Statistical Appendix for "The social foundations of world happiness", John F. Helliwell, Haifang Huang and Shun Wang, Chapter 2, World Happiness Report 2017

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1 Data Sources and Variable Definitions

- Happiness score or subjective well-being (variable name *ladder*): The survey measure of SWB is from the Dec 23, 2016 release of the Gallup World Poll (GWP), which covers the years from 2005 to 2016. 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.

- Inequality/distribution statistics of happiness scores by WP5-year (variables names *giniLadder* and more) from the GWP release. WP5 is GWP's coding of countries, including some sub-country territories such as Hong Kong. The statistics are named giniLadder, p95Ladder, p90Ladder, p75Ladder, p50Ladder, p25Ladder, p10Ladder, p05Ladder, maxLadder, minLadder, respectively the gini score, the various percentiles, the maximum and the minimum. They are all derived from the STATA command *ineqdec0* using observations in an individual country/territory in a given survey year with sample weights. According to Stephen P. Jenkins (May 2008, STATA Help), the command ineqdec0 "estimate[s] a range of inequality and related indices" using unit record or 'micro' level data, and that the calculations do not exclude observations whose value is equal to zero.

- Alternative measures of inequality in happiness scores by wp5-year (variable names *sdLadder* and *cvLadder*). These extra measures are sdLadder "Standard deviation of ladder by country-year" and cvLadder "Standard deviation/Mean of ladder by country-year".

- The statistics of GDP per capita (variable name *gdp*) in purchasing power parity (PPP) at constant 2011 international dollar prices are from the August 10, 2016 release of the World Development Indicators (WDI). The GDP figures for Taiwan are from the Penn World Table 7.1. Syria and Argentina are missing the GDP numbers in the WDI release but were present in earlier releases. We use the numbers from the earlier release, after adjusting their levels by a factor of 1.17 to take into account changes in the implied prices when switching from the PPP 2005 prices used in the earlier release to the PPP 2011 prices used in the latest release. The factor of 1.17 is the average ratio derived by dividing the US GDP per capita under the 2011 prices with their counterparts under the 2005 prices. The same 1.17 is used to adjust the Taiwanese numbers, which are originally PPP dollars at 2005 constant prices.

    – GPD per capita in 2016 are not yet available as of September 2016. We extend the GDP-per-capita time series from 2015 to 2016 using country-specific forecasts of real GDP growth in 2016 first from the OECD Economic Outlook No. 99 (Edition 2016/1) and then, if missing, forecasts from World Bank's Global Economic Prospects (Last Updated: 01/06/2016). The GDP growth forecasts are adjusted for population growth with the subtraction of 2014-15 population growth as the projected 2015-16 growth.

- Healthy Life Expectancy (HLE). The time series of healthy life expectancy at birth are calculated by the authors based on data from the World Health Organization (WHO), the World Development Indicators (WDI), and statistics published in journal articles. The challenge is that the healthy life expectancy, unlike the simple life expectancy, is not widely available as time series. In the WHO's Global Health Observatory Data Repository, the statistics of healthy life expectancy are reported only for the years of 2000 and 2012. In our effort to derive the time series of healthy life expectancy for our sample period (2005 to 2016), we use WDI's non-health adjusted life expectancy, which is available as time series up to the year 2014, as the basis of our calculation. Using country-specific ratios of healthy life expectancy to total life expectancy in 2012, available from the WHO, we adjust the time series of total life expectancy to healthy life expectancy by simple multiplication, assuming that the ratio remains constant within each country over the sample period. Three countries/regions are missing due to the lack of health/total life expectancy ratio. One is Hong Kong. We calculate its ratio using relevant estimates 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). Another is Puerto Rico. We set its ratio to the U.S. ratio of 0.886. The third is Kosovo, we set its ratio to the world average. The estimated life expectancy for Taiwan and the Palestinian Territories are available 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. Once we have the data, we use intrapolation

and extrapolation to fill in the missing values (when necessary) and to extend the period to 2016. Not all the countries/territories mentioned above are necessarily included in the most recent happiness ranking. The HLE is constructed regardless of a country/territory's presence in a particular ranking.

- 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: happiness, laugh and enjoyment in the Gallup World Poll waves 3-7. These measures are the responses to the following three questions, respectively: "Did you experience the following feelings during A LOT OF THE DAY yesterday? How about Happiness?", "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?" Waves 3-7 cover years 2008 to 2012 and a small number of countries in 2013. For waves 1-2 and those from wave 8 on, positive affect is defined as the average of laugh and enjoyment only, due to the limited availability of happiness.

- 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?"

- Gini of household income reported in the GWP (variable name *giniIncGallup*). The income variable, namely INC_001, is described in Gallup's "WORLDWIDE

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RESEARCH METHODOLOGY AND CODEBOOK" (Updated July 2015) as "Household Income International Dollars [...] To calculate income, respondents are asked to report their household income in local currency. Those respondents who have difficulty answering the question are presented a set of ranges in local currency and are asked which group they fall into. Income variables are created by converting local currency to International Dollars (ID) using purchasing power parity (PPP) ratios." The gini measure is generated using STATA command *ineqdec0* by WP5-year with sample weights.

- GINI index from the World Bank (variable name *giniIncWB* and *giniIncW-Bavg*) from the World Development Indicators (Last Updated: 22-Dec-2015). The variable labeled at the source as "GINI index (World Bank estimate)", series code "SI.POV.GINI". According to the source, the data source is "World Bank, Development Research Group. Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments." The variable *giniIncWB* is an unbalanced panel of yearly index. The data availability is patchy at the yearly frequency. The variable *giniIncW-Bavg* is the average of *giniIncWB* in the period 2000-2013. The average does not imply that a country has the gini index in all years in that period. In fact, most do not.

- Variables in the expanded data set: Confidence in national government from the GWP. The English wording of the question is "Do you have confidence in each of the following, or not? How about the national government? (WP139)".

- Variables in the expanded data set: "Most people can be trusted" from the GWP. The question's English wording is "Generally speaking, would you say that most people can be trusted or that you have to be careful in dealing with people?" This indicator has a limited coverage.

- Variables in the expanded data set: "Most people can be trusted" from the 6-wave World Value Surveys. The question's English wording is "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The measure is defined as the percentage of respondents saying that most people can be trusted, excluding those who did not provide an answer.

- Variables in the expanded data set: Democratic and delivery quality measures of governance are based on Worldwide Governance Indicators (WGI) project (Kaufmann, Kraay and Mastruzzi). The original data have six dimensions: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption. The indicators are on a scale roughly with mean zero and a standard deviation of 1. We reduce the number of dimensions to two using the simple average of the first two measures as an indicator of democratic quality, and the simple average of the other four measures as an indicator of delivery quality, following Helliwell and Huang (2008).

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. Tables 1-3 show the WP5-year pairs that are covered.

The 2014-2016 ranking of happiness scores includes 154 countries/territories that have the happiness scores in the 2014-2016 period, plus 1 country/territory that has the happiness score in 2013 but not in 2014-16; a later table has the list of the country/countries.

To appear in regression analysis that uses data from outside the GWP survey, a WP5-year 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 kind 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 list individual countries by their region grouping.

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

Country/territory (wp5 ID)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
United States (1)		1001	1225	1004	1003	1005	1008	2094	1005	2048	1019	1032
Egypt (2)	999		1024	1105	2112	2053	5296	4186	1149	1000	1000	1000
Morocco (3)						1006	1001	3000	1007		2050	1008
Lebanon (4)	996	1000		1000	2010	2027	2007	2013	1000	1000	1000	1000
Saudi Arabia (5)	1004		1006	1150	2052	2038	2022	1077	2036	2035	1012	1000
Jordan (6)	1000		1016	1007	2016	2000	2000	2000	1000	1000	1000	1000
Syria (7)				1209	2100	2035	2041	2043	1022		1002	
Turkey (8)	995		1001	1004	999	1000	1001	2000	1000	2003	1002	1001
Pakistan (9)	1001		1502	2484	3122	1030	1000	3012	1000	1000	1000	1000
Indonesia (10)		1180	1000	1050	1080	1080	1000	3000	1000	1000	1000	1000
Bangladesh (11)		1048	1200	1000	1000	1000	1000	3000	1000	1000	1000	1000
United Kingdom (12)	1037		1204	1001	1002	1000	9239	13408	750	2000	1000	1000
France (13)	1002	1220		1006	1000	1004	1001	2005	751	2000	1000	1000
Germany (14)	1001		1221	3016	2010	1007	9105	13269	751	2014	1000	2000
Netherlands (15)	1000		1000	1000		1001	1000	1000	751	2002	1003	1000
Belgium (16)	1003		1022	1002		1003	1002	1001	1006	2004	1037	1000
Spain (17)	1000		1004	1009	1005	1000	1006	2003	1004	2000	1000	1000
Italy (18)	1002		1008	1008	1005	1000	1005	2007	1004	2000	1000	1000
Poland (19)	1000		1000		1000	2000	1029	1000	1000	1000	1000	1000
Hungary (20)	1025		1010		1008	1008	1014	1004	1019	1003	1000	1000
Czech Republic (21)	1001		1072		2082	1000	1005	1001	1008	1000	1000	
Romania (22)	1022		1000		1000	1000	1008	1000	1000	998	1001	1001
Sweden (23)	1000		1001	1000	1002	1002	1006	1000	750	2001	1000	1000
Greece (24)	1002		1000		1000	1000	1000	1000	1003	1000	1000	1000
Denmark (25)	1004		1009	1001	1000	1000	1005	1001	753	2002	1005	1000
Iran (26)	1300		1004	1040			1003	3507	1000	2009	1001	1000
Hong Kong (27)		800		751	755	756	1028	1006		2017		1005
Singapore (28)		1095	1000	2551	1005	1001	1000		1000	1000	1000	1000
Japan (29)	1000		1150	3000	1000	1000	1000	2000	1001	2006	1003	1003
China (30)		3730	3733	3712	3833	4151	4220	9413	4244	4696	4265	4373
India (31)		2100	3186	2000	3010	6000	3518	10080	5540	3000	3000	3000
Venezuela (32)	1000	1000		1000	1000	1000	1000	1000	1000	1000	1000	1000
Brazil (33)	1029		1038	1032	1031	1043	1042	1002	2006	1007	1004	1001
Mexico (34)	1007		999	1000	1000	1000	1000	2000	1000	1017	1031	1000
Nigeria (35)		1000	1000	1000	1000	1000		2000	1002		1000	1000
Kenya (36)		1000	1000	2200	1000	1000	1000	1000	1000	1000	1000	1000
Tanzania (37)		1000	1000	1000	1000	1000	1000	1000	1008	1008	1000	1000
Israel (38)		1002	1001	1001	1000	1000	1000	1000	1000	1000	1000	1000
Palestinian Territories (39)		1000	1000	1000	2014	2000	2000	2000	1000	1000	1000	1000
Ghana (40)		1000	1000	1000	1000	1000	1000	1000	1008	1000	1000	1000
Uganda (41)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Benin (42)		1000		1000			1000	1000	1000	1000	1000	1000
Madagascar (43)		1000		1000			1000	1000	1008	1008	1000	1000
Malawi (44)		1000	1000		1000		1000	1000	1000	1000	1000	1000
South Africa (45)		1001	1000	1000	1000	1000	1000	2000	1000	1000	1000	1000
Canada (46)	1355		1010	1005	1011	1007	1013	2003	1021	2025	1011	1016
Australia (47)	1000		1205	1005		1000	1010	1002	1002	2002	1001	1004
Philippines (48)		1200	1000	1000	1000	1000	1000	2000	1000	1000	1000	1000
Sri Lanka (49)		1033	1000	1000	1000	1030	1000	2031	1030	1062	1062	
Vietnam (50)		1023	1015	1016	1008	1000	1000	2000	1017	1000	1000	1039
Thailand (51)		1410	1006	1038	1019	1000	1000	2000	1000	1000	1000	1000
Cambodia (52)		1000	1000	1024	1000	1000	1000	1000	1000	1000	1000	1000
Laos (53)		1001	1000	1000			1000	1000				
Myanmar (54)								1020	1020	1020	1020	1020
New Zealand (55)		1028	750	750		750	1000	1008	500	2001	1007	1004

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

Country/territory (wp5 ID)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Angola (56)							1000	1000	1000	1000		
Botswana (57)	1000		1000			1000	1000	1000	1000	1000	1000	1000
Ethiopia (60)								1500	1000	1004	1000	1000
Mali (61)	1000			1000	1000	1000	1000	1000	1000	1000	1000	1000
Mauritania (62)			1000	1000	1984	2000	2000	1000	1008	1000	1000	1000
Mozambique (63)	1000	1000	1000			1000				1000		
Niger (64)	1000	1000	1000	1000	1000	1000	1000	1008	1008	1000	1000	
Rwanda (65)	1504		1000	1000			1000	1000	1000	1000	1000	1000
Senegal (66)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Zambia (67)	1001	1000	1000	1000			1000	1000	1000	1000	1000	1000
South Korea (68)	1100	1000	1000	1000	1000	1001	2000	1000	2000	1000	1000	
Taiwan (69)	1002		1000			1000	1001	1000	1000	2000	1000	1000
Afghanistan (70)				1010	2000	1000	1000	2000	1000	1000	1000	1000
Belarus (71)	1092	1114	1091	1077	1013	1007	1052	1032	1036	1034	1039	
Georgia (72)	1000	1000	1080	1000	1000	1000	1000	1000	1000	1000	1000	
Kazakhstan (73)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Kyrgyzstan (74)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Moldova (75)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Russia (76)	2011	2949	2019	2042	4000	2000	3000	2000	2000	2000	2000	
Ukraine (77)	1102	1066	1074	1081	1000	1000	1000	1000	1000	1000	1000	
Burkina Faso (78)	1000	1000	1000			1000	1000	1000	1008	1000	1000	1000
Cameroon (79)	1000	1000	1000	1000	1200	1000	1000	1000	1000	1000	1000	
Sierra Leone (80)	1000	1000	1000		1000	1000			1008	1008	1000	1000
Zimbabwe (81)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Costa Rica (82)	1002	1002	1000	1000	1006	1000	1000	1000	1000	1000	1000	
Albania (83)		981			1000	1000	1006	1029	1035	999	1000	999
Algeria (84)							1000	2001	2027	1002		1001
Argentina (87)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Armenia (88)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Austria (89)	1004		1001			2000	1004	1001	1000	2000	1000	1000
Azerbaijan (90)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Bahrain (92)					2128	2032	2010	1000	1002	1005	2004	1010
Belize (94)		502								504		
Bhutan (95)									1000	1020	1020	
Bolivia (96)	1000	1000	1003	1000	1000	1000	1000	1000	1000	1000	1000	
Bosnia and Herzegovina (97)		2002			1002	1000	1009	1005	1010	1001	1000	1000
Bulgaria (99)		1003				2000	1006	1000	1000	1000	1000	1000
Burundi (100)				1000	1000		1000			1000		
Central African Republic (102)		1000			1000	1000						1000
Chad (103)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Chile (104)	1007	1023	1108	1009	1007	1009	1003	1001	1032	1040	1008	
Colombia (105)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Comoros (106)					2000	2000	2000	1000				
Congo (Kinshasa) (107)					1000		1000	1000	1000	1000	1000	1000
Congo Brazzaville (108)			1000				1000	500	1000	1000	1000	1000
Croatia (109)		1000		1009	1029	1029	1000	1000	1000	1000		
Cuba (110)	1000											
Cyprus (111)	1000				502	1005	1005	500	500	2000	1029	1006
Djibouti (112)				1000	2000	1000	1000					
Dominican Republic (114)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Ecuador (115)	1067	1061	1001	1000	1000	1003	1003	1000	1000	1000	1000	
El Salvador (116)	1000	1001	1000	1006	1001	1000	1000	1000	1000	1000	1000	
Estonia (119)	1003	1001	7601	608			1007	1004	1010	1000	1000	1000
Finland (121)	1010		1005			1000	1000	1000	750	2001	1000	1000
Gabon (122)							1000	1000	1008	1008	1000	1000
Guatemala (124)	1021	1000	1000	1015	1014	1000	1000	1000	1000	1000	1000	1000

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

Country/territory (wp5 ID)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Guinea (125)							1000	1000	1008	1000	1000	1000
Guyana (127)			501									
Haiti (128)		505		500		504	504	504	504	504	504	504
Honduras (129)		1000	1000	1000	1002	1000	1002	1000	1000	1000	1000	1000
Iceland (130)				502				1002	502		596	529
Iraq (131)				990	2001	2000	2000	2000	1003	2010	1009	1011
Ireland (132)		1000		1001	500	1001	1000	1000	1000	2000	1000	1000
Ivory Coast (134)					1000				1008	1000	1000	1000
Jamaica (135)		543					506		504	504		
Kuwait (137)		1000			2002	2004	2000	1000	1008	1013	2000	1000
Latvia (138)		1000	1017	513	515		1006	1001	1000	1002	1001	1019
Lesotho (139)							1000					1000
Liberia (140)			1000	1000		1000				1000	1000	1000
Libya (141)								1002			1006	1001
Lithuania (143)		1015	1007	506	500	1001	1000	1000	1000	1000	1000	1000
Luxembourg (144)					500	1002	1000	1001	500	2000	1000	1000
Macedonia (145)			1042		1008	1000	1018	1025	1020	1000	1024	1024
Malaysia (146)		1012	1233	1000	1011	1000	1000	1000	1000	2008	1002	
Malta (148)					508	1008	1004	1004	500	2013	1002	1011
Mauritius (150)								1000		1000		1000
Mongolia (153)			1000	1000		1000	1000	1000	1000	1000	1000	1000
Montenegro (154)			834		1003	1000	1000	1000	1000	1000	1000	1000
Namibia (155)			1000							1000		
Nepal (157)		1002	1000	1003	1002	1000	1000	2000	1050	1050	1000	1000
Nicaragua (158)		1001	1000	1000	1012	1000	1003	1000	1000	1000	1000	1000
Norway (160)		1001		1000				1004		2000	1005	2000
Oman (161)							2016					
Panama (163)		1005	1000	1004	1018	1000	1000	1001	1000	1000	1000	1000
Paraguay (164)		1001	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Peru (165)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Portugal (166)		1007		1002		2002	1000	1001	1001	2020	1021	1008
Puerto Rico (167)		500								500		
Qatar (168)					2028	1000	1032	2000			1000	
Serbia (173)			1556		1008	1000	1001	1023	1030	1000	1000	1000
Slovakia (175)		1018				1007	1012	1007	1004	1000	1000	1000
Slovenia (176)		1009			500	1002	1001	1000	1001	2020	1002	1000
Somalia (178)										1000	1000	1191
Sudan (181)					1784	1808	2000	1000		1000		
Suriname (182)								504				
Swaziland (183)							1000					
Switzerland (184)		1000			1003			1000		2010	501	1000
Tajikistan (185)		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Togo (187)		1000		1000			1000			1000	1000	1000
Trinidad & Tobago (189)		508		502			504		504			
Tunisia (190)					1006	2085	2034	2053	1053	1056	1000	1001
Turkmenistan (191)					1000		1000	1000	1000	1000	1000	1000
United Arab Emirates (193)		1013			2054	2066	2036	2016	1000	1002	2903	1855
Uruguay (194)		1004	1004	1005	1000	1000	1000	1009	1000	1000	1000	1000
Uzbekistan (195)		1000		1000	1000	1000	1000	1000	1000	1000	1000	1000
Yemen (197)			1000		2000	2000	2000	2000	1000	1000	1000	1000
Kosovo (198)			1046	1047	1000	1017	1047	1024	1000	1001	1000	1000
Somaliland region (199)					2000	2000	2000	1000				
Northern Cyprus (202)								500	502	2004	1000	1000
South Sudan (205)										1000	1000	1000

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

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

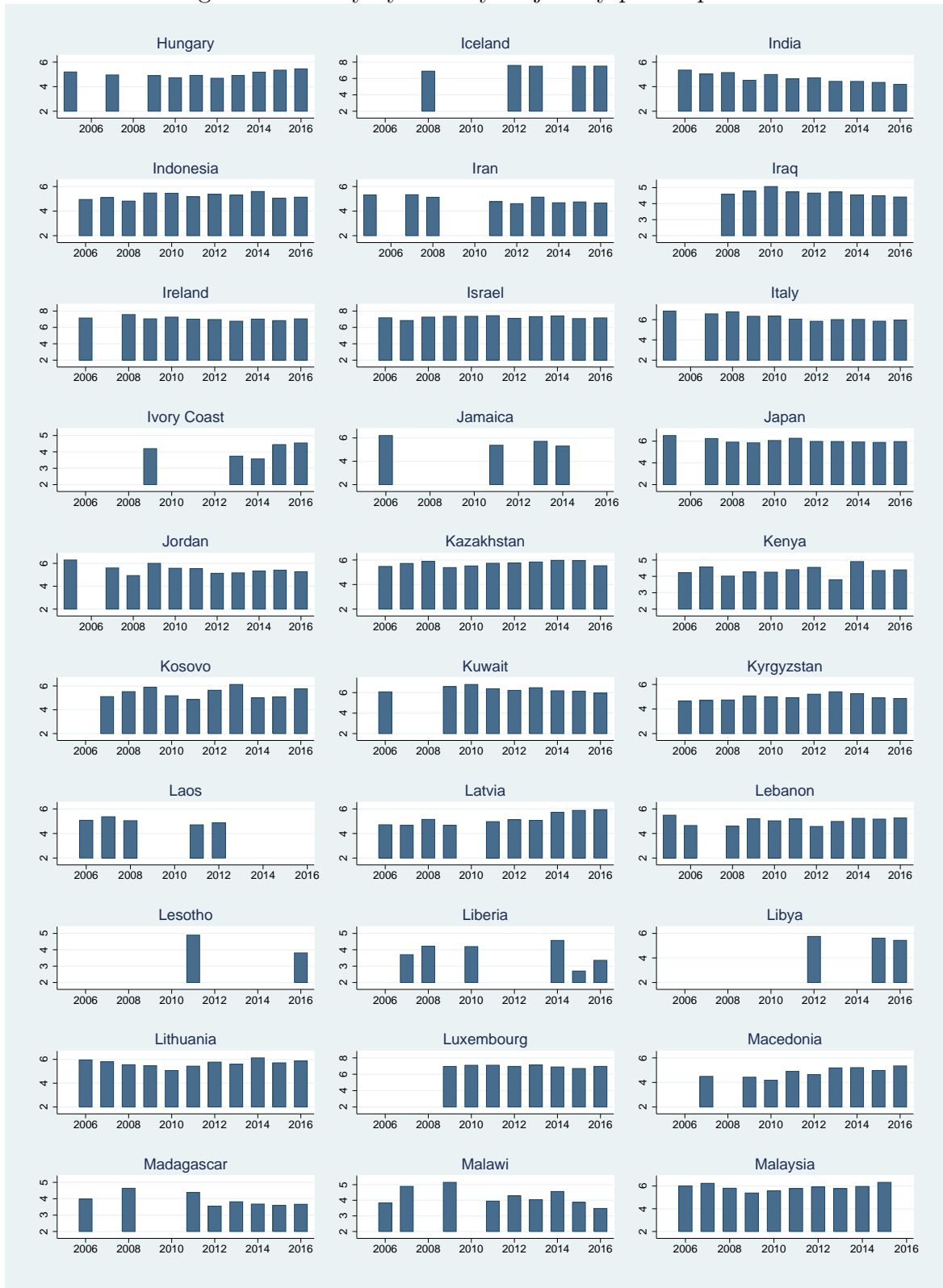Figure 3: County-by-country trajectory plots - part 3

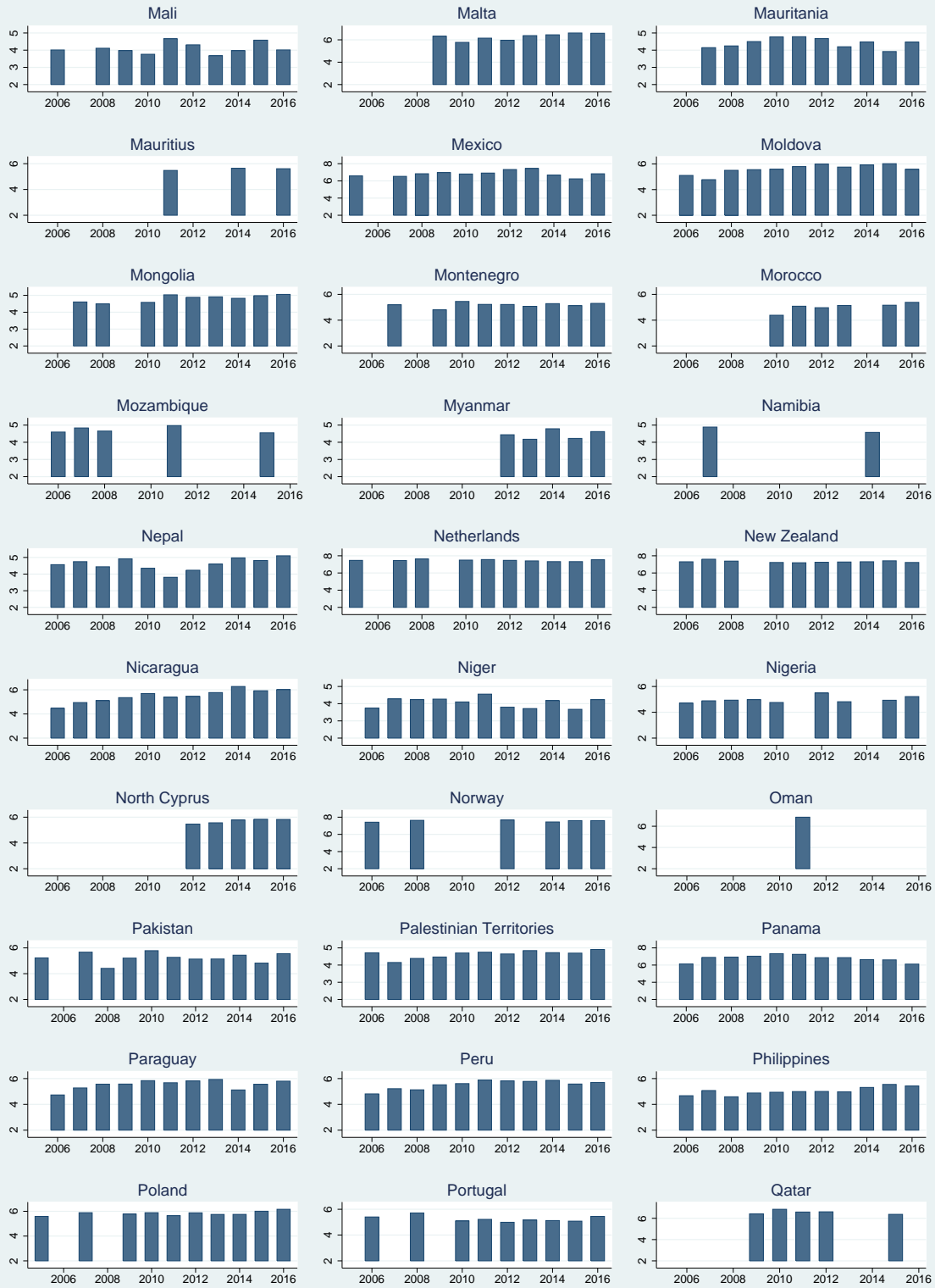Figure 4: County-by-country trajectory plots - part 4

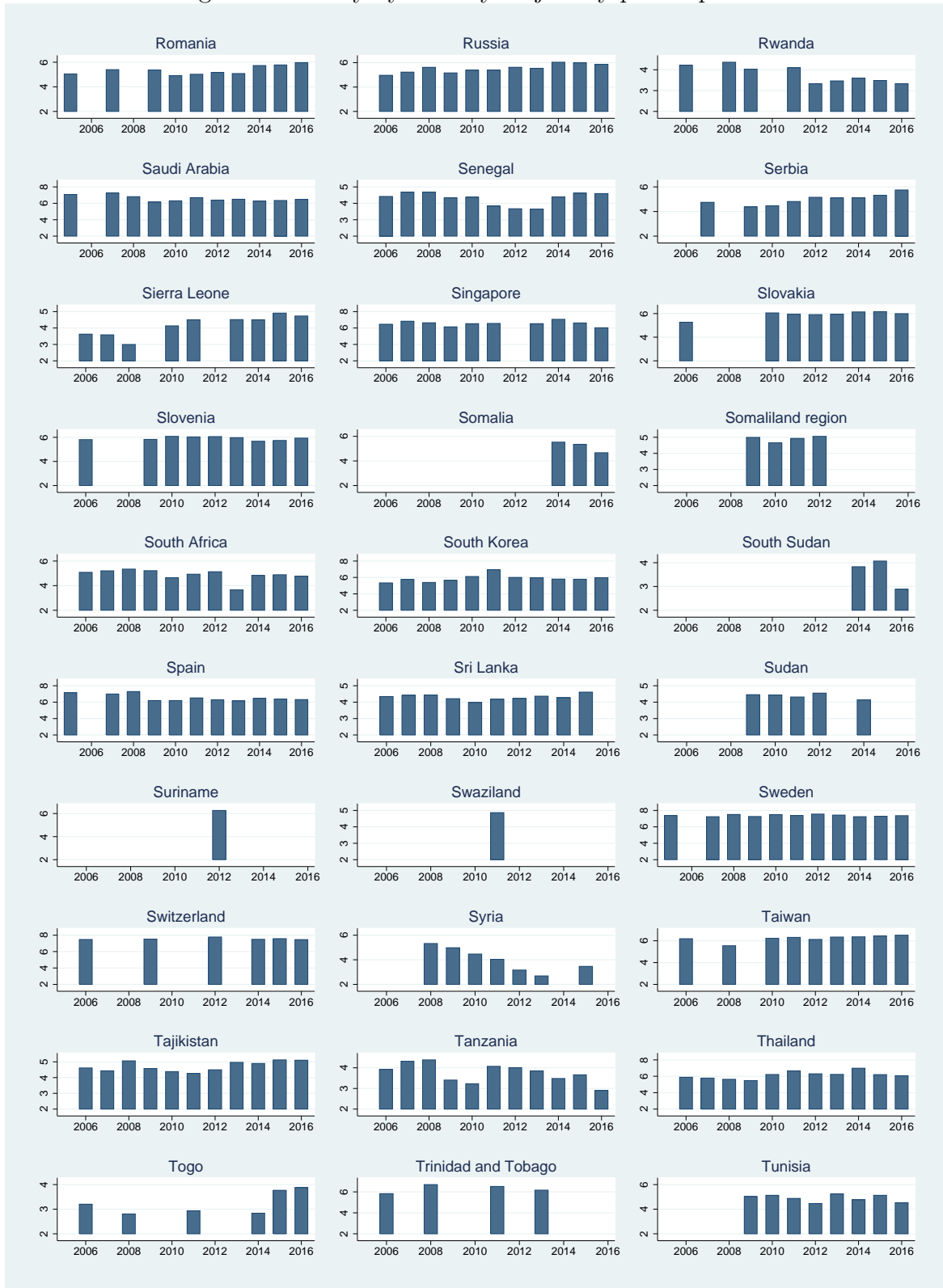Figure 5: County-by-country trajectory plots - part 5

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

Table 4: Summary statistics for country-year observations with valid happiness scores - Fullest sample

Variable	Mean	Std. Dev.	Min.	Max.	N
Life Ladder	5.43	1.12	2.69	8.02	1420
Positive affect	0.71	0.11	0.36	0.94	1403
Negative affect	0.26	0.08	0.08	0.70	1409
Log GDP per capita	9.20	1.18	6.35	11.82	1385
Social support	0.81	0.12	0.29	0.99	1408
Healthy life expectancy at birth	61.97	8.19	36.17	76.41	1411
Freedom to make life choices	0.72	0.15	0.26	0.98	1386
Generosity	0	0.16	-0.32	0.54	1328
Perceptions of corruption	0.76	0.19	0.04	0.98	1336

Table 5: Summary statistics for country-year observations with valid happiness scores - Period from 2005 to 2007

Variable	Mean	Std. Dev.	Min.	Max.	N
Life Ladder	5.46	1.12	3.2	8.02	218
Positive affect	0.72	0.1	0.43	0.89	216
Negative affect	0.25	0.07	0.09	0.47	216
Log GDP per capita	9.12	1.18	6.48	11.47	218
Social support	0.83	0.11	0.44	0.98	216
Healthy life expectancy at birth	60.79	8.81	36.17	74.28	218
Freedom to make life choices	0.72	0.15	0.28	0.97	212
Generosity	0.01	0.17	-0.32	0.49	184
Perceptions of corruption	0.77	0.18	0.06	0.98	206

Table 6: Summary statistics for country-year observations with valid happiness scores - Period from 2014 to 2016

Variable	Mean	Std. Dev.	Min.	Max.	N
Life Ladder	5.4	1.14	2.69	7.66	429
Positive affect	0.71	0.1	0.37	0.94	424
Negative affect	0.28	0.09	0.1	0.64	425
Log GDP per capita	9.26	1.19	6.57	11.82	408
Social support	0.81	0.12	0.29	0.99	425
Healthy life expectancy at birth	62.7	7.92	43.14	76.41	426
Freedom to make life choices	0.75	0.14	0.3	0.98	414
Generosity	0	0.15	-0.3	0.54	397
Perceptions of corruption	0.74	0.19	0.05	0.98	396

Table 7: Regression reported in Table 2.1 of WHR 2016, and replication using updated data

	WHR2016	Current
	(1)	(2)
lngdp	0.338	0.341
	(0.059)***	(0.06)***
countOnFriends	2.334	2.332
	(0.429)***	(0.407)***
Health life expectancy	0.029	0.029
	(0.008)***	(0.008)***
freedom	1.056	1.098
	(0.319)***	(0.31)***
Generosity	0.82	0.842
	(0.276)***	(0.273)***
corrupt	-.579	-.533
	(0.282)**	(0.287)*
Year 2005	0.428	0.422
	(0.097)***	(0.096)***
Year 2006	-.029	-.035
	(0.06)	(0.06)
Year 2007	0.224	0.224
	(0.06)***	(0.06)***
Year 2008	0.296	0.3
	(0.058)***	(0.058)***
Year 2009	0.21	0.213
	(0.058)***	(0.058)***
Year 2010	0.127	0.129
	(0.046)***	(0.046)***
Year 2011	0.152	0.153
	(0.048)***	(0.048)***
Year 2012	0.121	0.123
	(0.042)***	(0.041)***
Year 2013	0.068	0.067
	(0.039)*	(0.039)*
Year 2015	0.017	0.021
	(0.042)	(0.041)
Year 2016		-.019
		(0.049)
Obs.	1118	1249
e(N-clust)	156	155
e(r2-a)	0.741	0.746

Notes: 1) Column 1 reports estimates from a pooled OLS regression based on data used in the WHR 2016 update (sample period 2005-2015). Column 2 replicates the regression with updated data that include observations from the year 2016 so far. 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. 4). Puerto Rico is no longer included in the latest analysis; thus the number of "e(N-clust)" drops by 1.

Table 8: (Table 2.1 in WHR 2016 Updated With the Most Recent Data, with year fixed effects): Regressions to Explain Average Happiness across Countries (Pooled OLS)

	Ladder	PosAffect	NegAffect	LadderAgain
	(1)	(2)	(3)	(4)
Log GDP per capita	0.341	-.002	0.01	0.343
	(0.06)***	(0.009)	(0.008)	(0.06)***
Social support	2.332	0.255	-.258	1.813
	(0.407)***	(0.051)***	(0.047)***	(0.407)***
Healthy life expectancy at birth	0.029	0.0002	0.001	0.028
	(0.008)***	(0.001)	(0.001)	(0.008)***
Freedom to make life choices	1.098	0.325	-.081	0.403
	(0.31)***	(0.039)***	(0.043)*	(0.301)
Generosity	0.842	0.164	-.006	0.482
	(0.273)***	(0.031)***	(0.029)	(0.275)*
Perceptions of corruption	-.533	0.029	0.095	-.607
	(0.287)*	(0.028)	(0.025)***	(0.276)**
Positive affect				2.199
				(0.428)***
Negative affect				0.153
				(0.474)
Year 2005	0.422	-.011	0.018	0.447
	(0.096)***	(0.008)	(0.008)**	(0.093)***
Year 2006	-.035	0.007	-.003	-.039
	(0.06)	(0.009)	(0.008)	(0.059)
Year 2007	0.224	0.012	-.027	0.21
	(0.06)***	(0.008)	(0.007)***	(0.059)***
Year 2008	0.3	0.016	-.037	0.275
	(0.058)***	(0.007)**	(0.007)***	(0.062)***
Year 2009	0.213	0.012	-.025	0.194
	(0.058)***	(0.008)	(0.007)***	(0.058)***
Year 2010	0.129	0.008	-.030	0.12
	(0.046)***	(0.007)	(0.006)***	(0.048)**
Year 2011	0.153	0.0003	-.022	0.159
	(0.048)***	(0.007)	(0.006)***	(0.049)***
Year 2012	0.123	0.007	-.016	0.113
	(0.041)***	(0.006)	(0.006)***	(0.043)***
Year 2013	0.067	0.01	-.010	0.05
	(0.039)*	(0.005)**	(0.005)**	(0.039)
Year 2015	0.021	0.00009	-.0002	0.024
	(0.041)	(0.005)	(0.004)	(0.04)
Year 2016	-.019	-.004	0.014	-.011
	(0.049)	(0.005)	(0.005)***	(0.047)
Obs.	1249	1246	1248	1245
e(N-clust)	155	155	155	155
e(r2-a)	0.746	0.49	0.233	0.767

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: Robustness test - With respondents in a survey (by country-year) randomly divided into two groups. One group's average social support, sense of freedom, generosity and perception of corruption are then used to predict another group's average ladder, positive affect and negative affect. Else the same as in the preceding table. Note that the sample size is doubled compared to the earlier table, because each country-year now has two group averages and therefore two observations in this table's regressions. But the amount of variations in the data is not inflated, because the standard errors are always cluster-adjusted by country to allows for intra-cluster correlations

	Ladder	PosAffect	NegAffect	LadderAgain
	(1)	(2)	(3)	(4)
Log GDP per capita	0.346	-.001	0.009	0.347
	(0.059)***	(0.009)	(0.008)	(0.06)***
Social support	2.254	0.248	-.249	1.736
	(0.393)***	(0.05)***	(0.045)***	(0.388)***
Healthy life expectancy at birth	0.029	0.0002	0.001	0.028
	(0.008)***	(0.001)	(0.001)	(0.008)***
Freedom to make life choices	1.092	0.319	-.081	0.406
	(0.302)***	(0.038)***	(0.042)*	(0.289)
Generosity	0.838	0.163	-.007	0.48
	(0.268)***	(0.031)***	(0.029)	(0.27)*
Perceptions of corruption	-.528	0.027	0.093	-.594
	(0.285)*	(0.028)	(0.025)***	(0.273)**
Positive affect				2.199
				(0.411)***
Negative affect				0.101
				(0.455)
Year 2005	0.43	-.010	0.017	0.453
	(0.096)***	(0.008)	(0.008)**	(0.093)***
Year 2006	-.032	0.007	-.004	-.037
	(0.06)	(0.009)	(0.008)	(0.058)
Year 2007	0.224	0.012	-.027	0.209
	(0.06)***	(0.008)	(0.007)***	(0.058)***
Year 2008	0.299	0.016	-.037	0.273
	(0.057)***	(0.007)**	(0.007)***	(0.061)***
Year 2009	0.213	0.011	-.025	0.193
	(0.057)***	(0.008)	(0.007)***	(0.057)***
Year 2010	0.13	0.008	-.030	0.119
	(0.046)***	(0.007)	(0.006)***	(0.048)**
Year 2011	0.153	0.0003	-.022	0.158
	(0.048)***	(0.007)	(0.006)***	(0.049)***
Year 2012	0.123	0.007	-.016	0.112
	(0.041)***	(0.006)	(0.006)***	(0.043)***
Year 2013	0.066	0.01	-.010	0.049
	(0.039)*	(0.005)**	(0.005)**	(0.039)
Year 2015	0.02	0.00007	-.0002	0.023
	(0.041)	(0.005)	(0.004)	(0.039)
Year 2016	-.019	-.003	0.013	-.010
	(0.049)	(0.005)	(0.005)***	(0.047)
Obs.	2498	2492	2496	2490
e(N-clust)	155	155	155	155
e(r2-a)	0.742	0.477	0.227	0.764

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: Same robustness test - But using only half the sample

	Ladder	PosAffect	NegAffect	LadderAgain
	(1)	(2)	(3)	(4)
Log GDP per capita	0.345	-.002	0.009	0.347
	(0.061)***	(0.009)	(0.008)	(0.061)***
Social support	2.268	0.262	-.251	1.744
	(0.398)***	(0.052)***	(0.045)***	(0.392)***
Healthy life expectancy at birth	0.029	0.0002	0.002	0.028
	(0.008)***	(0.001)	(0.001)	(0.008)***
Freedom to make life choices	1.097	0.313	-.080	0.43
	(0.31)***	(0.039)***	(0.044)*	(0.3)
Generosity	0.821	0.159	-.005	0.474
	(0.273)***	(0.031)***	(0.03)	(0.273)*
Perceptions of corruption	-.524	0.023	0.095	-.588
	(0.29)*	(0.028)	(0.025)***	(0.279)**
Positive affect				2.183
				(0.419)***
Negative affect				0.164
				(0.465)
Year 2005	0.39	-.013	0.014	0.419
	(0.097)***	(0.008)	(0.008)	(0.094)***
Year 2006	-.047	0.0009	-.003	-.039
	(0.059)	(0.009)	(0.009)	(0.057)
Year 2007	0.223	0.009	-.026	0.217
	(0.062)***	(0.008)	(0.007)***	(0.06)***
Year 2008	0.3	0.017	-.036	0.276
	(0.058)***	(0.008)**	(0.007)***	(0.06)***
Year 2009	0.213	0.01	-.024	0.197
	(0.059)***	(0.008)	(0.007)***	(0.058)***
Year 2010	0.125	0.006	-.029	0.121
	(0.048)***	(0.007)	(0.006)***	(0.049)**
Year 2011	0.16	-.0009	-.022	0.168
	(0.049)***	(0.008)	(0.006)***	(0.05)***
Year 2012	0.135	0.007	-.016	0.125
	(0.043)***	(0.006)	(0.006)**	(0.044)***
Year 2013	0.065	0.009	-.012	0.051
	(0.04)	(0.005)*	(0.005)**	(0.04)
Year 2015	0.023	-.0006	0.001	0.027
	(0.042)	(0.005)	(0.004)	(0.04)
Year 2016	-.023	-.002	0.012	-.018
	(0.05)	(0.005)	(0.005)**	(0.048)
Obs.	1249	1246	1248	1245
e(N-clust)	155	155	155	155
e(r2-a)	0.739	0.473	0.22	0.761

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 11: Robustness test - Using the other half the sample

	Ladder	PosAffect	NegAffect	LadderAgain
	(1)	(2)	(3)	(4)
Log GDP per capita	0.348	-.0003	0.01	0.348
	(0.059)***	(0.009)	(0.008)	(0.059)***
Social support	2.242	0.235	-.247	1.729
	(0.396)***	(0.048)***	(0.046)***	(0.392)***
Healthy life expectancy at birth	0.029	0.0003	0.001	0.029
	(0.008)***	(0.001)	(0.001)	(0.008)***
Freedom to make life choices	1.088	0.325	-.081	0.381
	(0.3)***	(0.039)***	(0.042)*	(0.284)
Generosity	0.856	0.168	-.010	0.485
	(0.266)***	(0.032)***	(0.029)	(0.27)*
Perceptions of corruption	-.530	0.032	0.092	-.600
	(0.283)*	(0.028)	(0.025)***	(0.27)**
Positive affect				2.214
				(0.412)***
Negative affect				0.037
				(0.456)
Year 2005	0.469	-.007	0.021	0.487
	(0.096)***	(0.009)	(0.009)**	(0.092)***
Year 2006	-.016	0.013	-.005	-.036
	(0.064)	(0.009)	(0.009)	(0.063)
Year 2007	0.225	0.016	-.028	0.2
	(0.06)***	(0.009)*	(0.007)***	(0.06)***
Year 2008	0.297	0.015	-.037	0.269
	(0.06)***	(0.007)**	(0.007)***	(0.064)***
Year 2009	0.213	0.013	-.025	0.189
	(0.059)***	(0.008)	(0.007)***	(0.059)***
Year 2010	0.134	0.01	-.030	0.117
	(0.047)***	(0.007)	(0.006)***	(0.049)**
Year 2011	0.147	0.001	-.023	0.147
	(0.049)***	(0.008)	(0.006)***	(0.05)***
Year 2012	0.11	0.007	-.016	0.098
	(0.043)***	(0.006)	(0.006)**	(0.044)**
Year 2013	0.068	0.011	-.009	0.047
	(0.041)	(0.005)**	(0.006)	(0.042)
Year 2015	0.018	0.0008	-.001	0.019
	(0.043)	(0.005)	(0.004)	(0.042)
Year 2016	-.015	-.005	0.015	-.003
	(0.052)	(0.005)	(0.005)***	(0.05)
Obs.	1249	1246	1248	1245
e(N-clust)	155	155	155	155
e(r2-a)	0.741	0.475	0.224	0.765

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 12: Robustness test - Using lagged social support, sense of freedom, generosity and perception of corruption

	Ladder	PosAffect	NegAffect	LadderAgain
	(1)	(2)	(3)	(4)
lngdp	0.333	-.009	0.008	0.357
	(0.064)***	(0.01)	(0.009)	(0.066)***
L.countOnFriends	2.171	0.241	-.222	1.588
	(0.458)***	(0.057)***	(0.052)***	(0.45)***
adjusted-hle	0.036	0.001	0.001	0.033
	(0.008)***	(0.001)	(0.001)	(0.009)***
L.freedom	0.977	0.323	-.081	0.231
	(0.343)***	(0.042)***	(0.05)	(0.343)
L.donation-net-n	0.838	0.169	-.009	0.449
	(0.283)***	(0.033)***	(0.032)	(0.291)
L.corrupt	-.474	0.031	0.087	-.543
	(0.307)	(0.031)	(0.028)***	(0.301)*
Positive affect				2.289
				(0.443)***
Negative affect				-.113
				(0.491)
Year 2005				
Year 2006				
Year 2007	0.096	0.008	-.020	0.079
	(0.084)	(0.011)	(0.01)**	(0.081)
Year 2008	0.181	0.003	-.020	0.171
	(0.069)***	(0.009)	(0.007)***	(0.068)**
Year 2009	0.276	0.027	-.035	0.213
	(0.072)***	(0.01)***	(0.008)***	(0.067)***
Year 2010	0.135	0.013	-.023	0.108
	(0.06)**	(0.008)	(0.007)***	(0.058)*
Year 2011	0.072	-.006	-.010	0.086
	(0.057)	(0.008)	(0.006)	(0.056)
Year 2012	-.004	-.009	-.003	0.018
	(0.043)	(0.007)	(0.006)	(0.042)
Year 2013	0.018	0.009	-.003	0.001
	(0.04)	(0.005)*	(0.005)	(0.042)
Year 2015	-.062	-.006	0.009	-.046
	(0.037)*	(0.005)	(0.005)*	(0.035)
Year 2016	-.016	-.0002	0.017	-.011
	(0.048)	(0.005)	(0.007)***	(0.044)
Obs.	1011	1005	1009	1005
e(N-clust)	145	144	144	144
e(r2-a)	0.721	0.465	0.192	0.747

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 13: (Table 2.1 in WHR 2016 Updated With the Most Recent Data, without year fixed effects): Regressions to Explain Average Happiness across Countries (Pooled OLS)

	Ladder	PosAffect	NegAffect	LadderAgain
	(1)	(2)	(3)	(4)
Log GDP per capita	0.352	-.001	0.009	0.355
	(0.059)***	(0.009)	(0.008)	(0.06)***
Social support	2.341	0.259	-.265	1.743
	(0.396)***	(0.05)***	(0.046)***	(0.402)***
Healthy life expectancy at birth	0.028	0.0001	0.002	0.028
	(0.008)***	(0.001)	(0.001)	(0.008)***
Freedom to make life choices	0.969	0.316	-.061	0.266
	(0.298)***	(0.037)***	(0.042)	(0.289)
Generosity	0.898	0.168	-.013	0.524
	(0.272)***	(0.031)***	(0.029)	(0.275)*
Perceptions of corruption	-.536	0.029	0.096	-.588
	(0.282)*	(0.028)	(0.025)***	(0.274)**
Positive affect				2.228
				(0.44)***
Negative affect				-.091
				(0.454)
year-1				
year-2				
year-3				
year-4				
year-5				
year-6				
year-7				
year-8				
year-9				
year-11				
year-12				
Obs.	1249	1246	1248	1245
e(N-clust)	155	155	155	155
e(r2-a)	0.74	0.491	0.206	0.763

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.
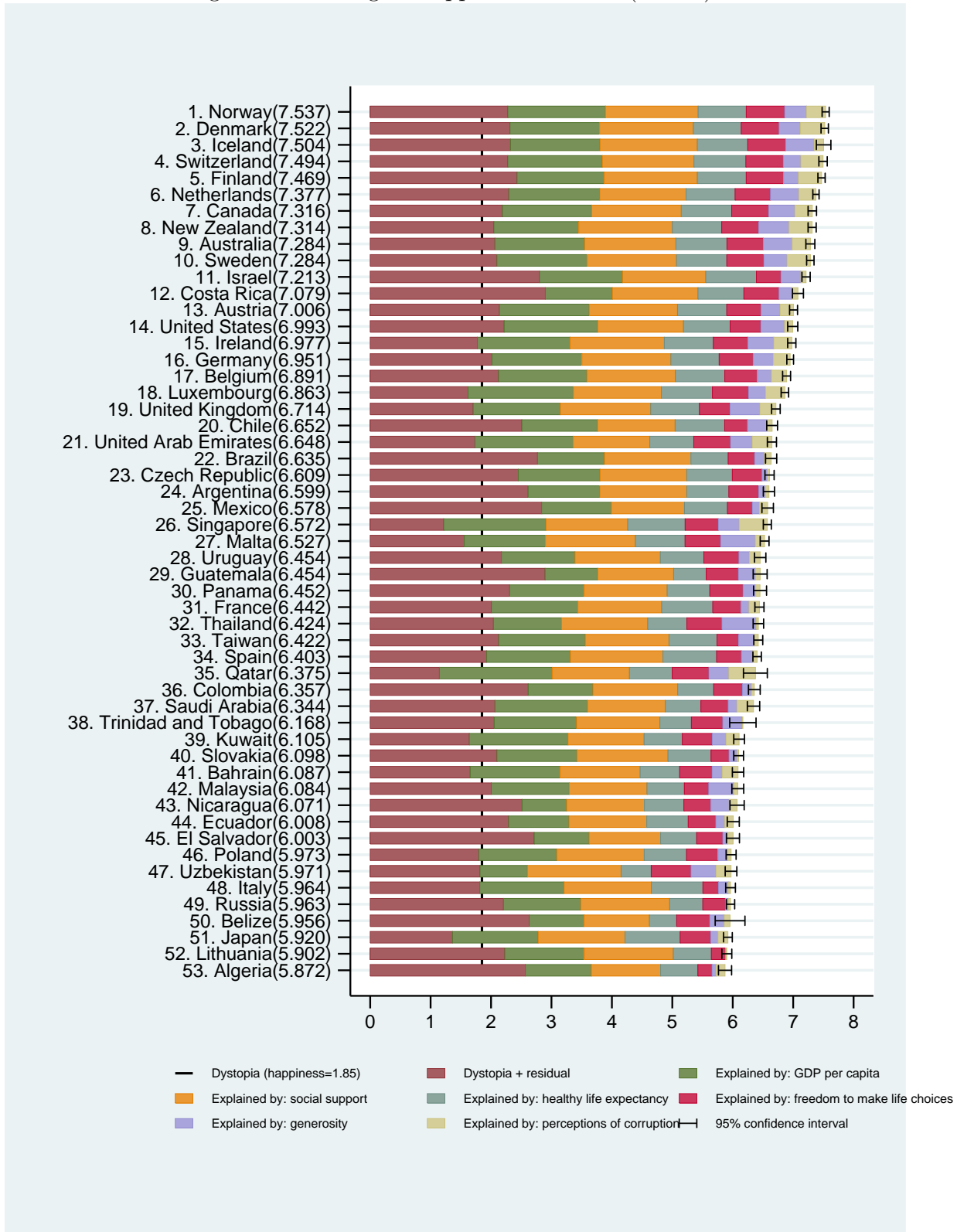
Figure 7: Ranking of Happiness: 2014-16 (Part 1)

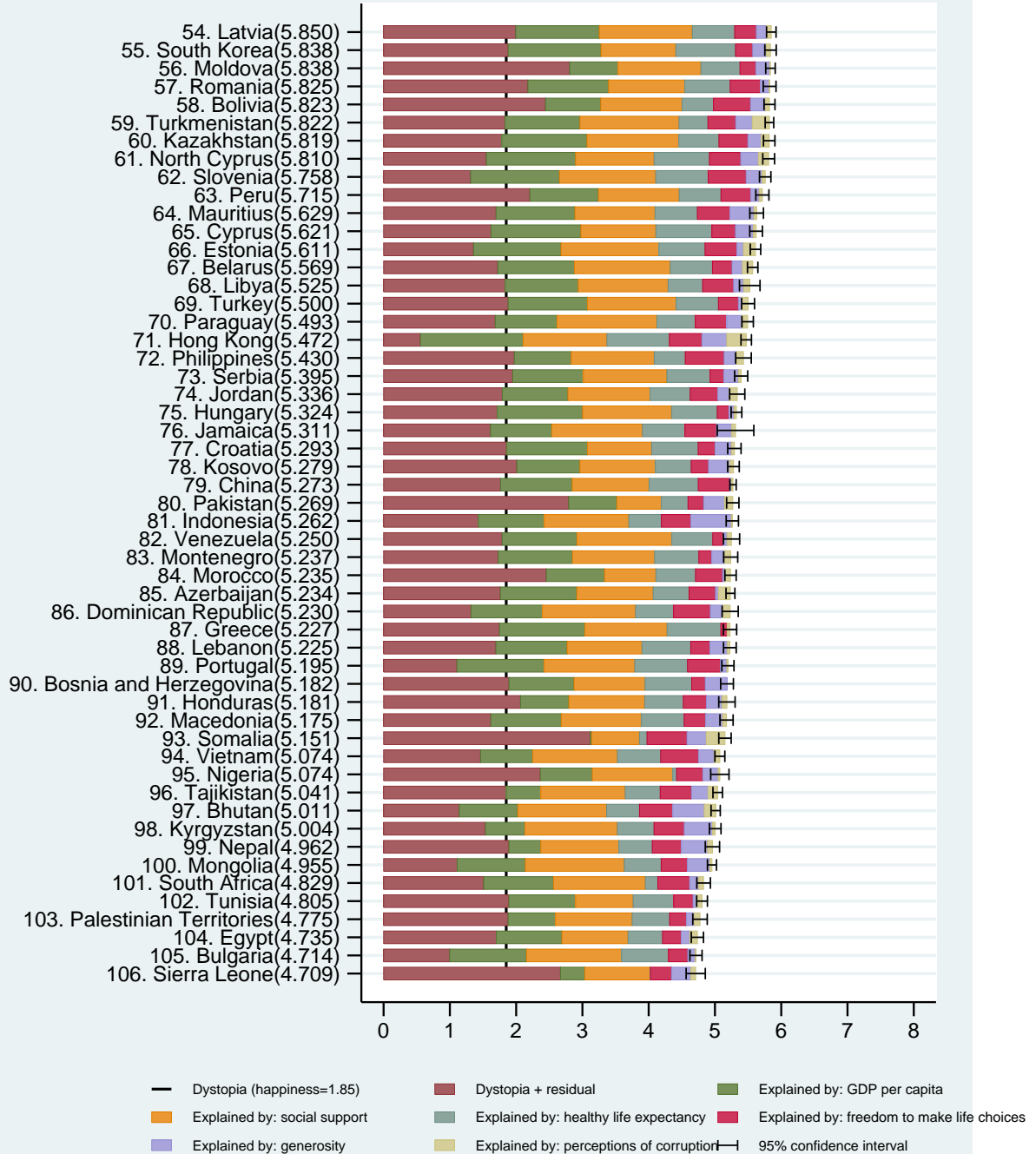Figure 8: Ranking of Happiness: 2014-16 (Part 2)

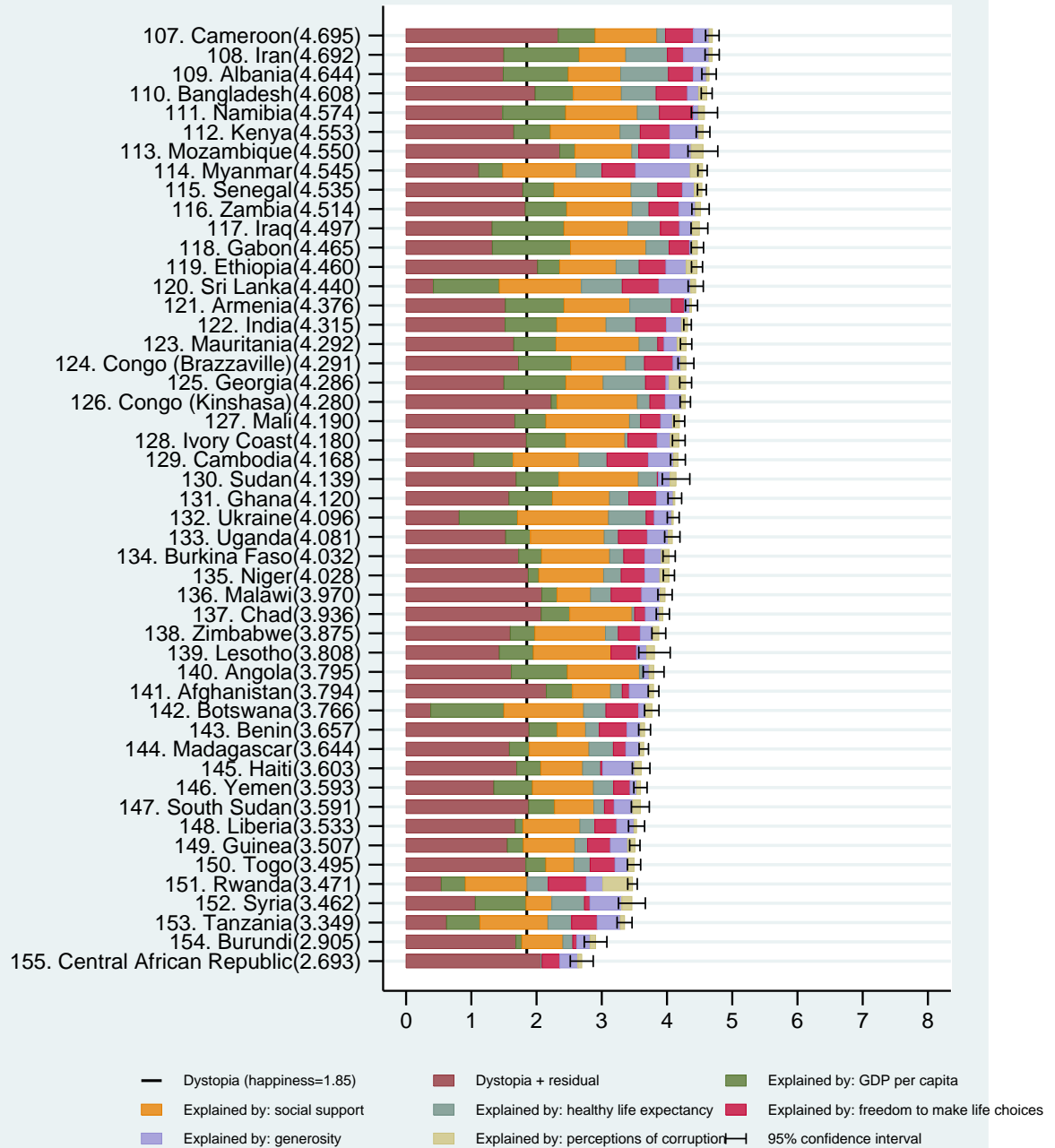Figure 9: Ranking of Happiness: 2014-16 (Part 3)

Table 14: Countries/territories that have valid happiness scores in 2013 but not in 2014-2016

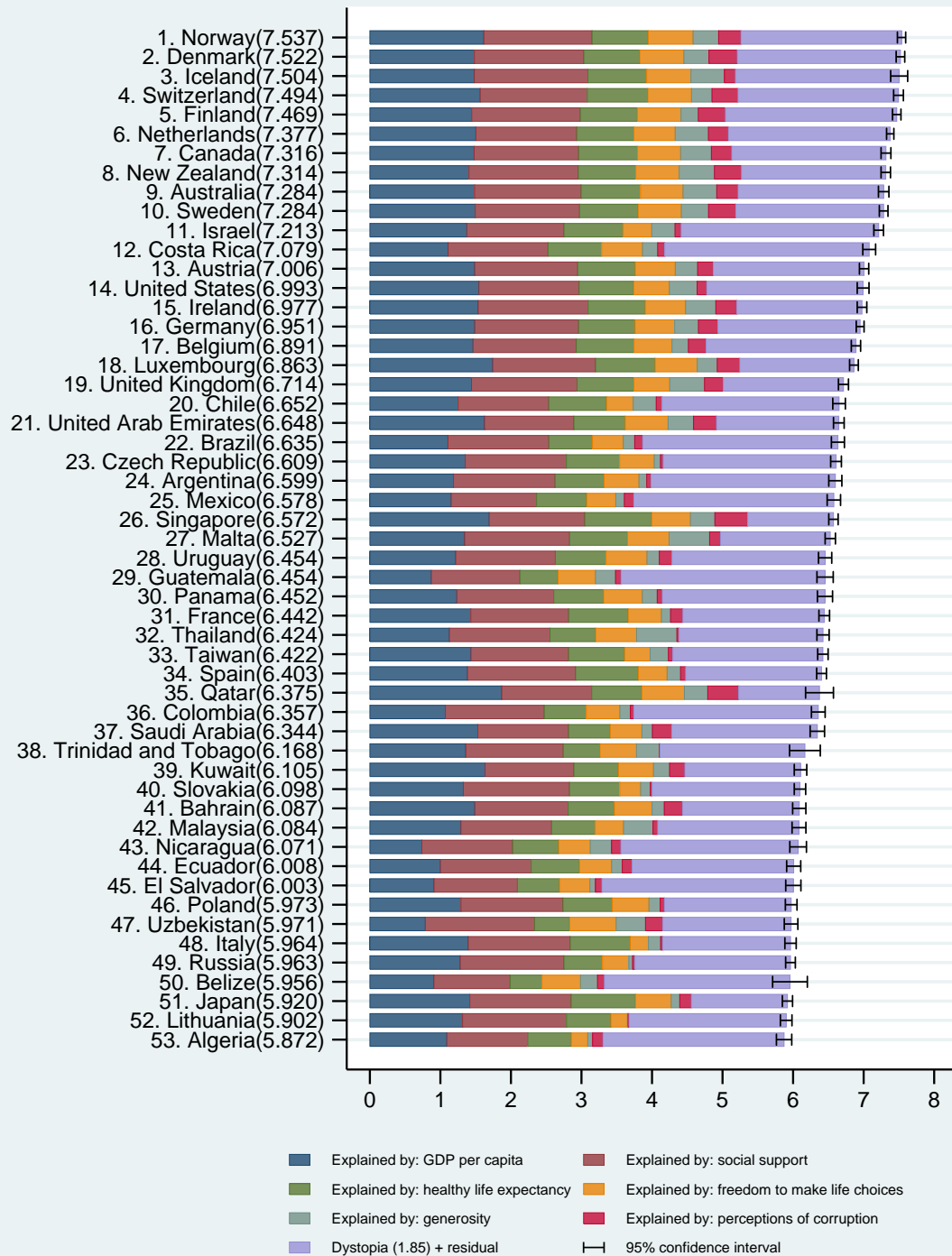|	Sample size in 2013
Trinidad and Tobago	502

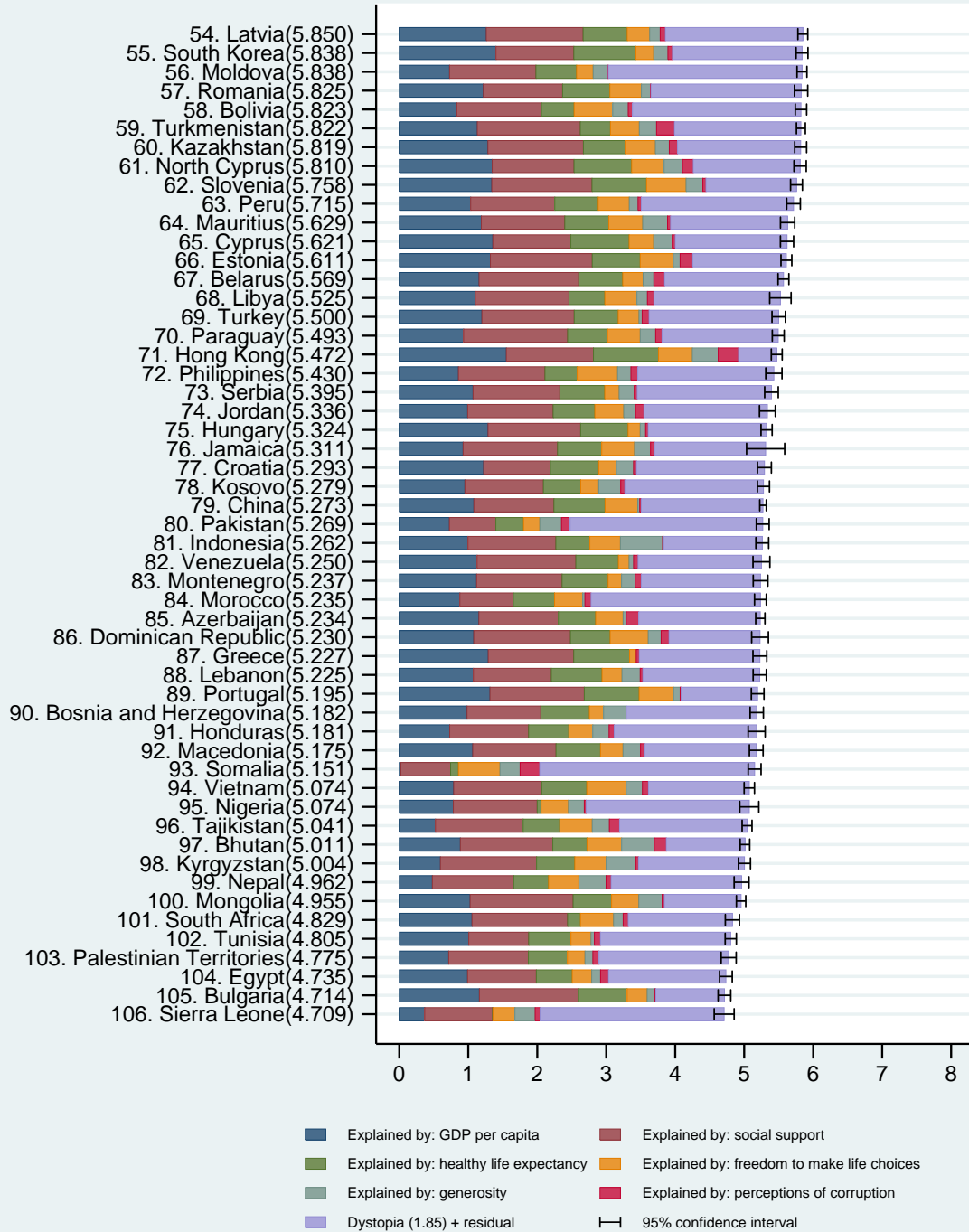Figure 10: Ranking of Happiness: 2014-16 (Part 1)

Figure 11: Ranking of Happiness: 2014-16 (Part 2)
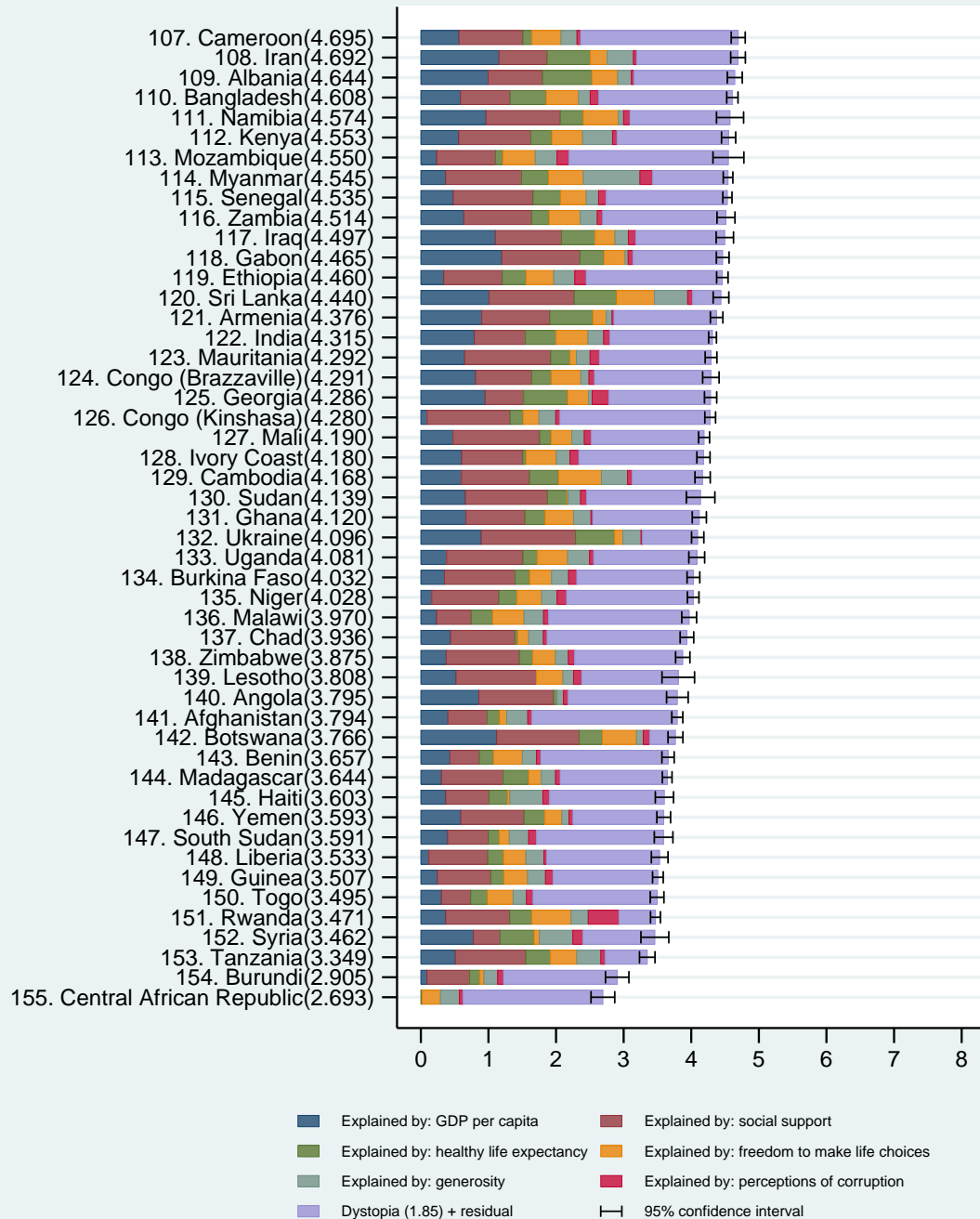
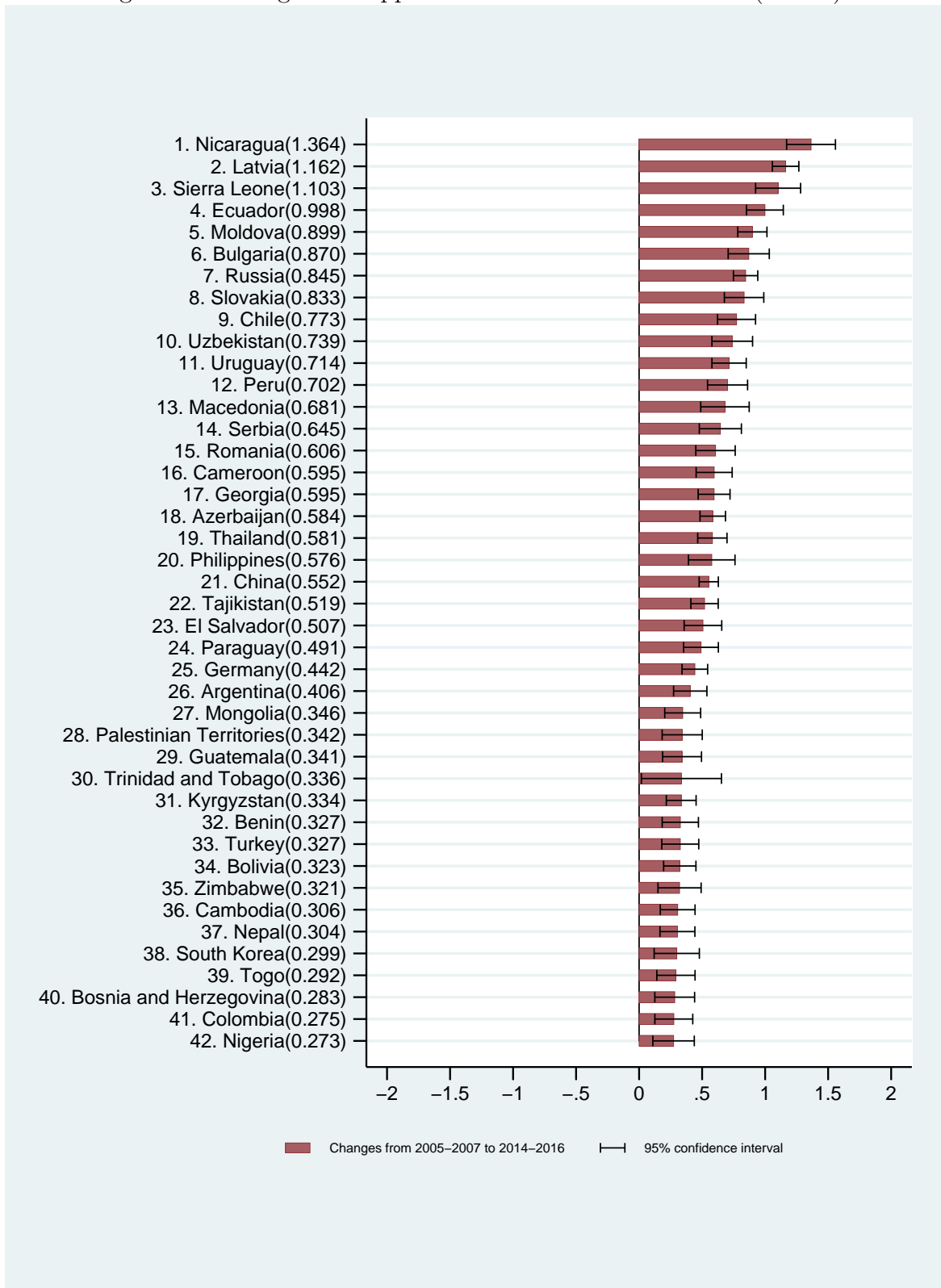Figure 13: Changes in Happiness: from 2005-07 to 2014-16 (Part 1)

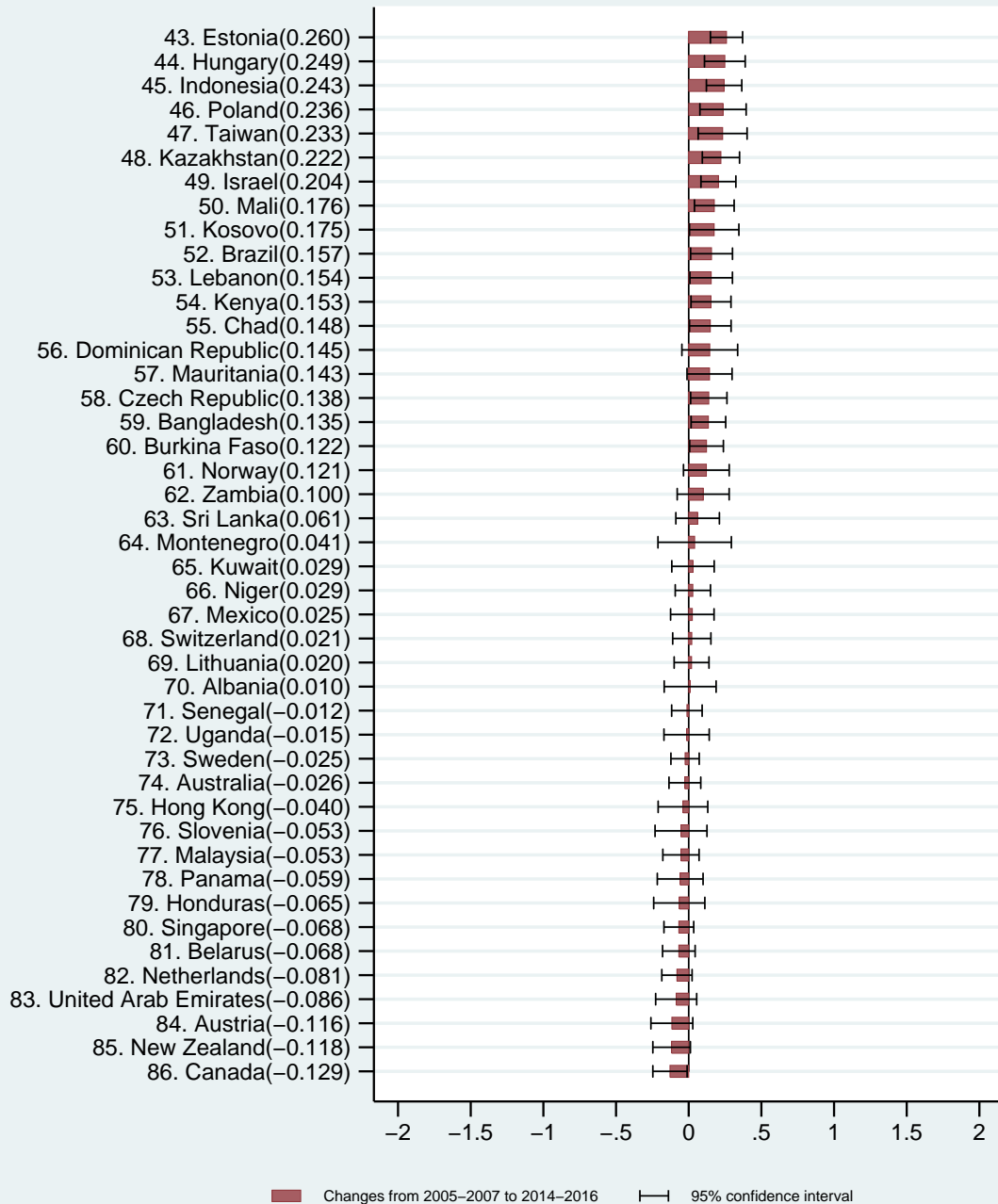Figure 14: Changes in Happiness: from 2005-07 to 2014-16 (Part 2)

43. Estonia(0.260)
44. Hungary(0.249)
45. Indonesia(0.243)
46. Poland(0.236)
47. Taiwan(0.233)
48. Kazakhstan(0.222)
49. Israel(0.204)
50. Mali(0.176)
51. Kosovo(0.175)
52. Brazil(0.157)
53. Lebanon(0.154)
54. Kenya(0.153)
55. Chad(0.148)
56. Dominican Republic(0.145)
57. Mauritania(0.143)
58. Czech Republic(0.138)
59. Bangladesh(0.135)
60. Burkina Faso(0.122)
61. Norway(0.121)
62. Zambia(0.100)
63. Sri Lanka(0.061)
64. Montenegro(0.041)
65. Kuwait(0.029)
66. Niger(0.029)
67. Mexico(0.025)
68. Switzerland(0.021)
69. Lithuania(0.020)
70. Albania(0.010)
71. Senegal(−0.012)
72. Uganda(−0.015)
73. Sweden(−0.025)
74. Australia(−0.026)
75. Hong Kong(−0.040)
76. Slovenia(−0.053)
77. Malaysia(−0.053)
78. Panama(−0.059)
79. Honduras(−0.065)
80. Singapore(−0.068)
81. Belarus(−0.068)
82. Netherlands(−0.081)
83. United Arab Emirates(−0.086)
84. Austria(−0.116)
85. New Zealand(−0.118)
86. Canada(−0.129)

−2   −1.5   −1   −.5   0   .5   1   1.5   2

Changes from 2005–2007 to 2014–2016   95% confidence interval

Figure 15: Changes in Happiness: from 2005-07 to 2014-16 (Part 3)

87. Haiti(−0.151)	
88. Mozambique(−0.163)	
89. Ireland(−0.167)	
90. Liberia(−0.169)	
91. United Kingdom(−0.172)	
92. Costa Rica(−0.178)	
93. Finland(−0.203)	
94. Armenia(−0.210)	
95. Portugal(−0.210)	
96. Pakistan(−0.237)	
97. Vietnam(−0.285)	
98. Namibia(−0.312)	
99. South Africa(−0.316)	
100. Madagascar(−0.336)	
101. Belgium(−0.349)	
102. France(−0.372)	
103. United States(−0.372)	
104. Malawi(−0.391)	
105. Denmark(−0.404)	
106. Japan(−0.447)	
107. Belize(−0.495)	
108. Croatia(−0.528)	
109. Jordan(−0.605)	
110. Cyprus(−0.617)	
111. Egypt(−0.624)	
112. Iran(−0.629)	
113. Spain(−0.669)	
114. Rwanda(−0.744)	
115. Italy(−0.749)	
116. Ghana(−0.757)	
117. Tanzania(−0.776)	
118. Saudi Arabia(−0.829)	
119. India(−0.839)	
120. Yemen(−0.884)	
121. Jamaica(−0.897)	
122. Ukraine(−0.930)	
123. Botswana(−0.973)	
124. Greece(−1.099)	
125. Central African Republic(−1.467)	
126. Venezuela(−1.597)	

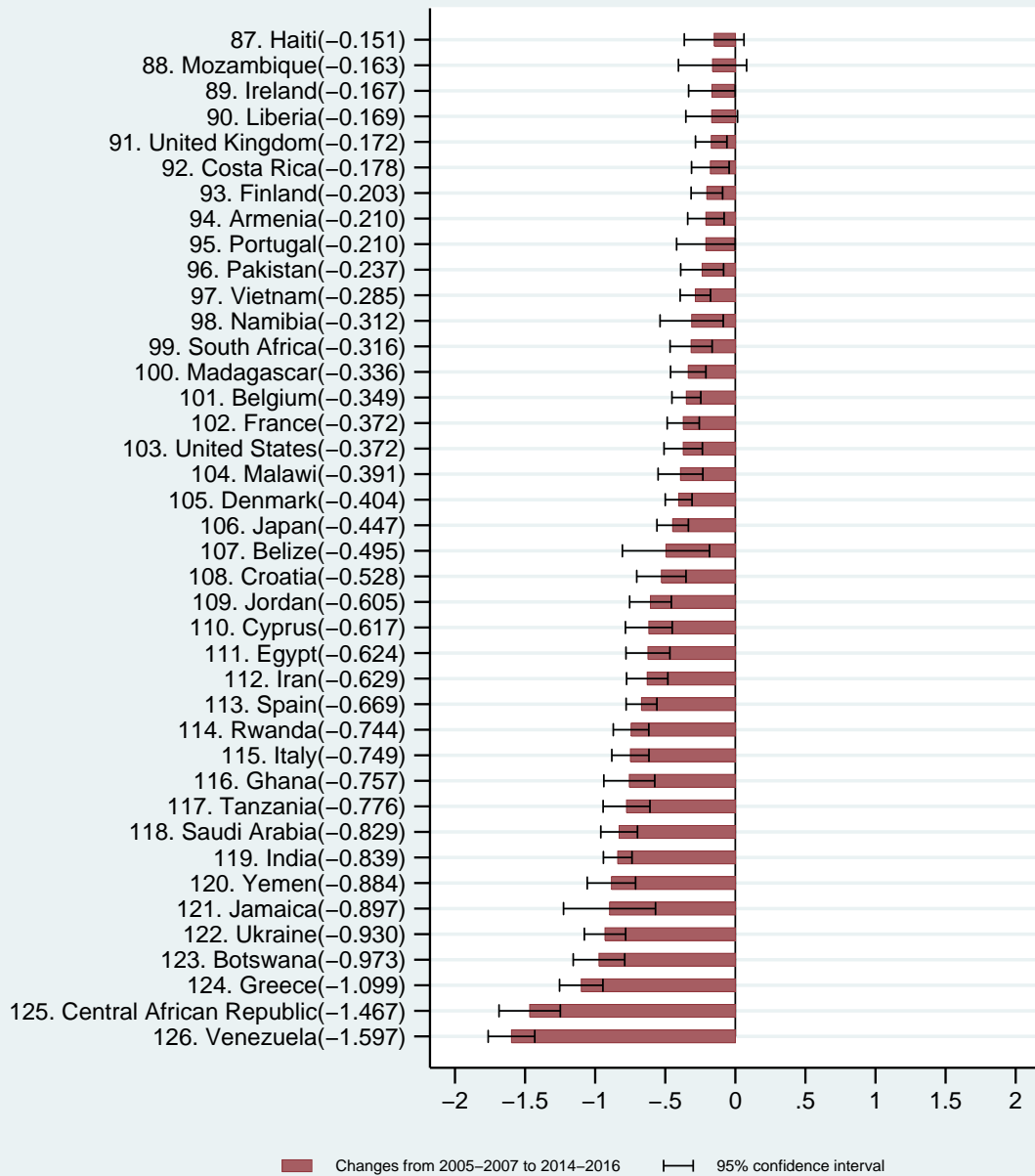Changes from 2005–2007 to 2014–2016   95% confidence interval

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Table 15: Countries/territories that are in the 2014-2016 happiness ranking (including some that use 2013 survey), but do not have ladder observations in the 2005-2007 period

Afghanistan
Algeria
Angola
Bahrain
Bhutan
Burundi
Congo (Brazzaville)
Congo (Kinshasa)
Ethiopia
Gabon
Guinea
Iceland
Iraq
Ivory Coast
Lesotho
Libya
Luxembourg
Malta
Mauritius
Morocco
Myanmar
North Cyprus
Qatar
Somalia
South Sudan
Sudan
Syria
Tunisia
Turkmenistan

Table 16: Regressions with inequality measures

|	c1	c2	c3	c4	c5	c6
	(1)	(2)	(3)	(4)	(5)	(6)
Log GDP per capita	0.448	0.399	0.356	0.427	0.37	0.442
	(0.059)***	(0.059)***	(0.066)***	(0.071)***	(0.066)***	(0.07)***
Social support	1.766	1.641	1.861	1.819	1.711	1.579
	(0.391)***	(0.357)***	(0.362)***	(0.351)***	(0.369)***	(0.361)***
Healthy life expectancy at birth	0.018	0.011	0.012	0.009	0.012	0.01
	(0.007)**	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)
Freedom to make life choices	0.788	0.862	0.897	0.847	0.944	0.963
	(0.29)***	(0.281)***	(0.302)***	(0.289)***	(0.307)***	(0.292)***
Generosity	0.961	0.75	0.906	0.877	0.873	0.843
	(0.265)***	(0.293)**	(0.321)***	(0.311)***	(0.316)***	(0.299)***
Perceptions of corruption	-.512	-.240	-.418	-.469	-.285	-.284
	(0.284)*	(0.262)	(0.261)	(0.28)*	(0.266)	(0.29)
Standard deviation of ladder by country-year	-.288	-.292			-.208	-.289
	(0.102)***	(0.108)***			(0.112)*	(0.116)**
gini of household income reported in Gallup, by wp5-year			-1.073		-.760	
			(0.355)***		(0.359)**	
GINI index (World Bank estimate), average 2000-13				-1.413		-1.299
				(0.837)*		(0.842)
Central and Eastern Europe		-.487	-.462	-.444	-.432	-.411
		(0.16)***	(0.166)***	(0.169)***	(0.164)***	(0.165)**
Commonwealth of Independent States		-.449	-.451	-.349	-.435	-.348
		(0.202)**	(0.209)**	(0.229)	(0.205)**	(0.22)
Southeast Asia		-.622	-.549	-.418	-.576	-.467
		(0.149)***	(0.163)***	(0.218)*	(0.161)***	(0.216)**
South Asia		-.438	-.454	-.278	-.457	-.285
		(0.389)	(0.395)	(0.414)	(0.394)	(0.419)
East Asia		-.783	-.608	-.740	-.612	-.762
		(0.261)***	(0.249)**	(0.225)***	(0.256)**	(0.239)***
Latin America and Caribbean	0.664	0.257	0.301	0.484	0.377	0.586
	(0.11)***	(0.18)	(0.185)	(0.254)*	(0.186)**	(0.245)**
North America and ANZ		0.202	0.362	0.229	0.328	0.245
		(0.088)**	(0.156)**	(0.104)**	(0.136)**	(0.1)**
Middle East and North Africa		-.375	-.419	-.229	-.378	-.175
		(0.241)	(0.25)*	(0.322)	(0.244)	(0.304)
Sub-Saharan Africa		-.610	-.564	-.358	-.573	-.352
		(0.306)**	(0.325)*	(0.348)	(0.32)*	(0.339)
Obs.	1249	1249	946	1153	946	1153
e(N-clust)	155	155	151	135	151	135
e(r2-a)	0.776	0.797	0.799	0.792	0.802	0.798

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 17: Replicating regressions in "Good governance and national well-being: What are the linkages?" Helliwell et al (2014), OECD Working Papers on Public Governance, No. 25, with the expanded dataset

	c1	c2	c3	c4	c5	c6	c7	c8	c9
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Democratic Quality	0.03	0.08	-.002	-.03	-.07	-.12	0.28	0.22	0.21
	(0.14)	(0.11)	(0.1)	(0.12)	(0.1)	(0.1)	(0.13)**	(0.11)**	(0.11)*
Delivery Quality	0.79	0.24	0.04	0.63	0.36	0.28	0.77	0.59	0.48
	(0.13)***	(0.14)*	(0.12)	(0.13)***	(0.13)***	(0.11)**	(0.18)***	(0.18)***	(0.18)***
Log GDP per capita		0.55	0.36		0.42	0.34		0.8	0.86
		(0.06)***	(0.06)***		(0.08)***	(0.07)***		(0.24)***	(0.23)***
Healthy life expectancy at birth			0.03			0.004			-.02
			(0.008)***			(0.01)			(0.03)
Freedom to make life choices			1.21			0.75			0.94
			(0.32)***			(0.29)**			(0.23)***
Generosity			0.92			0.66			0.32
			(0.27)***			(0.28)**			(0.19)*
Social support			2.21			1.88			1.10
			(0.42)***			(0.4)***			(0.33)***
Central and Eastern Europe				-82	-80	-52			
				(0.19)***	(0.19)***	(0.18)***			
Commonwealth of Independent States				-39	-38	-28			
				(0.33)	(0.3)	(0.23)			
Southeast Asia				-51	-37	-51			
				(0.22)**	(0.21)*	(0.16)***			
South Asia				-90	-55	-36			
				(0.27)***	(0.3)*	(0.41)			
East Asia				-81	-86	-77			
				(0.19)***	(0.19)***	(0.23)***			
Latin America and Caribbean				0.31	0.35	0.3			
				(0.22)	(0.22)	(0.19)			
North America and ANZ				0.33	0.39	0.22			
				(0.11)***	(0.12)***	(0.1)**			
Middle East and North Africa				-41	-55	-35			
				(0.25)	(0.23)**	(0.23)			
Sub-Saharan Africa				-1.27	-73	-59			
				(0.23)***	(0.24)***	(0.31)*			
Obs.	1128	1115	1039	1128	1115	1039	1128	1115	1039
e(N-clust)	162	160	158	162	160	158	162	160	158
R^2	0.5	0.63	0.73	0.71	0.76	0.79	0.11	0.12	0.19

Notes: 1). Columns (1) to (3) show estimates from pooled regressions with year fixed effects but without regional or country fixed effects. Columns (4) to (6) are from the same pooled regressions but with the addition of regional fixed effects. Columns (7) to (9) are from panel regressions with country fixed effects, in addition to the year fixed effects that are present in all the 9 regressions. For the last three columns, within country r-squared are reported. 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.

Figure 16: Predicted happiness and actual happiness in 2014-16
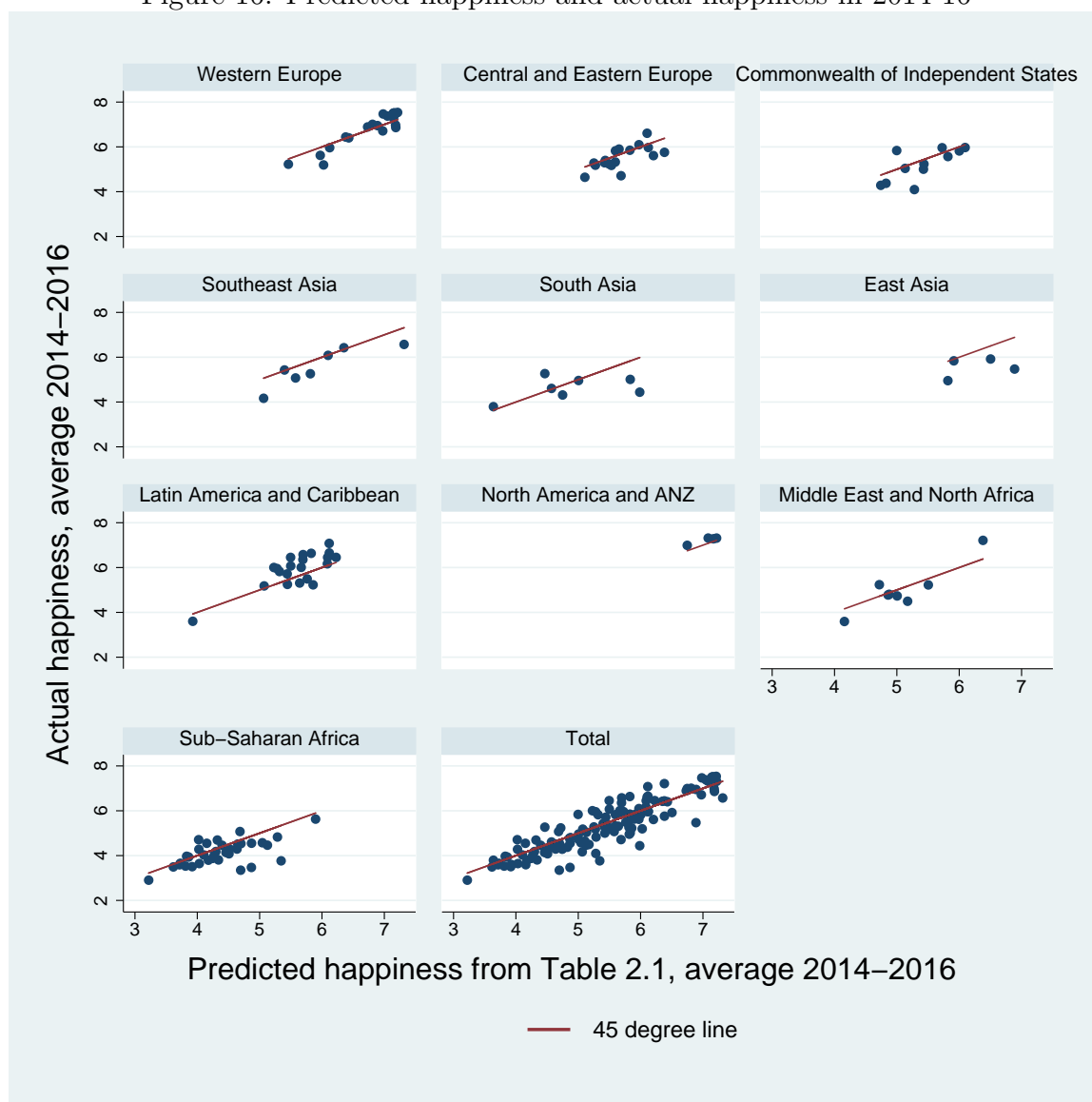
Note: These average actual (predicted) happiness scores by country/territory for the 2013-2015 period are weighted averages of the yearly averages by county/territory used in (predicted by) column (1)'s regression in Table 13. The yearly weights are the sums of Gallup-assigned individual weights by country/territory in that year.

Table 18: 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	5.35	1.85		
Logged GDP per capita	9.22	6.33	.98	.28
Social support	.8	.29	1.19	.34
Healthy life expectancy	62.34	43.38	.55	.16
Freedom to make life choices	.75	.37	.41	.12
Generosity	.01	-.28	.25	.07
Perceptions of corruption	.73	.96	.12	.04
Sum of explained excess over Dystopia			3.5	1

Table 19: 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	7.41	3.36		
Logged GDP per capita	10.72	7.33	1.15	.36
Social support	.94	.58	.86	.26
Healthy life expectancy	71.68	52	.57	.18
Freedom to make life choices	.93	.63	.33	.1
Generosity	.19	.04	.13	.04
Perceptions of corruption	.35	.73	.2	.06
Total explained difference in happiness			3.25	1
Total difference in happiness			4.05	

Figure 17: Actual and predicted changes in happiness from 2005-07 to 2014-16

N=126; Correlation coefficient=0.57
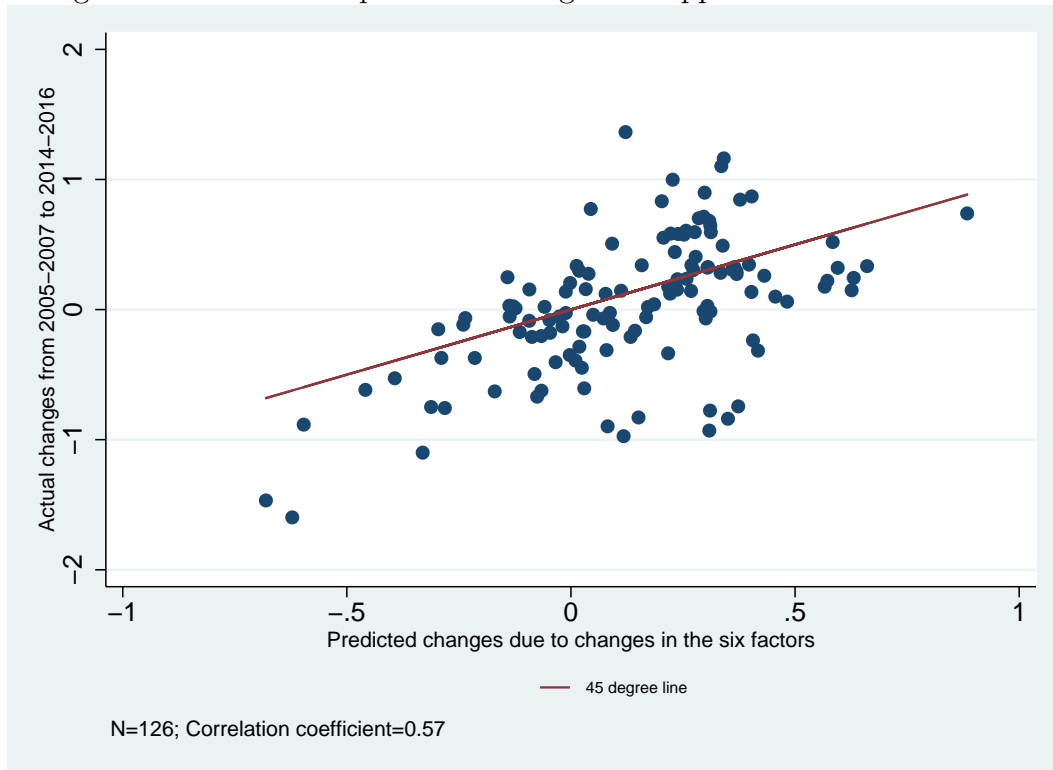
Note: Defining predicted changes in happiness due to changes in the six factors: Step 1. Take periodical averages (2005-07 and 2014-16, respectively) of the six factors in the survey data. Step 2. Take difference between the two periods for each of the factors. Step 3. Multiply the differences with corresponding coefficients on the factors in Table 2.1. Step 4. Take the summation of the products from the previous step. The resulted sum is predicted change in ladder due to changes in the six factors.

Figure 18: Actual and predicted changes in happiness from 2005-07 to 2014-16 at the regional level
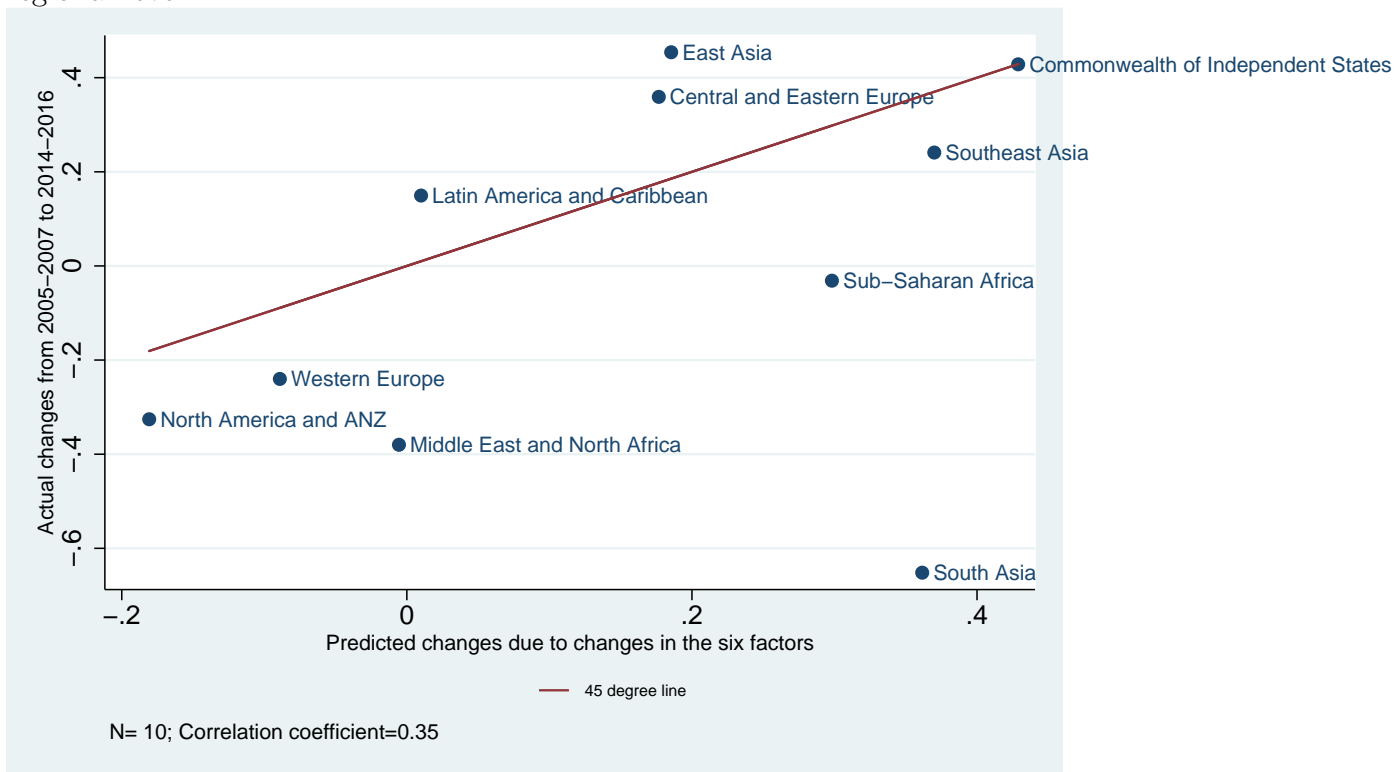
Note: This plot at the regional level shows weighted averages of the actual and predicted changes shown in figure 17. The weights for deriving the regional averages are average population from 2005 to 2014.

Table 20: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for the full world sample

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	5.46	5.425	
Logged GDP per capita	9.299	9.145	.053
Social support	.814	.83	-.037
Healthy life expectancy	63.324	60.788	.074
Freedom to make life choices	.755	.718	.041
Generosity	.007	.009	-.002
Perceptions of corruption	.744	.756	.007
Sum of explained changes in happiness			.134
Total changes in happiness			.035

Note:

Table 21: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for the top 10 countries/territories in terms of happiness changes

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	5.787	4.829	
Logged GDP per capita	9.234	9.003	.079
Social support	.869	.844	.057
Healthy life expectancy	63.532	60.828	.079
Freedom to make life choices	.719	.665	.058
Generosity	-.025	-.057	.027
Perceptions of corruption	.81	.853	.023
Sum of explained changes in happiness			.323
Total changes in happiness			.959

Note: The following countries/territories are in this group: Bulgaria, Chile, Ecuador, Latvia, Moldova, Nicaragua, Russia, Sierra Leone, Slovakia, Uzbekistan,

Table 22: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for the bottom 10 countries/territories in terms of happiness changes

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	4.394	5.424	
Logged GDP per capita	8.906	8.9	.002
Social support	.749	.801	-.121
Healthy life expectancy	59.632	56.471	.092
Freedom to make life choices	.664	.707	-.048
Generosity	-.069	-.069	.001
Perceptions of corruption	.809	.777	-.017
Sum of explained changes in happiness			-.091
Total changes in happiness			-1.029

Note: The following countries/territories are in this group: Botswana, Central African Republic, Greece, India, Jamaica, Saudi Arabia, Tanzania, Ukraine, Venezuela, Yemen,

Table 23: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for Western Europe

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	6.71	6.984	
Logged GDP per capita	10.589	10.606	-.006
Social support	.912	.936	-.055
Healthy life expectancy	71.674	70.097	.046
Freedom to make life choices	.831	.879	-.052
Generosity	.053	.108	-.047
Perceptions of corruption	.543	.568	.014
Sum of explained changes in happiness			-.1
Total changes in happiness			-.274

Note: The following countries/territories are in this group: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom,

Table 24: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for Central and Eastern Europe

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	5.522	5.191	
Logged GDP per capita	9.828	9.685	.049
Social support	.842	.871	-.067
Healthy life expectancy	66.94	64.732	.064
Freedom to make life choices	.678	.607	.078
Generosity	-.072	-.094	.018
Perceptions of corruption	.874	.896	.012
Sum of explained changes in happiness			.154
Total changes in happiness			.331

Note: The following countries/territories are in this group: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia,

Table 25: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for Commonwealth of Independent States

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	5.2	4.879	
Logged GDP per capita	9.065	8.792	.093
Social support	.833	.811	.053
Healthy life expectancy	63.285	60.818	.072
Freedom to make life choices	.702	.658	.048
Generosity	-.047	-.194	.123
Perceptions of corruption	.754	.817	.034
Sum of explained changes in happiness			.423
Total changes in happiness			.321

Note: The following countries/territories are in this group: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Ukraine, Uzbekistan,

Table 26: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for Southeast Asia

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	5.574	5.388	
Logged GDP per capita	9.411	9.111	.102
Social support	.835	.831	.011
Healthy life expectancy	64.303	62.54	.051
Freedom to make life choices	.864	.817	.051
Generosity	.188	.179	.007
Perceptions of corruption	.741	.737	-.002
Sum of explained changes in happiness			.221
Total changes in happiness			.186

Note: The following countries/territories are in this group: Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam,

Table 27: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for South Asia

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	4.719	4.834	
Logged GDP per capita	8.439	8.106	.114
Social support	.686	.683	.008
Healthy life expectancy	60.716	58.437	.066
Freedom to make life choices	.772	.625	.162
Generosity	.1	.099	.001
Perceptions of corruption	.782	.841	.032
Sum of explained changes in happiness			.383
Total changes in happiness			-.115

Note: The following countries/territories are in this group: Bangladesh, India, Nepal, Pakistan, Sri Lanka,

Table 28: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for East Asia

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	5.647	5.489	
Logged GDP per capita	10.197	9.906	.099
Social support	.854	.849	.012
Healthy life expectancy	71.186	69.029	.063
Freedom to make life choices	.751	.782	-.034
Generosity	-.018	-.034	.013
Perceptions of corruption	.764	.769	.003
Sum of explained changes in happiness			.156
Total changes in happiness			.157

Note: The following countries/territories are in this group: China, Hong Kong, Japan, Mongolia, South Korea, Taiwan,

Table 29: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for Latin America and Caribbean

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	5.958	5.771	
Logged GDP per capita	9.283	9.109	.059
Social support	.845	.87	-.059
Healthy life expectancy	64.398	62.747	.048
Freedom to make life choices	.783	.736	.052
Generosity	-.031	.029	-.05
Perceptions of corruption	.8	.807	.004
Sum of explained changes in happiness			.054
Total changes in happiness			.187

Note: The following countries/territories are in this group: Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay, Venezuela,

Table 30: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for North America and ANZ

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	7.227	7.388	
Logged GDP per capita	10.666	10.612	.018
Social support	.931	.962	-.072
Healthy life expectancy	71.497	70.314	.034
Freedom to make life choices	.905	.917	-.013
Generosity	.255	.259	-.003
Perceptions of corruption	.445	.441	-.002
Sum of explained changes in happiness			-.038
Total changes in happiness			-.161

Note: The following countries/territories are in this group: Australia, Canada, New Zealand, United States,

Table 31: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for Middle East and North Africa

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	5.47	5.706	
Logged GDP per capita	9.765	9.761	.001
Social support	.787	.838	-.12
Healthy life expectancy	64.644	63.044	.047
Freedom to make life choices	.706	.668	.042
Generosity	-.034	-.052	.015
Perceptions of corruption	.714	.684	-.016
Sum of explained changes in happiness			-.031
Total changes in happiness			-.236

Note: The following countries/territories are in this group: Egypt, Iran, Israel, Jordan, Kuwait, Lebanon, Palestinian Territories, Saudi Arabia, Turkey, United Arab Emirates, Yemen,

Table 32: Decomposing changes in happiness from 2005-2007 to 2014-2016, equal weight for each country/territory, for Sub-Saharan Africa

	Period 2014-2016	Period 2005-2007	Explained changes in happiness due to
Happiness	4.083	4.185	
Logged GDP per capita	7.745	7.566	.061
Social support	.7	.708	-.019
Healthy life expectancy	51.216	46.109	.148
Freedom to make life choices	.721	.664	.063
Generosity	.002	.017	-.013
Perceptions of corruption	.784	.785	0
Sum of explained changes in happiness			.241
Total changes in happiness			-.102

Note: The following countries/territories are in this group: Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Chad, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Tanzania, Togo, Uganda, Zambia, Zimbabwe,

Table 33: Decomposing changes in happiness from 2005-2007 to 2014-2016 by region, weighting countries/territories within a region with their population size

	Changes in average happiness	Total explained changes due to the six factors	Changes due to: GDP per capita	Changes due to: Social support	Changes due to: Healthy life expectancy	Changes due to: Freedom to make life choices	Changes due to: Generosity	Change due to: Perceptions of corruption
Western Europe	-.24	-.089	.001	-.066	.047	-.043	-.069	.042
Central and Eastern Europe	.359	.177	.068	-.04	.065	.06	.004	.021
Commonwealth of Independent States	.428	.429	.053	.08	.078	.062	.129	.027
Southeast Asia	.241	.37	.113	.104	.039	.073	.038	.003
South Asia	-.652	.362	.142	-.003	.078	.084	.023	.036
East Asia	.454	.185	.204	.012	.047	-.048	-.042	.011
Latin America and Caribbean	.15	.01	.051	-.038	.051	-.002	-.05	-.003
North America and ANZ	-.326	-.181	.011	-.136	.031	-.052	.002	-.038
Middle East and North Africa	-.38	-.006	.033	-.121	.057	.02	.01	-.004
Sub-Saharan Africa	-.031	.298	.07	.019	.137	.085	-.008	-.004

Table 34: Number of countries/territories that experienced statistically significant changes in happiness scores from 2005-2007 to 2014-2016

	Total number of countries/territories in sample	Number of significant positive changes	Number of significant negative changes
Western Europe	17	1	11
Central and Eastern Europe	17	12	1
Commonwealth of Independent States	11	8	2
Southeast Asia	7	4	1
South Asia	5	2	2
East Asia	6	4	1
Latin America and Caribbean	22	13	4
North America and ANZ	4	0	2
Middle East and North Africa	11	4	5
Sub-Saharan Africa	26	10	9

Table 35: Imputed missing values that are used for decomposing the 2014-2016 happiness scores

Country	GDP per capita	Social support	Perceptions of corruption	Generosity	Freedom	Healthy life expectancy
Argentina	2011 data			Predicted by donation-a-b*ln(gdp)[1]		
Bahrain				Predicted by donation-a-b*ln(gdp) (donation is missing, thus 2011 value is used)		
China			Russia's data 2012-14			
Iran			2008 data		2008 data	
Jordan			2009 data			
Kuwait			Corruption in business in 2011			
Myanmar	PPP in 2013 dollar (CIA estimated) adjusted to PPP in 2011 dollar			Predicted by donation-a-b*ln(gdp)		
Northern Cyprus	Cyprus's data 2012-14			Predicted by donation-a-b*ln(gdp)		Cyprus's data 2012-14
Qatar			2009 data			
Saudi Arabia			2009 data			
Taiwan	2010 data			Predicted by donation-a-b*ln(gdp)		
Turkmenistan		Uzbekistan's data 2012-14				
United Arab Emirates			Corruption in business in 2010			

Table 36: Imputed missing values for the 2005-2007 period that are used for decomposing the happiness changes from 2005-2007 to 2014-16

Country	Perceptions of corruption	Generosity	Freedom
China	Russia's data		2008 data
Egypt	2009 data		
Madagascar	2008 data		2008 data
Rwanda		Predicted by donation-a-b*ln(gdp) (donation in 2005-07 is missing, thus 2008 value is used)[1]	
Yemen	Corruption in government in 2007		

Notes: 1). The coefficients are generated by regressing national-level donations on log GDP per capita in a pooled OLS regression.

Table 37: Countries/territories by Region

Region indicator	
Western Europe	Austria
Western Europe	Belgium
Western Europe	Cyprus
Western Europe	Denmark
Western Europe	Finland
Western Europe	France
Western Europe	Germany
Western Europe	Greece
Western Europe	Iceland
Western Europe	Ireland
Western Europe	Italy
Western Europe	Luxembourg
Western Europe	Malta
Western Europe	Netherlands
Western Europe	North Cyprus
Western Europe	Norway
Western Europe	Portugal
Western Europe	Spain
Western Europe	Sweden
Western Europe	Switzerland
Western Europe	United Kingdom
Central and Eastern Europe	Albania
Central and Eastern Europe	Bosnia and Herzegovina
Central and Eastern Europe	Bulgaria
Central and Eastern Europe	Croatia
Central and Eastern Europe	Czech Republic
Central and Eastern Europe	Estonia
Central and Eastern Europe	Hungary
Central and Eastern Europe	Kosovo
Central and Eastern Europe	Latvia
Central and Eastern Europe	Lithuania
Central and Eastern Europe	Macedonia
Central and Eastern Europe	Montenegro
Central and Eastern Europe	Poland
Central and Eastern Europe	Romania
Central and Eastern Europe	Serbia
Central and Eastern Europe	Slovakia
Central and Eastern Europe	Slovenia
Commonwealth of Independent States	Armenia
Commonwealth of Independent States	Azerbaijan
Commonwealth of Independent States	Belarus
Commonwealth of Independent States	Georgia

Table 38: Countries/territories by Region

Region indicator	
Commonwealth of Independent States	Kazakhstan
Commonwealth of Independent States	Kyrgyzstan
Commonwealth of Independent States	Moldova
Commonwealth of Independent States	Russia
Commonwealth of Independent States	Tajikistan
Commonwealth of Independent States	Turkmenistan
Commonwealth of Independent States	Ukraine
Commonwealth of Independent States	Uzbekistan
Southeast Asia	Cambodia
Southeast Asia	Indonesia
Southeast Asia	Laos
Southeast Asia	Malaysia
Southeast Asia	Myanmar
Southeast Asia	Philippines
Southeast Asia	Singapore
Southeast Asia	Thailand
Southeast Asia	Vietnam
South Asia	Afghanistan
South Asia	Bangladesh
South Asia	Bhutan
South Asia	India
South Asia	Nepal
South Asia	Pakistan
South Asia	Sri Lanka
East Asia	China
East Asia	Hong Kong
East Asia	Japan
East Asia	Mongolia
East Asia	South Korea
East Asia	Taiwan
Latin America and Caribbean	Argentina
Latin America and Caribbean	Belize
Latin America and Caribbean	Bolivia
Latin America and Caribbean	Brazil
Latin America and Caribbean	Chile
Latin America and Caribbean	Colombia
Latin America and Caribbean	Costa Rica
Latin America and Caribbean	Cuba
Latin America and Caribbean	Dominican Republic
Latin America and Caribbean	Ecuador
Latin America and Caribbean	El Salvador
Latin America and Caribbean	Guatemala

Table 39: Countries/territories by Region

Region indicator	
Latin America and Caribbean	Guyana
Latin America and Caribbean	Haiti
Latin America and Caribbean	Honduras
Latin America and Caribbean	Jamaica
Latin America and Caribbean	Mexico
Latin America and Caribbean	Nicaragua
Latin America and Caribbean	Panama
Latin America and Caribbean	Paraguay
Latin America and Caribbean	Peru
Latin America and Caribbean	Suriname
Latin America and Caribbean	Trinidad and Tobago
Latin America and Caribbean	Uruguay
Latin America and Caribbean	Venezuela
North America and ANZ	Australia
North America and ANZ	Canada
North America and ANZ	New Zealand
North America and ANZ	United States
Middle East and North Africa	Algeria
Middle East and North Africa	Bahrain
Middle East and North Africa	Egypt
Middle East and North Africa	Iran
Middle East and North Africa	Iraq
Middle East and North Africa	Israel
Middle East and North Africa	Jordan
Middle East and North Africa	Kuwait
Middle East and North Africa	Lebanon
Middle East and North Africa	Libya
Middle East and North Africa	Morocco
Middle East and North Africa	Oman
Middle East and North Africa	Palestinian Territories
Middle East and North Africa	Qatar
Middle East and North Africa	Saudi Arabia
Middle East and North Africa	Syria
Middle East and North Africa	Tunisia
Middle East and North Africa	Turkey
Middle East and North Africa	United Arab Emirates
Middle East and North Africa	Yemen
Sub-Saharan Africa	Angola
Sub-Saharan Africa	Benin
Sub-Saharan Africa	Botswana
Sub-Saharan Africa	Burkina Faso
Sub-Saharan Africa	Burundi

Table 40: Countries/territories by Region

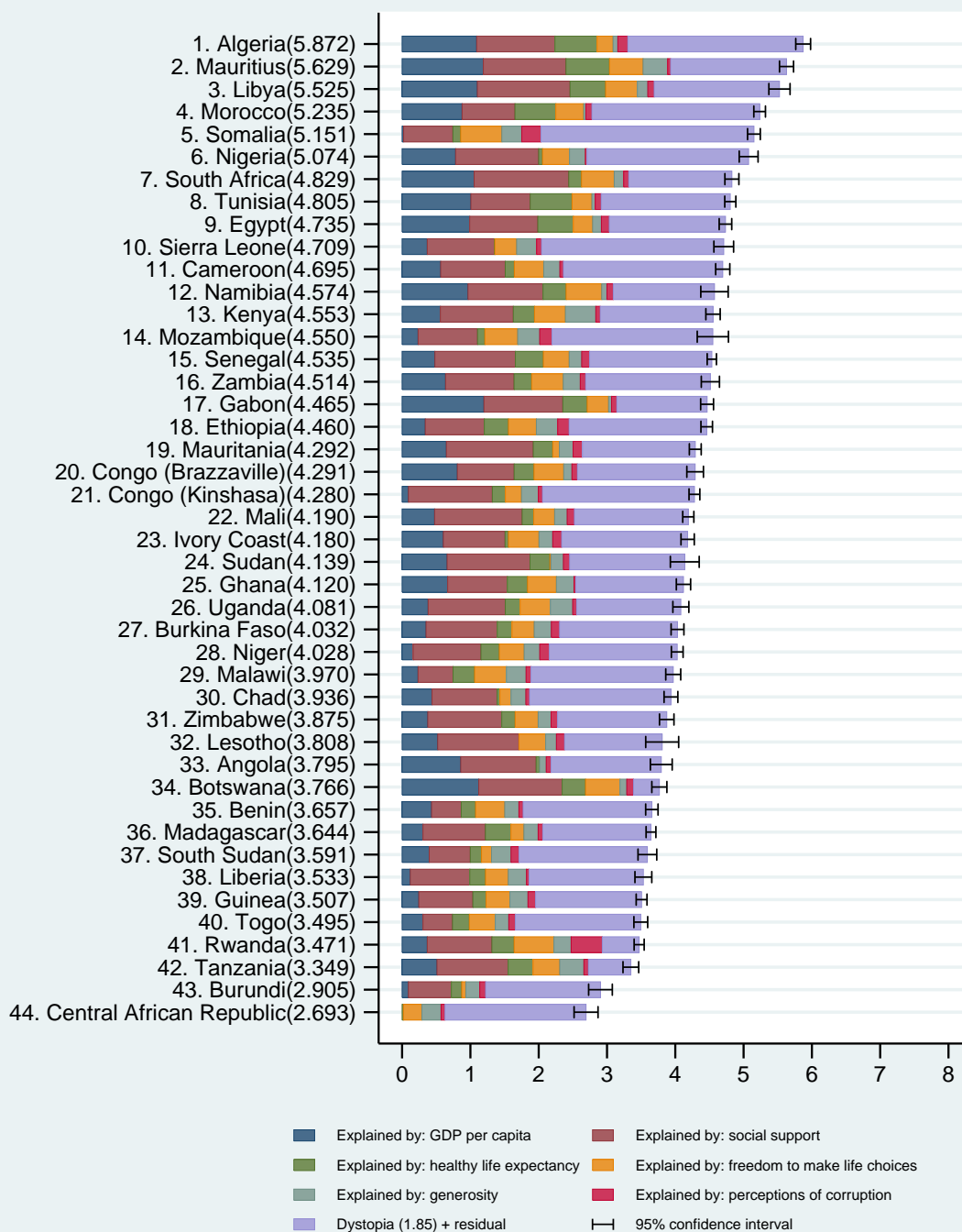| Region indicator	
Sub-Saharan Africa	Cameroon
Sub-Saharan Africa	Central African Republic
Sub-Saharan Africa	Chad
Sub-Saharan Africa	Comoros
Sub-Saharan Africa	Congo (Brazzaville)
Sub-Saharan Africa	Congo (Kinshasa)
Sub-Saharan Africa	Djibouti
Sub-Saharan Africa	Ethiopia
Sub-Saharan Africa	Gabon
Sub-Saharan Africa	Ghana
Sub-Saharan Africa	Guinea
Sub-Saharan Africa	Ivory Coast
Sub-Saharan Africa	Kenya
Sub-Saharan Africa	Lesotho
Sub-Saharan Africa	Liberia
Sub-Saharan Africa	Madagascar
Sub-Saharan Africa	Malawi
Sub-Saharan Africa	Mali
Sub-Saharan Africa	Mauritania
Sub-Saharan Africa	Mauritius
Sub-Saharan Africa	Mozambique
Sub-Saharan Africa	Namibia
Sub-Saharan Africa	Niger
Sub-Saharan Africa	Nigeria
Sub-Saharan Africa	Rwanda
Sub-Saharan Africa	Senegal
Sub-Saharan Africa	Sierra Leone
Sub-Saharan Africa	Somalia
Sub-Saharan Africa	Somaliland region
Sub-Saharan Africa	South Africa
Sub-Saharan Africa	South Sudan
Sub-Saharan Africa	Sudan
Sub-Saharan Africa	Swaziland
Sub-Saharan Africa	Tanzania
Sub-Saharan Africa	Togo
Sub-Saharan Africa	Uganda
Sub-Saharan Africa	Zambia
Sub-Saharan Africa	Zimbabwe

Figure 19: Ranking of Happiness in Africa: 2014-16

1. Algeria(5.872)
2. Mauritius(5.629)
3. Libya(5.525)
4. Morocco(5.235)
5. Somalia(5.151)
6. Nigeria(5.074)
7. South Africa(4.829)
8. Tunisia(4.805)
9. Egypt(4.735)
10. Sierra Leone(4.709)
11. Cameroon(4.695)
12. Namibia(4.574)
13. Kenya(4.553)
14. Mozambique(4.550)
15. Senegal(4.535)
16. Zambia(4.514)
17. Gabon(4.465)
18. Ethiopia(4.460)
19. Mauritania(4.292)
20. Congo (Brazzaville)(4.291)
21. Congo (Kinshasa)(4.280)
22. Mali(4.190)
23. Ivory Coast(4.180)
24. Sudan(4.139)
25. Ghana(4.120)
26. Uganda(4.081)
27. Burkina Faso(4.032)
28. Niger(4.028)
29. Malawi(3.970)
30. Chad(3.936)
31. Zimbabwe(3.875)
32. Lesotho(3.808)
33. Angola(3.795)
34. Botswana(3.766)
35. Benin(3.657)
36. Madagascar(3.644)
37. South Sudan(3.591)
38. Liberia(3.533)
39. Guinea(3.507)
40. Togo(3.495)
41. Rwanda(3.471)
42. Tanzania(3.349)
43. Burundi(2.905)
44. Central African Republic(2.693)

Explained by: GDP per capita
Explained by: social support
Explained by: healthy life expectancy
Explained by: freedom to make life choices
Explained by: generosity
Explained by: perceptions of corruption
Dystopia (1.85) + residual
95% confidence interval

55

Figure 20: Ranking of SD of Happiness in Africa: 2014-16

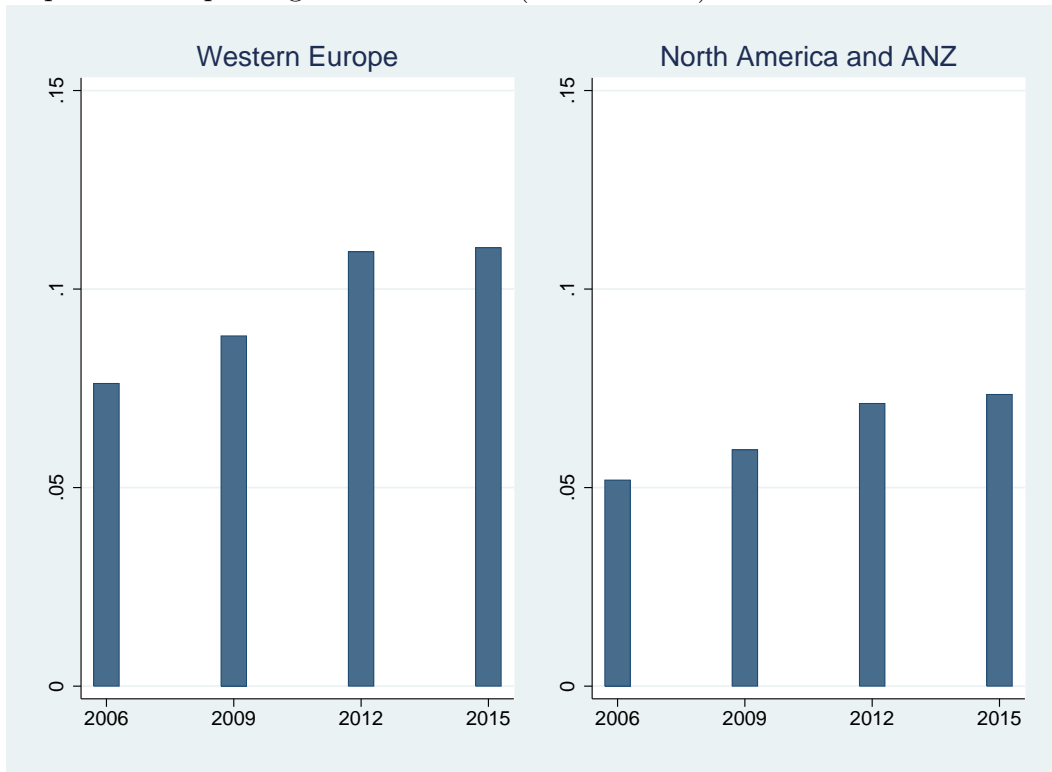Standard deviation of life ladder, 2014–2016
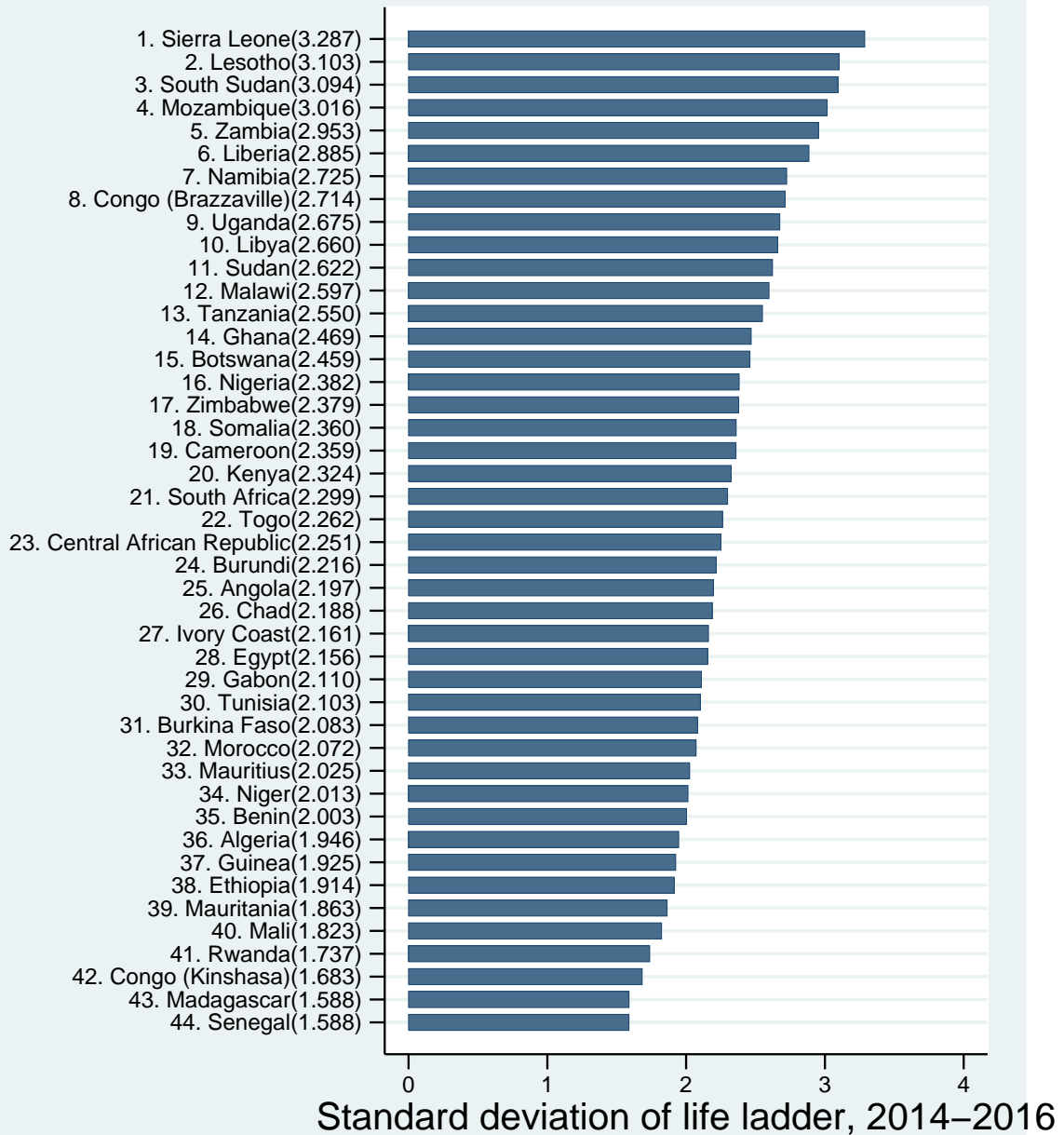
Figure 21: Shares of respondents reporting low life ladder (ladder $<= 4$)
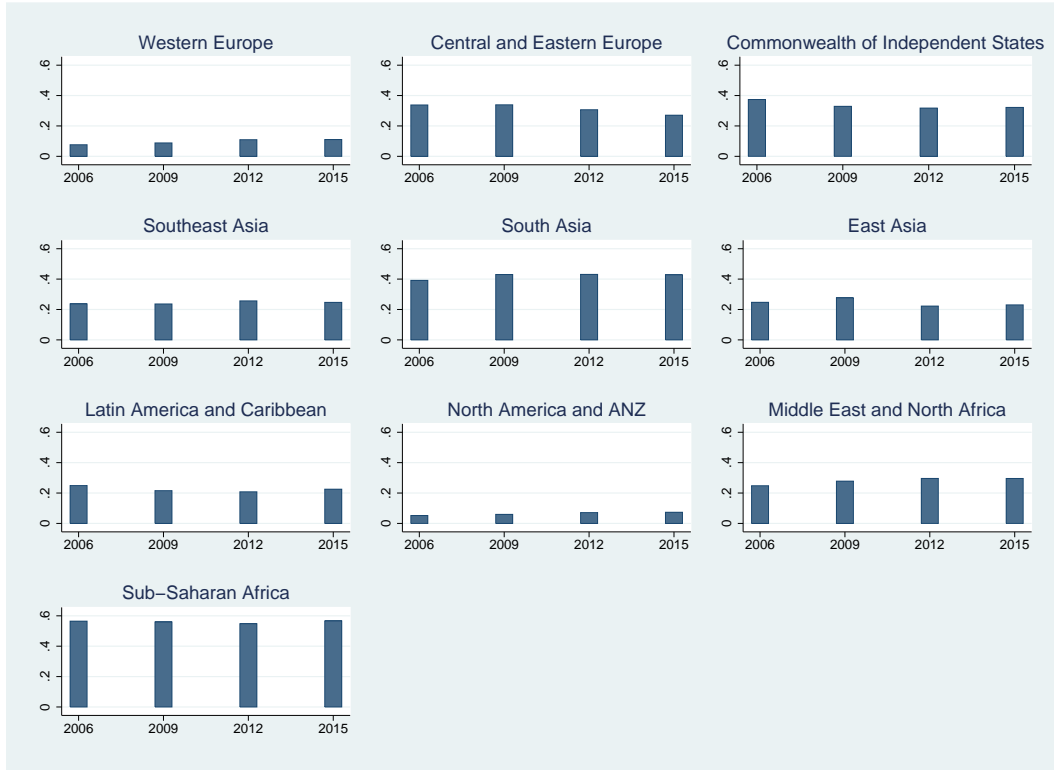
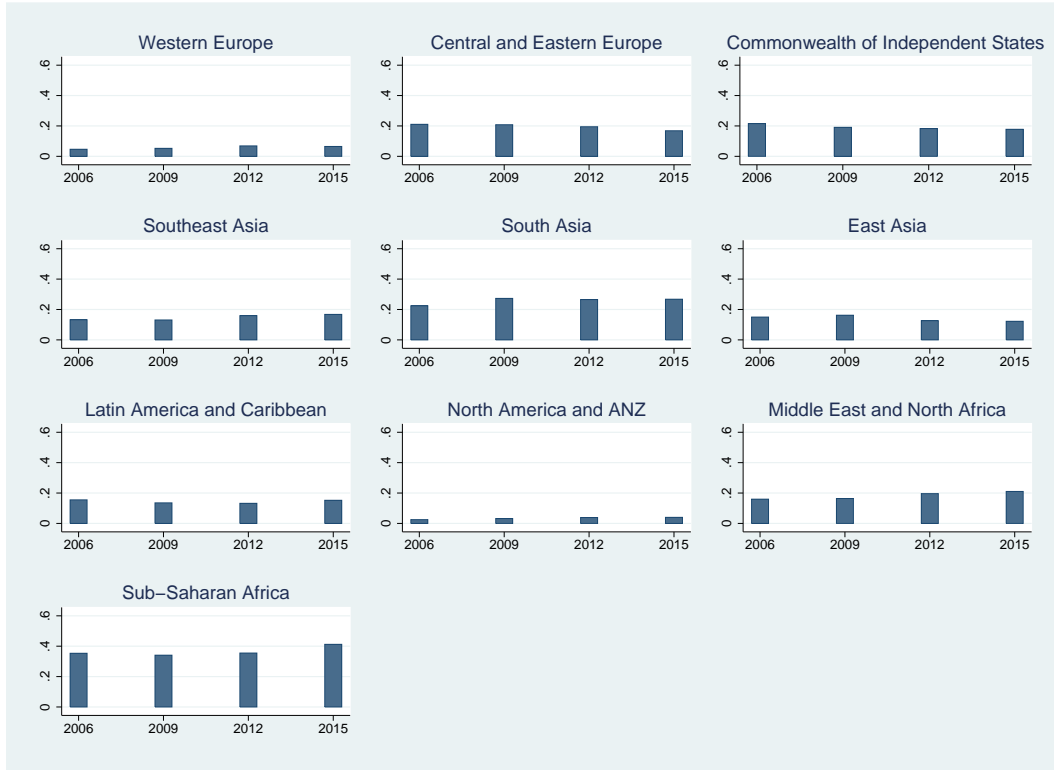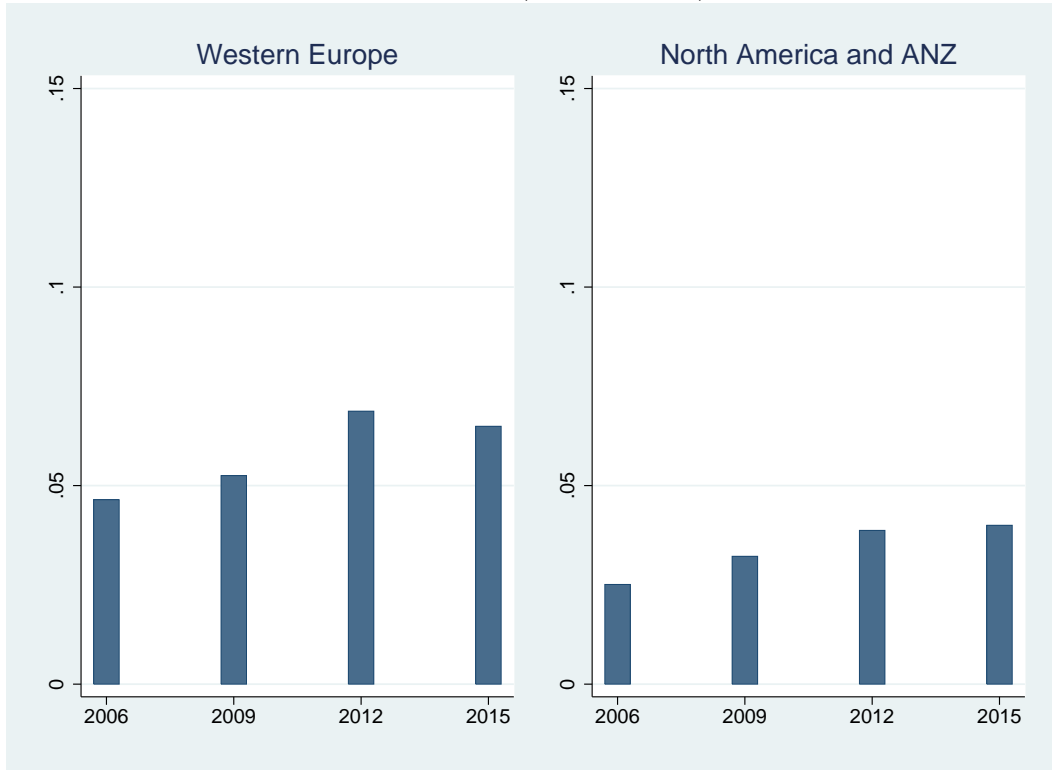
Note 1). These are 3-year averages around the year shown on the horizonal axis. For example, the value for 2015 is the average from 2014 to 2016. Note 2). These regional averages are un-weighted averages of country-period averages, thus large and small countries have the same weight. 3). The difference from one period to another may be affected by survey coverage in the sense that some countries were survey during one period but not others. But this is unlikely a great issue because the coverage is quite sable from one 3-year period to another. Missed coverage is more likely to occur to developing countries than richer countries.)

Figure 22: Separately for Western Europe, and North American and ANZ; Shares of
respondents reporting low life ladder (ladder <= 4)

Note 1). These are 3-year averages around the year shown on the horizonal axis. For
example, the value for 2015 is the average from 2014 to 2016. Note 2). These regional
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period but not others. But this is unlikely a great issue because the coverage is quite sable
from one 3-year period to another. Missed coverage is more likely to occur to developing
countries than richer countries.)

Figure 23: Shares of respondents reporting low life ladder (ladder $<= 3$)

Note 1). These are 3-year averages around the year shown on the horizonal axis. For example, the value for 2015 is the average from 2014 to 2016. Note 2). These regional averages are un-weighted averages of country-period averages, thus large and small countries have the same weight. 3). The difference from one period to another may be affected by survey coverage in the sense that some countries were survey during one period but not others. But this is unlikely a great issue because the coverage is quite sable from one 3-year period to another. Missed coverage is more likely to occur to developing countries than richer countries.)

Figure 24: Separately for Western Europe, and North American and ANZ; Shares of respondents reporting low life ladder (ladder <= 3)

Note 1). These are 3-year averages around the year shown on the horizonal axis. For example, the value for 2015 is the average from 2014 to 2016. Note 2). These regional averages are un-weighted averages of country-period averages, thus large and small countries have the same weight. 3). The difference from one period to another may be affected by survey coverage in the sense that some countries were survey during one period but not others. But this is unlikely a great issue because the coverage is quite sable from one 3-year period to another. Missed coverage is more likely to occur to developing countries than richer countries.)