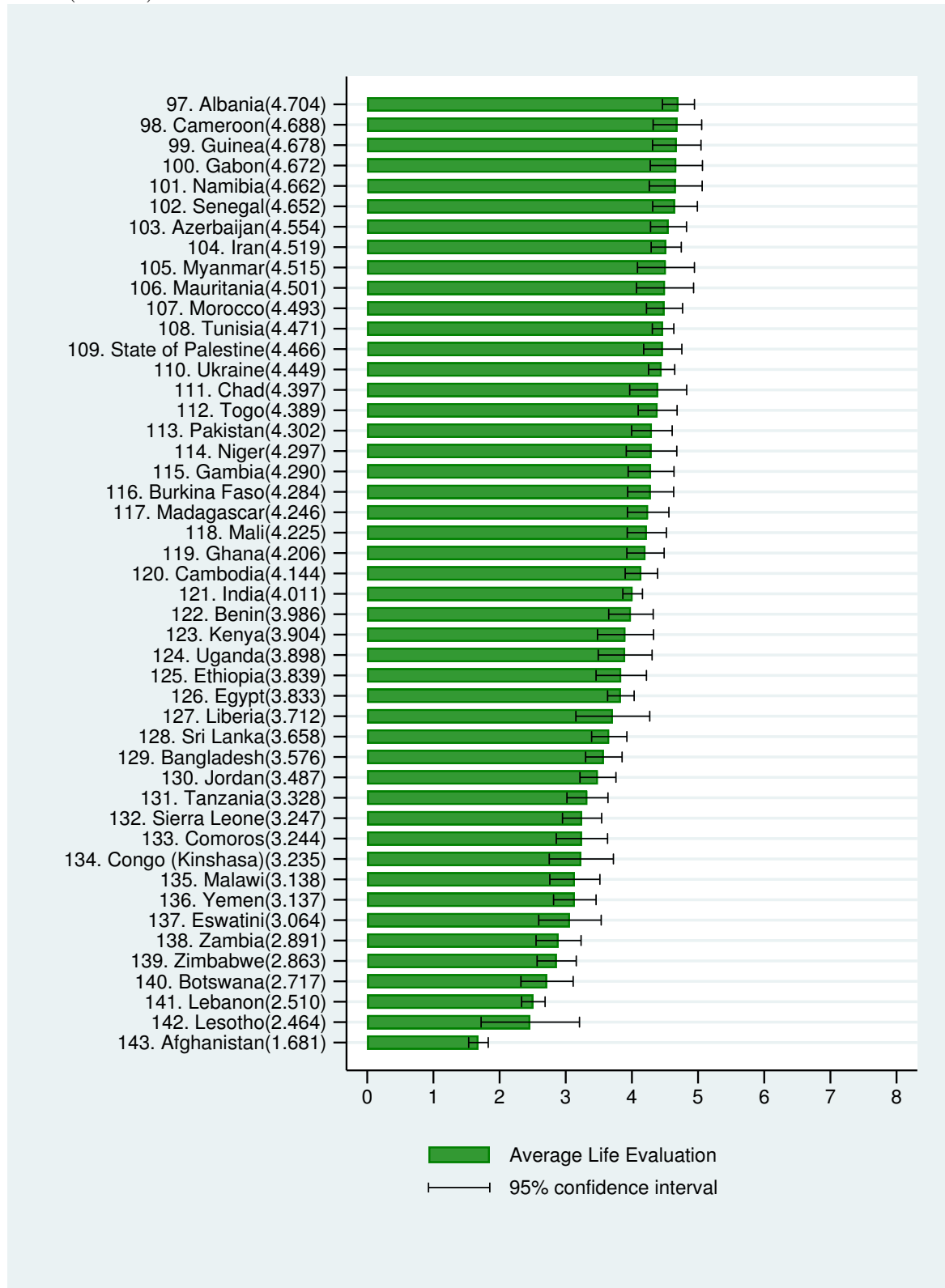


Figure 47: Ranking of Happiness - the Old (60 and above): 2021-2023 (Part 1)

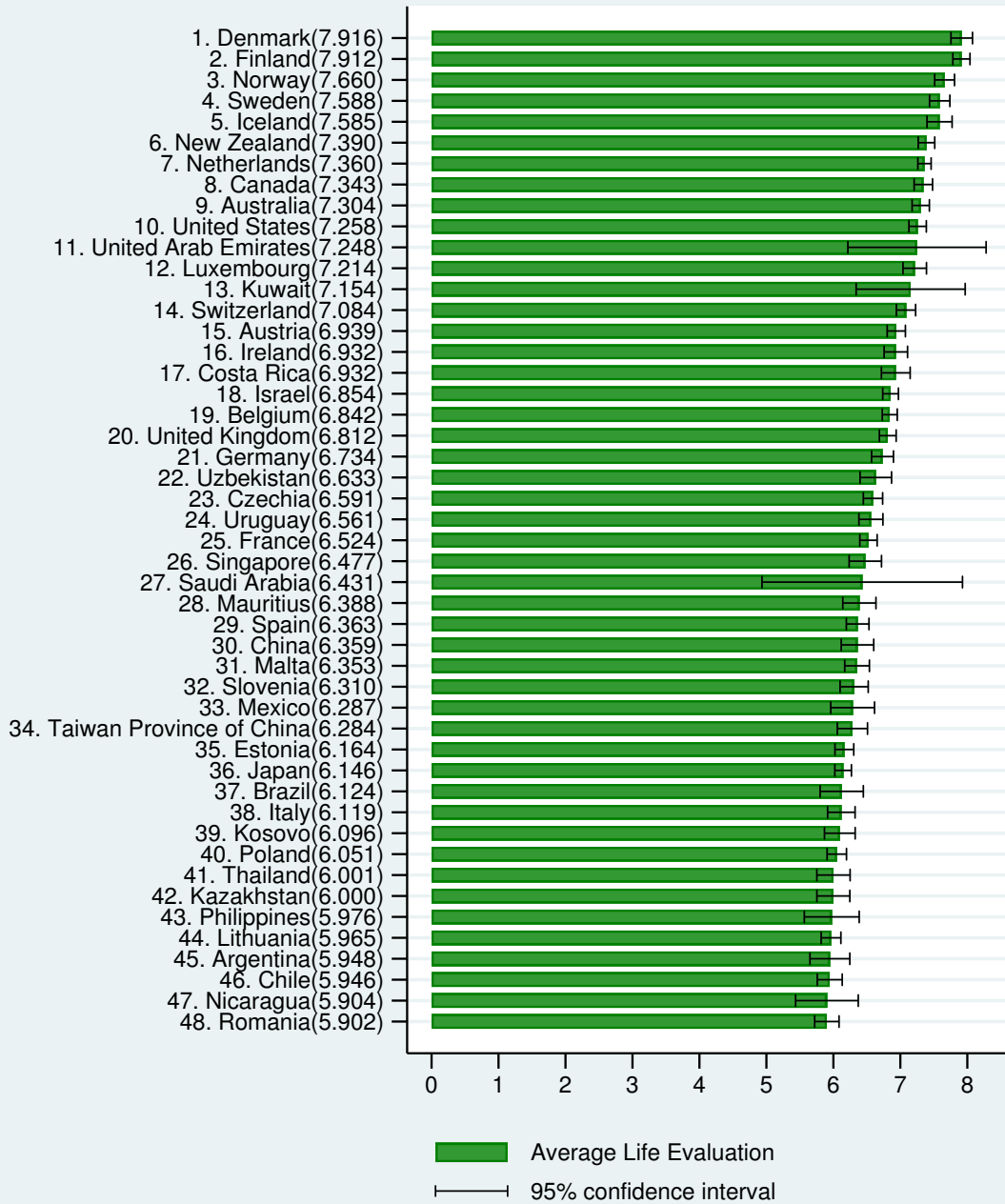


Figure 48: Ranking of Happiness - the Old (60 and above): 2021-2023 (Part 2)

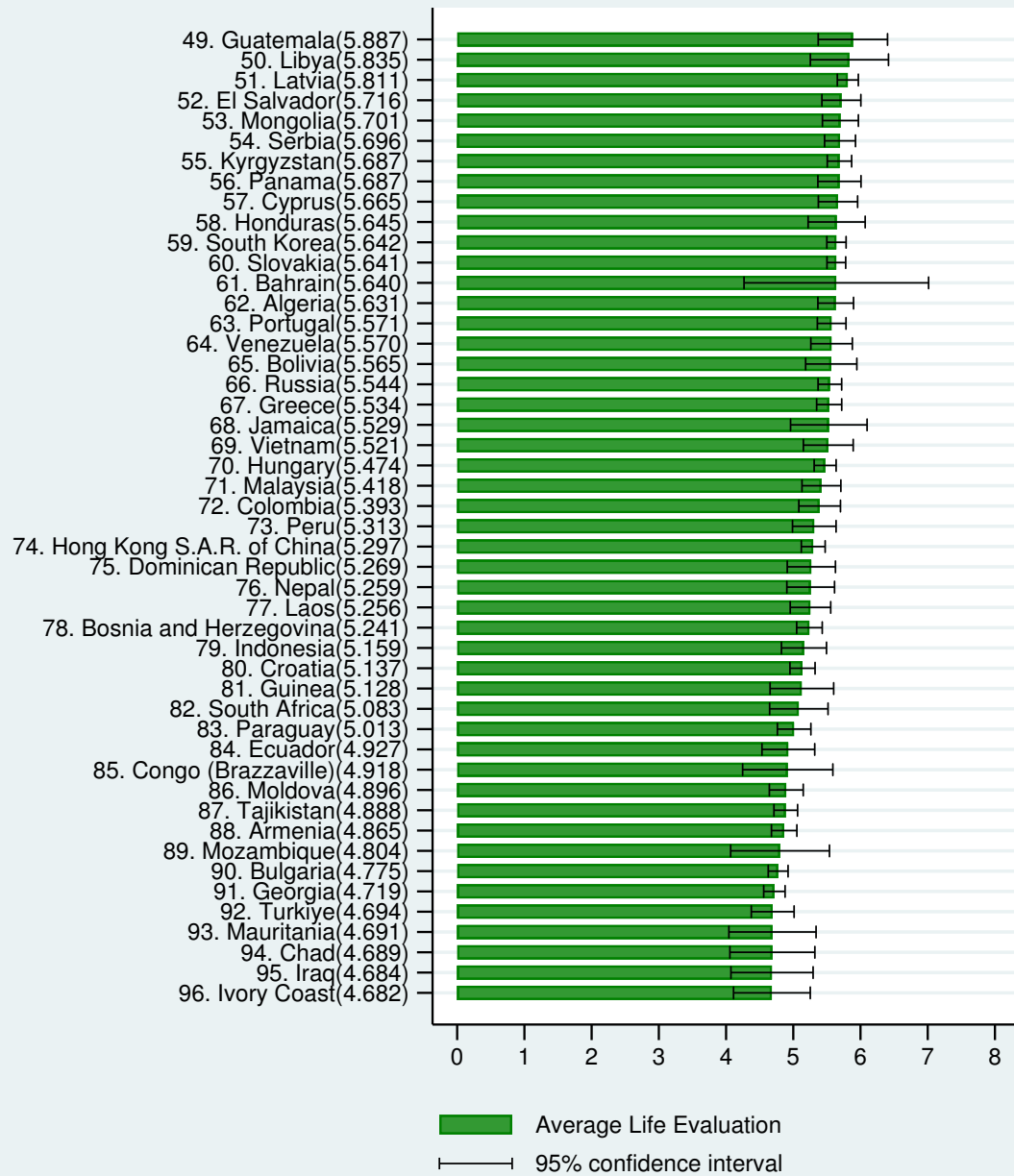




Figure 49: Ranking of Happiness - the Old (60 and above): 2021-2023 (Part 3)

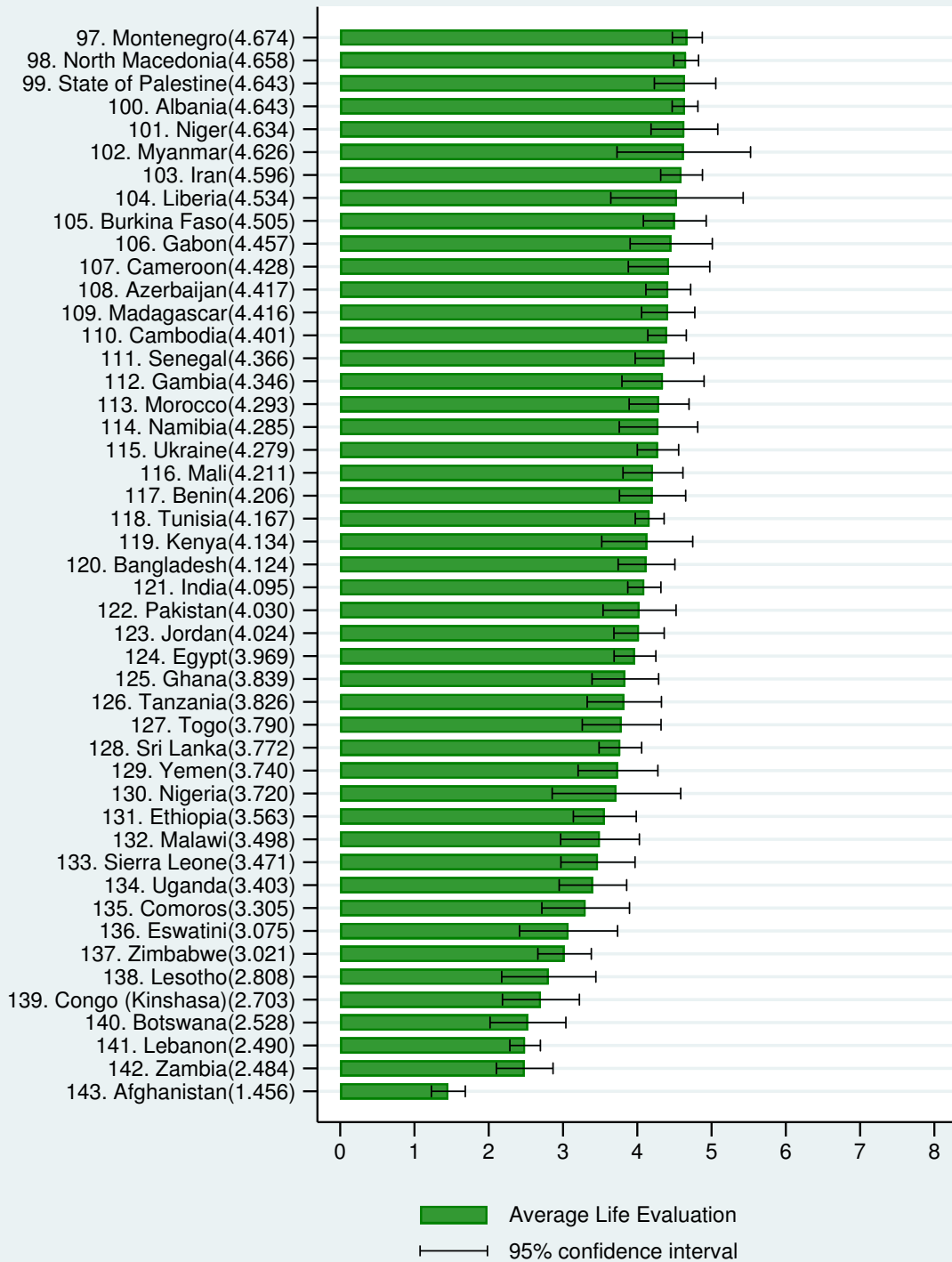


Table 14: Ranking by Age Group Showing Happiest and Least Happy Age Groups,  
Period 2021 to 2023 - Part 1

Country name	All Ages	The Young	The Lower Middle	The Upper Middle	The Old	Happiest Age Group	Least Happy Age Group
Finland	1	7	1	1	2	Old	Young
Denmark	2	5	3	4	1	Old	Young
Iceland	3	4	4	2	5	Young	LowerMiddle
Sweden	4	18	8	3	4	Old	Young
Israel	5	2	2	7	18	Young	Old
Netherlands	6	9	5	5	7	Old	Young
Norway	7	20	6	6	3	Old	Young
Luxembourg	8	6	11	8	12	Young	LowerMiddle
Switzerland	9	13	9	11	14	Young	UpperMiddle
Australia	10	19	14	10	9	Old	LowerMiddle
New Zealand	11	27	18	13	6	Old	LowerMiddle
Costa Rica	12	11	15	23	17	Young	UpperMiddle
Kuwait	13	16	20	9	13	Old	LowerMiddle
Austria	14	12	17	18	15	Young	UpperMiddle
Canada	15	58	28	12	8	Old	Young
Belgium	16	24	13	15	19	LowerMiddle	Old
Ireland	17	21	21	21	16	Young	UpperMiddle
Czechia	18	10	12	22	23	Young	Old
Lithuania	19	1	7	20	44	Young	Old
United Kingdom	20	32	27	19	20	Old	LowerMiddle
Slovenia	21	15	10	27	32	Young	Old
United Arab Emirates	22	35	25	16	11	Old	LowerMiddle
United States	23	62	42	17	10	Old	LowerMiddle
Germany	24	47	16	28	21	LowerMiddle	Young
Mexico	25	22	19	32	33	Young	Old
Uruguay	26	30	22	34	24	Young	UpperMiddle
France	27	48	23	26	25	LowerMiddle	Old
Saudi Arabia	28	42	39	14	27	UpperMiddle	LowerMiddle
Kosovo	29	23	37	33	39	Young	Old
Singapore	30	54	36	25	26	UpperMiddle	Old
Taiwan Province of China	31	25	35	31	34	Young	Old
Romania	32	8	26	35	48	Young	Old
El Salvador	33	17	38	45	52	Young	Old
Estonia	34	44	24	30	35	LowerMiddle	Old
Poland	35	43	34	24	40	UpperMiddle	Old
Spain	36	55	40	29	29	UpperMiddle	Old
Serbia	37	3	29	44	54	Young	Old
Chile	38	39	32	42	46	Young	Old
Panama	39	26	43	41	56	Young	Old
Malta	40	57	41	38	31	Young	UpperMiddle

Table 15: Ranking by Age Group Showing Happiest and Least Happy Age Groups,  
Period 2021 to 2023 - Part 2

Country name	All Ages	The Young	The Lower Middle	The Upper Middle	The Old	Happiest Age Group	Least Happy Age Group
Italy	41	41	31	39	38	Young	Old
Guatemala	42	49	46	54	49	Young	Old
Nicaragua	43	28	53	61	47	Young	UpperMiddle
Brazil	44	60	44	40	37	Young	Old
Slovakia	45	38	33	37	60	Young	Old
Latvia	46	31	30	49	51	Young	Old
Uzbekistan	47	71	62	36	22	Old	LowerMiddle
Argentina	48	34	52	64	45	Young	UpperMiddle
Kazakhstan	49	69	48	43	42	Young	Old
Cyprus	50	51	49	62	57	Young	Old
Japan	51	73	63	52	36	Young	LowerMiddle
South Korea	52	52	45	55	59	Young	Old
Philippines	53	70	68	58	43	Young	LowerMiddle
Vietnam	54	65	54	53	69	Young	Old
Portugal	55	46	50	46	63	Young	Old
Hungary	56	36	51	48	70	Young	Old
Paraguay	57	37	59	75	83	Young	Old
Thailand	58	45	69	69	41	Young	UpperMiddle
Malaysia	59	64	66	60	71	Young	Old
China	60	79	67	57	30	Old	LowerMiddle
Honduras	61	56	72	73	58	Young	UpperMiddle
Bahrain	62	77	60	50	61	Young	Old
Croatia	63	14	47	59	80	Young	Old
Greece	64	53	58	56	67	Young	Old
Bosnia and Herzegovina	65	33	65	67	78	Young	Old
Libya	66	80	73	51	50	UpperMiddle	LowerMiddle
Jamaica	67	84	61	47	68	UpperMiddle	Old
Peru	68	63	64	80	73	Young	UpperMiddle
Dominican Republic	69	61	70	79	75	Young	Old
Mauritius	70	85	77	63	28	Old	LowerMiddle
Moldova	71	29	55	66	86	Young	Old
Russia	72	68	57	78	66	Young	UpperMiddle
Bolivia	73	74	75	77	65	Young	UpperMiddle
Ecuador	74	59	79	89	84	Young	Old
Kyrgyzstan	75	81	81	68	55	Young	LowerMiddle
Montenegro	76	50	56	70	97	Young	Old
Mongolia	77	86	74	65	53	Young	LowerMiddle
Colombia	78	76	78	71	72	Young	Old
Venezuela	79	83	80	83	64	Young	UpperMiddle
Indonesia	80	75	82	84	79	Young	Old

Table 16: Ranking by Age Group Showing Happiest and Least Happy Age Groups,  
Period 2021 to 2023 - Part 3

Country name	All Ages	The Young	The Lower Middle	The Upper Middle	The Old	Happiest Age Group	Least Happy Age Group
Bulgaria	81	40	71	74	90	Young	Old
Armenia	82	72	83	88	88	Young	Old
South Africa	83	87	84	81	82	Young	Old
North Macedonia	84	67	76	85	98	Young	Old
Algeria	85	93	85	82	62	Old	UpperMiddle
Hong Kong S.A.R. of China	86	97	89	72	74	UpperMiddle	LowerMiddle
Albania	87	66	86	97	100	Young	Old
Tajikistan	88	89	88	86	87	Young	Old
Congo (Brazzaville)	89	88	97	90	85	Young	Old
Mozambique	90	94	87	96	89	Young	UpperMiddle
Georgia	91	78	91	91	91	Young	Old
Iraq	92	90	96	94	95	Young	Old
Nepal	93	92	101	93	76	Young	UpperMiddle
Laos	94	104	93	76	77	UpperMiddle	LowerMiddle
Gabon	95	91	99	100	106	Young	Old
Ivory Coast	96	100	92	95	96	Young	Old
Guinea	97	103	94	99	81	Old	UpperMiddle
Turkiye	98	101	98	92	92	Young	Old
Senegal	99	99	104	102	111	Young	Old
Iran	100	96	100	104	103	Young	UpperMiddle
Azerbaijan	101	95	103	103	108	Young	Old
Nigeria	102	108	95	87	130	UpperMiddle	Old
State of Palestine	103	102	105	109	99	Young	UpperMiddle
Cameroon	104	106	102	98	107	Young	Old
Ukraine	105	82	90	110	115	Young	Old
Namibia	106	105	106	101	114	Young	Old
Morocco	107	98	108	107	113	Young	Old
Pakistan	108	107	109	113	122	Young	Old
Niger	109	116	110	114	101	Old	UpperMiddle
Burkina Faso	110	117	107	116	105	LowerMiddle	UpperMiddle
Mauritania	111	119	112	106	93	Old	LowerMiddle
Gambia	112	110	116	115	112	Young	LowerMiddle
Chad	113	120	111	111	94	Old	UpperMiddle
Kenya	114	109	119	123	119	Young	UpperMiddle
Tunisia	115	118	113	108	118	Young	Old
Benin	116	115	117	122	117	Young	UpperMiddle
Uganda	117	111	118	124	134	Young	Old
Myanmar	118	122	115	105	102	Old	LowerMiddle
Cambodia	119	112	122	120	110	Young	LowerMiddle
Ghana	120	121	114	119	125	Young	Old

Table 17: Ranking by Age Group Showing Happiest and Least Happy Age Groups, Period 2021 to 2023 - Part 4

Country name	All Ages	The Young	The Lower Middle	The Upper Middle	The Old	Happiest Age Group	Least Happy Age Group
Liberia	121	113	126	127	104	Young	UpperMiddle
Mali	122	125	120	118	116	Young	LowerMiddle
Madagascar	123	124	123	117	109	Old	LowerMiddle
Togo	124	126	121	112	127	UpperMiddle	Old
Jordan	125	114	124	130	123	Young	UpperMiddle
India	126	127	127	121	121	Young	LowerMiddle
Egypt	127	130	125	126	124	Young	UpperMiddle
Sri Lanka	128	123	128	128	128	Young	UpperMiddle
Bangladesh	129	128	129	129	120	Young	UpperMiddle
Ethiopia	130	131	130	125	131	Young	LowerMiddle
Tanzania	131	129	132	131	126	Young	UpperMiddle
Comoros	132	132	139	133	135	Young	LowerMiddle
Yemen	133	135	135	136	129	Young	UpperMiddle
Zambia	134	136	131	138	142	Young	Old
Eswatini	135	134	134	137	136	Young	UpperMiddle
Malawi	136	137	140	135	132	Young	LowerMiddle
Botswana	137	133	133	140	140	Young	Old
Zimbabwe	138	139	138	139	137	Young	UpperMiddle
Congo (Kinshasa)	139	140	137	134	139	Young	Old
Sierra Leone	140	141	136	132	133	Old	LowerMiddle
Lesotho	141	138	141	142	138	Young	UpperMiddle
Lebanon	142	142	142	141	141	Young	Old
Afghanistan	143	143	143	143	143	Young	Old

Table 18: Numbers of Countries/Territories by Happiest Age Group, Period 2021 to 2023

Region indicator	The Young	Lower Middle	Upper Middle	The Old	Total
Western Europe	10	3	1	6	20
Central and Eastern Europe	15	1	1	0	17
Commonwealth of Independent States	9	0	0	1	10
Southeast Asia	6	0	2	1	9
South Asia	6	0	0	0	6
East Asia	4	0	1	1	6
Latin America and Caribbean	18	0	1	0	19
North America and ANZ	0	0	0	4	4
Middle East and North Africa	12	0	2	3	17
Sub-Saharan Africa	25	1	2	7	35
All	105	5	10	23	143

Table 19: Numbers of Countries/Territories by Least Happy Age Group, Period 2021 to 2023

Region indicator	The Young	Lower Middle	Upper Middle	The Old	Total
Western Europe	6	3	4	7	20
Central and Eastern Europe	0	0	0	17	17
Commonwealth of Independent States	0	2	1	7	10
Southeast Asia	0	4	1	4	9
South Asia	0	1	3	2	6
East Asia	0	4	0	2	6
Latin America and Caribbean	0	0	8	11	19
North America and ANZ	1	3	0	0	4
Middle East and North Africa	0	4	6	7	17
Sub-Saharan Africa	0	9	12	14	35
All	7	30	35	71	143

Table 20: Number of Countries/Territories by Happiest Age Group, Period 2006 to 2010

Region indicator	The Young	Lower Middle	Upper Middle	The Old	Total
Western Europe	14	1	1	4	20
Central and Eastern Europe	17	0	0	0	17
Commonwealth of Independent States	10	1	0	1	12
Southeast Asia	8	0	0	0	8
South Asia	6	0	0	0	6
East Asia	5	0	0	1	6
Latin America and Caribbean	21	0	2	1	24
North America and ANZ	0	0	0	4	4
Middle East and North Africa	11	2	2	3	18
Sub-Saharan Africa	21	5	5	3	34
All	113	9	10	17	149

Table 21: Number of Countries/Territories by Least Happy Age Group, Period 2006 to 2010

Region indicator	The Young	Lower Middle	Upper Middle	The Old	Total
Western Europe	1	4	5	10	20
Central and Eastern Europe	0	0	4	13	17
Commonwealth of Independent States	0	1	1	10	12
Southeast Asia	0	0	3	5	8
South Asia	0	2	3	1	6
East Asia	0	1	3	2	6
Latin America and Caribbean	1	0	5	18	24
North America and ANZ	0	3	1	0	4
Middle East and North Africa	1	2	3	12	18
Sub-Saharan Africa	1	2	7	24	34
All	4	15	35	95	149

Figure 50: Changes in Happiness: from 2006-2010 to 2021-2023 (Part 1)

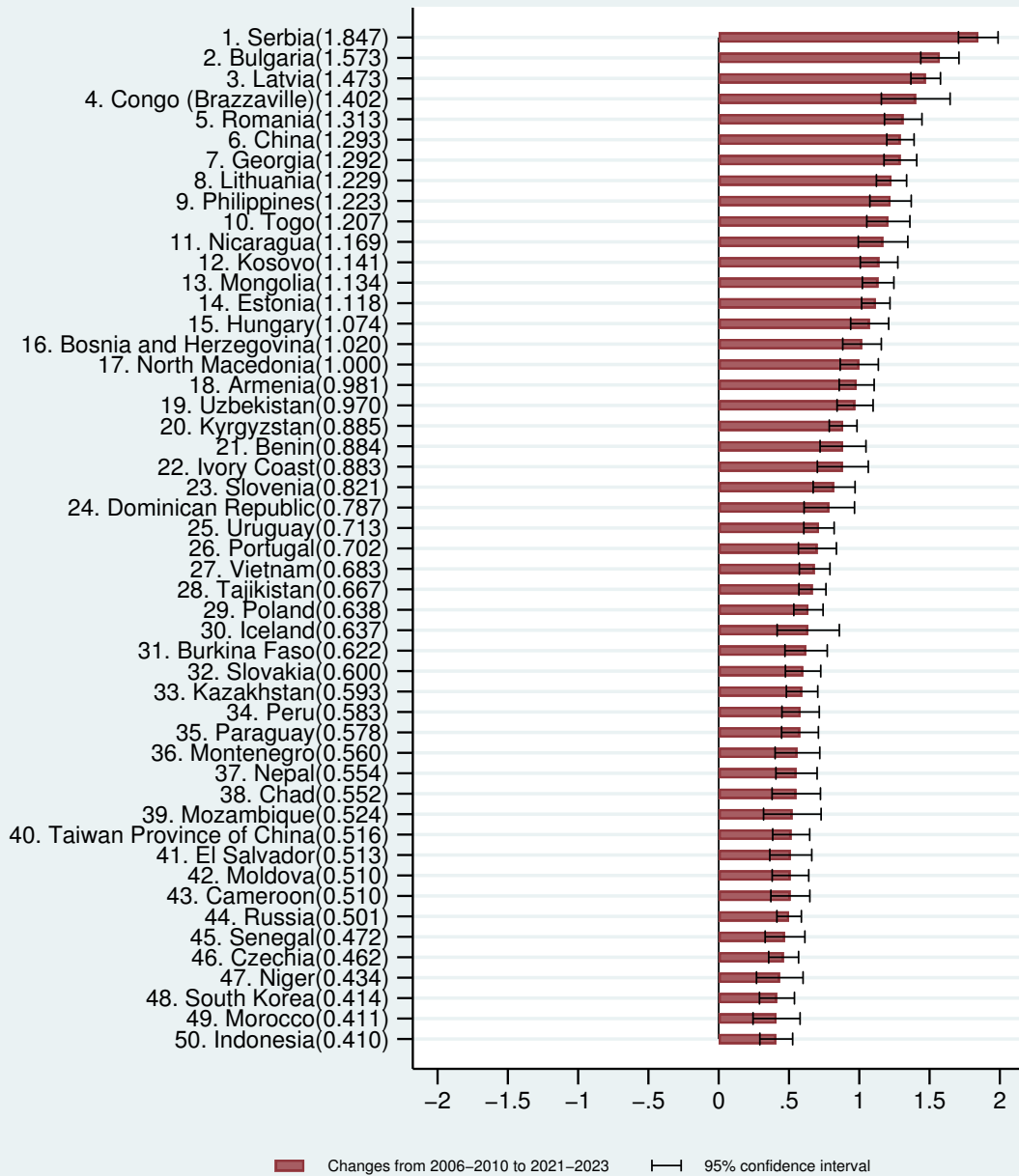




Figure 51: Changes in Happiness: from 2006-2010 to 2021-2023 (Part 2)

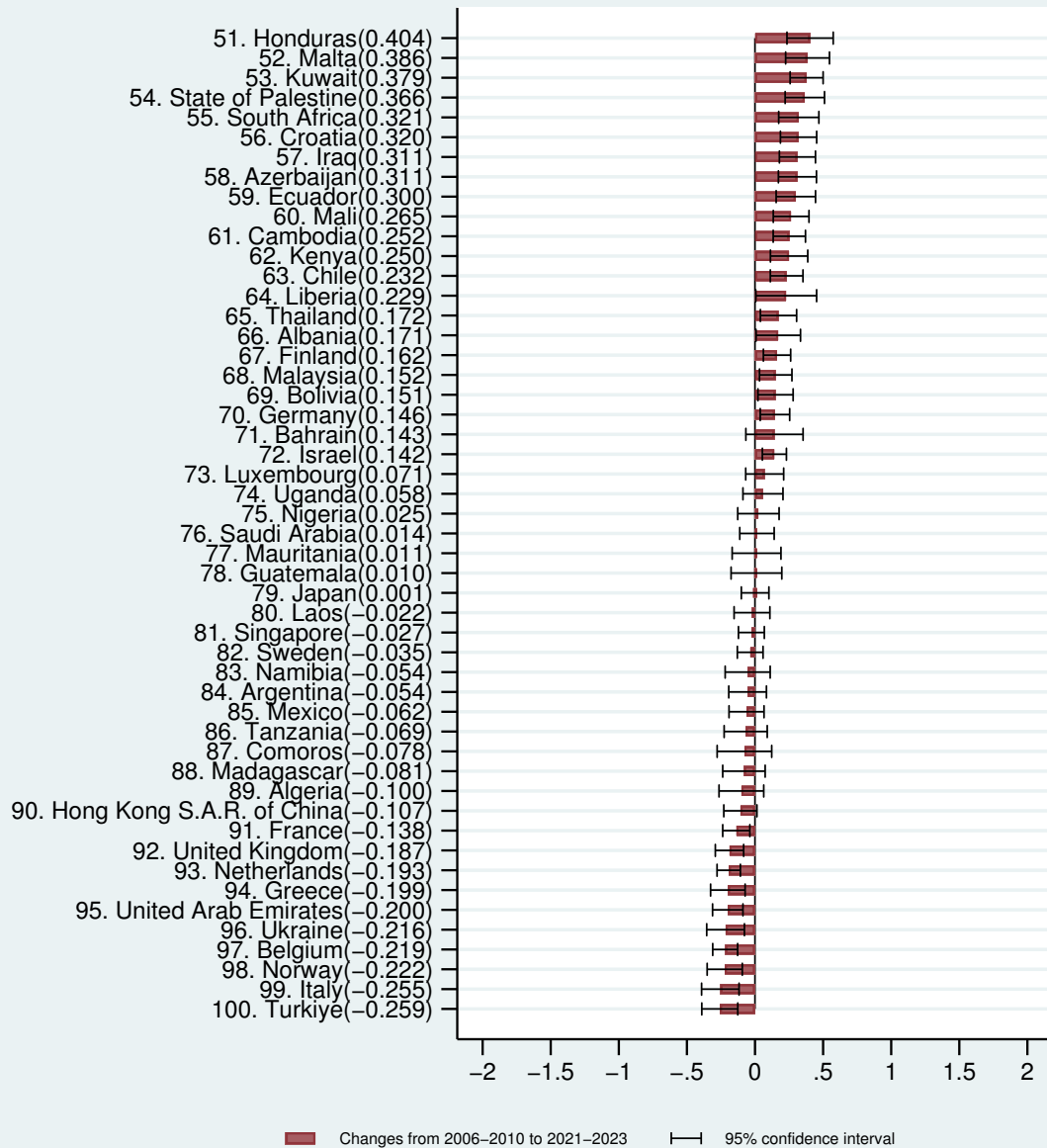


Figure 52: Changes in Happiness: from 2006-2010 to 2021-2023 (Part 3)

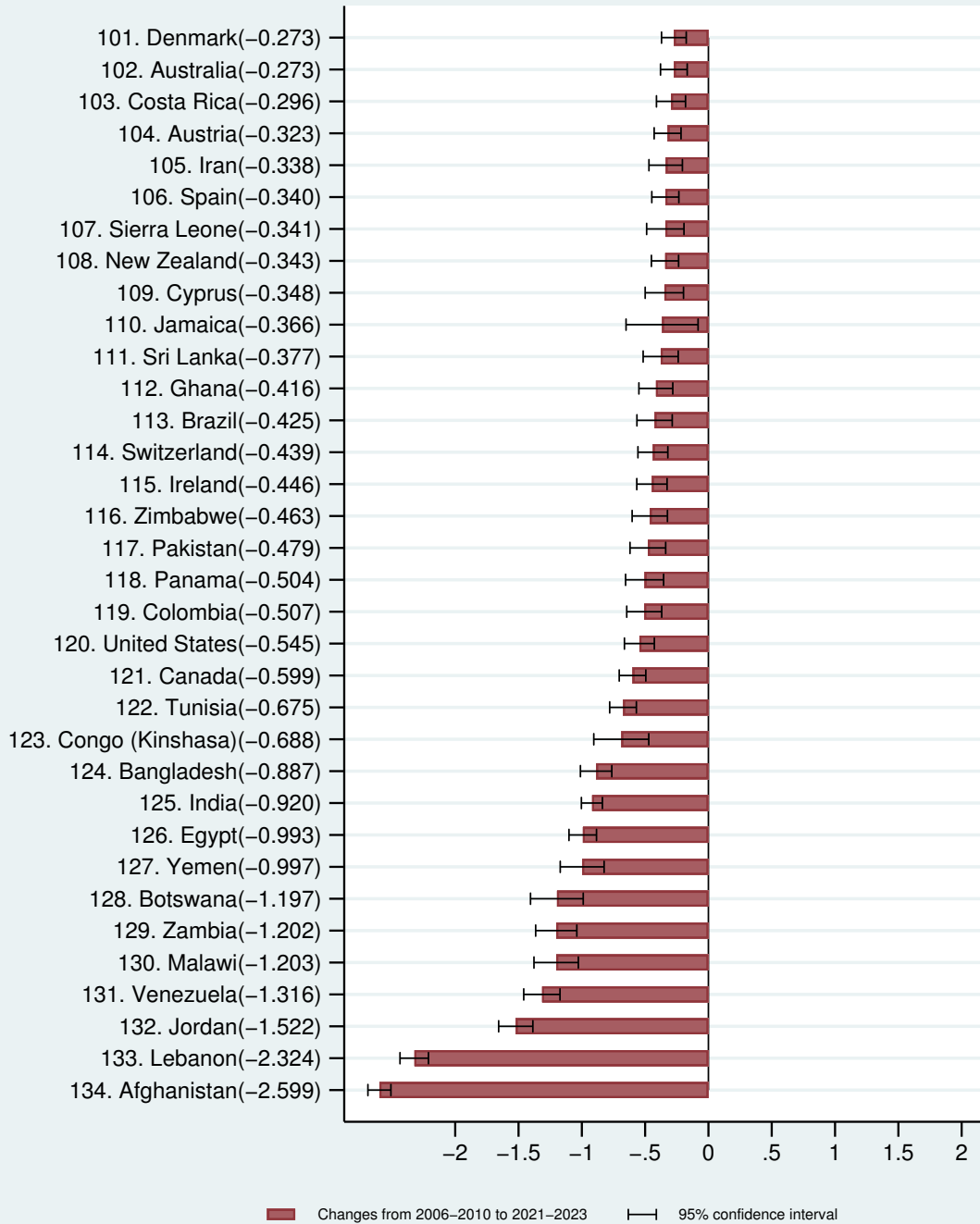


Figure 53: Changes in Happiness of the Young (below 30): from 2006-2010 to 2021-2023 (Part 1)

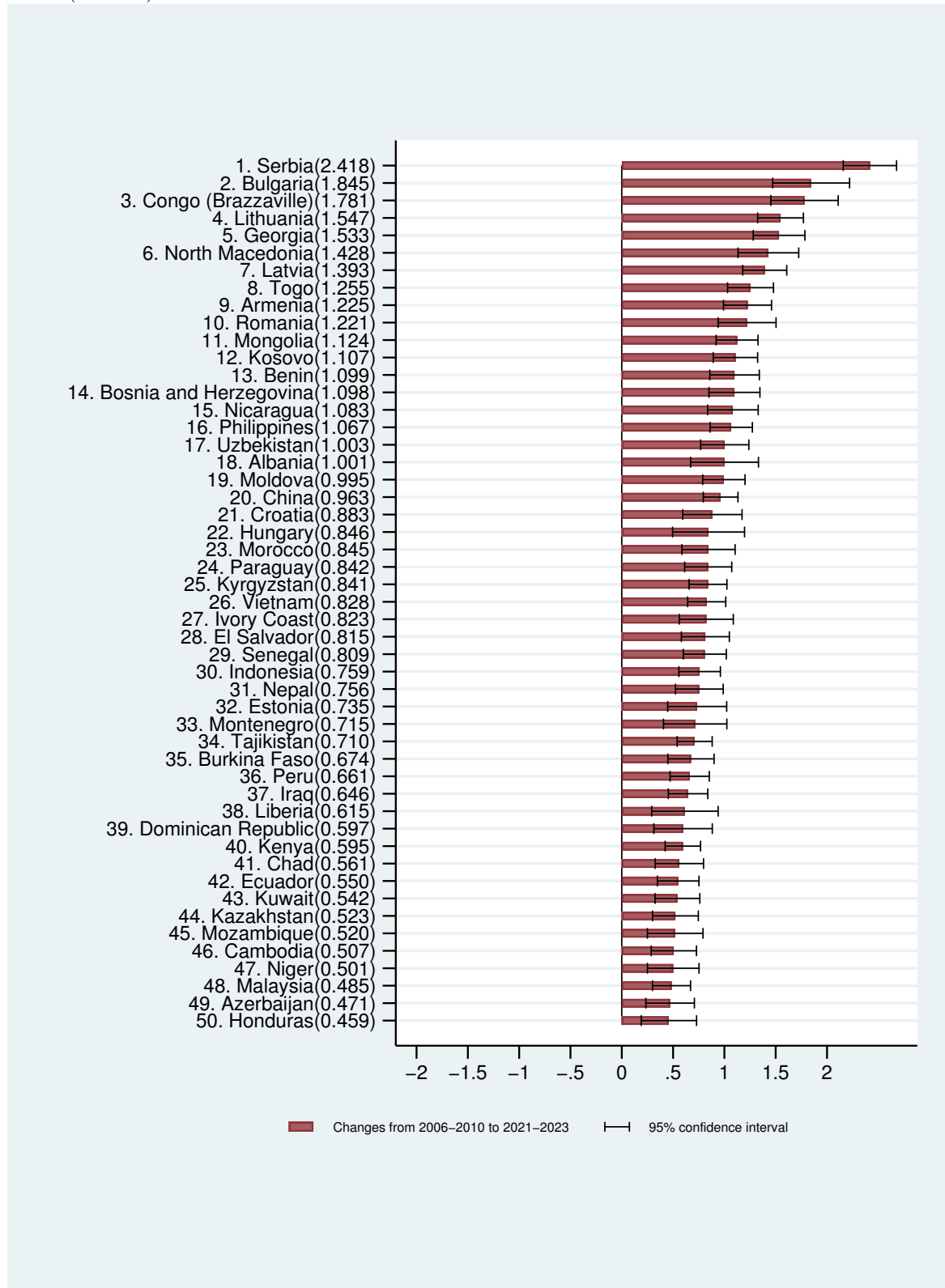


Figure 54: Changes in Happiness of the Young (below 30): from 2006-2010 to 2021-2023 (Part 2)

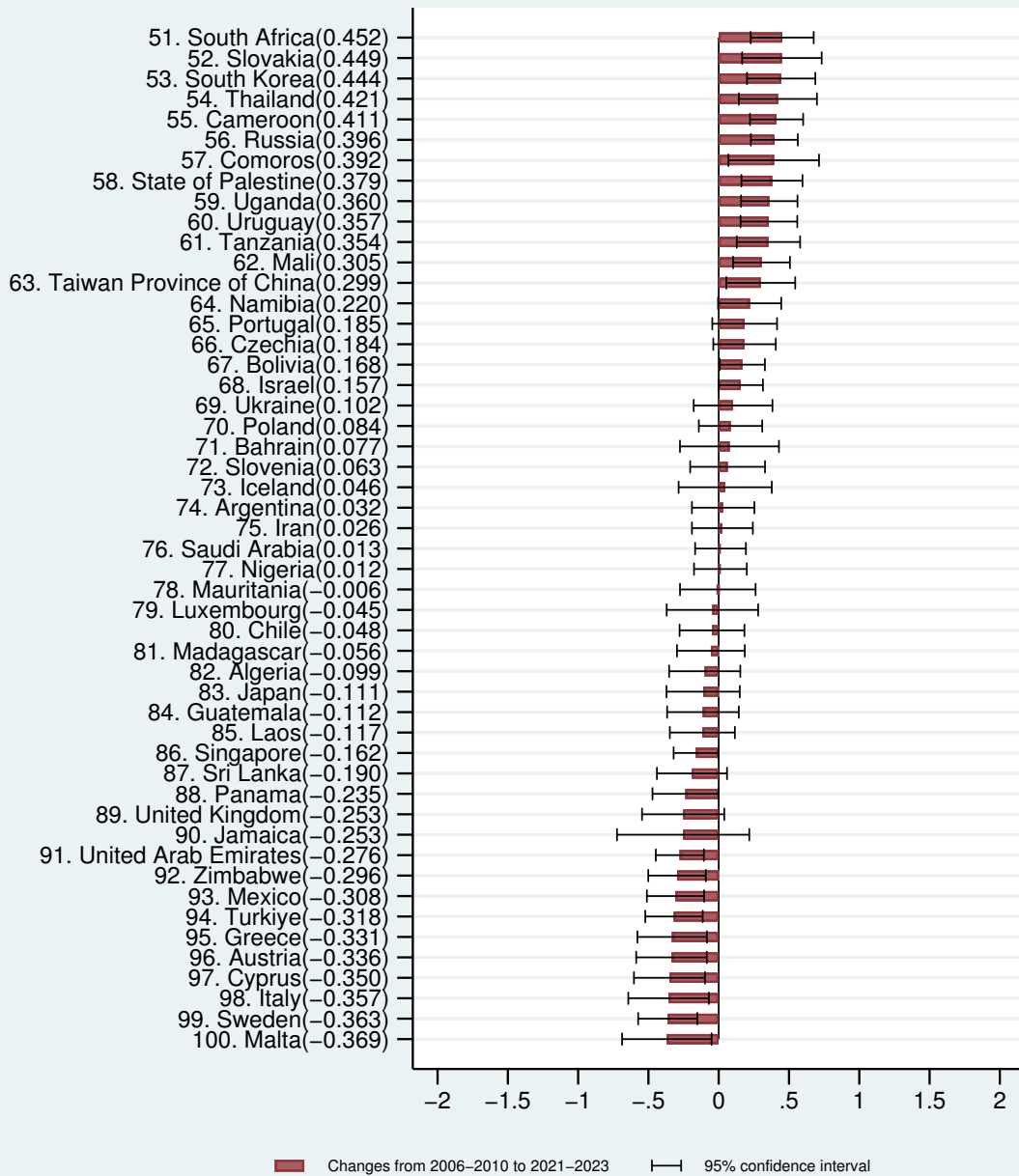


Figure 55: Changes in Happiness of the Young (below 30): from 2006-2010 to 2021-2023 (Part 3)

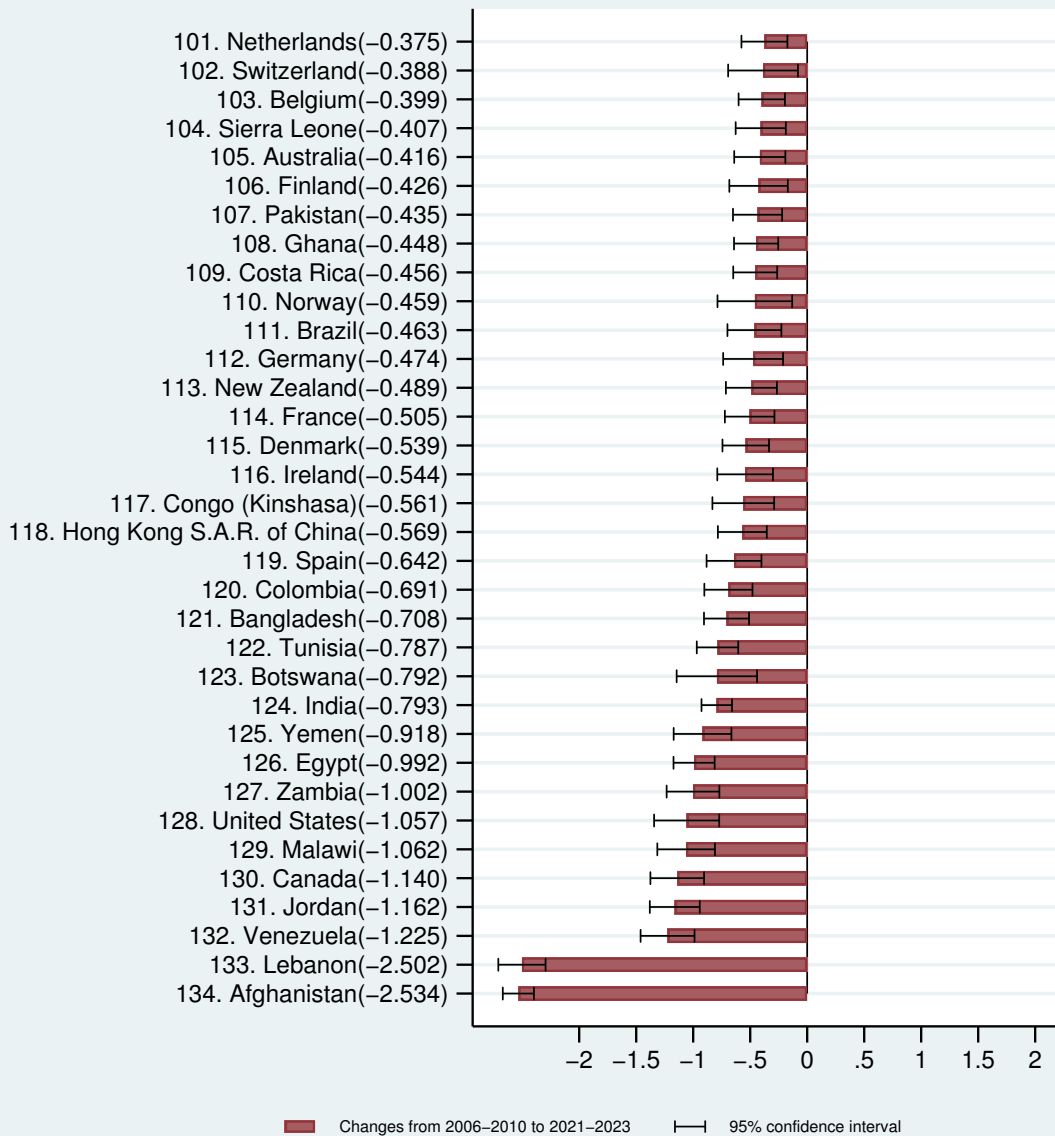


Figure 56: Changes in Happiness of Those Age between 30 and 44: from 2006-2010 to 2021-2023 (Part 1)

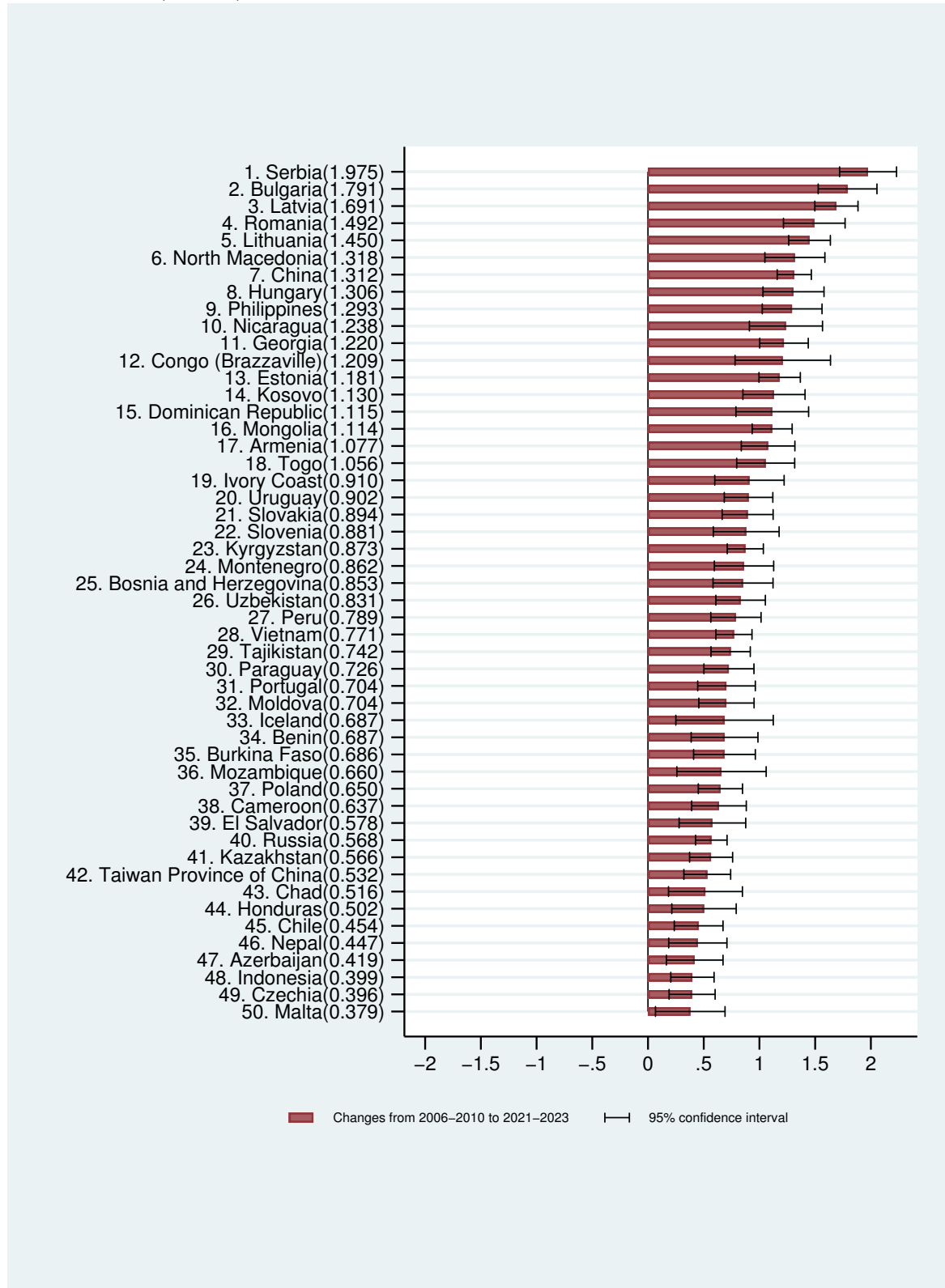


Figure 57: Changes in Happiness of Those Age between 30 and 44: from 2006-2010 to 2021-2023 (Part 2)

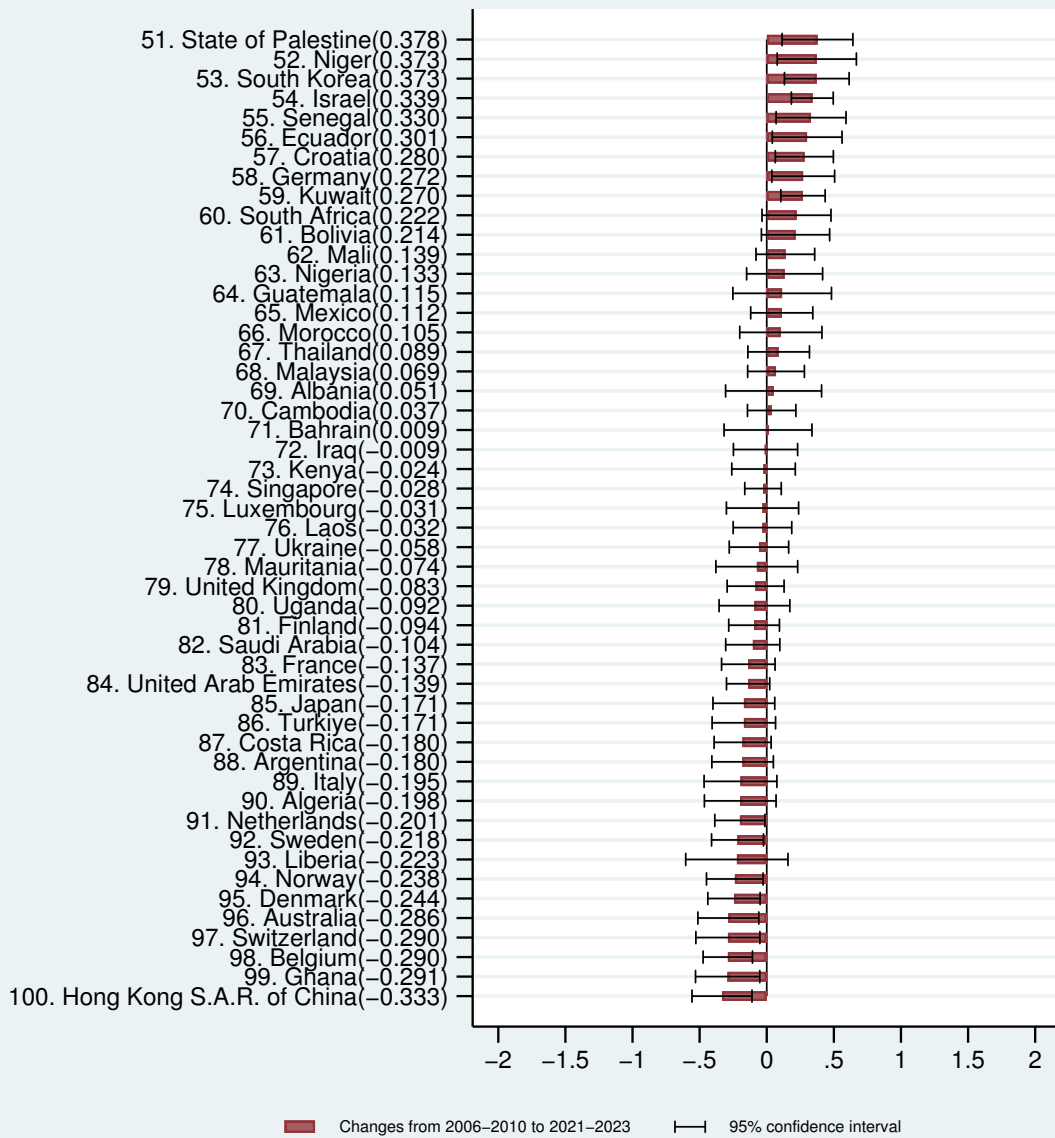


Figure 58: Changes in Happiness of Those Age between 30 and 44: from 2006-2010 to 2021-2023 (Part 3)

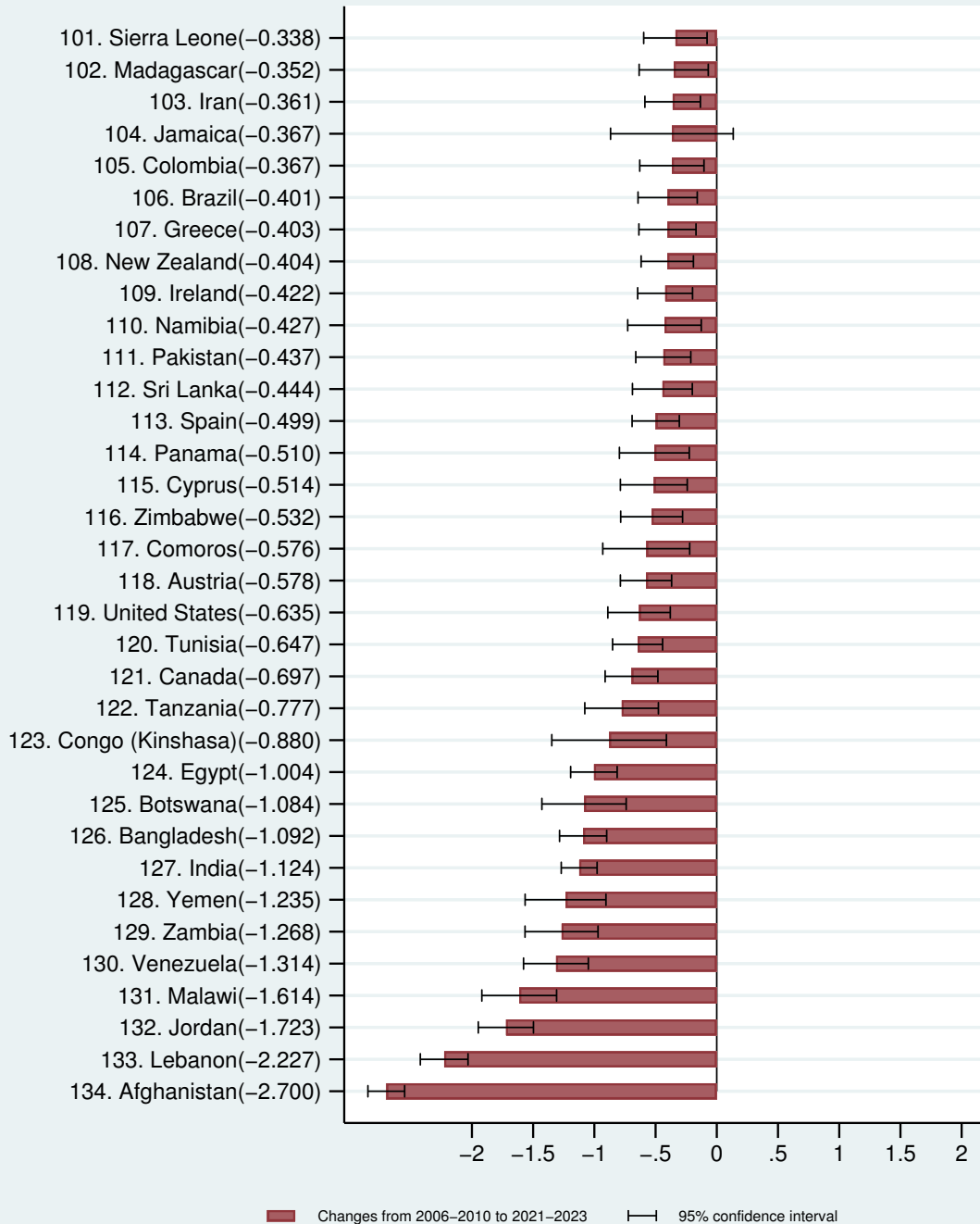




Figure 59: Changes in Happiness of Those Age between 45 and 59: from 2006-2010 to 2021-2023 (Part 1)

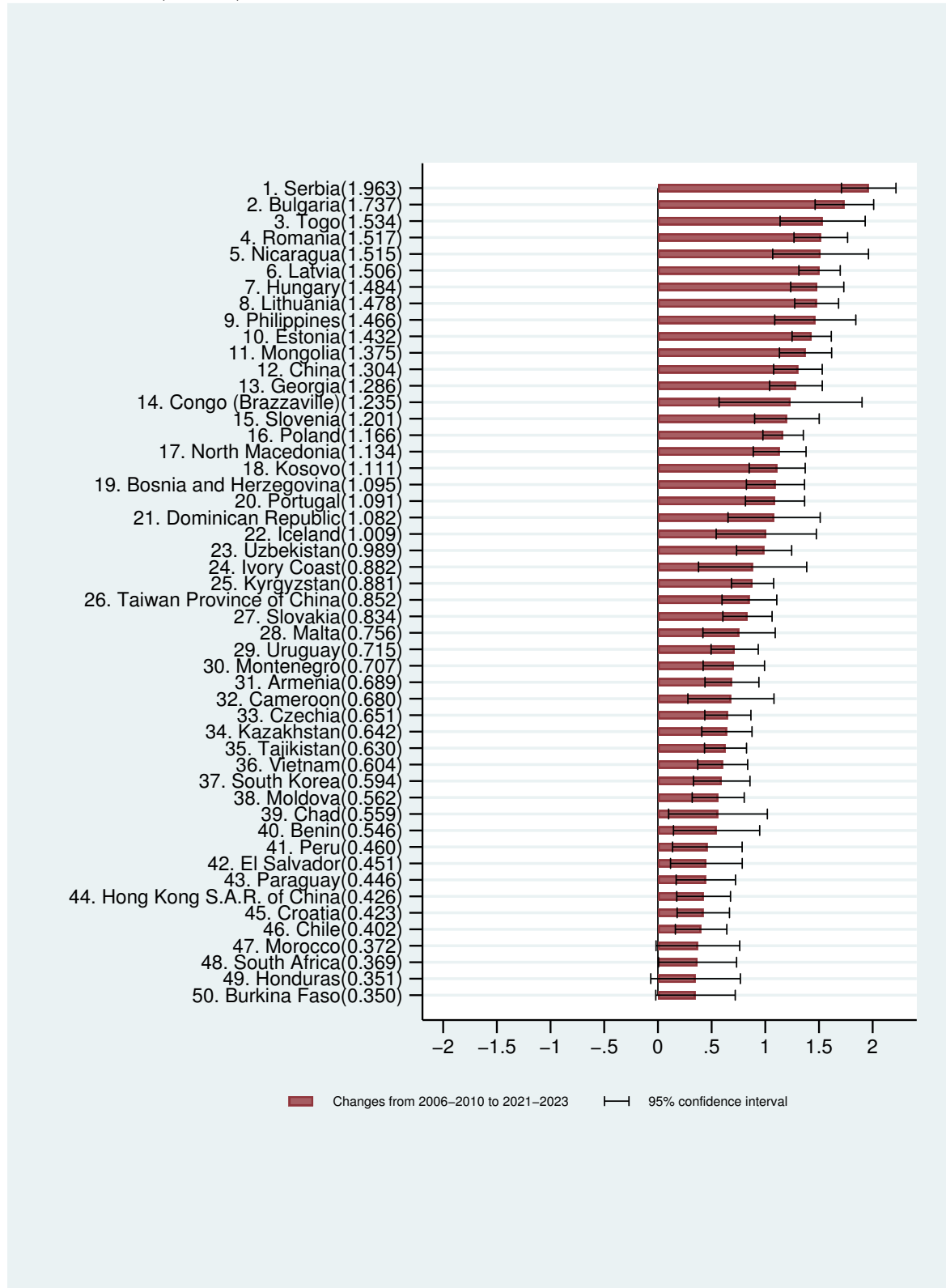


Figure 60: Changes in Happiness of Those Age between 45 and 59: from 2006-2010 to 2021-2023 (Part 2)

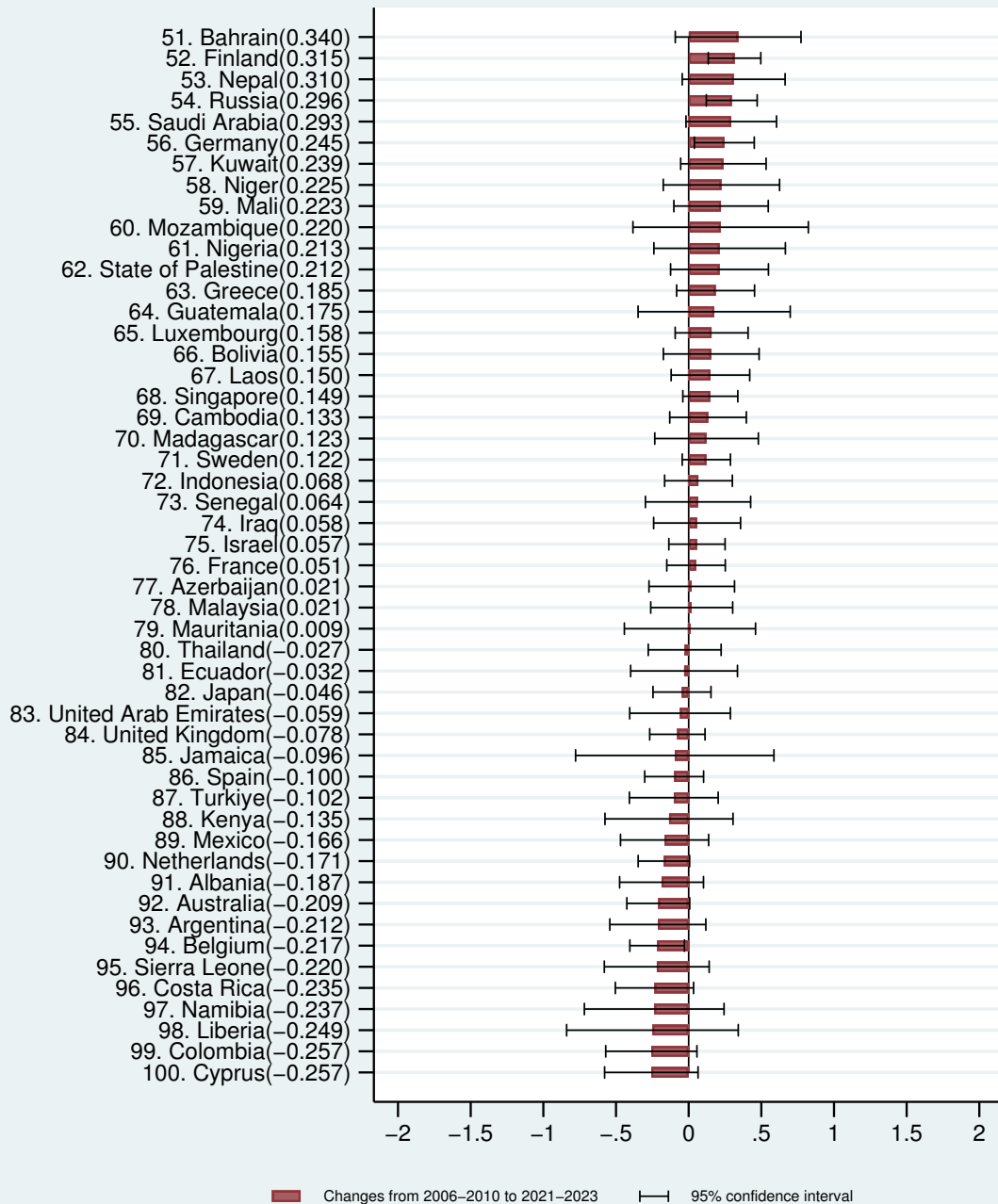


Figure 61: Changes in Happiness of Those Age between 45 and 59: from 2006-2010 to 2021-2023 (Part 3)

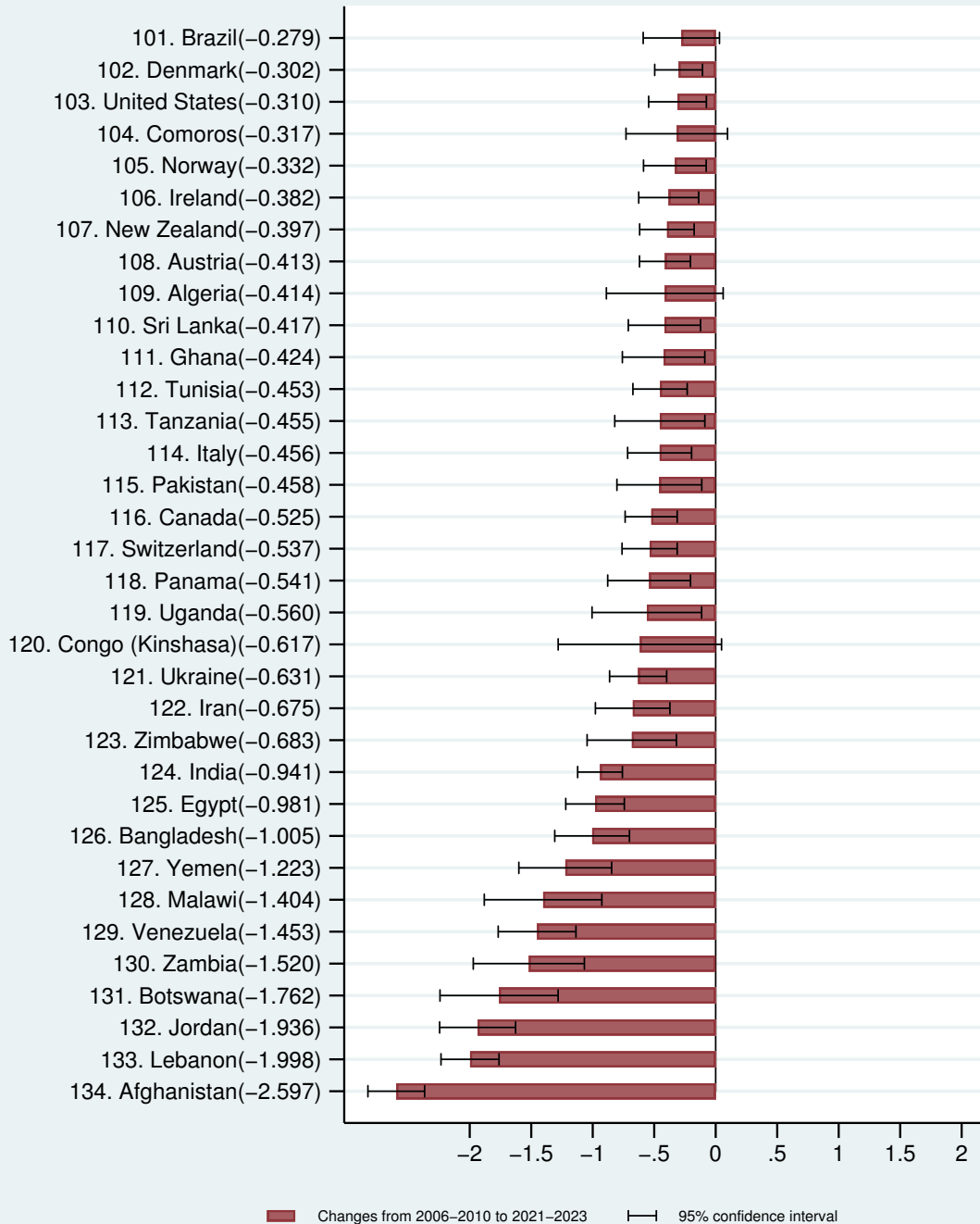


Figure 62: Changes in Happiness of Old (60 and over): from 2006-2010 to 2021-2023  
(Part 1)

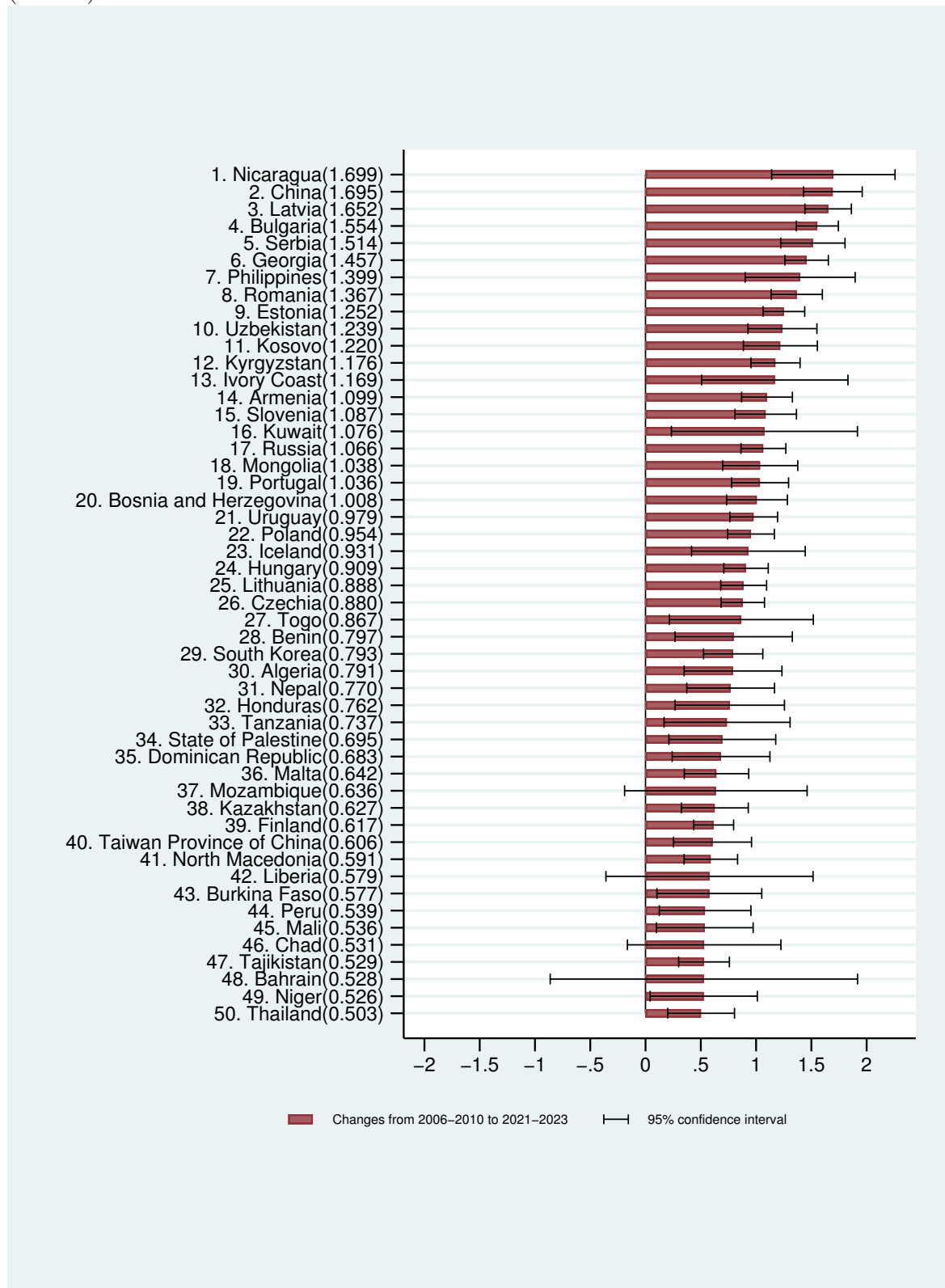


Figure 63: Changes in Happiness of Old (60 and over): from 2006-2010 to 2021-2023  
(Part 2)

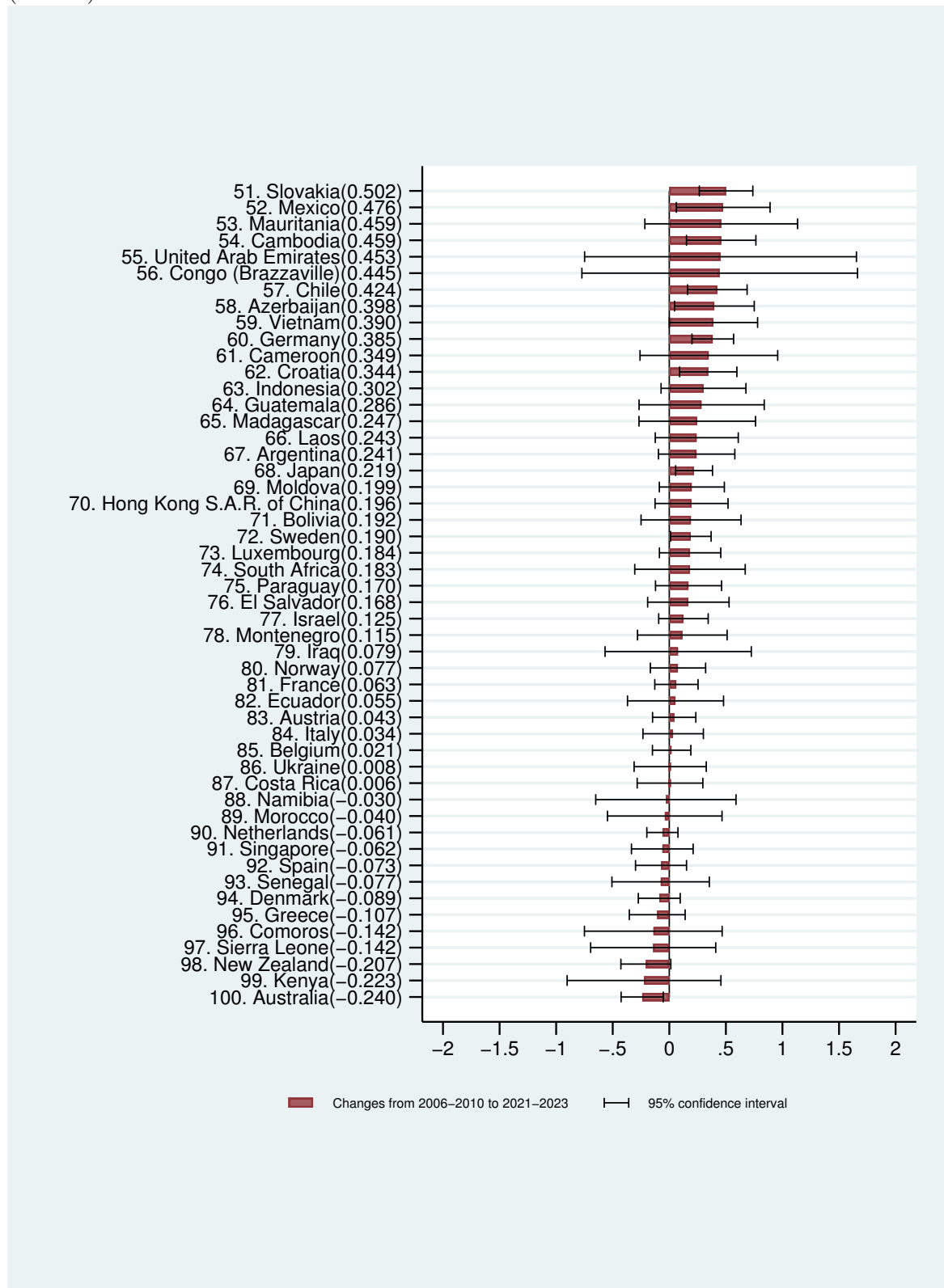


Figure 64: Changes in Happiness of Old (60 and over): from 2006-2010 to 2021-2023  
(Part 3)

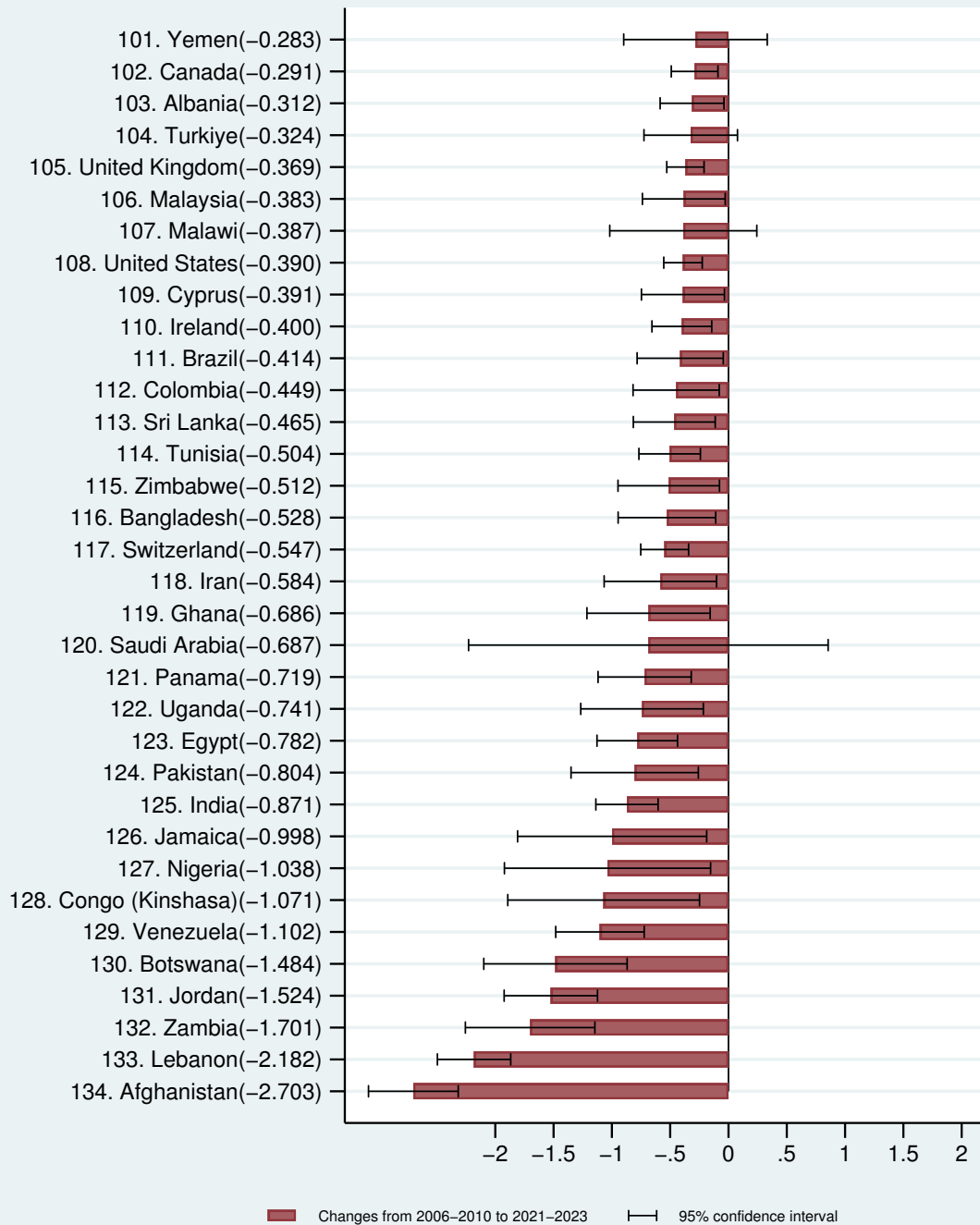


Figure 65: Ranking of Happiness: 2021-2023 (Part 1); those with empty columns have the happiness score for ranking, but not all the necessary factors for decomposition even after the imputation process described in section 3

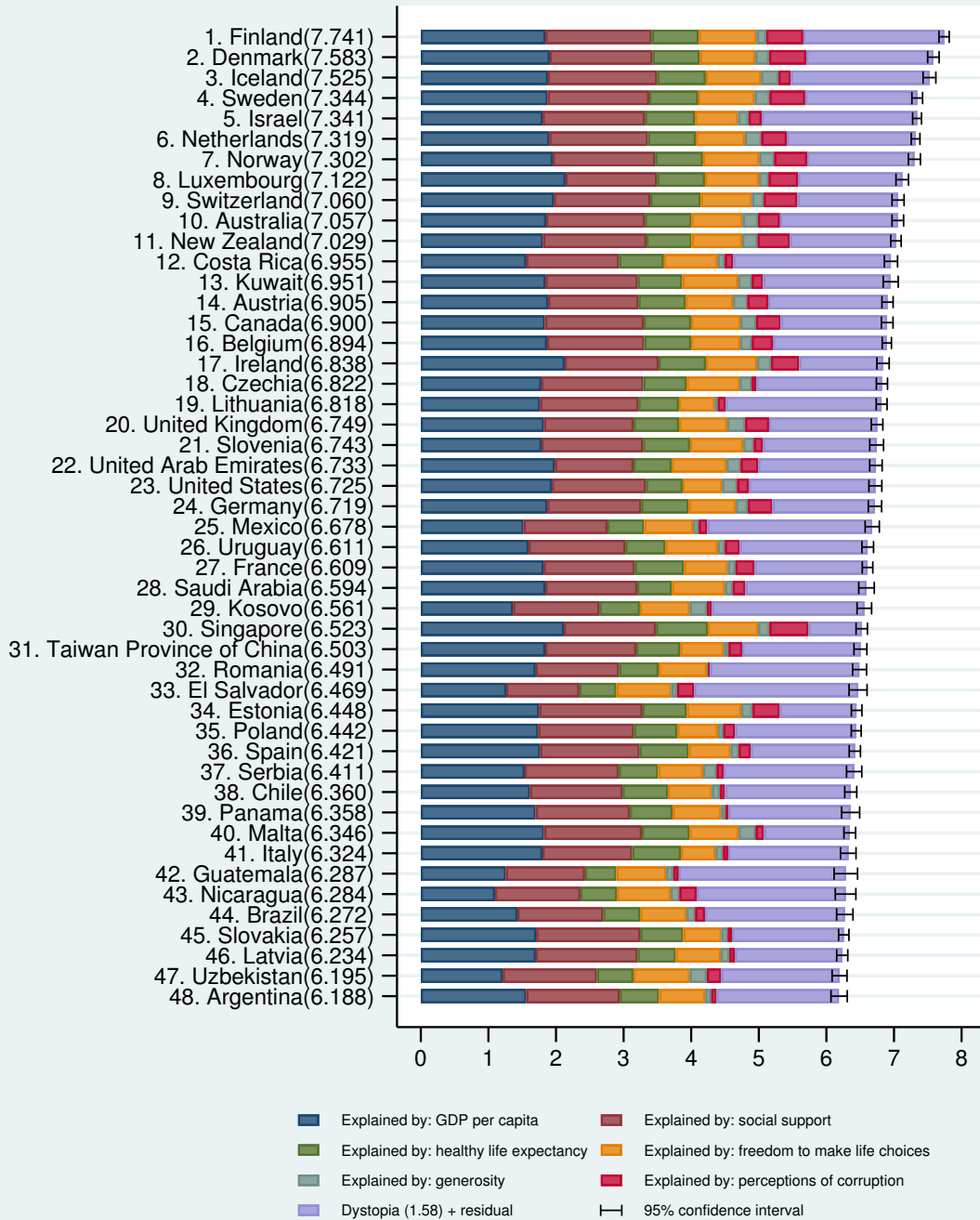


Figure 66: Ranking of Happiness: 2021-2023 (Part 2); those with empty columns have the happiness score for ranking, but not all the necessary factors for decomposition even after the imputation process described in section 3

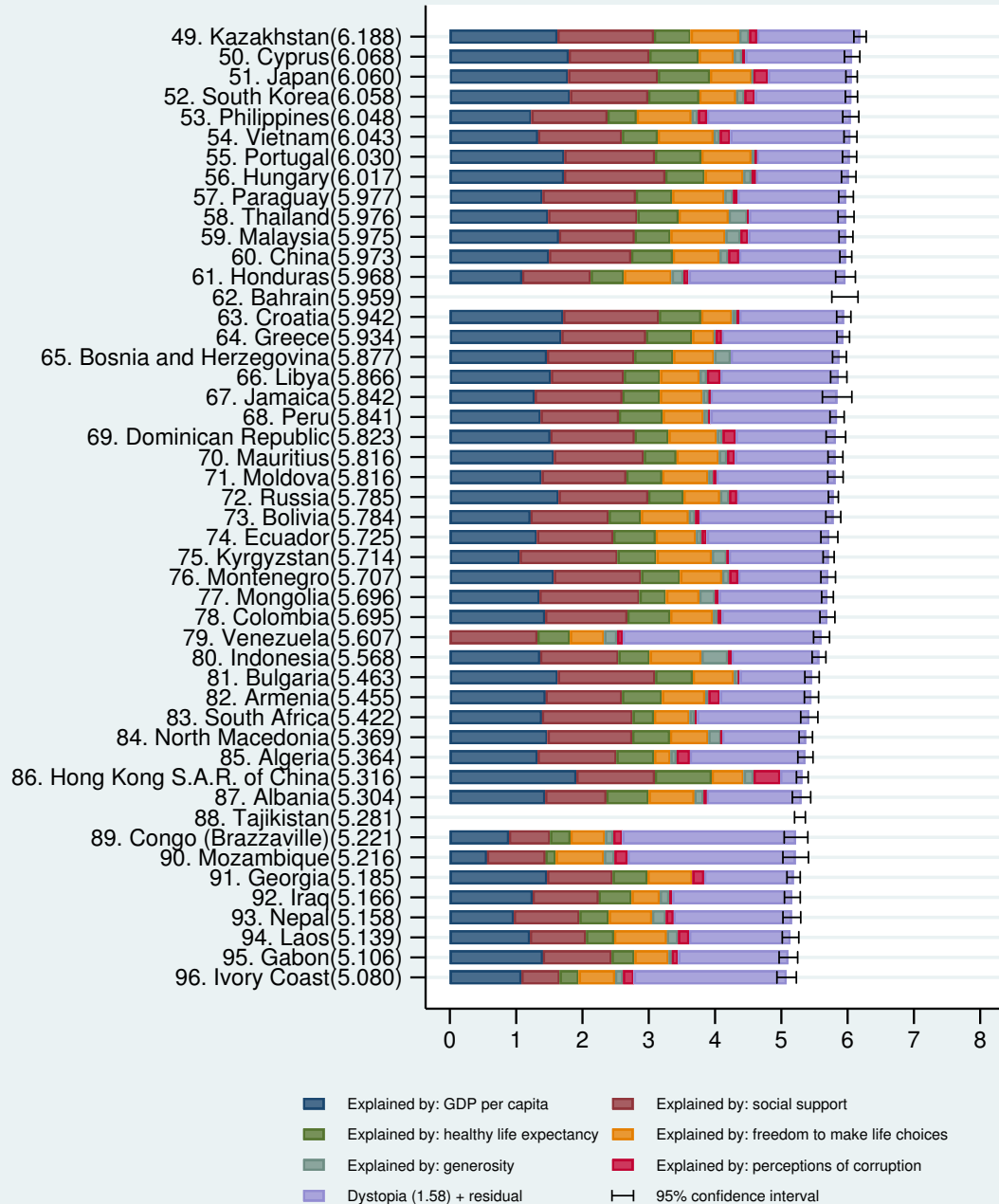




Figure 67: Ranking of Happiness: 2021-2023 (Part 3); those with empty columns have the happiness score for ranking, but not all the necessary factors for decomposition even after the imputation process described in section 3

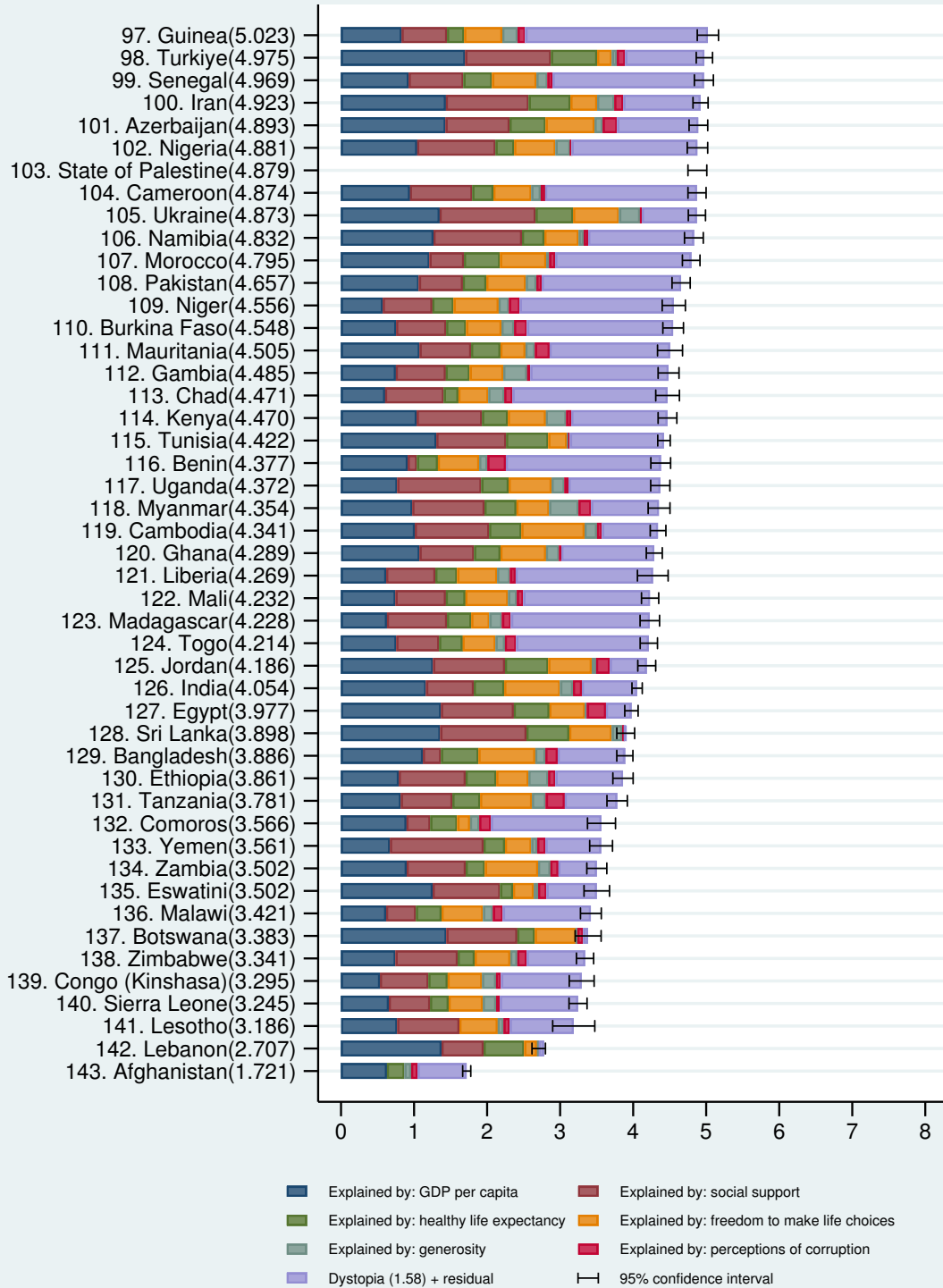


Table 22: Countries that used imputed corrupt based on WGI control of corruption indicators

Country name	Imputation indicator: corrupt is imputed based on WGI's control of corruption in
Saudi Arabia	1
China	1
Kuwait	1
United Arab Emirates	1

Table 23: Countries/territories that are not covered in the decomposition exercise due to missing factors; an empty table means all countries are covered

Country name	Country	Missing factors
Bahrain	92	Perceptions of corruption,
Tajikistan	185	Freedom to make life choices,
State of Palestine	39	Healthy life expectancy,

Note: Any countries/territories that are missing per-capita GDP automatically miss Generosity, because we adjust the latter to filter out the influence of per-capita GDP. In addition, any countries/territories that are missing the variable of corruption perception are indeed missing the perception on both business and government.

## Ranking of the Six Factors Used to Explain Happiness Scores

The next set of figures are rankings of countries by the six underlying factors used to explain international differences in happiness scores, namely GDP per person, healthy life expectancy, social support, perceived freedom to make life choice, generosity and perception of corruption. The ranking figures do not show imputed data. As we explain when describing our imputation algorithm, we do not use the imputed values in any of our headline results including the happiness rankings. The only place where we use them is when we try to decompose a country's average happiness score into components explained by the six factors. The imputation involves only a small number of countries. Here, we avoid relying on the imputation to generate the rankings. If a country is missing the information about corruption perceptions, for example, they won't show up in the corruption ranking, thus the ranking for corruption will cover a smaller number of countries than the ranking of overall happiness. Finally, we note that the healthy life expectancy time series from the WHO cover up to 2019, before the pandemic. We rank countries based on the 2019 information without extrapolation.

Figure 68: Ranking of Natural Log of Per-Capita GDP: 2021-2023; bars show natural logs, dollar values are shown on the Y axis after country names (Part 1)

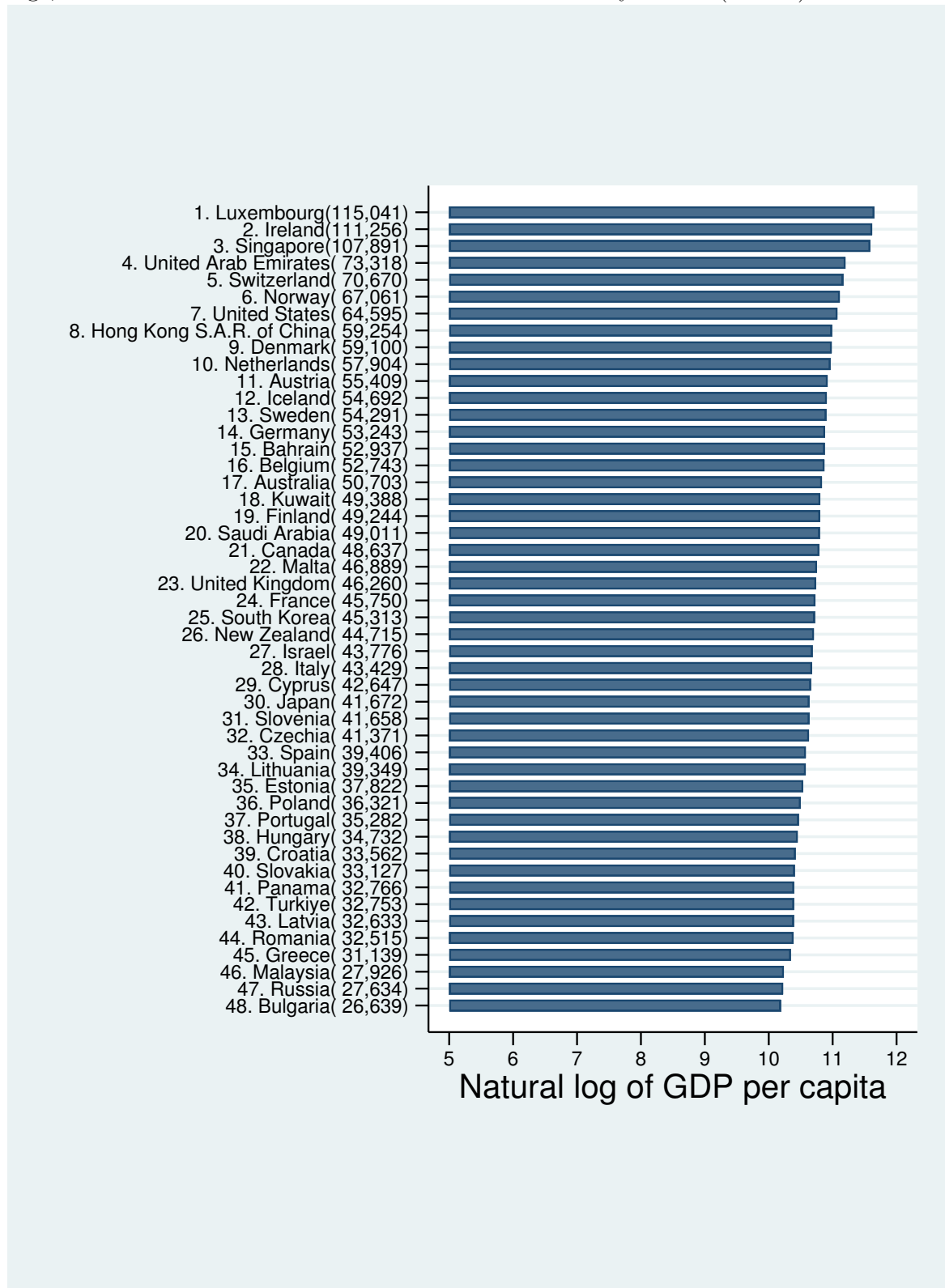


Figure 69: Ranking of Natural Log of Per-Capita GDP: 2021-2023; bars show natural logs, dollar values are shown on the Y axis after country names (Part 2)

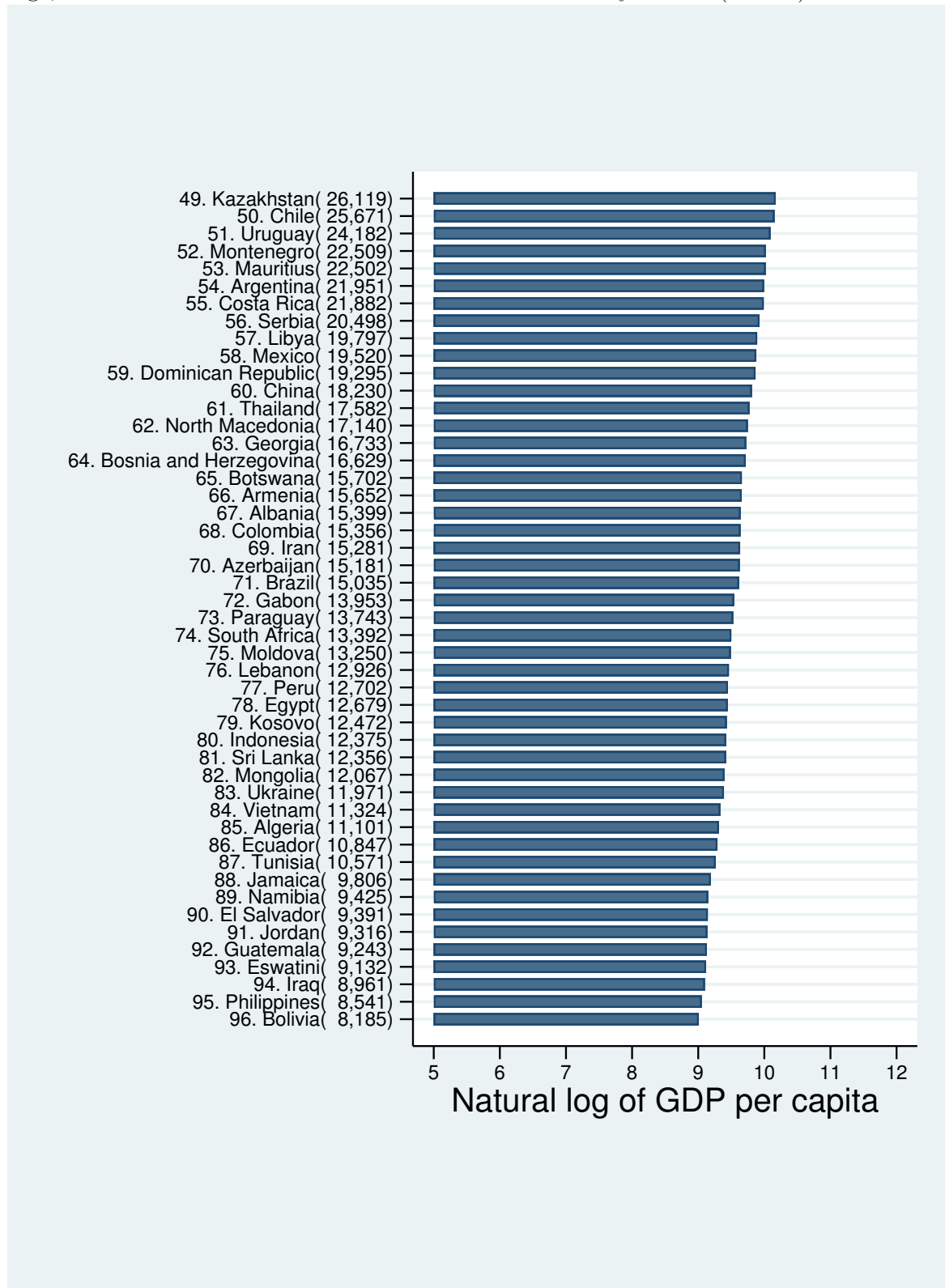


Figure 70: Ranking of Natural Log of Per-Capita GDP: 2021-2023; bars show natural logs, dollar values are shown on the Y axis after country names (Part 3)

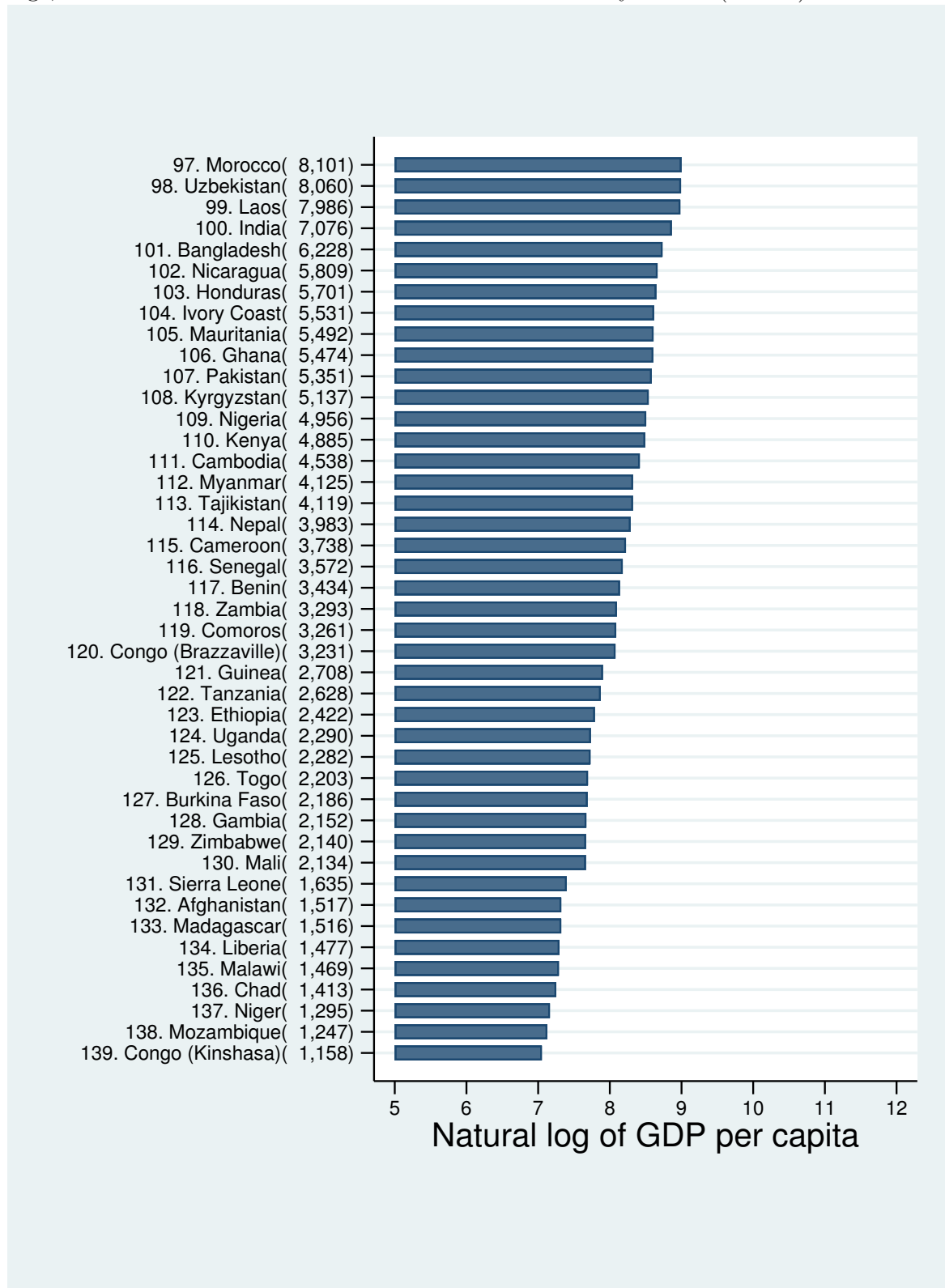


Figure 71: Ranking of Social Support: 2021-2023 (Part 1)

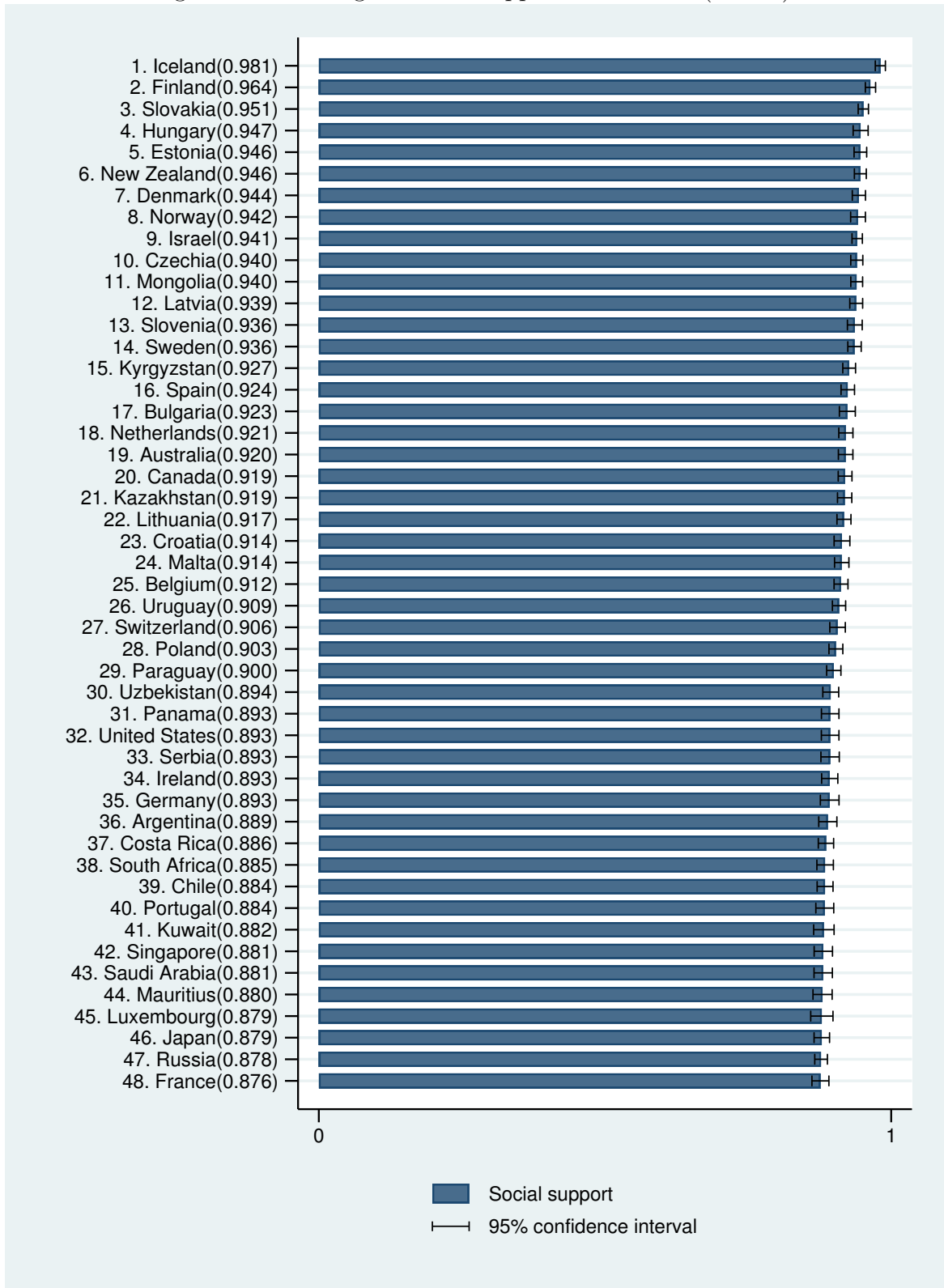


Figure 72: Ranking of Social Support: 2021-2023 (Part 2)

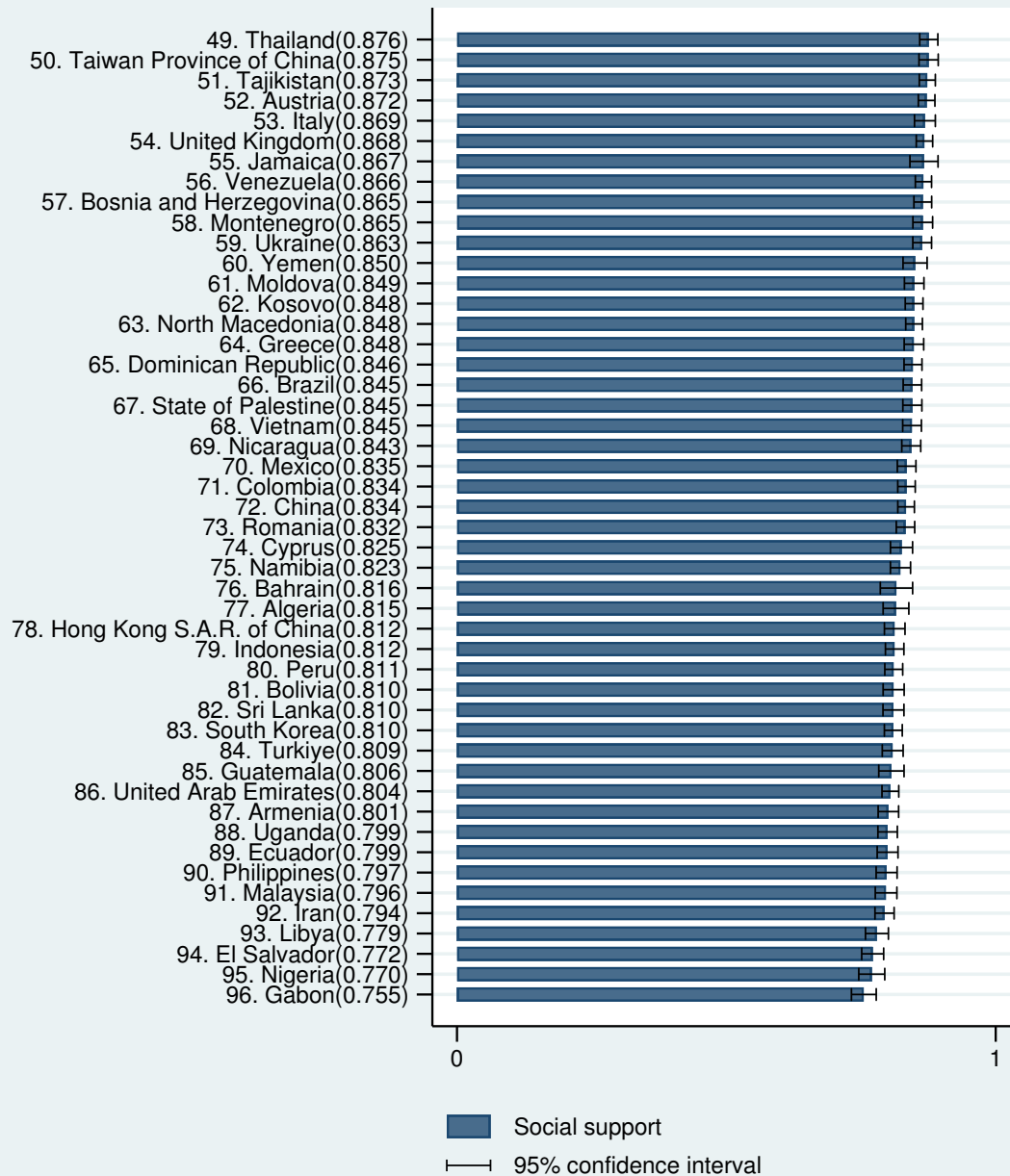




Figure 73: Ranking of Social Support: 2021-2023 (Part 3)

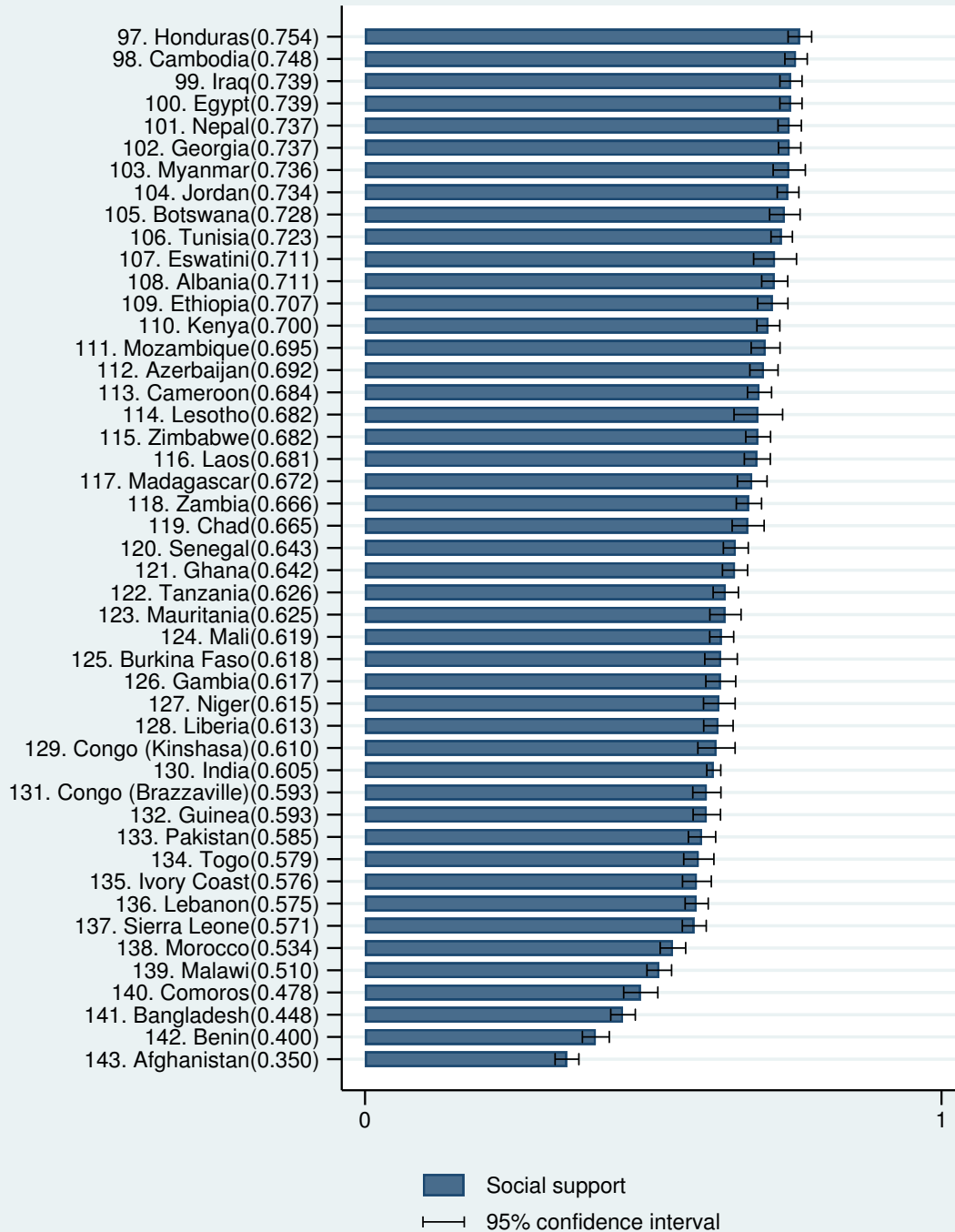


Figure 74: Ranking of Healthy Life Expectancy: 2019 (Part 1)

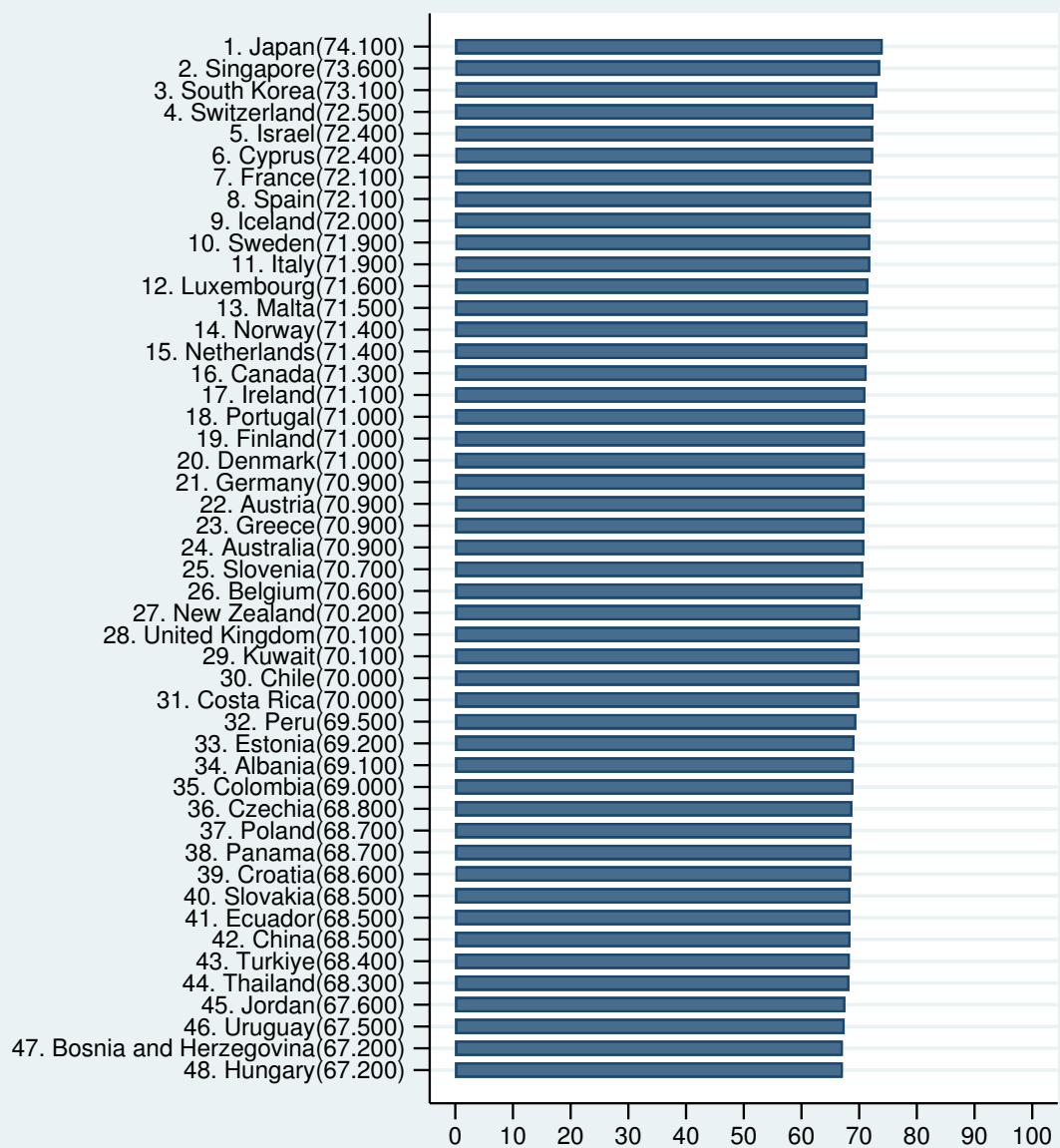
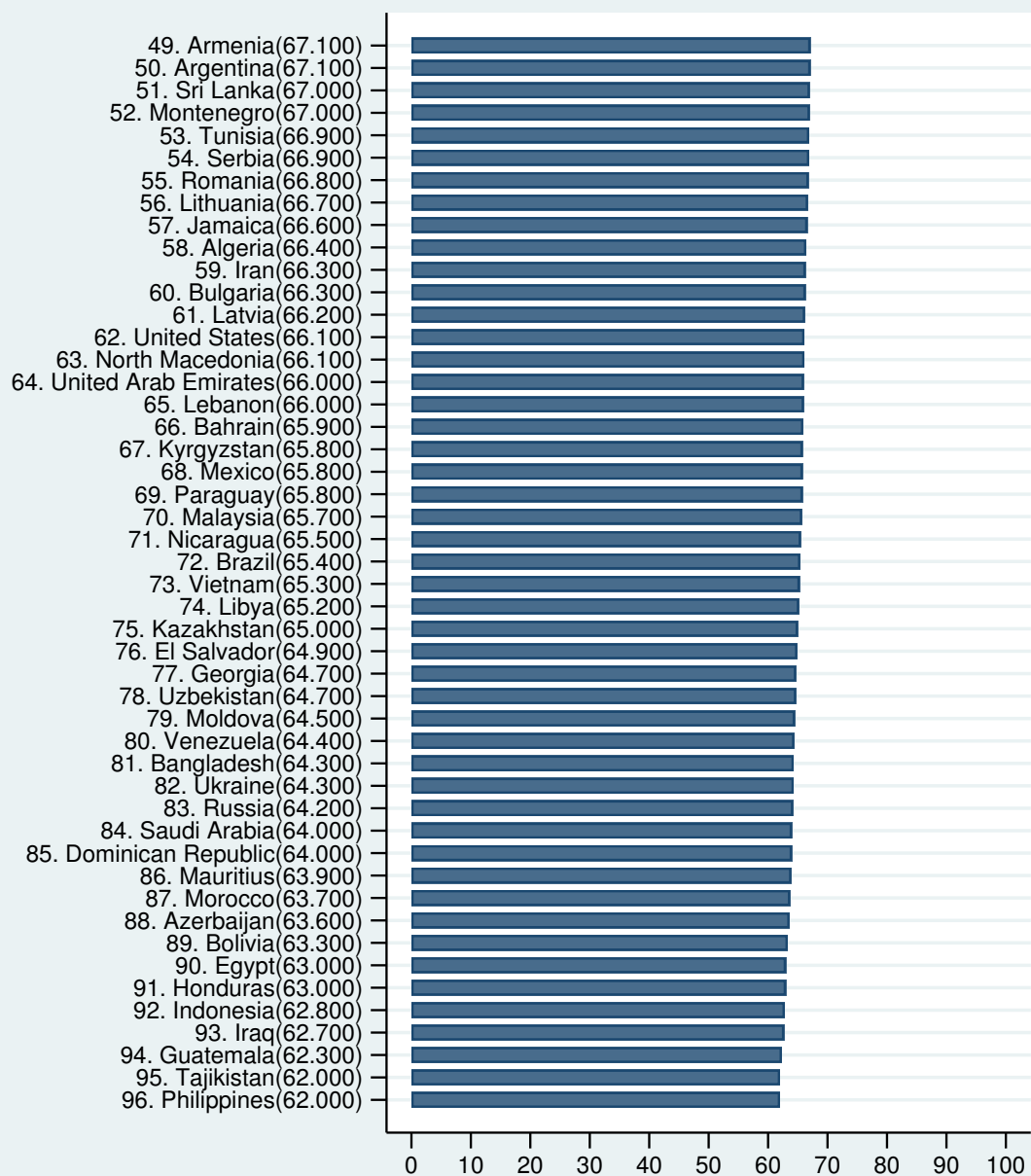
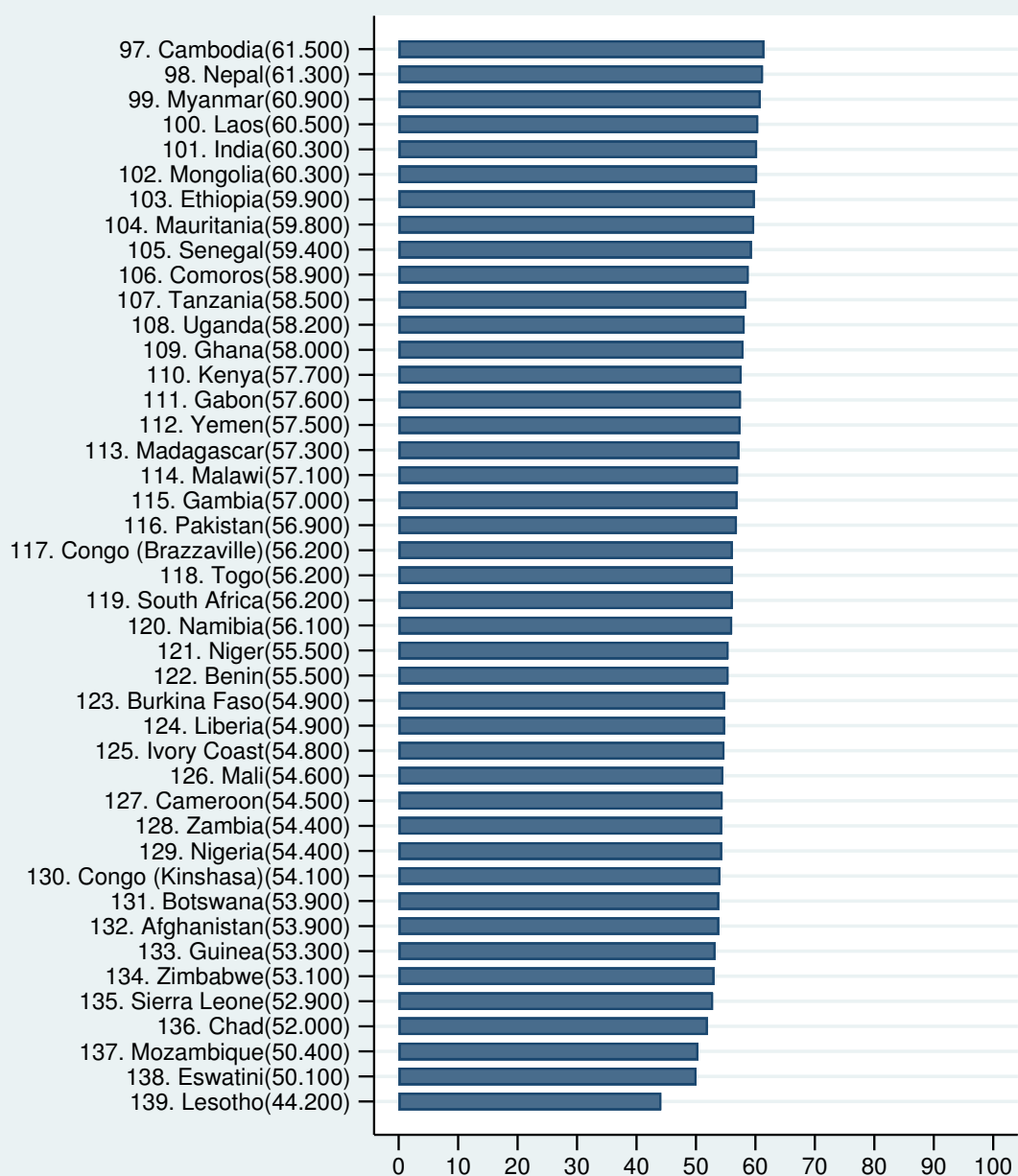


Figure 75: Ranking of Healthy Life Expectancy: 2019 (Part 2)



Healthy Life Expectancy, Most Recent Year Available at

Figure 76: Ranking of Healthy Life Expectancy: 2019 (Part 3)



Healthy Life Expectancy, Most Recent Year Available at

Figure 77: Ranking of Freedom to Make Life Choices: 2021-2023 (Part 1)

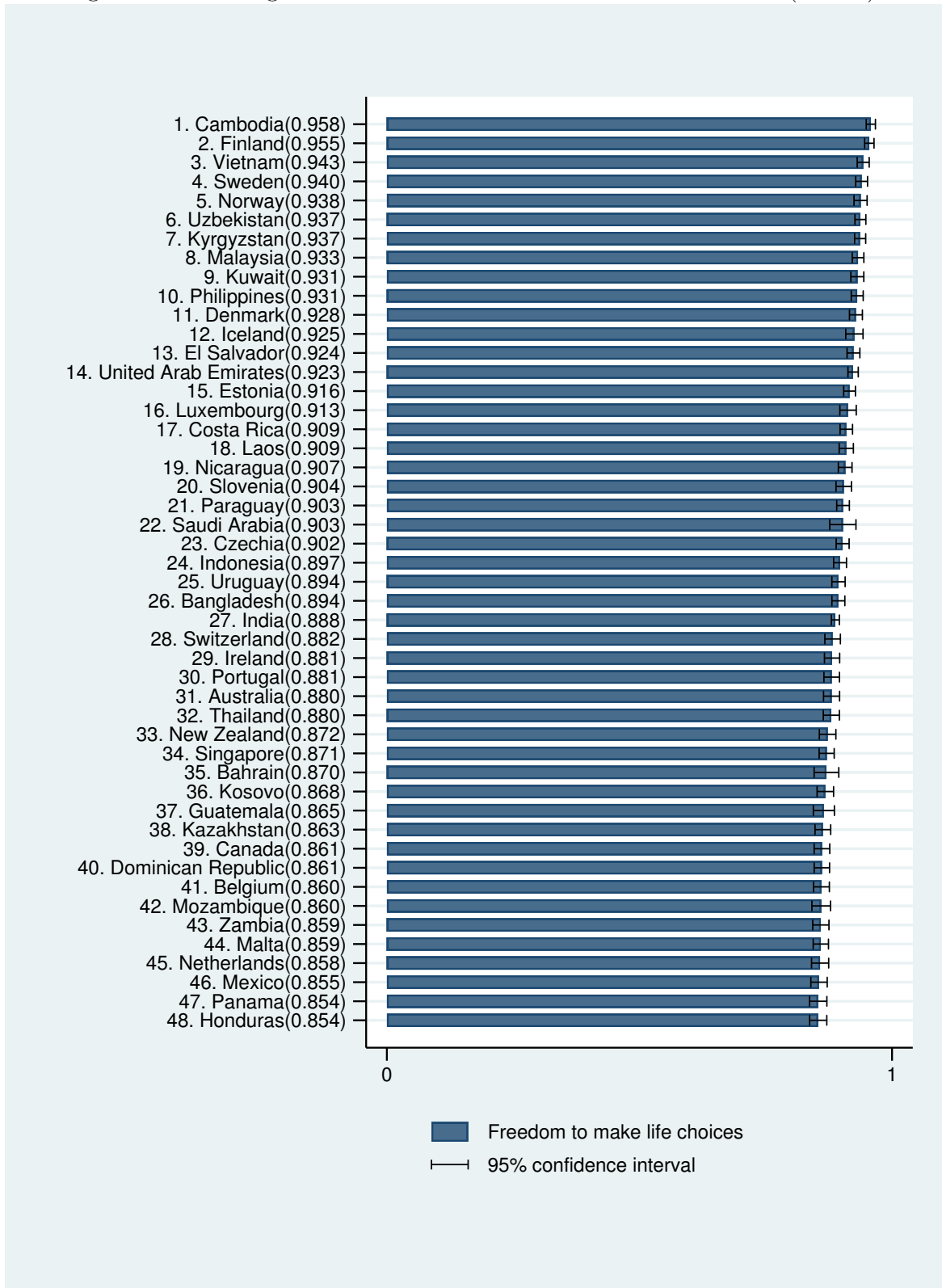


Figure 78: Ranking of Freedom to Make Life Choices: 2021-2023 (Part 2)

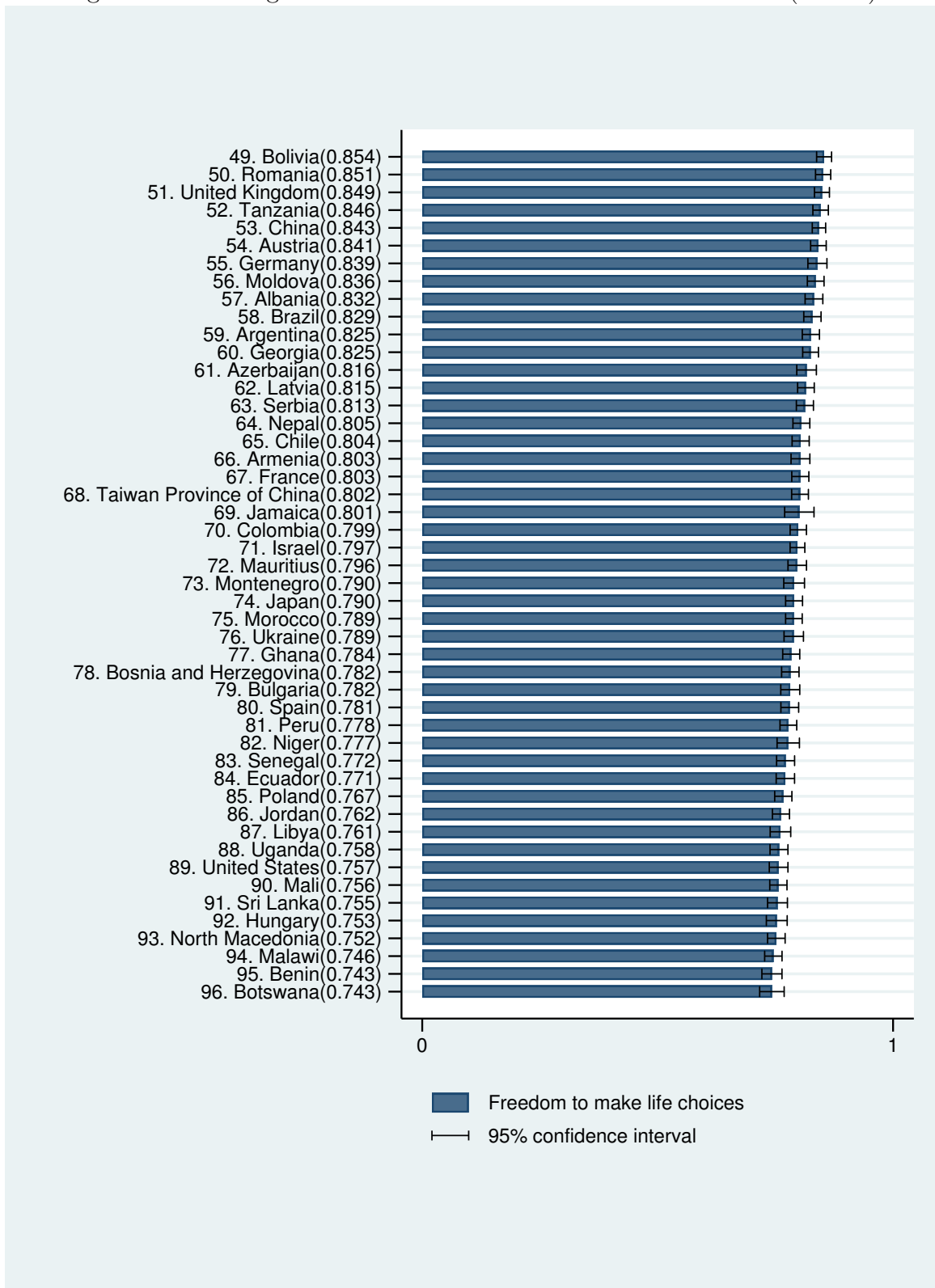


Figure 79: Ranking of Freedom to Make Life Choices: 2021-2023 (Part 3)

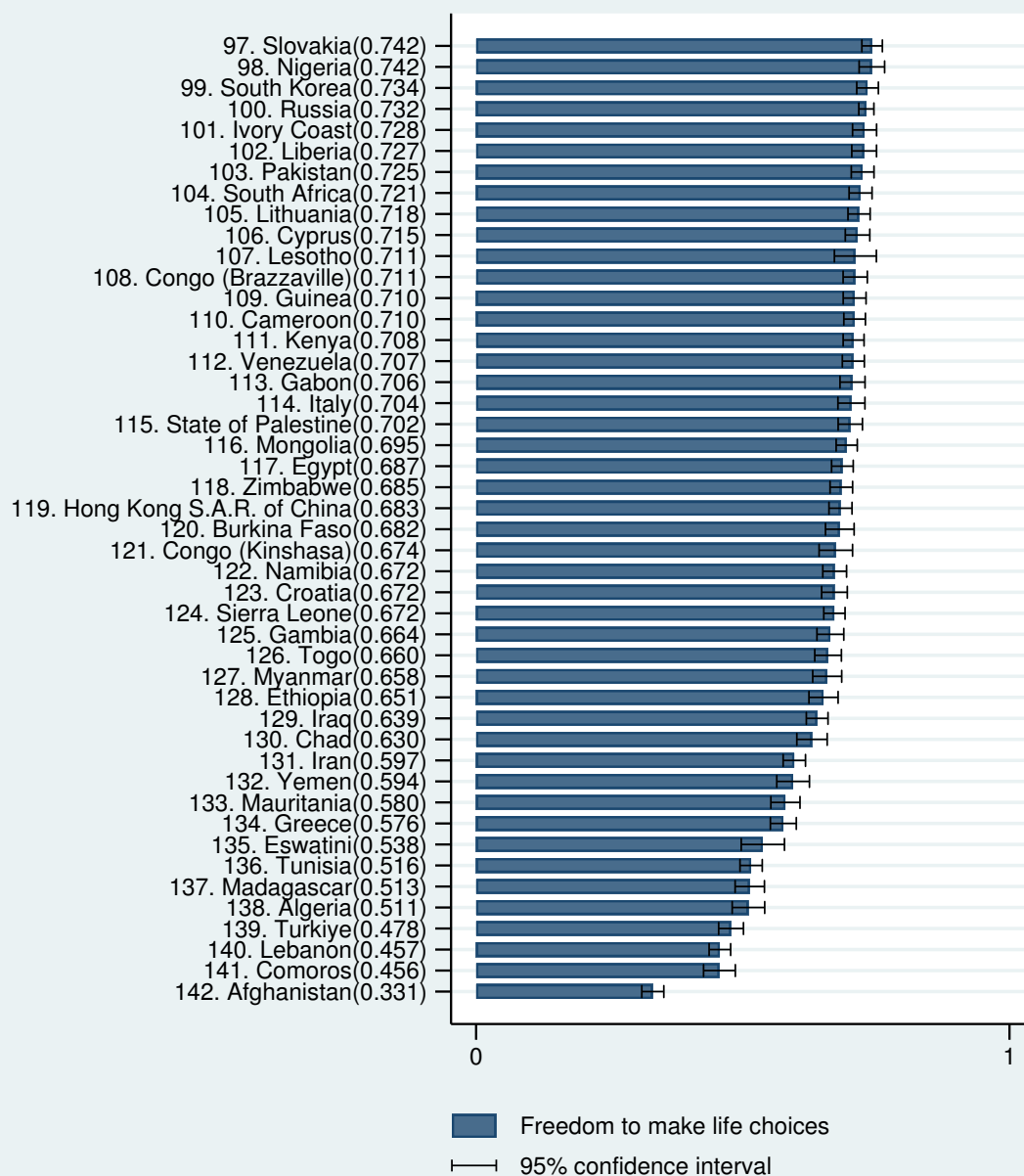


Figure 80: Ranking of Generosity – % Who Donated to Charity in the Past Month – Without Adjusting for Per-Capita Income: 2021-2023 (Part 1)

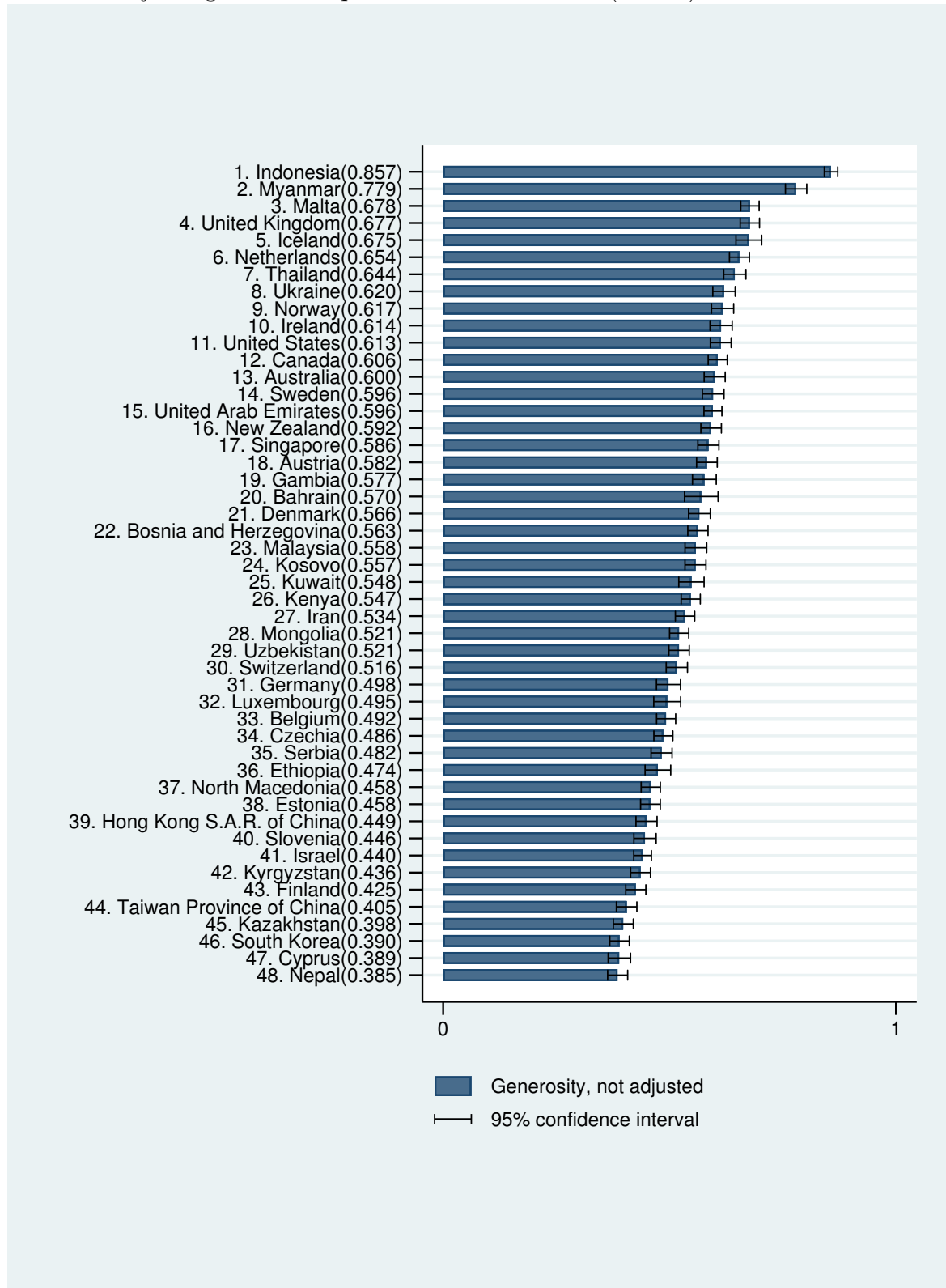




Figure 81: Ranking of Generosity – % Who Donated to Charity in the Past Month – Without Adjusting for Per-Capita Income: 2021-2023 (Part 2)

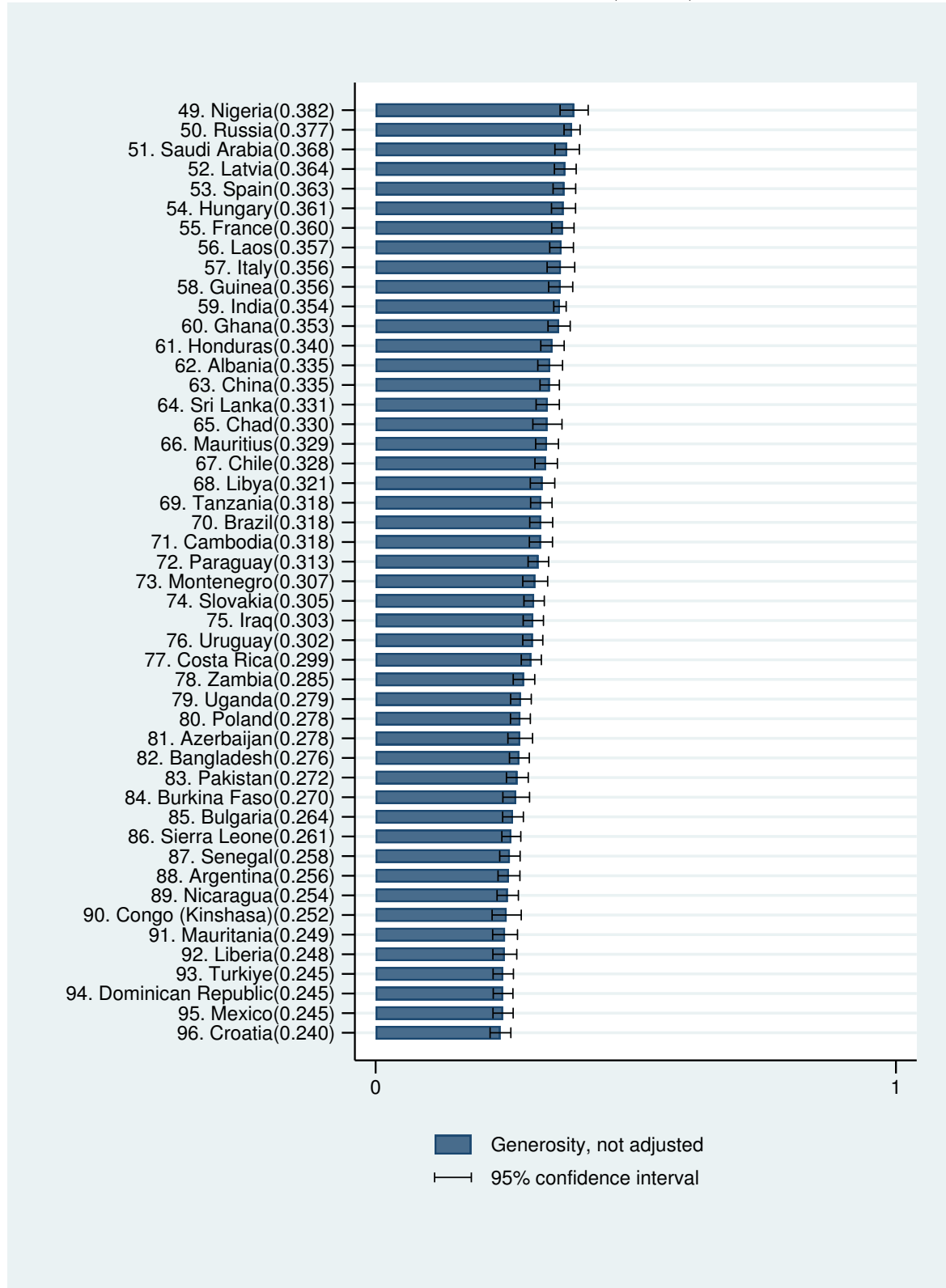


Figure 82: Ranking of Generosity – % Who Donated to Charity in the Past Month – Without Adjusting for Per-Capita Income: 2021-2023 (Part 3)

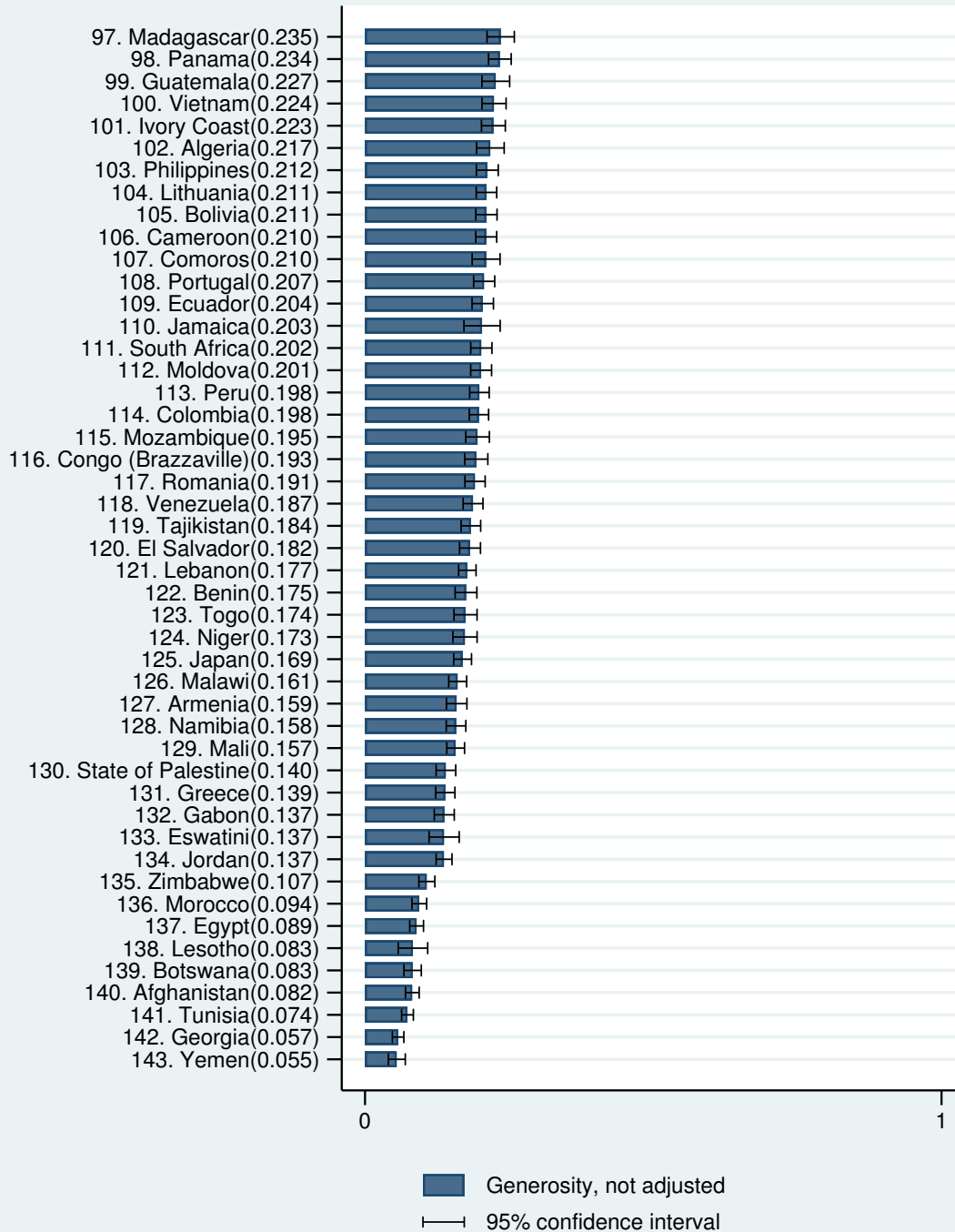


Figure 83: Ranking of Perceptions of Corruption: 2021-2023 (Part 1)

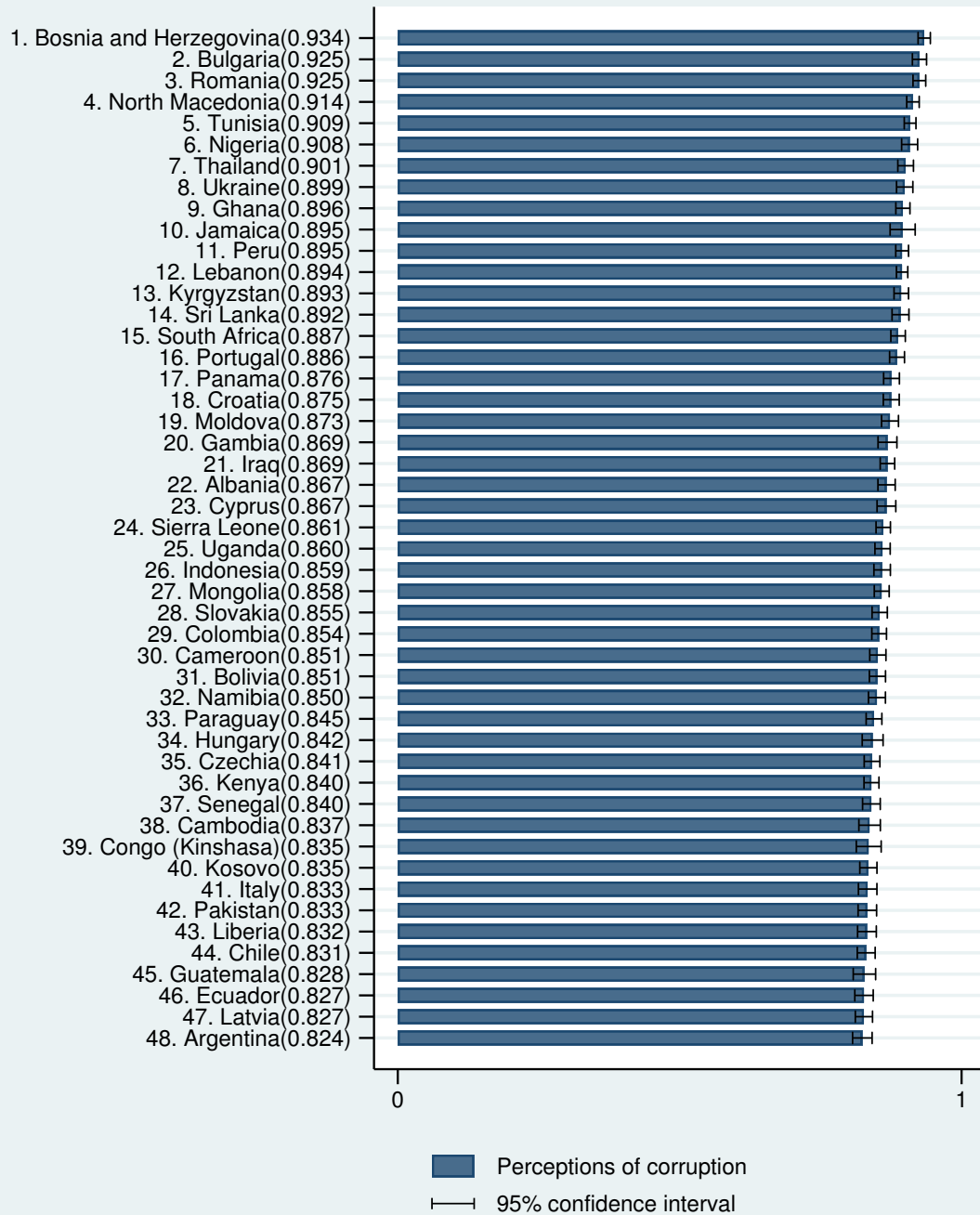


Figure 84: Ranking of Perceptions of Corruption: 2021-2023 (Part 2)

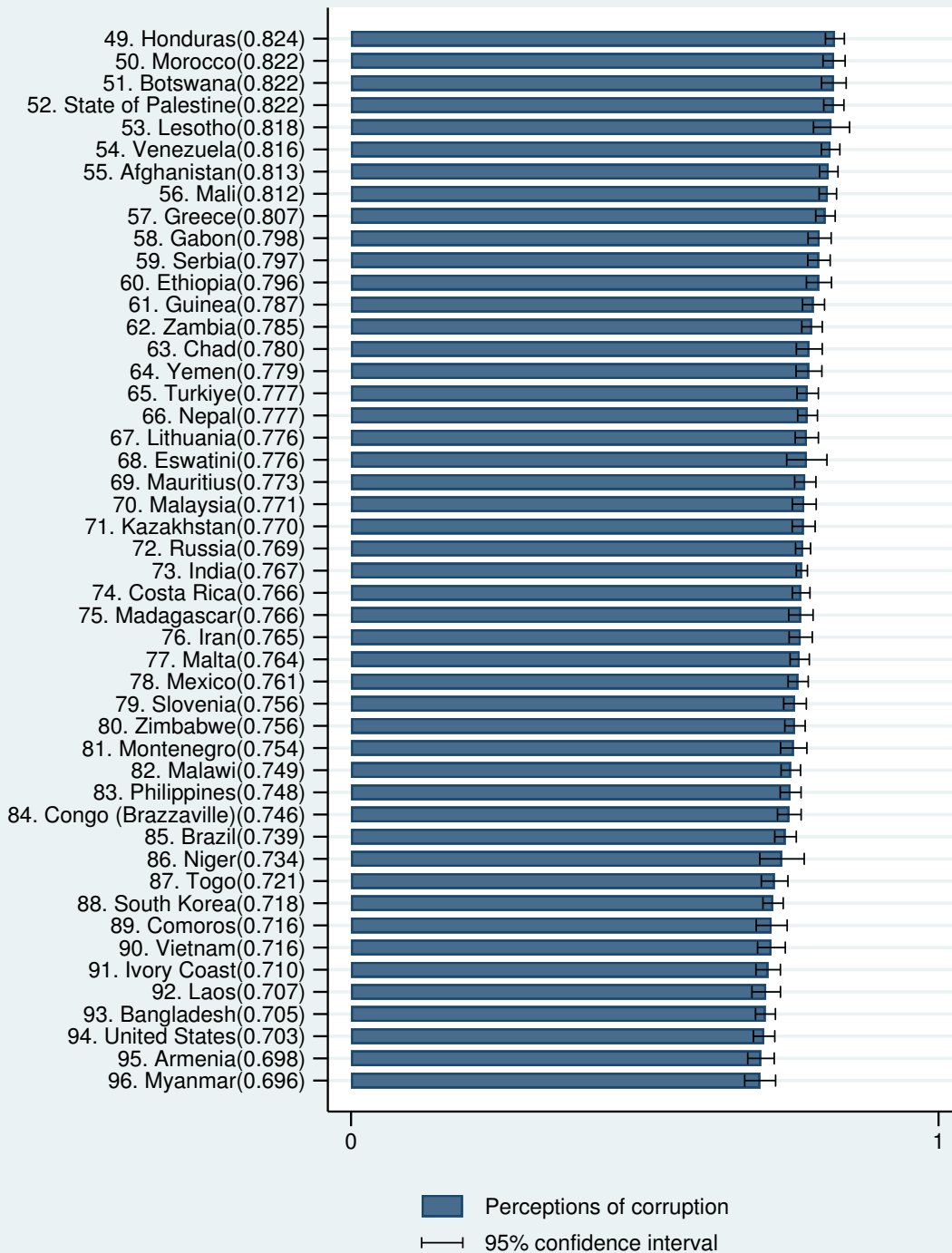


Figure 85: Ranking of Perceptions of Corruption: 2021-2023 (Part 3)

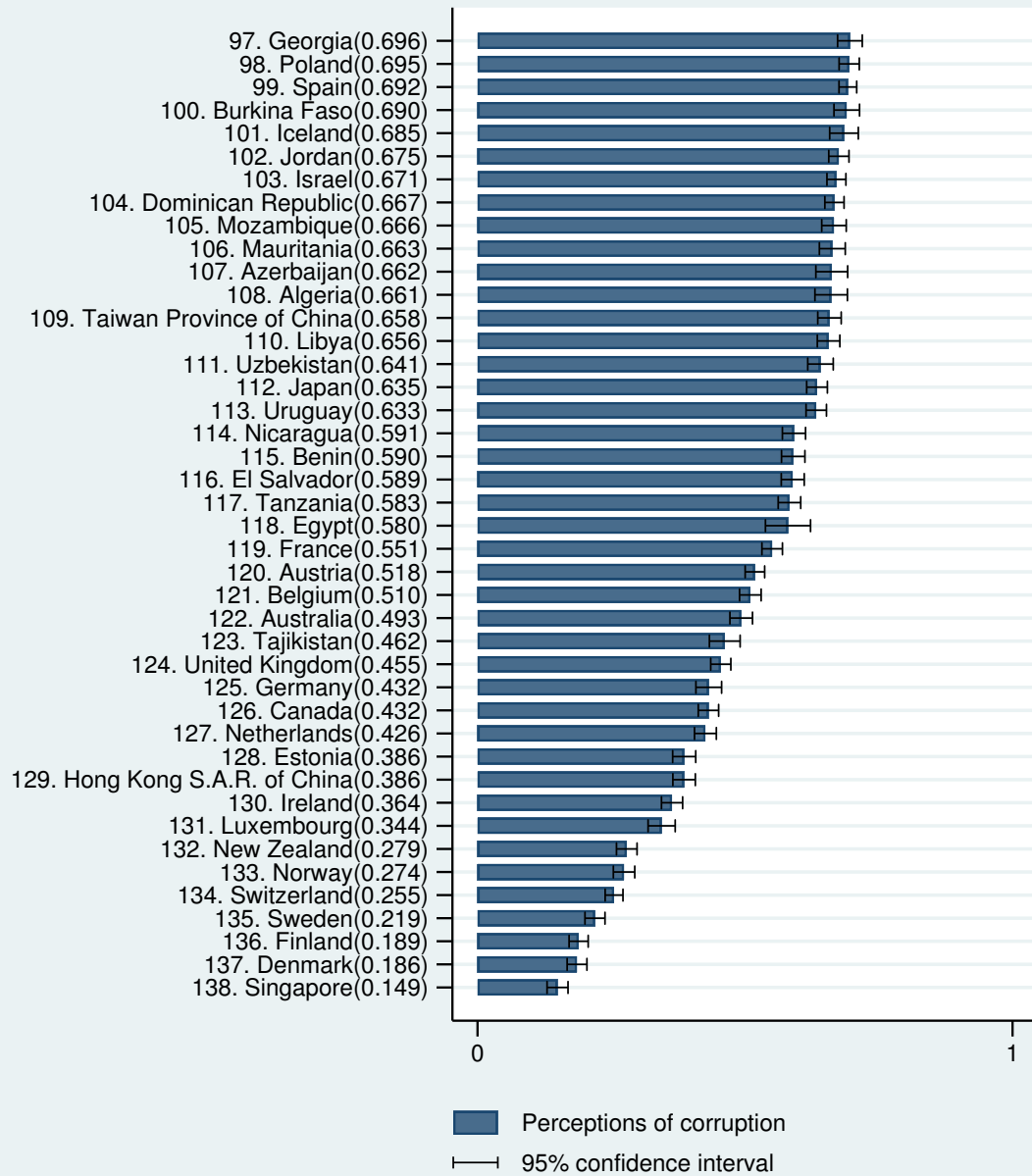


Figure 86: Ranking of Positive Affect: 2021-2023 (Part 1)

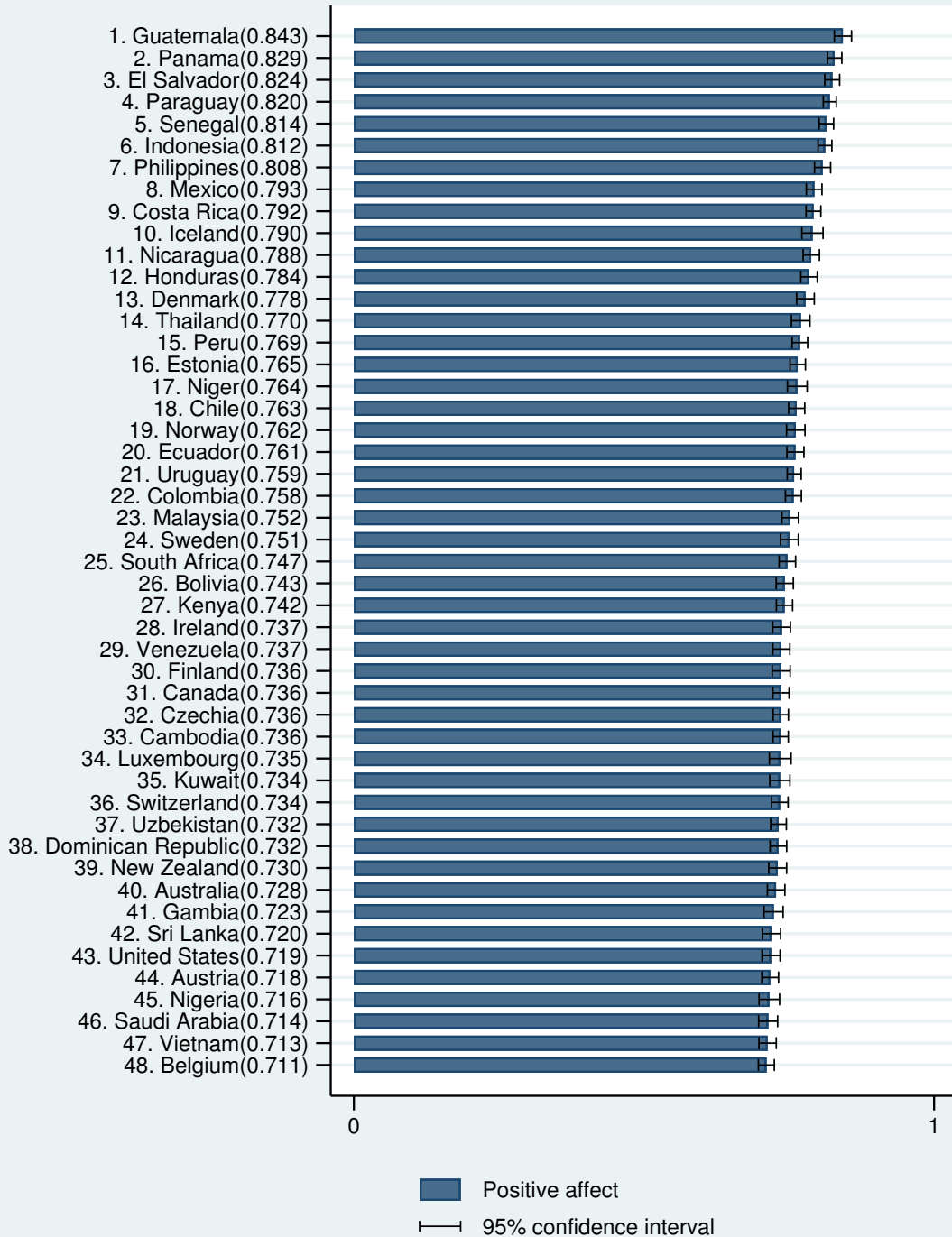


Figure 87: Ranking of Positive Affect: 2021-2023 (Part 2)

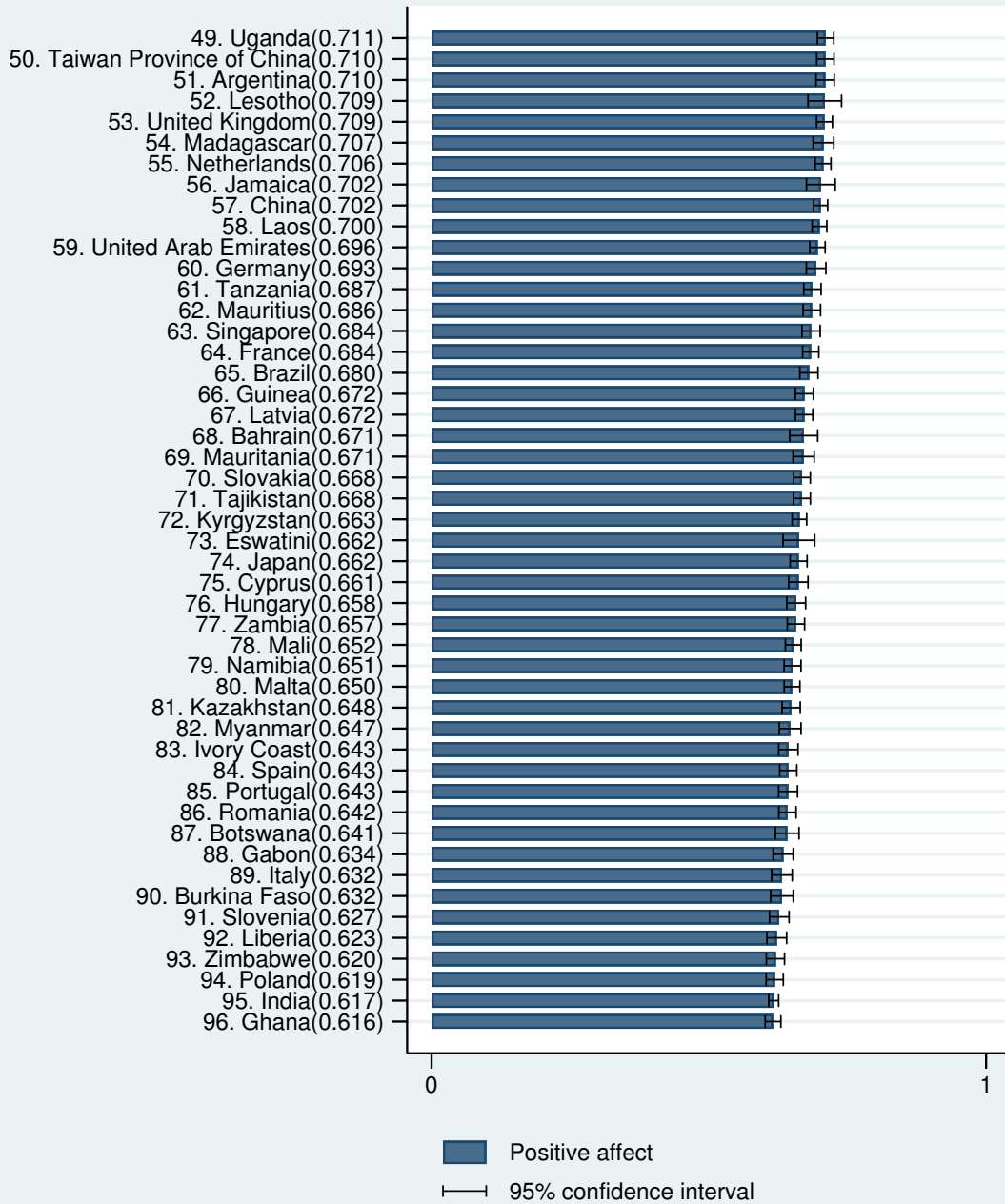


Figure 88: Ranking of Positive Affect: 2021-2023 (Part 3)

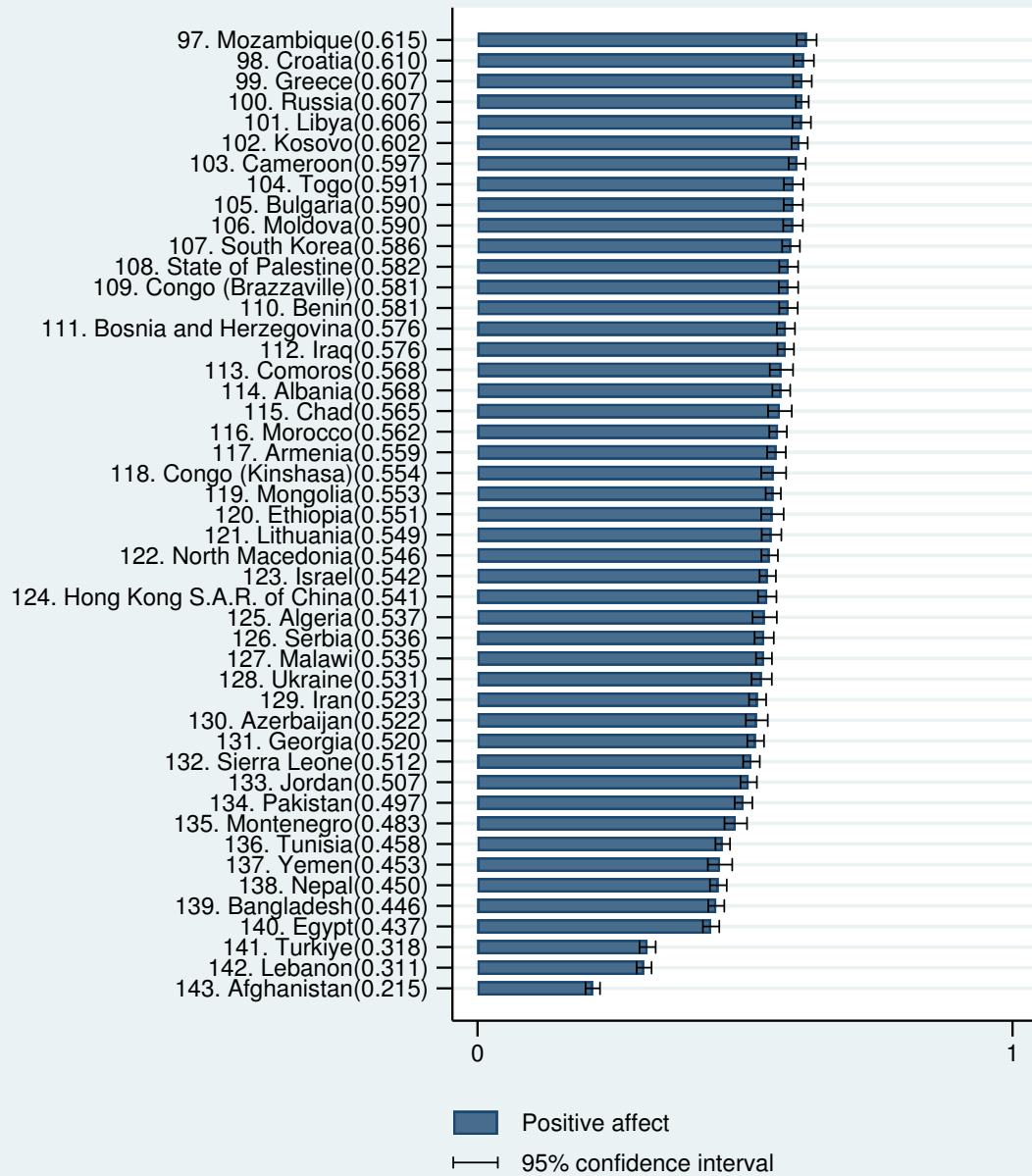




Figure 89: Ranking of Negative Affect: 2021-2023 (Part 1)

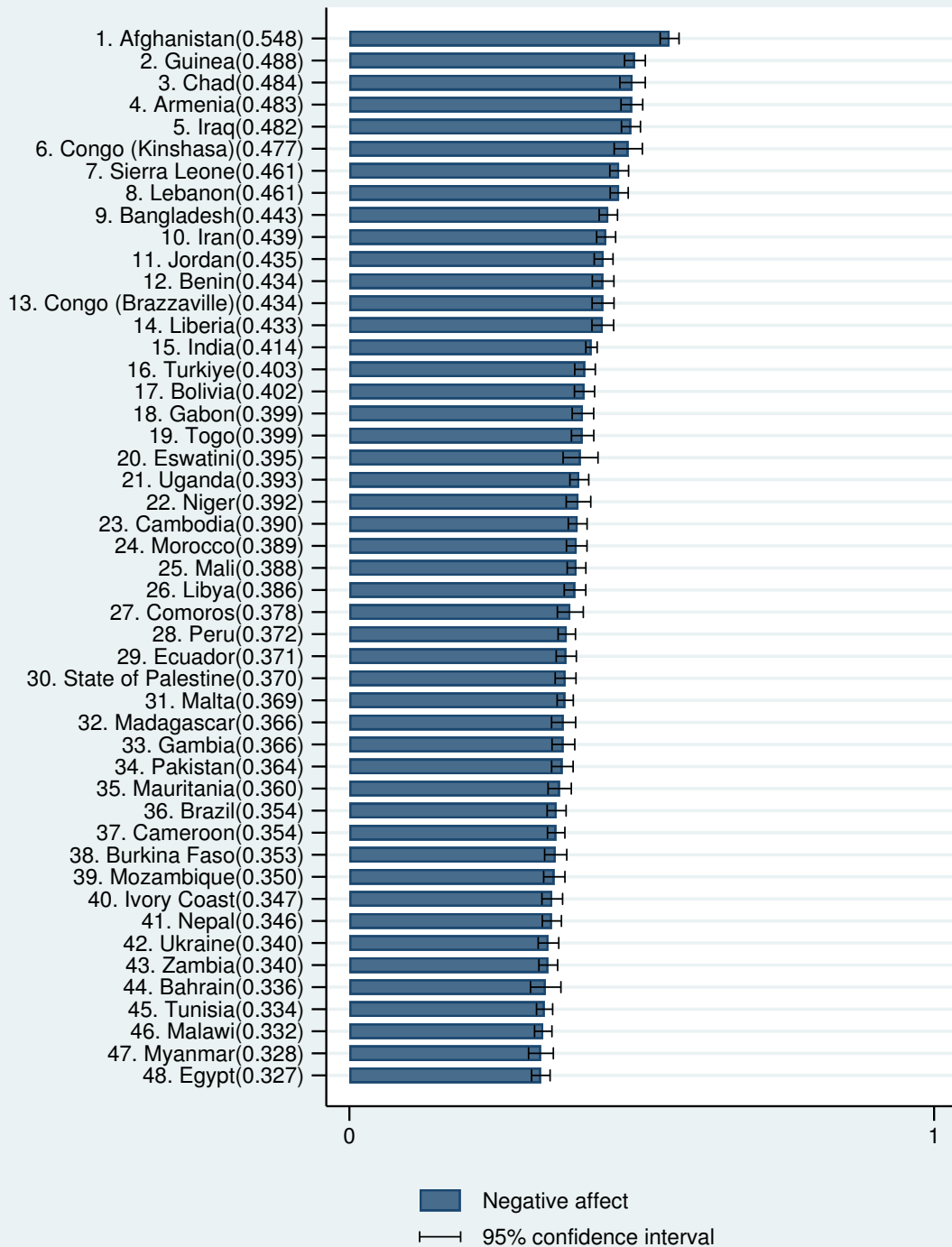


Figure 90: Ranking of Negative Affect: 2021-2023 (Part 2)

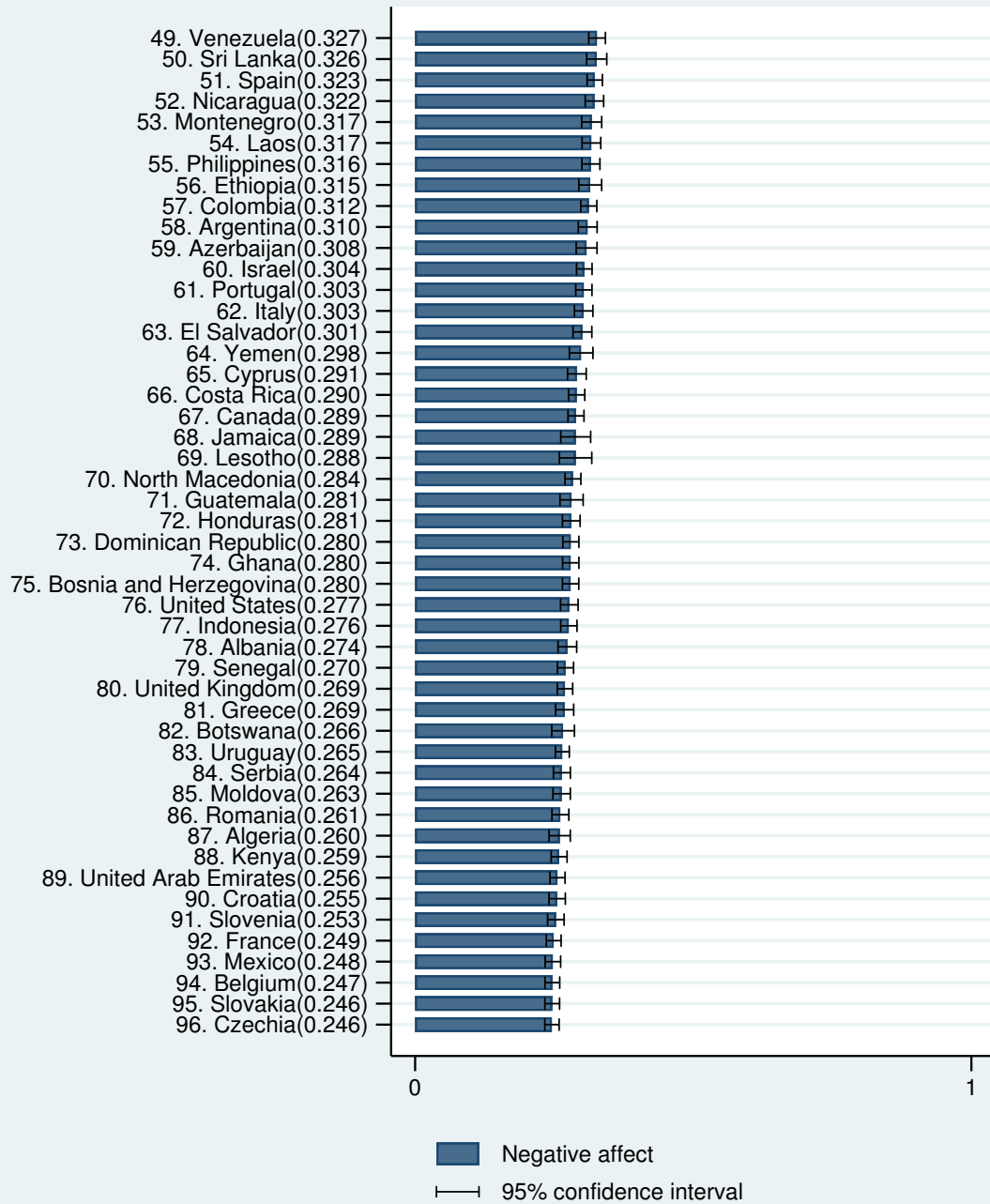


Figure 91: Ranking of Negative Affect: 2021-2023 (Part 3)

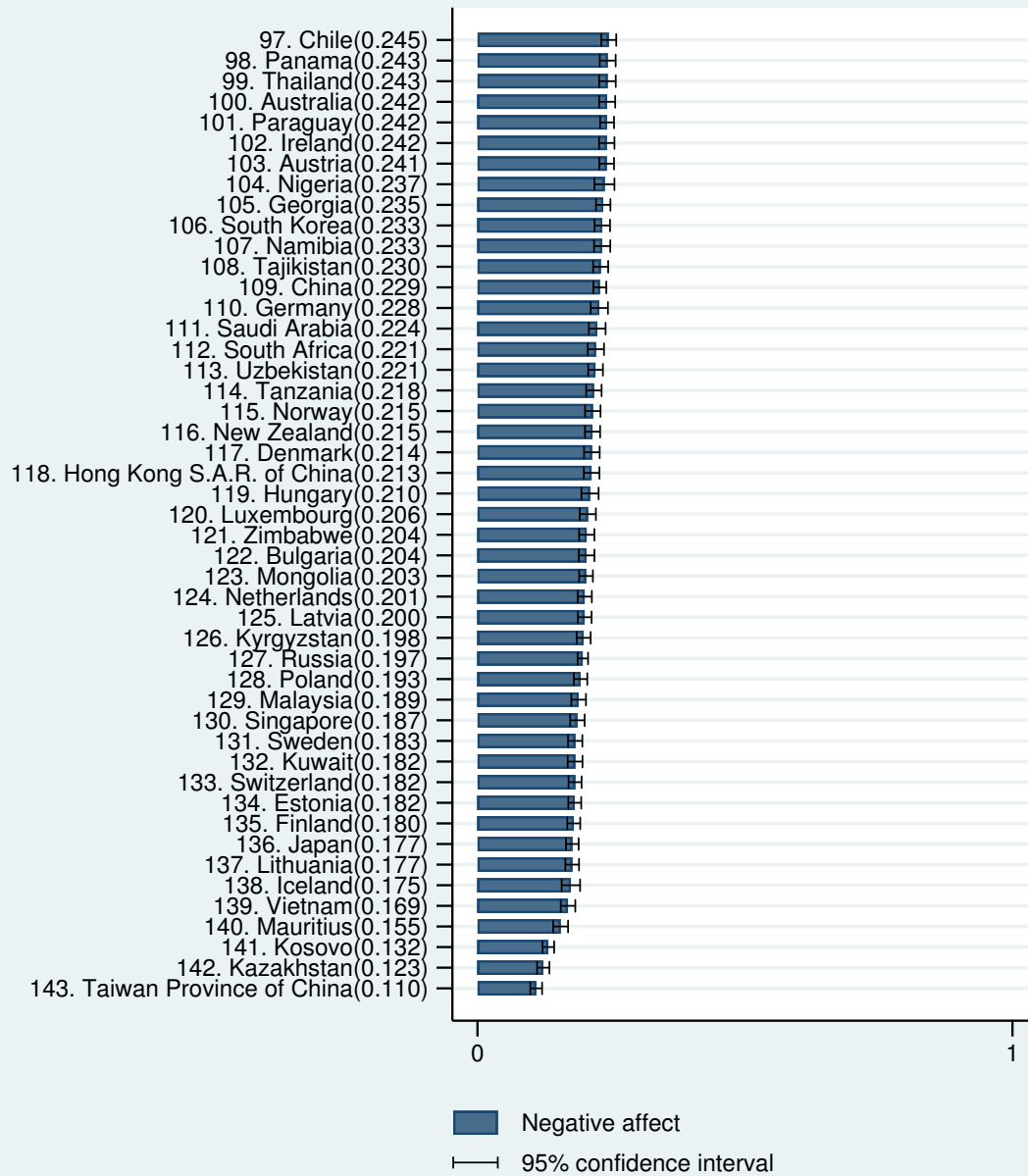


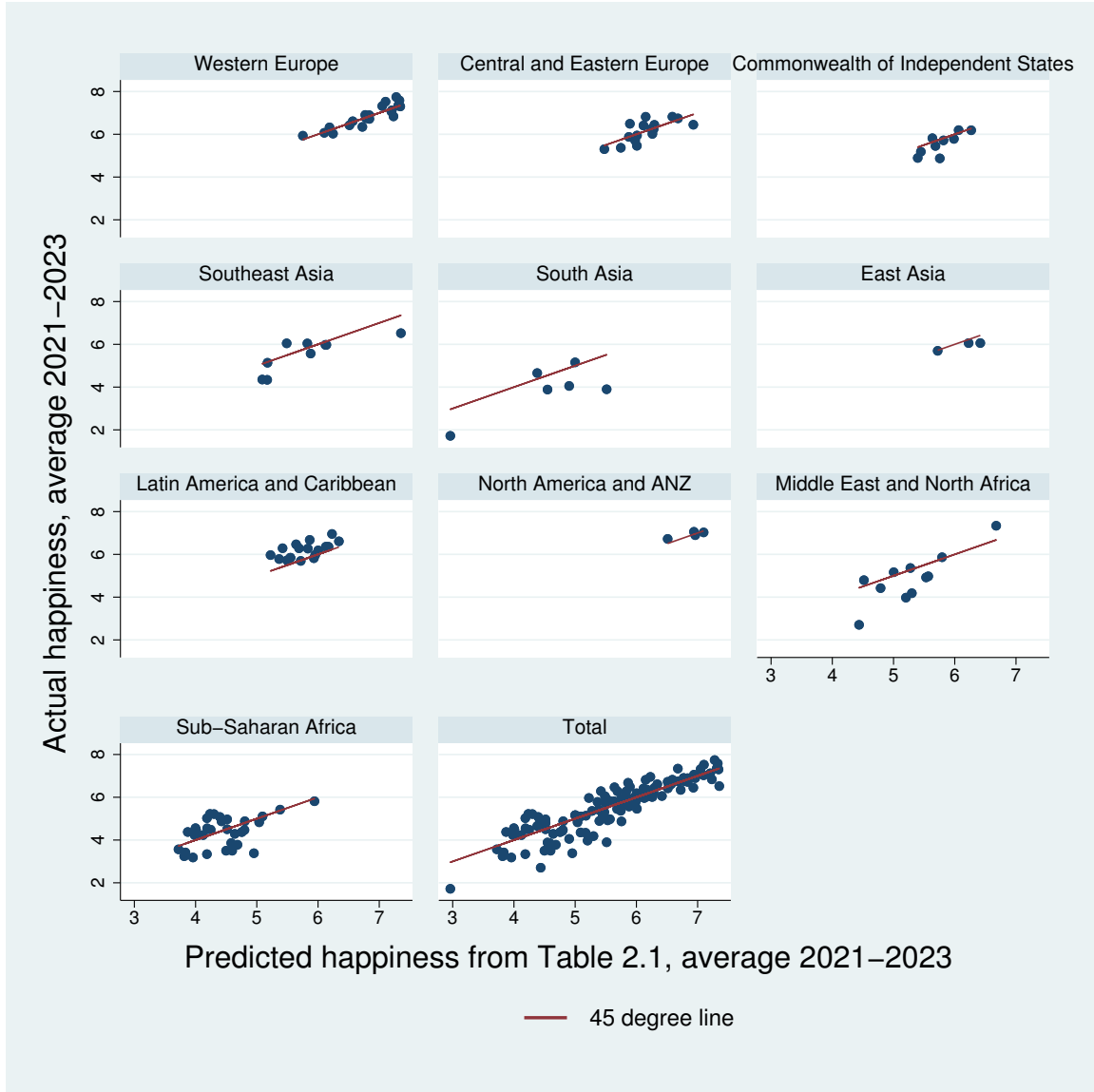
Table 24: Decomposing the happiness difference between a hypothetical average country and Dystopia

	Average country	Dystopia	Explained excess happiness over Dystopia due to	Share of explained excess happiness over Dystopia due to
Happiness	5.53	1.58		
Logged GDP per capita	9.47	5.53	1.38	.35
Social support	.79	.35	1.13	.29
Healthy life expectancy	64.95	46.15	.52	.13
Freedom to make life choices	.78	.33	.62	.16
Generosity	.03	-.27	.15	.04
Perceptions of corruption	.72	.93	.15	.04
Sum of explained excess over Dystopia			3.95	1

Table 25: Decomposing the happiness difference between the group of top 10 countries/territories and the group of bottom 10 countries/territories in the ranking of happiness scores

	Top 10	Bottom 10	Difference in happiness due to	Share of explained difference due to
Happiness	7.34	3.13		
Logged GDP per capita	11	8.08	1.02	.33
Social support	.93	.61	.83	.27
Healthy life expectancy	71.89	55.44	.46	.15
Freedom to make life choices	.9	.64	.36	.12
Generosity	.14	-.05	.09	.03
Perceptions of corruption	.37	.81	.32	.1
Total explained difference in happiness			3.08	1
Total difference in happiness			4.21	

Figure 92: Predicted happiness and actual happiness in 2021-2023



Note: These average actual (predicted) happiness scores by country/territory for the 2021-2023 period are weighted averages of the yearly averages by county/territory used in (predicted by) column (1)'s regression in Table 8. The yearly weights are the sums of Gallup-assigned individual weights by country/territory in that year.