Exploring the Late Impact of the Great Recession Using Gallup World Poll Data

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EXPLORING THE LATE IMPACT OF THE GREAT RECESSION USING GALLUP WORLD POLL DATA

Goran Holmqvist and Luisa Natali
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Abstract. This paper explores the use of Gallup World Poll Data to assess the impact of the Great Recession on various dimensions of well-being in 41 OECD and/or EU countries from 2007 up until 2013. It should be read as a complementary background paper to the UNICEF Report Card which explores trends in child well-being in EU/OECD countries since 2007/8. Overall the findings provide clear indications that the crisis has had an impact across a number of self-reported dimensions of well-being. Indeed, a strong correlation between the intensity of the recession and the worsening of people's perceptions about their own life is recorded since 2007. Data also indicate that the impact has still not peaked in a number of countries where indicators were still deteriorating as late as 2013. A "League Table" is also presented where countries are ranked in terms of change between 2007 and 2013 for four selected Gallup World Poll indicators related material well-being, perceptions of how society treats its children, health and subjective well-being.

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1. INTRODUCTION

This paper explores the late impact of the Great Recession by using Gallup World Poll data. Its intended use is as a background paper to the UNICEF Report Card 12. It should be read as a complement to Natali et al. (2014), the main background paper to the Report Card which explores trends in child well-being in EU/OECD countries since 2007/8, using a cross-country comparative perspective. However, the trends identified in Natali et al. (2014) should be interpreted as early evidence on child well-being during the crisis, since the study period only goes through 2012 for most indicators, and through income year 2011 for monetary poverty. This is a limitation, considering that austerity measures were often introduced at a late stage and a number of countries have suffered from a prolonged crisis that has worsened since 2011. Hence there is a risk that the early impact of the crisis may misrepresent its full impact as experienced up to the present, and particularly so in countries where economic conditions have continued to deteriorate.

This paper tries to address this limitation by exploring data available up until 2013 in the Gallup World Poll. The Gallup Poll is a survey administered worldwide annually to nationally representative samples (individuals aged 15 or older) of approximately 1000 respondents per country, with data available for the years 2006-13. It is not a perfect data source for our purposes. Indeed, most indicators are not child-specific; breakdowns to households with children are not possible; and there are a number of limitations in terms of statistical reliability and breakdowns. However, it may be exploited to obtain an indication of what the trends have been up to 2013 for a number of well-being-related indicators in different dimensions. An additional advantage with the World Poll is the more complete country coverage which goes beyond that provided by EU-only databases.

The following questions from the Gallup World Poll will be explored (indicators have been selected based on how well they correspond to the conceptual framework described in Natali et al., 2014).

Material well-being
i)   Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed? (yes/no/don't know; percentage reporting 'yes')
ii)   Which one of these phrases comes closest to your own feelings about your household income these days? (percentage answering "finding it very difficult on present income") [1]

Perceptions of how society treats its children
iii)   Do children in this country have the opportunity to learn and grow every day? (yes/no/don't know; percentage reporting 'yes')
iv)   Are children in this country treated with respect and dignity? (yes/no/don't know; percentage reporting 'yes')

Health
v)   Did you experience the following feelings during a lot of the day yesterday? How about stress? (yes/no/don't know; percentage reporting 'yes')

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[1] Answer categories for this questions are as follows: "Living comfortably on present income"; "getting by on present income"; "finding it difficult on present income"; "finding it very difficult on present income"; "don't know".

vi)   In the city or area where you live, are you satisfied or dissatisfied with the availability of quality healthcare? (yes/no/don't know; percentage reporting 'yes')

<u>Subjective well-being</u>

vii)   Life today evaluation[2] (0 to 10 range, the higher the value the better the evaluation)

viii)   Life in five years from now evaluation[3] (0 to 10 range, the higher the value the better the evaluation)

ix)   Life in five years from now evaluation[4] – *Breakdown to 15-29 years old* (0 to 10 range, the higher the value the better the evaluation).

2. ON THE VALIDITY OF THE GALLUP WORLD POLL

The validity of the Gallup World Poll data is sometimes raised as an issue of concern. The World Poll is based on national samples of approximately 1000 respondents and relies on telephone interviews in countries with phone coverage above 80% (see Gallup, 2012 on the methodology). Questions are translated into a multitude of languages and then asked to respondents who live in highly different cultural contexts. The questions often refer to subjective assessments. Data is not in the public domain and can hence only be accessed by those who have a paid subscription to the data. For all these reasons there may be concerns regarding the use of World Poll data for cross-country comparisons. However, over the past years the validity of the data has been repeatedly assessed and the data is frequently used for cross-country comparisons and trend analyses.

Among the multilateral agencies the Gallup World Poll is used to produce international statistics. OECD uses World Poll data for its "Better Life Index" (OECD, 2014) and the World Bank for its Financial Inclusion Index (World Bank, 2014). FAO is developing a hunger index using the World Poll and has recently concluded a validation exercise, related to their indicators of interest, which is reported on their website (FAO, 2014). The methodology and data have been assessed by these organizations and have been judged sufficiently good to produce statistics for cross-country comparisons. Another prominent user of the World Poll data is the World Happiness Report for which the World Poll is a key source (Helliwell et al., 2013).

Among established academics Angus Deaton was an early user of the World Poll. In a validation exercise of the data, he concluded: "*In summary, there is nothing in the data from the World Values Survey that casts doubt on the World Poll data…*" (Deaton, 2008). In an article in the American Economic Review, where he points out severe shortcomings of regular income and poverty data, he puts forward the World Poll as an alternative and complement.[5]

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[2] The question asked is as follows: "Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that 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, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?"

[3] The question asked is as follows: "Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that 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. Just your best guess, on which step do you think you will stand on in the future, say about five years from now?"

[4] See footnote 3.

[5] The article concludes: "*Given all of the problems, it is worth returning to the idea that people themselves seem to have a very good idea of whether or not they are poor. ……There currently exists a number of potentially usable international datasets that collect data on various aspects of wellbeing, such as the Eurobarometer, or the World Values Survey. But neither of these has global coverage, and the global data in the World Values Survey is not available every year, nor does it always use nationally representative samples. These deficiencies have been recently addressed by the Gallup organization, which has been running the Gallup World Poll annually since 2006.*" (Deaton, 2010)

When it comes to the particular indicators used in this current context there is an opportunity to check their validity by comparing them to similar indicators produced by alternative statistical data sources, provided there is an overlap in terms of countries/years. Two European data sources that permit such comparison are the European Union Statistics on Income and Living Conditions (EU-SILC) for indicators related to material well-being, and the European Social Survey (ESS) for indicators related to subjective well-being and to satisfaction with health and education services.

Table 1 Correlations between World Poll selected indicators and similar indicators from alternative data sources (2012)

		World Poll			
		Not Enough Money to Buy Food	Household Income, Very Difficult	Life Today	Satisfaction Healthcare
Severe Material Deprivation (EU-SILC)	Spearman's rho correlation	.909**	.871**		
	Sig. (2-tailed)	.000	.000		
	N	30	30		
Average Life Satisfaction (ESS)	Spearman's rho correlation			.908**	
	Sig. (2-tailed)			.000	
	N			22	
Satisfaction with Health System (ESS)	Spearman's rho correlation				.878**
	Sig. (2-tailed)				.000
	N				22

Figure 1 Scatterplots between World Poll selected indicators and similar indicators from alternative data sources (2012)
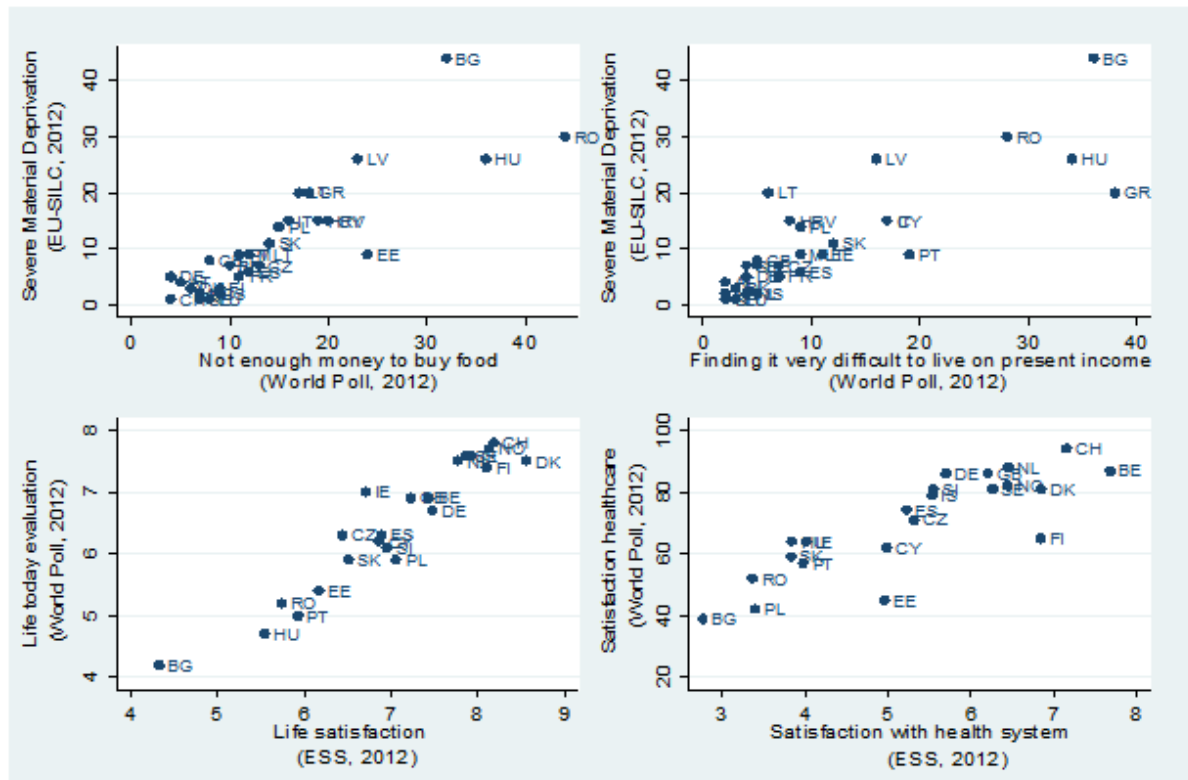
Sources: Gallup (2012), EU-SILC (2012), ESS (2012/2013).

Table 1 shows the correlation coefficients between the World Poll indicators used in this paper and what could be expected to be a corresponding indicator in these two alternative data sources, for the year 2012 (see Annex 1 for additional correlation tables). The two World Poll *material well-being* indicators are compared with the EU-SILC *severe material deprivation* rate. The World Poll *life today* indicator is compared with the ESS *life satisfaction* indicator and the World Poll *satisfaction with healthcare* is compared with the ESS *satisfaction with the health system*.[6] Figure 1 provides the graphical representation of these relationships in four scatterplots. As is evident from the correlations shown in Table 1, they are reassuringly high, in the range of 0.87-0.91, and significant.

To provide robustness to our results, Annex 1 reports on a number of additional correlation tables between the data sources:

- Using Pearson correlations instead of Spearman rho's (see Table A1 of Annex 1) gives correlation coefficients in more or less the same range (0.83-0.94). Spearman rho's is the

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[6] The questions from ESS reads "All things considered how satisfied are you with your life as a whole nowadays? (1-10)" and "Please say what you think overall about the state of health services. (1-10)" Using EU-SILC data, a person is considered in severe material deprivation when the household they live in is unable to pay for at least four of the following nine items: 1) to pay their rent, mortgage or utility bills; 2) to keep their home adequately warm; 3) to face unexpected expenses; 4) to eat meat or proteins regularly; 5) to go on holiday; 6) a television set; 7) a washing machine; 8) a car; 9) a telephone.

parametric correlation based on rankings while Pearson assesses the correlation assuming a linear relationship. The correlation is hence not driven by similarity in terms of ranking, nor is it driven by a few outliers.

- The correlations become weaker when moving to earlier years than 2012 (See Table A2 of Annex 1). In the case of 'Severe Material Deprivation' vs 'Not Enough Money for Food' the correlation coefficient drops from 0.91 in 2012 to 0.63 in 2008. This may simply reflect the fact that country coverage shrinks at earlier years (n=22 for 2008 vs n=30 for 2012). However, it cannot be excluded that an influencing factor may be a weaker quality of either of the two surveys in earlier years.

- Finally, Table A3 of Annex 1 assesses the correlations between how the different surveys capture the absolute change in the indicators between 2008 and 2012 (2008 used instead of 2007 as the common country coverage is substantially lower in 2007). These correlations are generally lower, approximately 0.5 for the material well-being and life satisfaction indicators and as low as 0.2 for satisfaction with health services. The country coverage also drops considerably when moving to change-variables (n=21 for EU-SILC and n=14 for ESS) which may at least partly explain these lower correlation coefficients.

It should be pointed out that, due to data availability, the figures used in this paper refer to the population in general, not to families with children. For the purpose of the Report Card this is a limitation. However, for the question of not having enough money to buy food it was possible to disaggregate respondents living in families with children for a sub-set of 31 countries. In the ten countries where this indicator has increased the most, the increase was even higher in families with children in all but one country. This gives reason to believe that families with children are not insulated from the negative impacts suggested by this indicator.

To summarize: the correlations between the World Poll indicators used in this paper and supposedly corresponding indicators in alternative data sources (EU-SILC and ESS) are high enough to accept the use of Gallup World Poll data as a complementary data source. Particularly the World Poll *money for food* indicator appears to be strong as a proxy for the EU-SILC *severe material deprivation* rate. These correlations do not cast any serious doubt on the use of data from the Gallup World Poll as a complementary proxy to assess the late impact of the financial crisis.

3. GRAPHIC ILLUSTRATIONS

The World Poll data cover all OECD and EU countries but have missing values for some country-years. Countries have been excluded from the trend analysis if i) they have no pre-crisis data, i.e. 2006 or 2007, and ii) if there are missing values for more than two subsequent years. Remaining missing values have been replaced by interpolation between the two closest points in time. Excluded countries are indicated below the graphs that follow (with Iceland, Luxemburg, Malta, Slovakia and Norway missing in all graphs).7

For the purpose of graphic illustrations (trend lines) countries were categorized as follows:

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[7] A few countries still lacked 2013 data at the time of the analysis. In these cases, 2012 data was used. The countries are: Norway, Switzerland and USA.

1. Prolonged crisis: Countries with GDP per capita (at constant prices, in national currency) in 2013 more than 7% below the 2007 level, while showing no sign of recovery since 2010.
2. Severe early impact but recovering: Countries that were among the most affected in terms of drop in GDP per capita 2007-2010, but showing clear signs of recovery since 2010 (i.e. the Baltic states).[8]
3. Still not recovered: Countries where in 2013 the GDP per capita was still below the level of 2007 (while not falling into categories 1 or 2).
4. Recovered: These countries all have a GDP per capita in 2013 that is above their 2007 level.

Classifying all OECD and/or EU countries according to these criteria gives the country groups shown in Table 2. The data used for the classification (IMF World Economic Outlook) is available in Annex 2.

For each World Poll question (i-viii) two graphs will be shown: one graph revealing the trend lines by country category (indicators indexed to 2007=100) and one country-by-country scatterplot, showing the relation between the change of the World Poll indicator (absolute change in the indicator between 2007 and 2013) and the exposure to the crisis (GDP per capita ratio 2007 to 2013). Breakdown by age 15-29 is shown in a separate graph for the 'Life Five Years from Now' evaluation.

Annex 3 reports the same graphs with 2008 as base year and the three-country categorization used in Natali et al (2014). These are the same base-year and country categorizations as used in Report Card 12. For more details on the country categorization used in the Annex 3 please refer to Natali et al (2014).

Comments and tentative conclusions based on these graphs are provided in a final section together with a table summarizing a ranking of countries based on a selected number of these indicators.

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[8] As the group of "severe early impact but recovering" group is fairly small, trend lines shown in the following pages are more sensitive to individual data points for this group and therefore might be expected to be less stable. Still, it was decided to keep these countries in a separate group given they show deviating GDP patterns.

Table 2   Country classification based on exposure to the crisis

Prolonged Crisis	Severe early impact but recovering	Still not recovered	Recovered
Greece	*Iceland*	Finland	Mexico
Cyprus	Estonia	Denmark	Sweden
Luxembourg	Latvia	United Kingdom	New Zealand
Ireland	Lithuania	Netherlands	Switzerland
Italy		Hungary	United States
Slovenia		Belgium	Canada
Croatia		*Norway*	Austria
Spain		France	Japan
Portugal		Czech Republic	Germany
			Romania
			Australia
			Malta
			Bulgaria
			Israel
			Turkey
			Slovak Rep.
			Korea
			Poland
			Chile

Note: Luxembourg, Iceland, Norway, Malta and the Slovak Republic are excluded from all trend analyses due to missing data. Natali et al. (2014) use a different country classification based on macroeconomic reasoning rather than focusing on changes in GDP per capita only;see Natali et al 2014 for further details.

Indicators related to material well-being

Figure i) Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed? (percentage reporting 'yes')
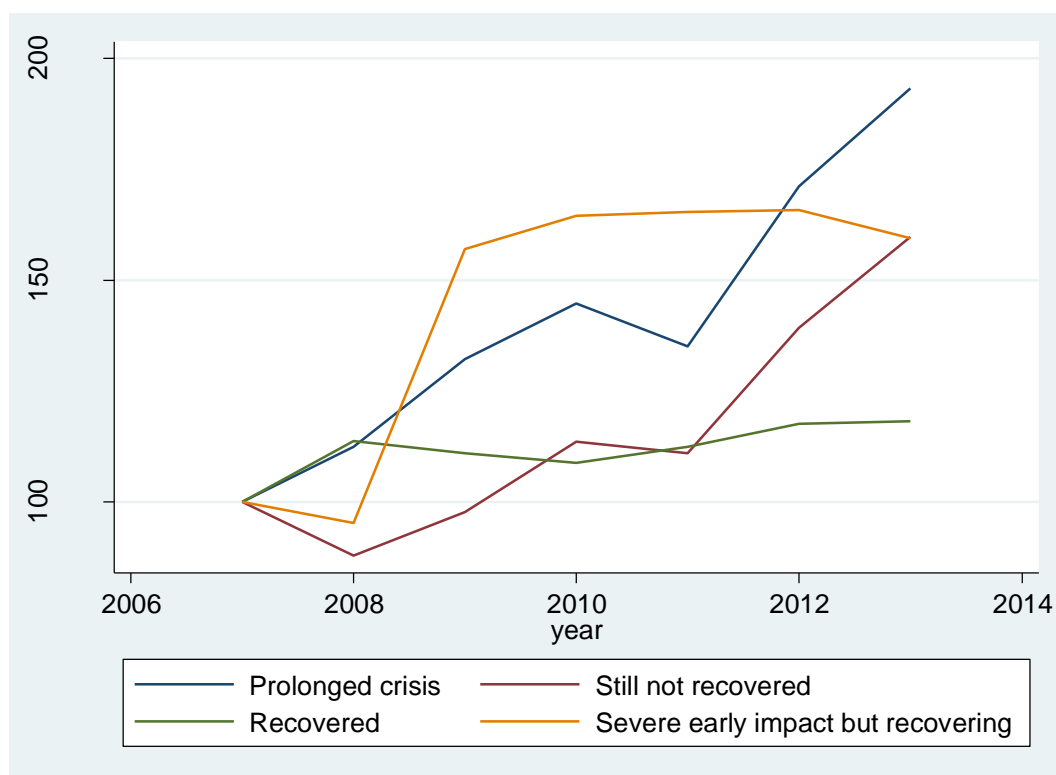
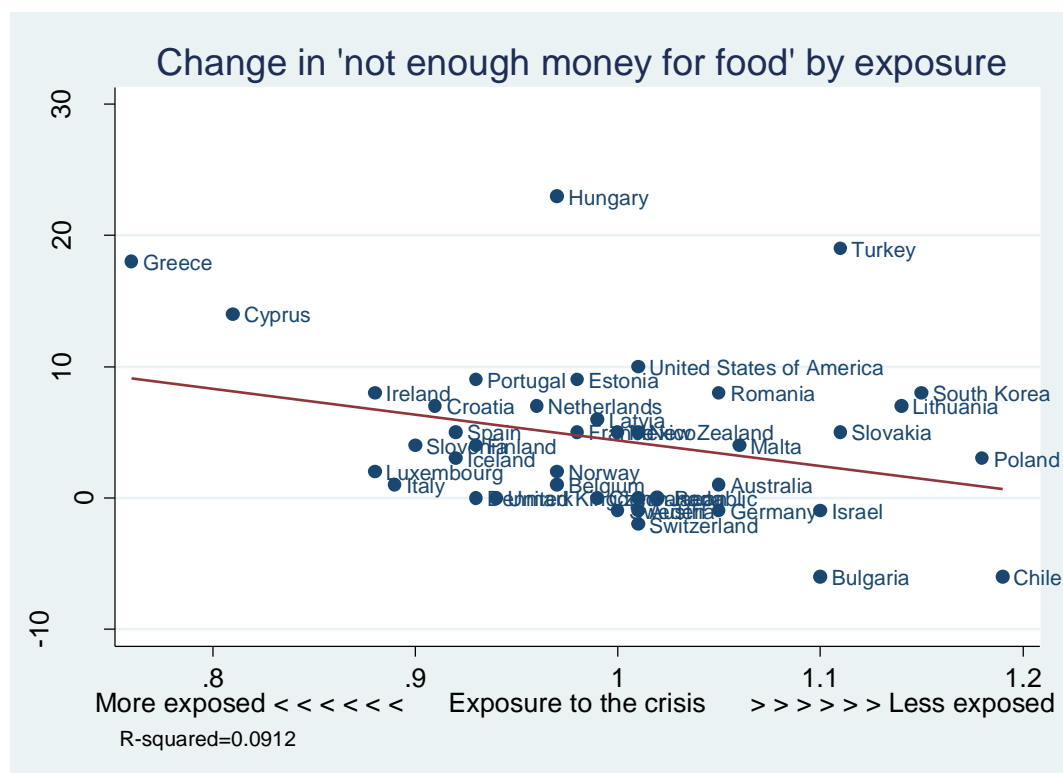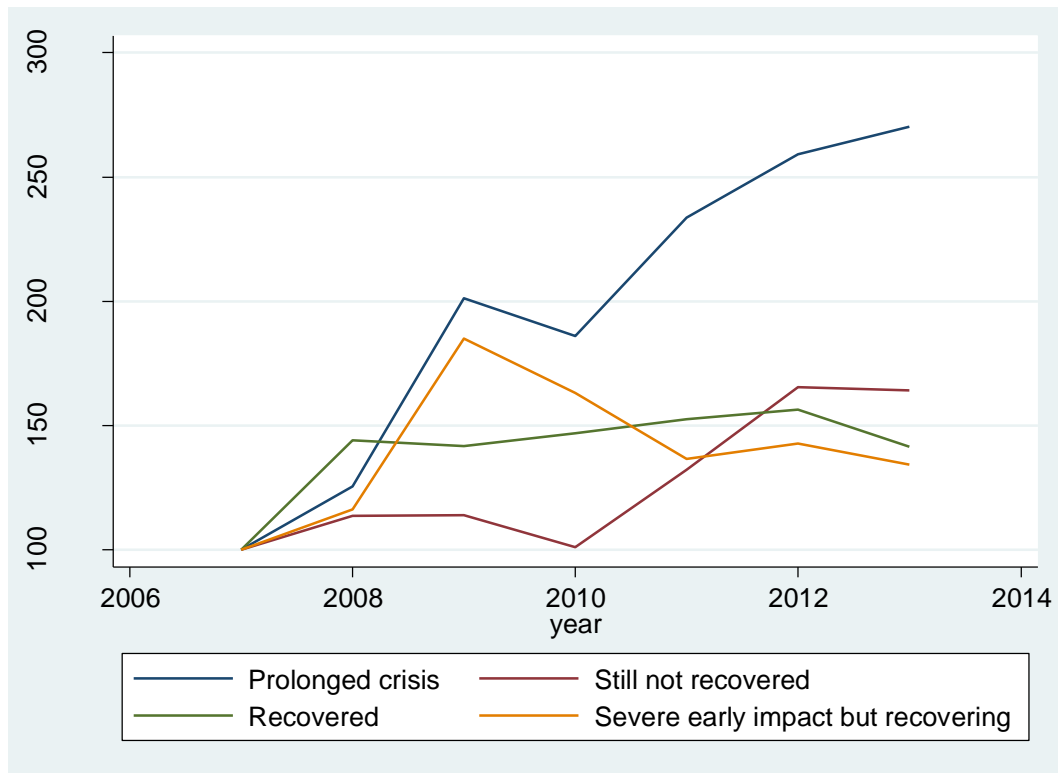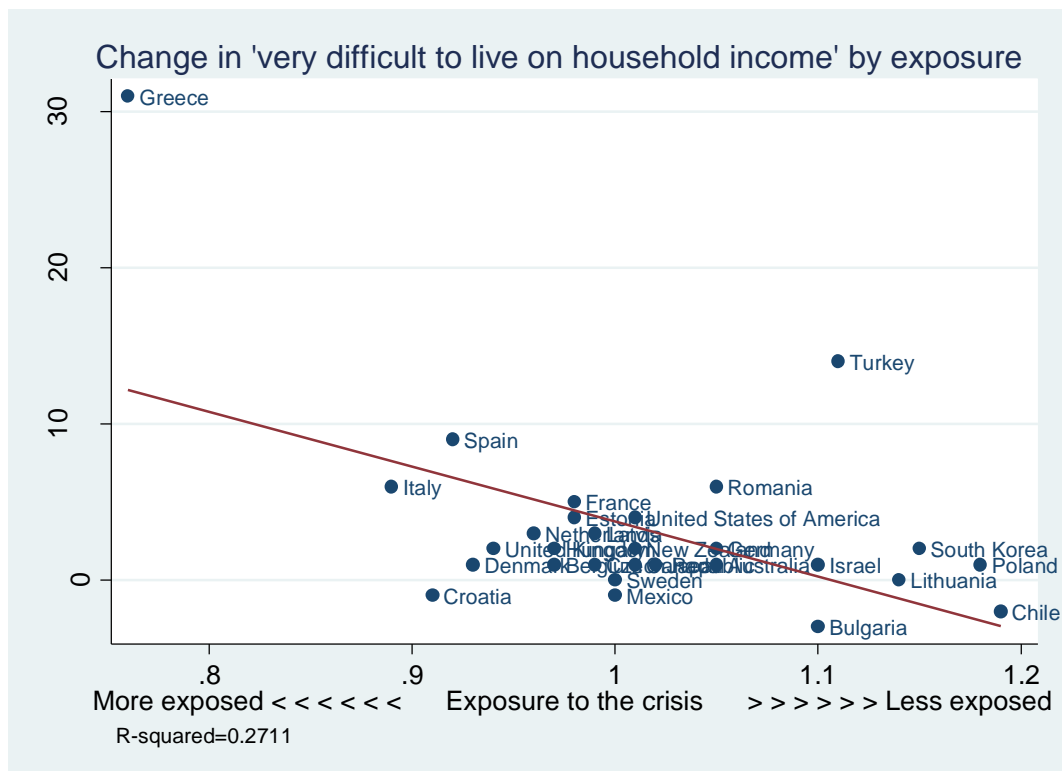Countries missing: Iceland, Luxembourg, Malta, Norway and Slovakia

Figure ii) Which one of these phrases comes closest to your own feelings about your household income these days? (percentage answering "finding it very difficult on present income")


Countries missing: Austria, Cyprus, Finland, Iceland, Ireland, Luxembourg, Malta, Norway, Portugal, Slovakia, Slovenia and Switzerland

Change in 'very difficult to live on household income' by exposure

Indicators related to perceptions of how society treats its children

Figure iii) Do children in this country have the opportunity to learn and grow every day? (percentage reporting 'yes')
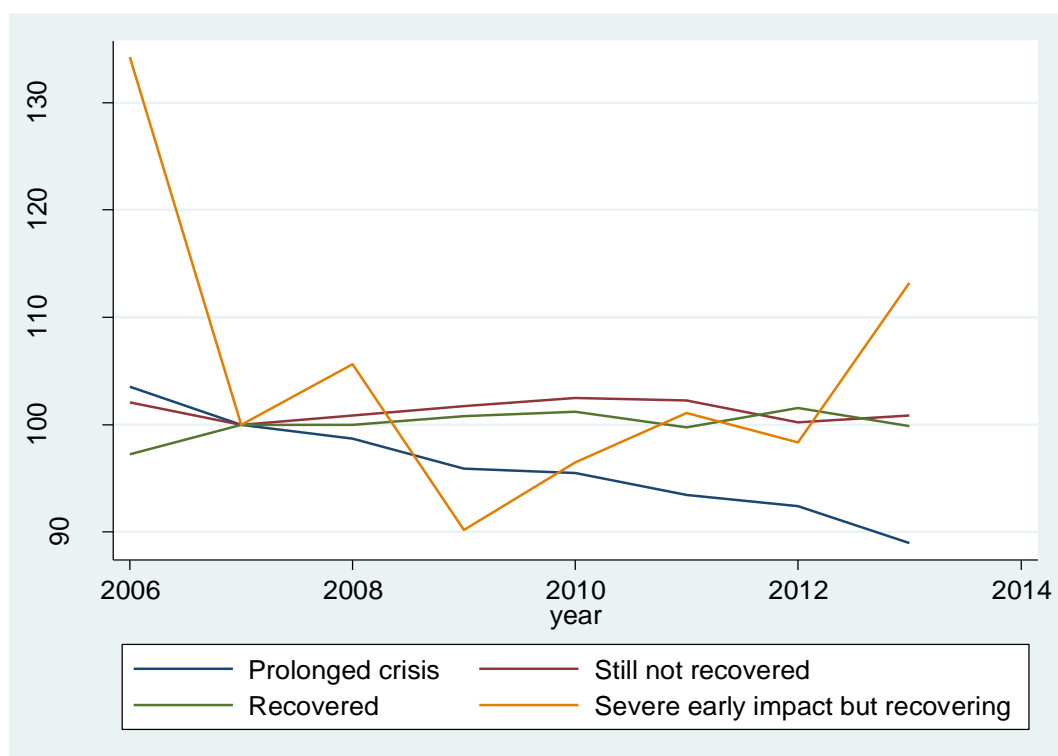
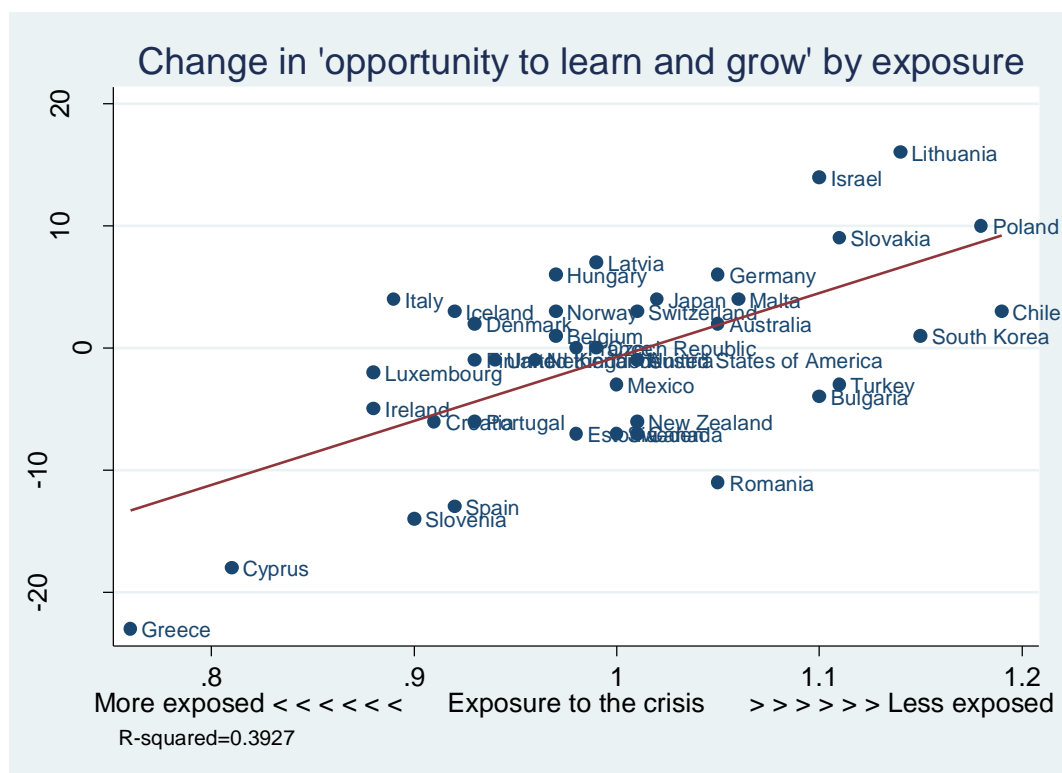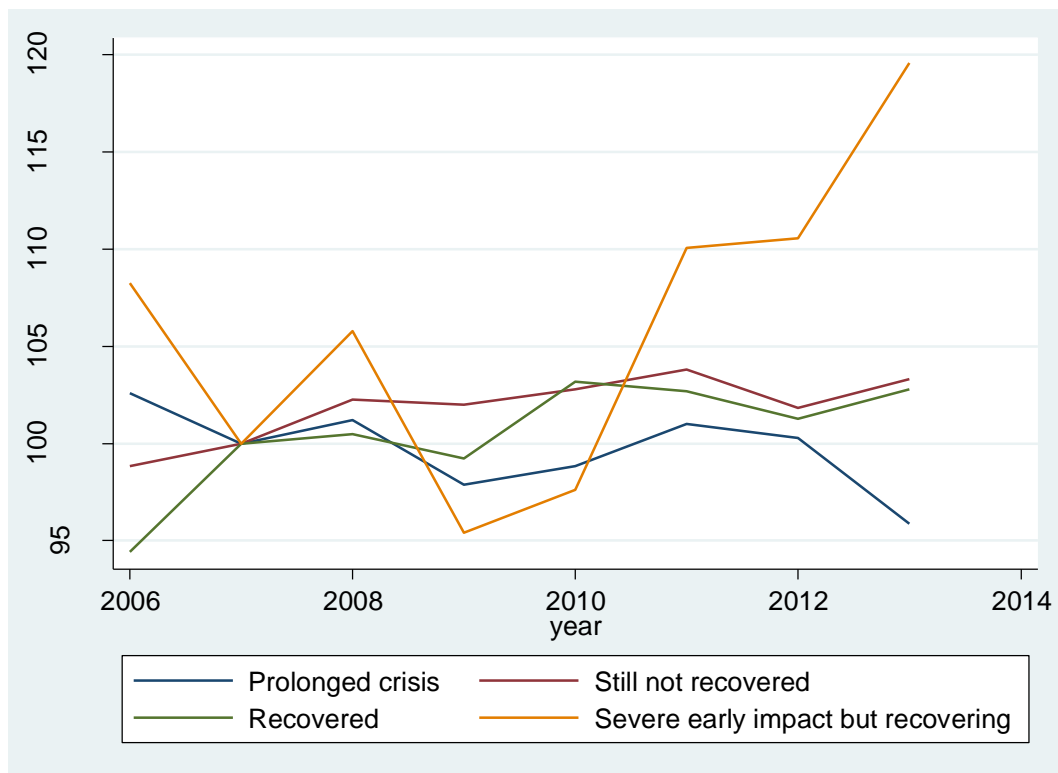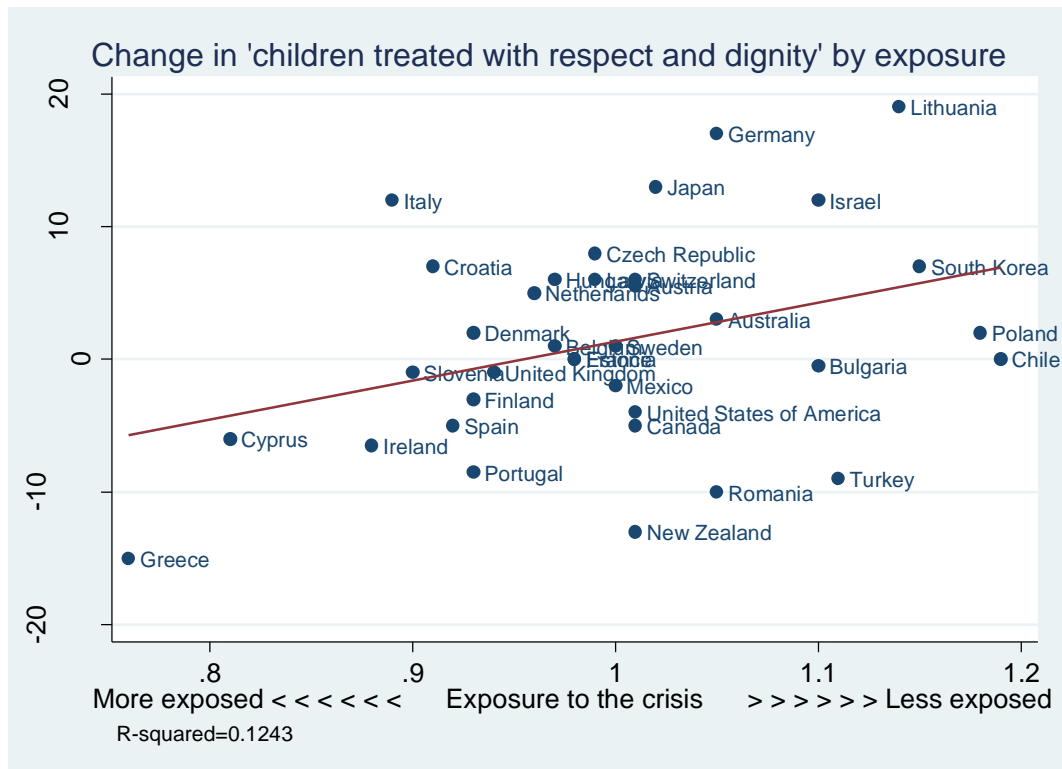Countries missing: Iceland, Luxembourg, Malta, Norway and Slovakia.

Figure iv) Are children in this country treated with respect and dignity? (percentage reporting 'yes')
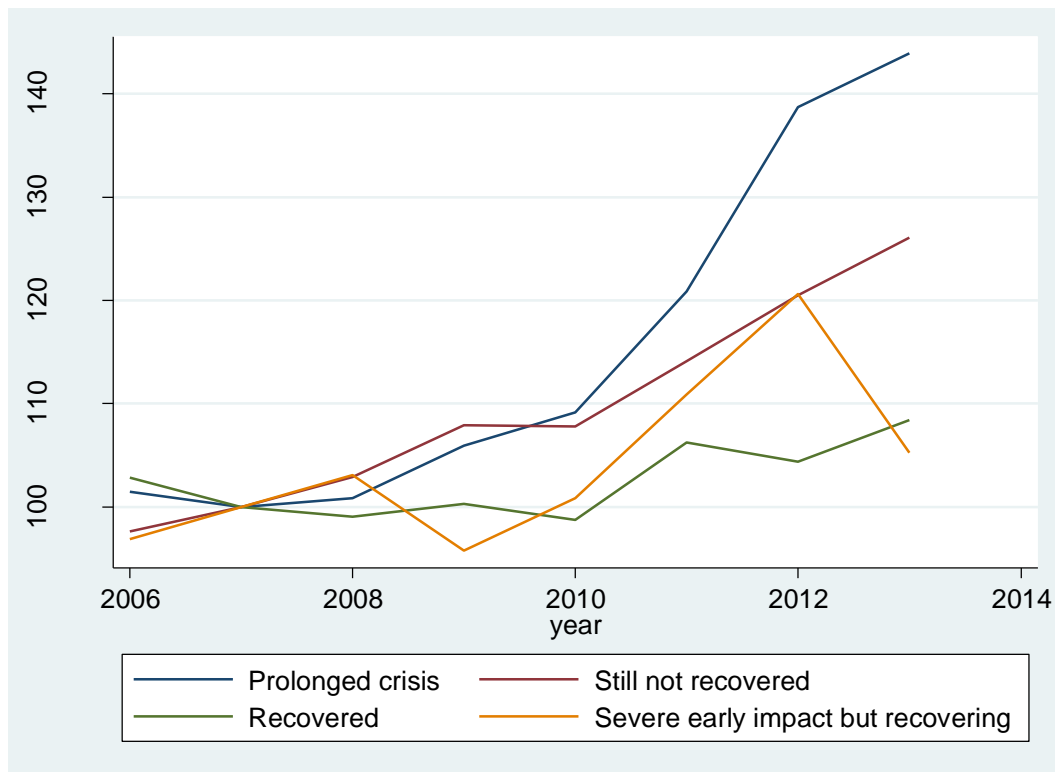

Countries missing: Iceland, Luxembourg, Malta, Norway and Slovakia.

Indicators related to health

Figure v) Did you experience the following feelings during a lot of the day yesterday? How about stress? (percentage reporting 'yes')

Countries missing: Bulgaria, Croatia, Iceland, Luxembourg, Malta, Norway and Slovakia.
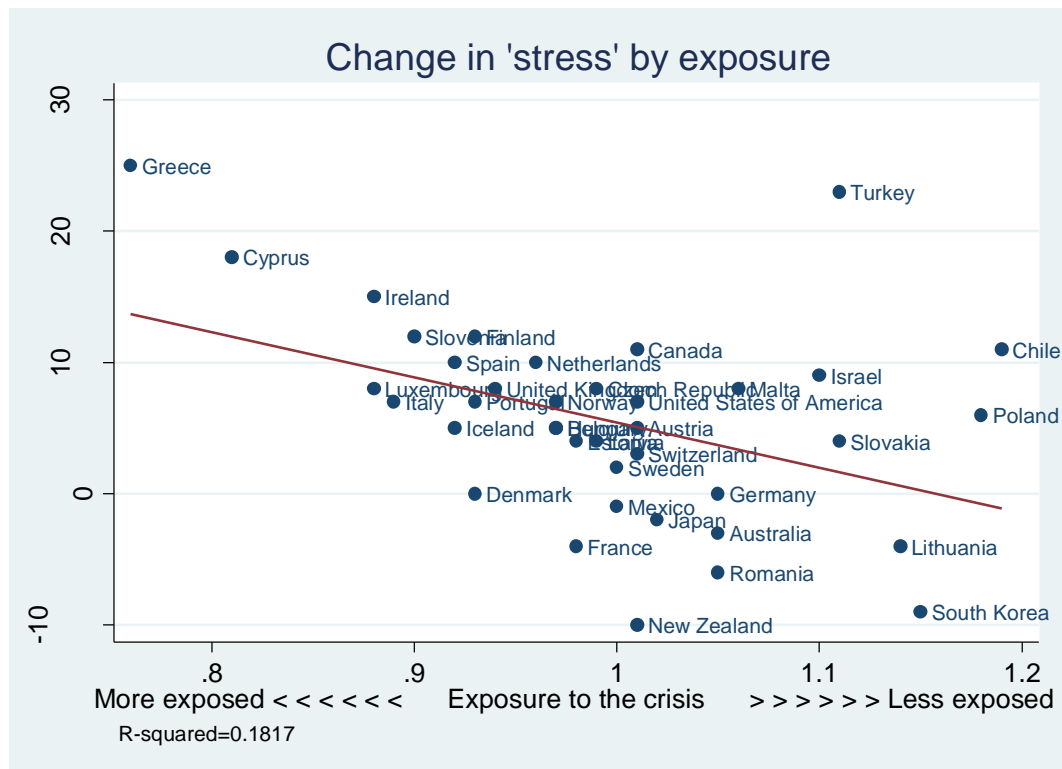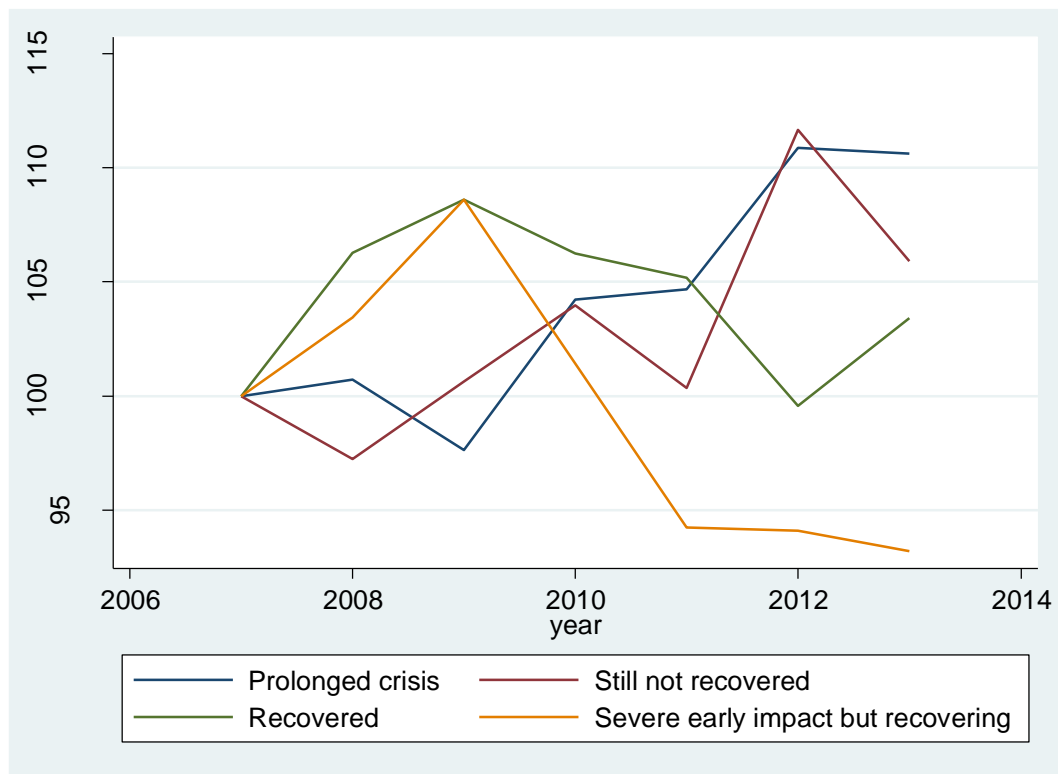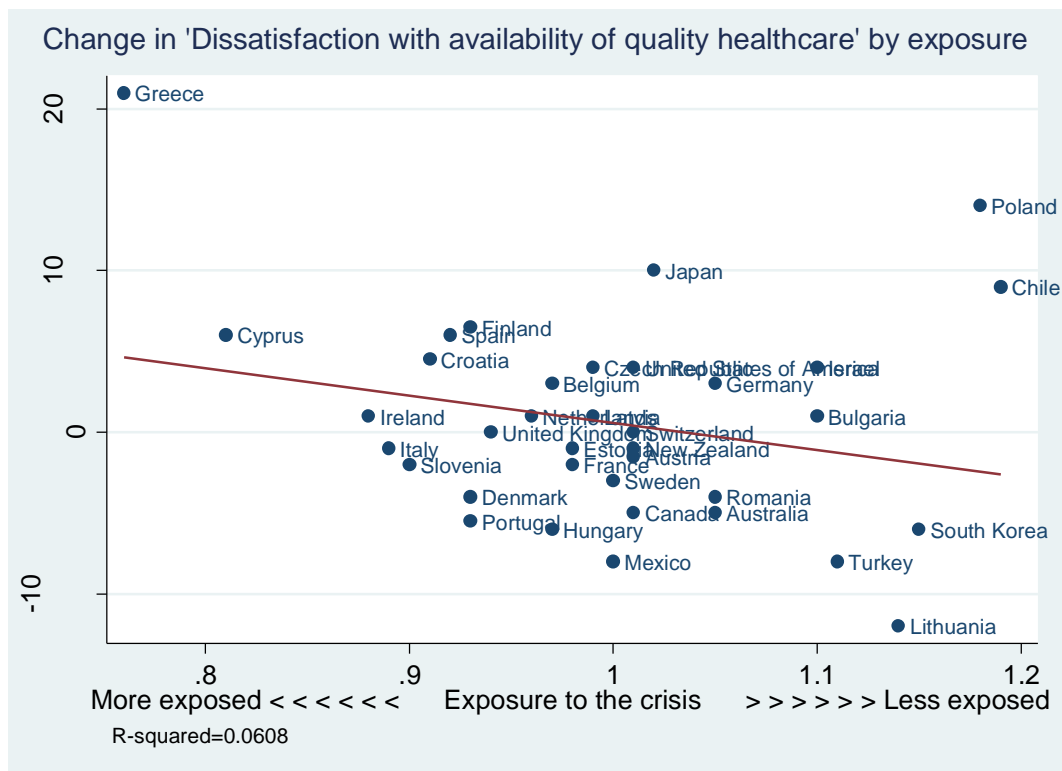
Figure vi) In the city or area where you live, are you satisfied or dissatisfied with the availability of quality healthcare? (Percentage of dissatisfied, i.e. percentage reporting 'yes').
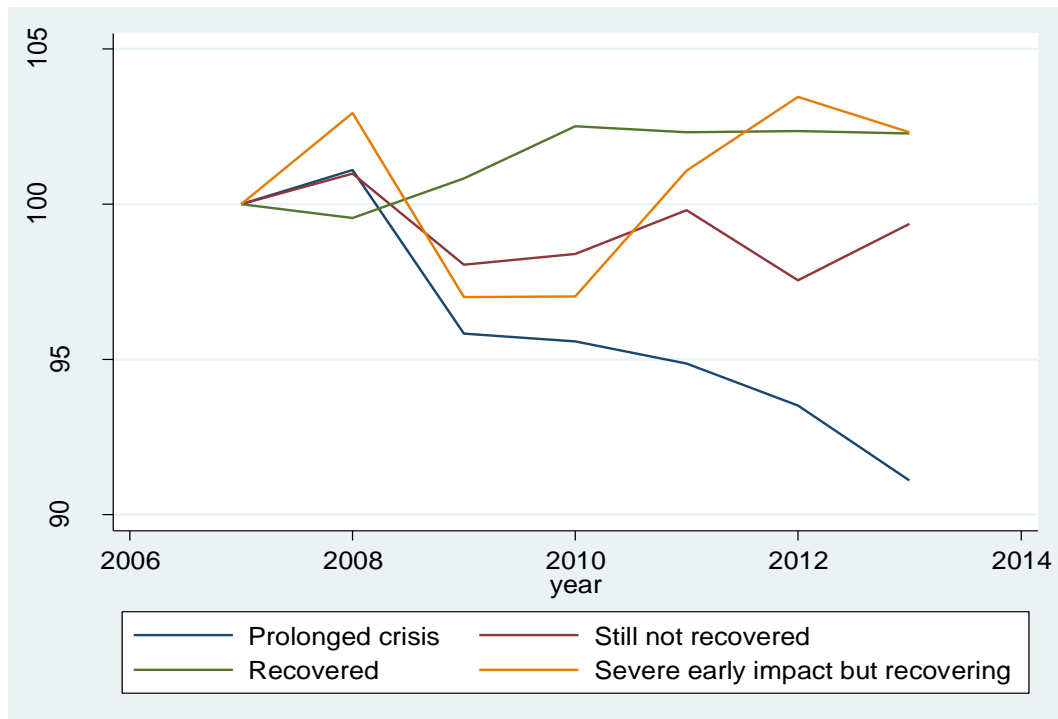

Countries missing: Iceland, Luxembourg, Malta, Norway, Slovakia

Change in 'Dissatisfaction with availability of quality healthcare' by exposure

Indicators related to subjective well-being

Figure vii) Life Today: Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that 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, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?

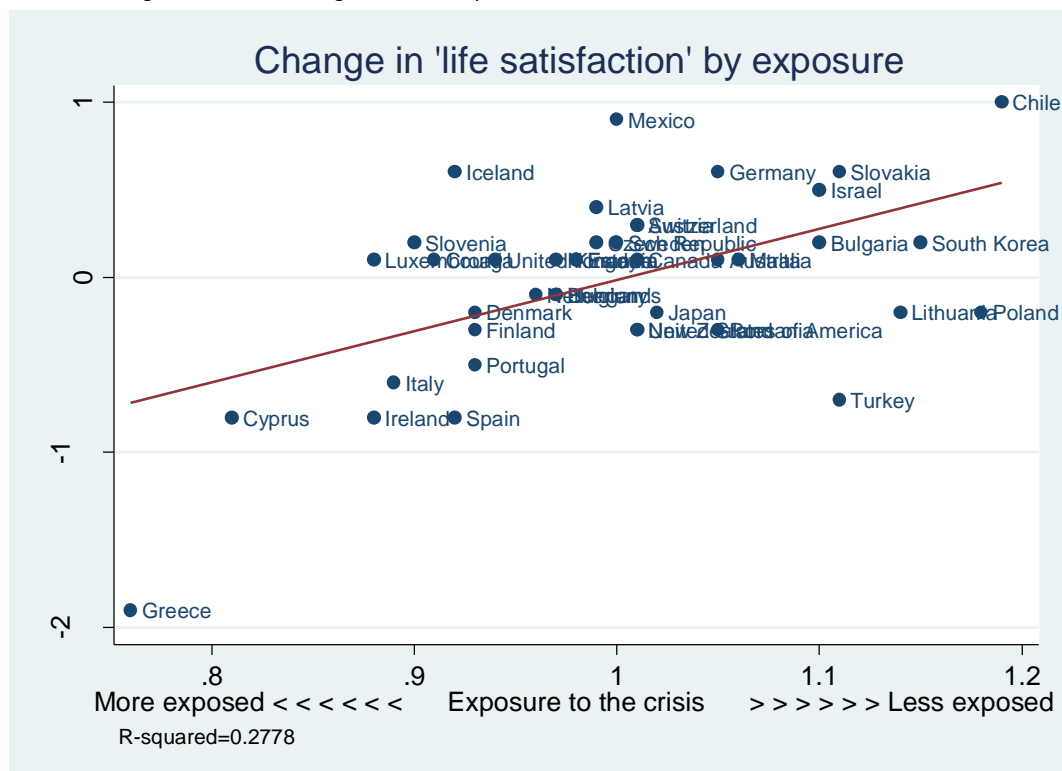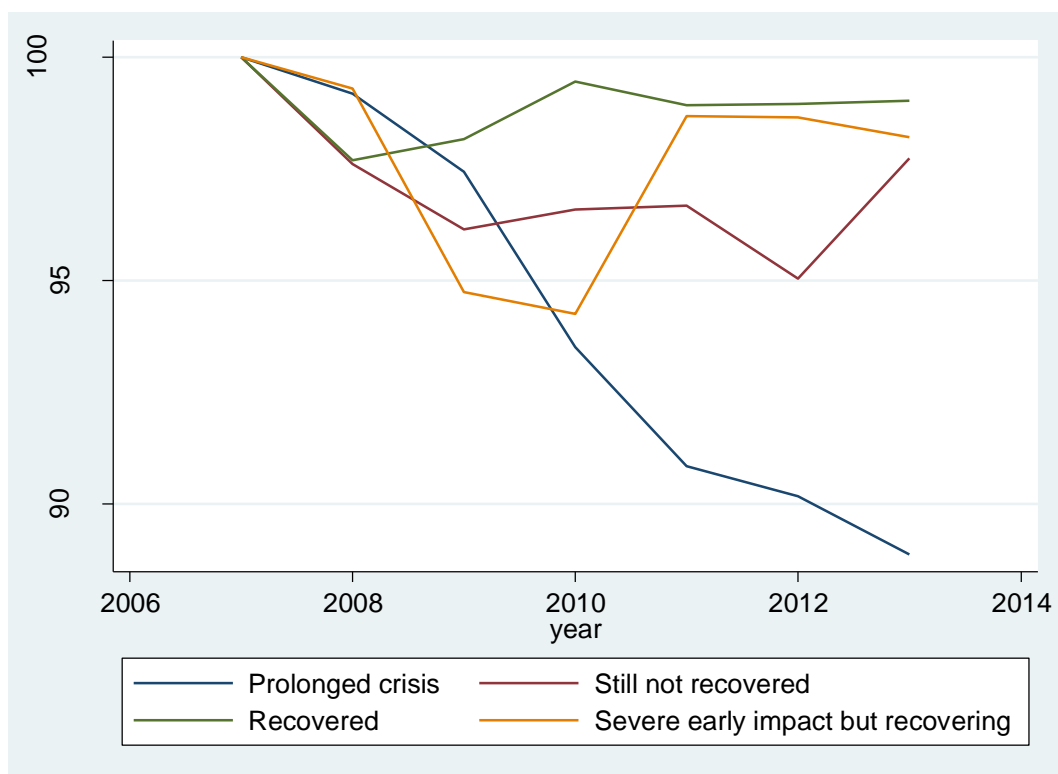Countries missing: Iceland, Luxembourg, Malta, Norway, Slovakia

Figure viii) life in five years from now: Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that 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. Just your best guess, on which step do you think you will stand on in the future, say about five years from now?

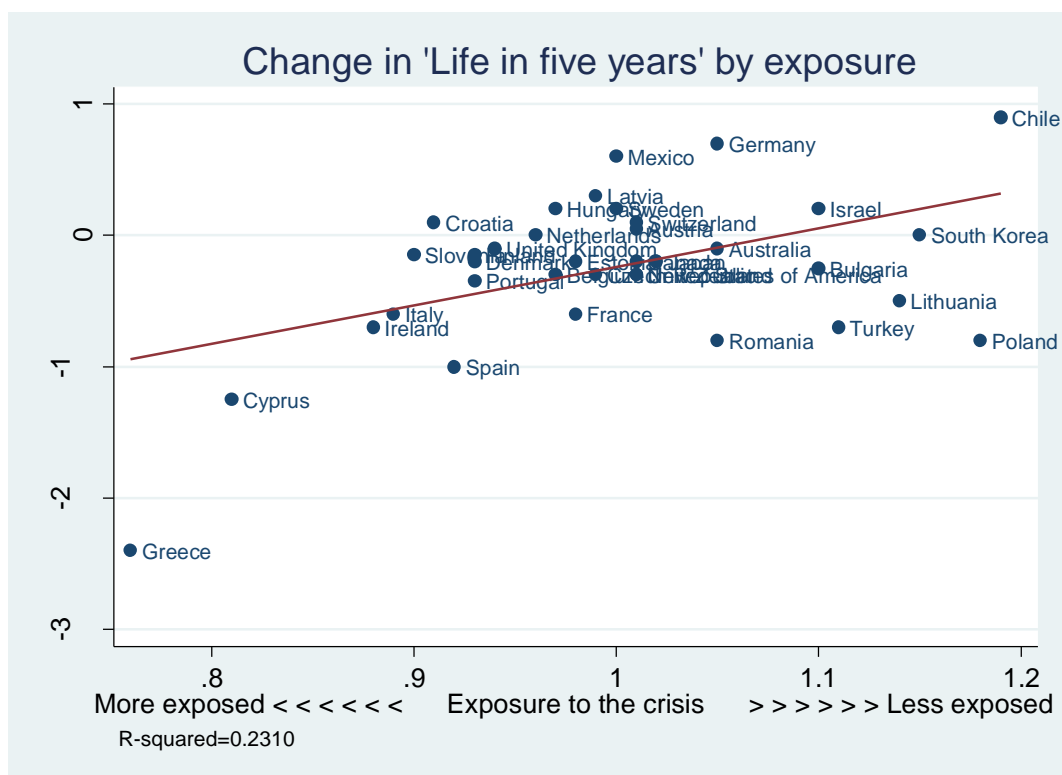Countries missing: Iceland, Luxembourg, Malta, Norway, Slovakia

Change in 'Life in five years' by exposure

Figure ix) Life in five years - <u>Age group 15-29</u>: Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that 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. Just your best guess, on which step do you think you will stand in the future, say about five years from now?

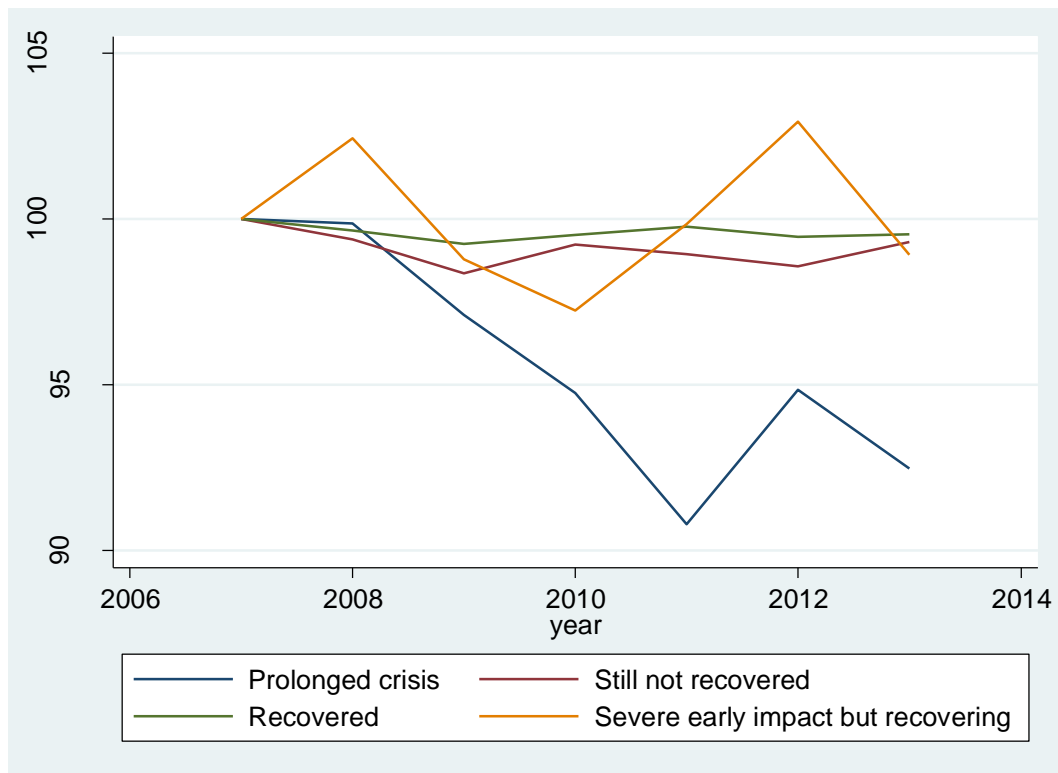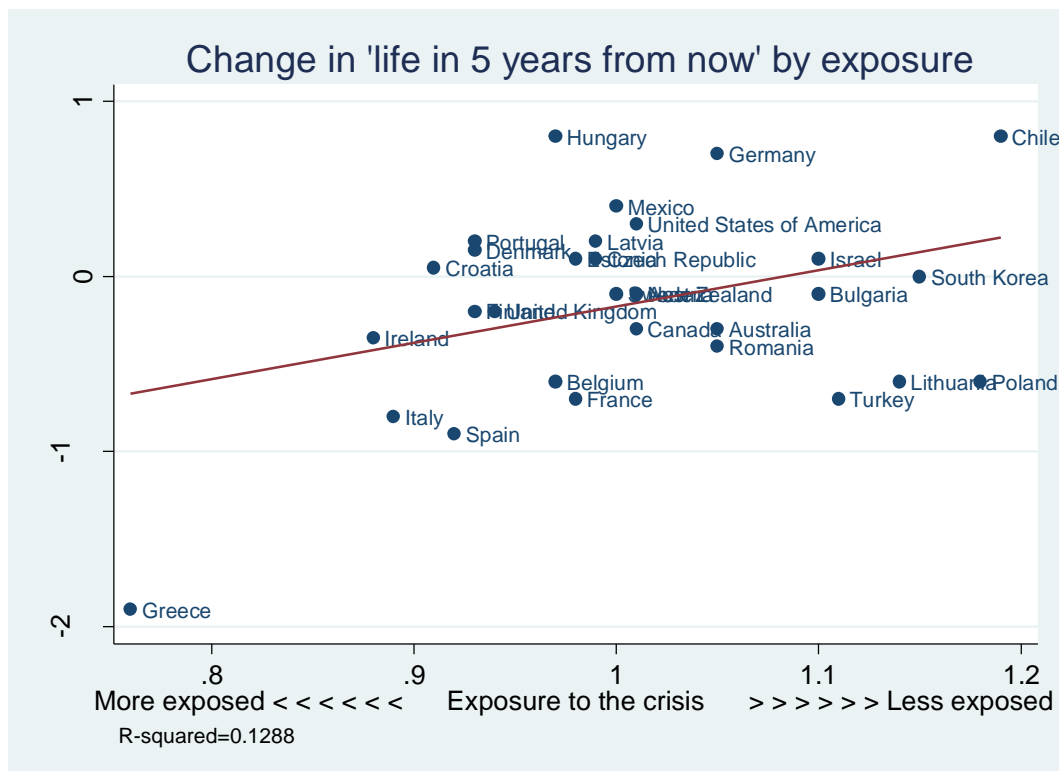Countries missing: Cyprus, Iceland, Japan, Luxembourg, Malta, Netherlands, Norway, Slovakia, Slovenia, Switzerland.
For New Zealand, Sweden, UK and USA 2013 data is missing and has been replaced with 2012 values.

4. OVERALL RANKING BASED ON CHANGE IN GALLUP WORLD POLL INDICATORS 2007-2013

Table 3 shows the ranking of all countries in terms of change between 2007 and 2013 for four selected Gallup World Poll indicators. Ranks are based on absolute changes (2013 value minus 2007 value). There is one indicator for each of the four dimensions considered, namely material well-being ('not enough money to buy food'), perceptions of how society treats its children ('opportunity to learn and grow'), health ('stress') and subjective well-being ('life satisfaction'). Each indicator column reports the rank of each country based on the 2007-2013 change; the higher the number, the worse the country performance relative to the rest. A light blue background denotes a rank in the top third of the table, mid blue indicates the middle third, while dark blue the bottom third. Countries in the table are sorted by their composite rank, equivalent to the average ranking across the four indicators. The 'direction of change' column indicates how many of these indicators have been worsening over the period under analysis (2007-2013) whereas the last column, labelled 'recent impact', highlights with an exclamation mark those countries where a majority of these indicators (3 or 4) have continued to worsen, also over the most recent period, i.e. 2011-2013. The ranking is congruent with the country categories used in this paper, with the *"prolonged crisis"* countries at the bottom of the table. Cyprus and Greece are among the worst performers in each of the four indicators analyzed, as also revealed by previous graphs. (The original data used to produce the league table is available in Annex 4.)

Figure x is a scatterplot showing the correlation between our measure of exposure, namely the change in GDP per capita between 2007 and 2013, and the composite rank of Table 3 (R^2=0.31). A few countries rank clearly less well than expected: Romania, Turkey and United States are countries where GDP per capita has recovered but are among the poorest performers in terms of the change in these four World Poll indicators. Also, there are a few countries where the ranking is better than one would expect based on GDP per capita, notably Iceland but also Denmark, Germany, Italy, Luxembourg and , Switzerland. Hypotheses could be formulated about why these countries deviate from the pattern, but this goes beyond our scope here.

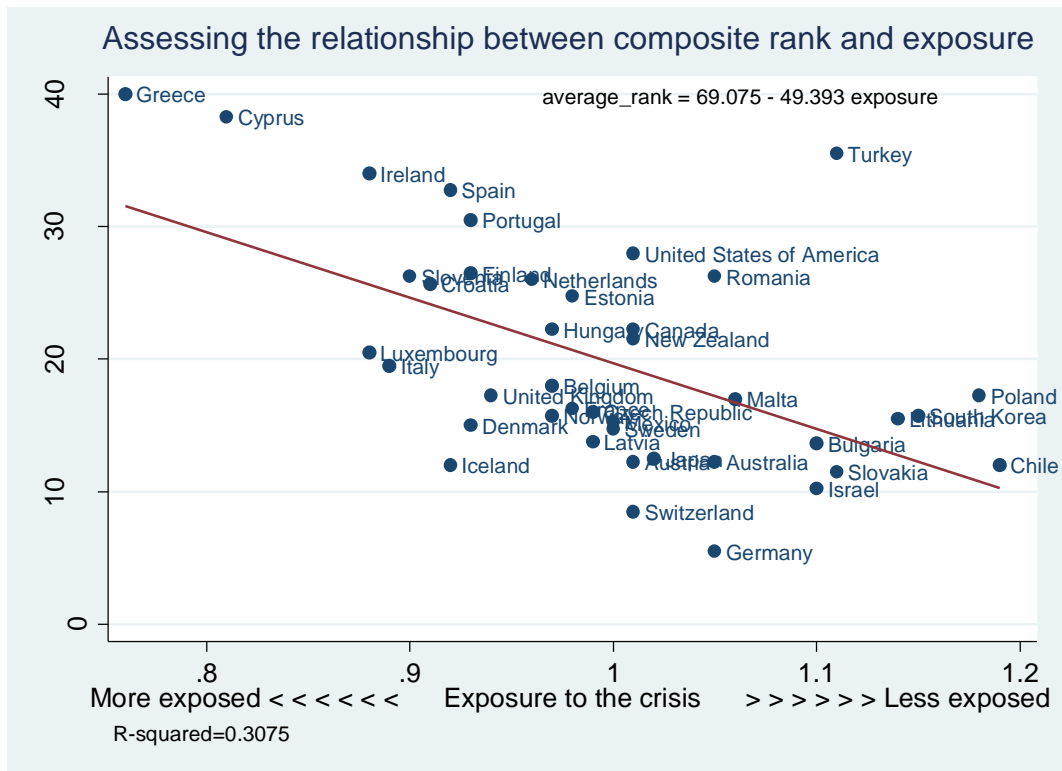*Figure x) Assessing the relationship between composite rank and exposure*

Assessing the relationship between composite rank and exposure

average_rank = 69.075 - 49.393 exposure

More exposed < < < < < < Exposure to the crisis > > > > > > Less exposed

R-squared=0.3075

Table 3 Country rankings based on change 2007[1]-2013[2], Gallup World Poll

Countries ranked based on change 2007–2013					Direction of change	Recent Impact
Country	1 Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed?	2 Did you experience stress today?	3 Overall satisfaction with life?	4 Do most children in (country) have the opportunity to learn and grow every day, or not?	5 Number of indicators worsening 2007–2013	6 ! = >2 indicators worsened 2011–2013
Germany	4	9	3	6	0	
Switzerland	3	12	8	11	1	
Israel	4	29	6	2	1	!
Slovakia	26	13	3	4	2	
Chile	1	32	1	14	1	
Iceland	18	16	3	11	2	
Australia	13	6	15	15	1	
Austria	4	16	8	21	2	
Japan	8	7	27	8	1	
Bulgaria	1	n.a.	11	29	1	
Latvia	28	15	7	5	2	
Sweden	4	11	10	34	2	
Denmark	8	9	28	15	1	
Mexico	23	8	2	28	2	
Lithuania	29	4	28	1	2	
Republic of Korea	32	2	12	17	1	!
Norway	16	21	15	11	2	
Czech Republic	8	25	12	19	1	
France	26	5	15	19	1	
Malta	20	25	15	8	2	
Poland	18	20	28	3	3	
United Kingdom	8	25	15	21	2	!
Belgium	13	18	24	17	3	
Italy	13	21	36	8	3	
Luxembourg	16	25	15	26	3	!
New Zealand	23	1	31	31	3	
Canada	8	32	15	34	2	
Hungary	41	18	24	6	3	
Estonia	35	13	15	36	3	!
Croatia	29	n.a.	15	33	2	
Netherlands	29	30	24	21	4	!
Romania	32	3	33	37	3	
Slovenia	20	34	12	39	3	
Finland	20	34	31	21	4	
United States	37	21	33	21	4	!
Portugal	35	21	35	31	4	!
Spain	23	30	40	38	4	!
Ireland	32	36	38	30	4	!
Turkey	40	38	37	27	4	!
Cyprus	38	37	38	40	4	!
Greece	39	39	41	41	4	!

Source: World Gallup data

Notes: [1] When no data for 2007 was available data was substituted by 2008; if 2008 data was not available it was substituted by 2006 data.

In general, 2008 data was used for Austria, Finland, Iceland, Ireland, Luxembourg, Malta, Norway and Portugal. 2006 data was used for Bulgaria, Croatia, Cyprus, Slovak Republic, Slovenia and Switzerland.

For the stress indicator: no data is available for Bulgaria and Croatia. 2006 data was used for Cyprus, Czech Republic, Greece, Romania, Slovak Republic, Slovenia and Switzerland. 2007 data was used for Chile and Mexico. Data for the remaining countries refer to 2008.

[2] 2012 data was used for Norway and Switzerland.

5. CONCLUSIONS AND COMMENTS

- **On the validity of the Gallup World Poll:** The correlations between the World Poll indicators used in this paper and supposedly corresponding indicators in alternative data sources (EU-SILC and ESS) are high enough to accept the use of Gallup World Poll data as a complementary data source. Particularly the *money for food* indicator appears to be a strong proxy for the EU-SILC *severe material deprivation* rate. Overall, the correlations do not cast any serious doubt on the use of World Poll data to assess the late impact of the financial crisis.

- **Indications of impact across all four dimensions:** Graphs clearly indicate an impact across all dimensions (material well-being, perceptions of how society treats its children, health, subjective well-being) that can be related to the exposure to the crisis which these four country groupings have experienced. This lends additional support to the findings presented in Natali et al (2014), based on an alternative data source. For all eight indicators analysed there is a clear deterioration in the *prolonged-crisis* group that over time has become more severe than for any of the other country groups. Likewise the *severe early impact with recovery* group show clear signs of early impact across all eight indicators, but also some signs of recovery. The *still not recovered* country group show deteriorating indicators related to material well-being, health and to a lesser extent subjective well-being. The *recovered* country group is the one that shows least sign of impact.

- **Impact had not yet peaked in 2013:** In the *prolonged crisis* country group indicators were worsening across all dimensions, and for each individual indicator, as late as 2013. For a number of indicators (stress, subjective well-being) the deterioration has been particularly strong over the last years in this country group. The *severe early impact with recovery* group tends to display the strongest initial impact but most of the indicators appear to have peaked, with clear signs of recovery in a few of them. For the *still not recovered* country group, namely those with a GDP per capita in 2013 below the 2007 level, the impact has still not peaked, with indicators related to material well-being and health still worsening as late as 2013.

- **Perceptions of how society treats its children:** The question *Do children in this country have the opportunity to learn and grow every day?* reveals a relatively strong correlation with exposure to the crisis as measured by a drop in GDP per capita. The correlation to a fall in GDP per capita (r^2=0.39) is in fact stronger than for the material well-being indicators. However, in terms of country groups it is only in the *prolonged crisis* group where this particular indicator continues to worsen, while it is clearly U-shaped in the *severe early impact with recovery* group and without much change in the other two groups. (The pattern is similar but less obvious for the question *children treated with respect and dignity.*)

- **Young people losing hope:** The data would lend some support to the view that the crisis is producing a young generation marked by a loss of hope for the future in the countries

most exposed to the crisis. In the *prolonged crisis* group of countries this is clearly the case while there are some signs that young people are regaining hope in the *severe early impact with recovery* group. This loss in hope does not, however, appear to be more marked among young people than among respondents in general (as can be seen by comparing figures viii and ix). It should be kept in mind that sample size is reduced to approximately 200 respondents per country in this particular breakdown, so margins of errors are large.

- **Overall League Table:** We selected four indicators, one for each dimension, and aggregated them to produce an overall league table. With a few noteworthy exceptions this table shows countries in fairly similar rankings to those expected based on their exposure to the crisis in terms of fall in GDP per capita.

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Annex 1, Correlation tables Gallup World Poll vs EU-SILC and ESS

Table A1 (2012 Pearson correlations)

		World Poll: Not Enough Money to Buy Food 2012	World Poll: Household Income Very Difficult 2012	World Poll: Life Today 2012	World Poll: Satisfaction Healthcare 2012
EU-SILC Deprivations 2012	Pearson Correlation	.871**	.836**		
	Sig. (2-tailed)	.000	.000		
	N	30	30		
ESS Average life satisfaction (6) 2012-13	Pearson Correlation			.947**	
	Sig. (2-tailed)			.000	
	N			21	
ESS Satisfaction health system (6) 2012-13	Pearson Correlation				.830**
	Sig. (2-tailed)				.000
	N				21

Table A2 (Year by year Deprivations vs Not Enough Money for Food: 2007, 2008, 2009, 2012)

		World Poll: Not Enough Money to BuyFood 2007	World Poll: Not Enough Money to BuyFood 2008	World Poll: Not Enough Money to BuyFood 2009	World Poll: Not Enough Money to BuyFood 2012
EU-SILC Deprivations 2007	Spearman's rho correlation	.773**			
	Sig. (2-tailed)	.000			
	N	17			
EU-SILC Deprivations 2008	Spearman's rho correlation		.629**		
	Sig. (2-tailed)		.002		
	N		22		
EU-SILC Deprivation 2009	Spearman's rho correlation			.815**	
	Sig. (2-tailed)			.000	
	N			21	
EU-SILC Deprivations 2012	Spearman's rho correlation				.909**
	Sig. (2-tailed)				.000
	N				30

Table A3 (Change 2012-08)

		World Poll: CHANGE Not Enough Money For Food 2008-2012	World Poll: CHANGE Household Income Difficult 2008-2012	World Poll: CHANGE Life Today 2008-2012	World Poll: CHANGE Satisfied Healthcare 2008-2012
EU-SILC: ChangeDeprivation2012-08	Spearman's rho correlation	.529[*]	.425		
	Sig. (2-tailed)	.014	.055		
	N	21	21		
ESS CHANGE Life satisfaction 20102-08	Spearman's rho correlation			.477	
	Sig. (2-tailed)			.084	
	N			14	
ESS CHANGE satisfaction health system 2012-08	Spearman's rho correlation				.212
	Sig. (2-tailed)				.467
	N				14

Annex 2 - GDP per capita change by country category

	Country	2007	2008	2009	2010	2011	2012	2013
	Greece	100.00	99.41	95.90	90.80	84.31	79.06	75.97
	Cyprus	100.00	100.92	96.36	95.22	93.26	89.98	81.24
	Luxembourg	100.00	97.54	91.88	92.80	92.18	89.45	88.22
	Ireland	100.00	95.46	88.41	87.06	88.56	88.49	88.47
Prolonged crisis	Italy	100.00	98.03	91.99	93.12	93.03	90.53	88.67
	Slovenia	100.00	103.39	94.14	94.65	95.17	92.51	89.88
	Croatia	100.00	102.13	95.14	93.21	93.51	91.66	91.11
	Spain	100.00	99.30	94.80	94.31	94.25	92.63	91.58
	Portugal	100.00	99.86	96.86	98.69	97.30	94.58	92.83

	Country	2007	2008	2009	2010	2011	2012	2013
	Finland	100.00	99.81	90.86	93.50	95.58	94.35	93.31
	Denmark	100.00	98.70	92.50	93.56	94.16	93.47	93.36
	United Kingdom	100.00	98.56	92.87	93.70	94.03	93.44	94.01
Still not recovered	Netherlands	100.00	101.41	97.19	98.17	98.64	97.05	95.55
	Hungary	100.00	101.10	94.39	95.80	97.65	96.48	96.83
	Belgium	100.00	100.21	96.63	98.17	98.52	97.41	97.08
	Norway	100.00	98.66	96.17	95.12	95.10	96.71	97.16
	France	100.00	99.37	95.74	96.92	98.38	97.90	97.63
	Czech Republic	100.00	102.17	96.76	98.77	100.76	99.34	98.78

	Mexico	100.00	99.58	93.54	95.15	97.76	100.09	100.31
	Sweden	100.00	98.60	92.80	98.09	100.25	100.44	100.47
	New Zealand	100.00	98.27	95.74	96.41	96.98	98.91	100.60
	Switzerland	100.00	101.03	96.63	98.41	99.12	99.56	100.70
	United States	100.00	98.79	95.19	96.83	97.92	99.93	100.74
	Canada	100.00	100.01	96.12	98.19	99.61	100.18	100.76
	Austria	100.00	101.00	96.84	98.26	100.65	100.98	101.15
	Japan	100.00	98.90	93.44	97.79	97.33	99.46	101.62
	Germany	100.00	100.98	96.13	99.98	103.36	104.11	104.83
Recovered	Romania	100.00	107.52	100.60	99.62	102.07	103.00	105.26
	Australia	100.00	100.48	100.08	101.29	102.17	104.10	105.35
	Malta	100.00	103.25	99.54	102.53	103.96	104.89	105.84
	Bulgaria	100.00	106.66	101.39	102.59	107.01	108.51	109.60
	Israel	100.00	102.21	101.25	104.69	107.12	108.32	110.01
	Turkey	100.00	99.41	93.36	100.58	108.00	108.97	110.78
	Slovak Republic	100.00	105.66	100.20	104.35	108.30	110.25	111.11
	Korea	100.00	101.56	101.41	107.32	110.45	112.20	114.85
	Poland	100.00	105.15	106.81	110.86	114.78	116.89	118.43
	Chile	100.00	102.12	100.18	104.86	109.93	115.07	119.08

	Iceland	100.00	98.69	91.08	87.83	90.13	91.29	92.37
Severe early impact but recovering	Estonia	100.00	95.95	82.46	84.59	92.67	96.36	97.85
	Latvia	100.00	97.48	81.27	82.11	88.52	94.97	99.06
	Lithuania	100.00	103.45	88.58	91.37	104.92	109.53	114.02

Source: IMF, World Economic Outlook October 2013
Gross domestic product per capita figures, at constant prices, in national currency. Authors computed index using 2007 as base year.

Annex 3

This annex reproduces the same graphs shown in the main text, using the country categorization used in Natali et al. (2014) and using 2008 as the base year. These follow the same criteria as the graphs reported in Report Card 12.

Indicators related to material well-being

Figure i) Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed?
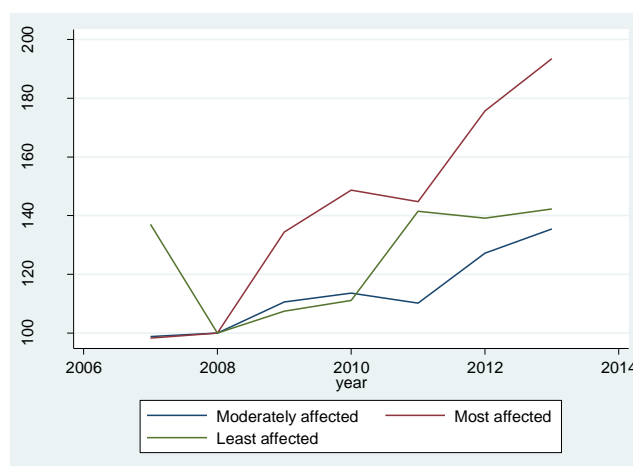
Source: GALLUP
Notes: The following countries were missing: Iceland, Luxembourg, Malta, Norway and Slovakia.
2013 data was missing for Norway and Switzerland but replaced with 2012 values.

Figure ii) Which one of these phrases comes closest to your own feelings about your household income these days? (% answering "very difficult")
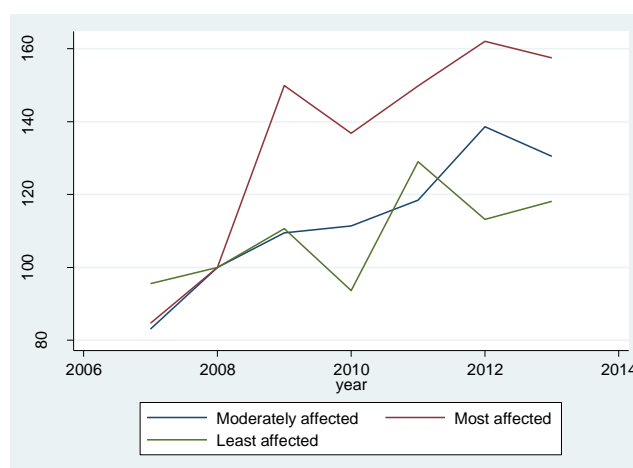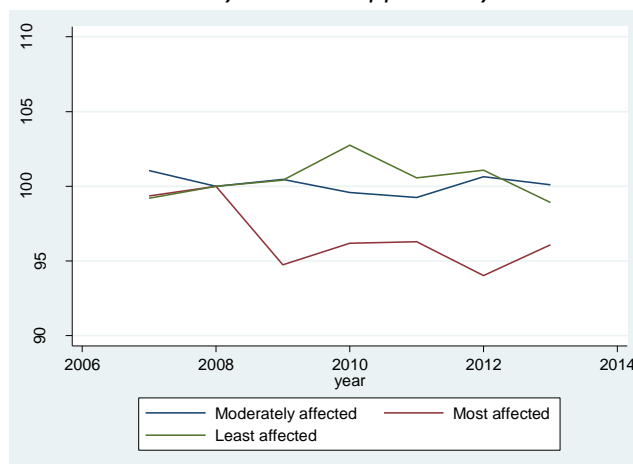

Source: GALLUP
Notes: The following countries were missing: Austria, Cyprus, Finland, Iceland, Ireland, Luxembourg, Malta, Norway, Portugal, Slovakia, Slovenia and Switzerland.
Norway and Switzerland, no data for 2013, replaced with 2012 values.

**Indicators related to perceptions of how society treats its children**

Figure iii) Do children in this country have the opportunity to learn and grow every day?

Source: GALLUP
Notes: The following countries were missing: Iceland, Luxembourg, Malta, Norway and Slovakia.
2013 data was missing for Norway and Switzerland but replaced with 2012 values.

*Figure iv) Are children in this country treated with respect and dignity?*
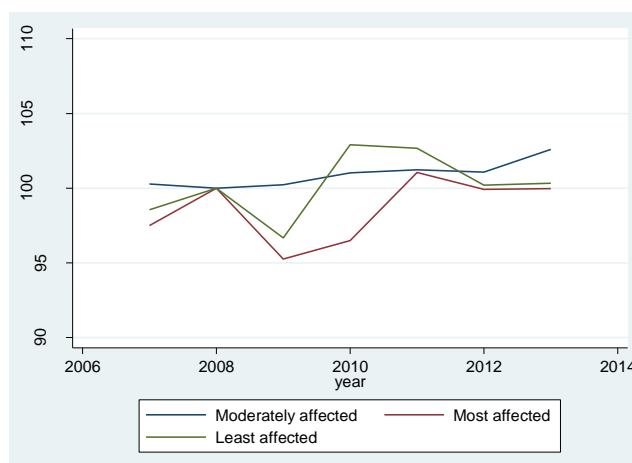
Source: GALLUP
Notes: The following countries were missing: Austria, Cyprus, Finland, Iceland, Ireland, Luxembourg, Malta, Norway, Portugal, Slovakia, Slovenia and Switzerland
2013 data was missing for Norway and Switzerland but replaced with 2012 values
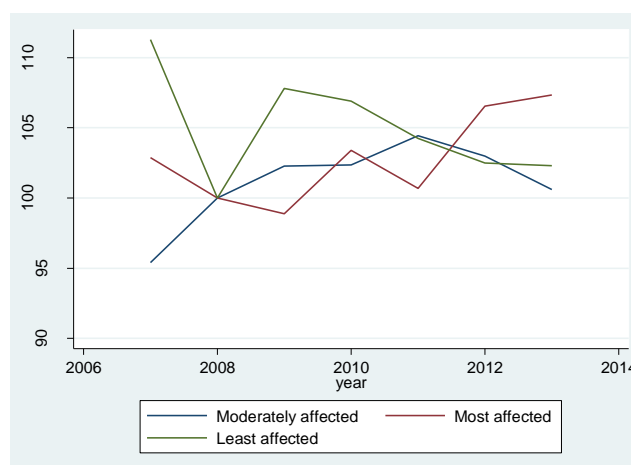
Indicators related to health

Figure v) Did you experience the following feelings during a lot of the day yesterday? How about stress?
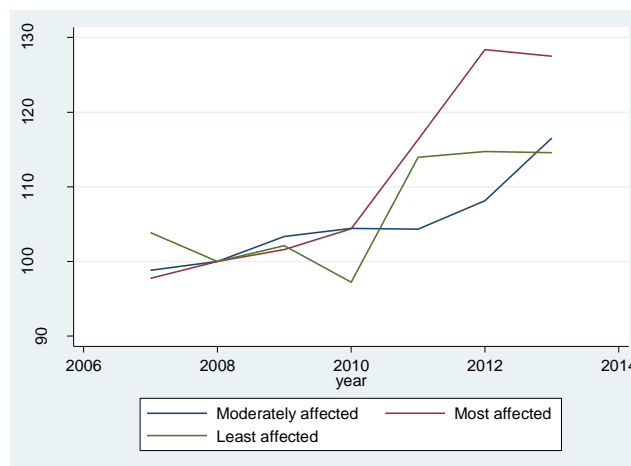
Source: GALLUP
Notes: The following countries were dropped: Bulgaria, Croatia, Iceland, Luxembourg, Malta, Norway and Slovakia
2013 data was missing for Norway and Switzerland but replaced with 2012 values.

Figure vi) In the city or area where you live, are you satisfied or dissatisfied with the availability of quality healthcare? (Percentage of dissatisfied)
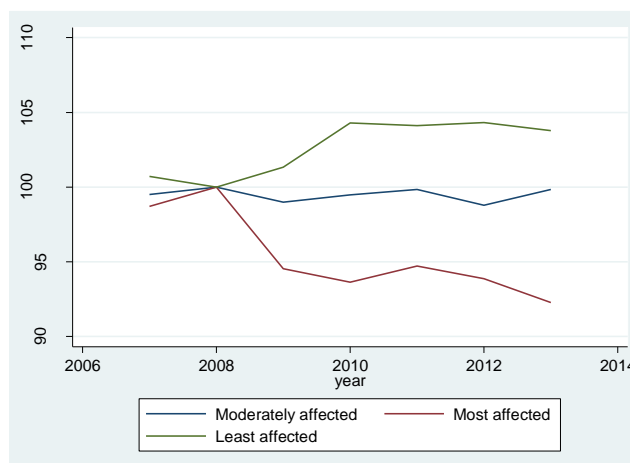

Source: GALLUP
Notes: The following countries were dropped: Iceland, Luxembourg, Malta, Norway and Slovakia.
2013 data was missing for Norway and Switzerland but replaced with 2012 values.

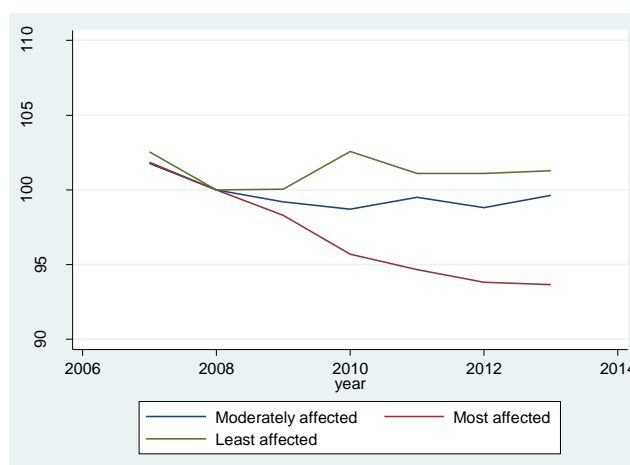**Indicators related to subjective well-being**

Figure vii) Life today: Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that 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, assuming that the higher the step the better you feel about your life, and the lower the step the worse you feel about it? Which step comes closest to the way you feel?

Source: GALLUP
Notes: The following countries were dropped: Iceland, Luxembourg, Malta, Norway and Slovakia.
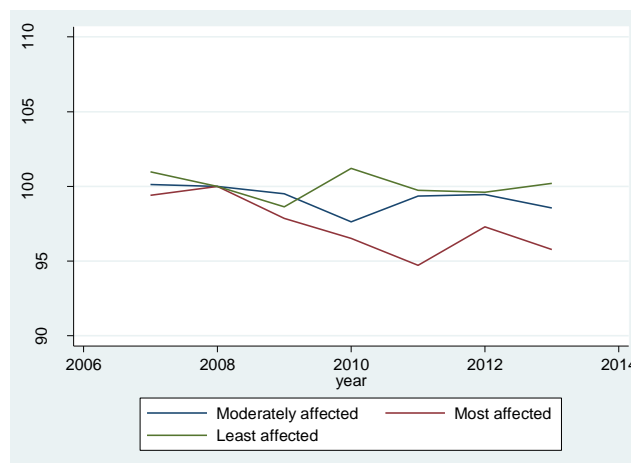2013 data was missing for Norway and Switzerland but replaced with 2012 values.

Figure viii) Life in five years from now: Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that 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. Just your best guess, on which step do you think you will stand on in the future, say about five years from now?

Source: GALLUP
Notes: The following countries were dropped: Iceland, Luxembourg, Malta, Norway and Slovakia.
2013 data was missing for Norway and Switzerland but replaced with 2012 values.

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Figure ix) Life in five years - Age group 15-29: Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that 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. Just your best guess, on which step do you think you will stand on in the future, say about five years from now?

Source: GALLUP
Notes: The following countries were missing: Cyprus, Iceland, Japan, Luxembourg, Malta, Netherlands, Norway, Slovakia, Slovenia, Switzerland.
2013 data was missing for New Zealand, Sweden and UK but replaced with 2012 values.

Annex 4. Initial and final data (2007-2013) for the four selected Gallup indicators

Average rank	Composite rank	Country	Not enough money to buy food				Experienced stress				Satisfaction with life today				Children's opportunity to learn and grow			
			2007 (%)	2013 (%)	Change	Rank	2007 (%)	2013 (%)	Change	Rank	2007 average score	2013 average score	Change	Rank	2007 (%)	2013 (%)	Change	Rank
5.5	1	Germany	7	6	-1	4	37	37	0.0	9	6.4	7	0.6	3	72	78	6.0	6
8.5	2	Switzerland	6	4	-2	3	30	33	3.0	12	7.5	7.8	0.3	8	92	95	3.0	11
10.3	3	Israel	12	11	-1	4	37	46	9.0	29	6.8	7.3	0.5	6	62	76	14.0	2
11.5	4	Slovak Republic	10	15	5	26	33	37	4.0	13	5.3	5.9	0.6	3	76	85	9.0	4
12.0	5	Chile	28	22	-6	1	23	34	11.0	32	5.7	6.7	1.0	1	56	59	3.0	14
12.0	5	Iceland	9	12	3	18	27	32	5.0	16	6.9	7.5	0.6	3	88	91	3.0	11
12.3	7	Australia	9	10	1	13	36	33	-3.0	6	7.3	7.4	0.1	15	91	93	2.0	15
12.3	7	Austria	6	5	-1	4	30	35	5.0	16	7.2	7.5	0.3	8	89	88	-1.0	21
12.5	9	Japan	6	6	0	8	33	31	-2.0	7	6.2	6	-0.2	27	81	85	4.0	8
13.7	10	Bulgaria	35	29	-6	1		23			3.8	4	0.2	11	62	58	-4.0	29
13.8	11	Latvia	18	24	6	28	26	30	4.0	15	4.7	5.1	0.4	7	67	74	7.0	5
14.8	12	Sweden	7	6	-1	4	28	30	2.0	11	7.2	7.4	0.2	10	93	86	-7.0	34
15.0	13	Denmark	6	6	0	8	18	18	0.0	9	7.8	7.6	-0.2	28	91	93	2.0	15
15.3	14	Mexico	28	33	5	23	33	32	-1.0	8	6.5	7.4	0.9	2	62	59	-3.0	28
15.5	15	Lithuania	10	17	7	29	15	11	-4.0	4	5.8	5.6	-0.2	28	38	54	16.0	1
15.8	16	Norway	5	7	2	16	26	33	7.0	21	7.6	7.7	0.1	15	90	93	3.0	11
15.8	16	Rep. of Korea	12	20	8	32	35	26	-9.0	2	5.8	6	0.2	12	71	72	1.0	17
16.0	18	Czech Republic	13	13	0	8	24	32	8.0	25	6.5	6.7	0.2	12	82	82	0.0	19
16.3	19	France	10	15	5	26	35	31	-4.0	5	6.6	6.7	0.1	15	86	86	0.0	19
17.0	20	Malta	10	14	4	20	37	45	8.0	25	6.3	6.4	0.1	15	93	97	4.0	8

17.3	21	Poland	18	21	3	18	25	31	6.0	20	5.9	5.7	-0.2	28	67	77	10.0	3
17.3	21	United Kingdom	11	11	0	8	34	42	8.0	25	6.8	6.9	0.1	15	84	83	-1.0	21
18.0	23	Belgium	6	7	1	13	34	39	5.0	18	7.2	7.1	-0.1	24	87	88	1.0	17
19.5	24	Italy	8	9	1	13	36	43	7.0	21	6.6	6	-0.6	36	83	87	4.0	8
20.5	25	Luxembourg	3	5	2	16	42	50	8.0	25	7	7.1	0.1	15	93	91	-2.0	26
21.5	26	New Zealand	9	14	5	23	40	30	-10.0	1	7.6	7.3	-0.3	31	91	85	-6.0	31
22.3	27	Canada	9	9	0	8	36	47	11.0	32	7.5	7.6	0.1	15	93	86	-7.0	34
22.3	27	Hungary	15	38	23	41	36	41	5.0	18	5	4.9	-0.1	24	75	81	6.0	6
24.8	29	Estonia	12	21	9	35	19	23	4.0	13	5.3	5.4	0.1	15	54	47	-7.0	36
25.7	30	Croatia	10	17	7	29		34			5.8	5.9	0.1	15	65	59	-6.0	33
26.0	31	Netherlands	4	11	7	29	19	29	10.0	30	7.5	7.4	-0.1	24	90	89	-1.0	21
26.3	32	Romania	33	41	8	32	43	37	-6.0	3	5.4	5.1	-0.3	33	60	49	-11.0	37
26.3	32	Slovenia	8	12	4	20	21	33	12.0	34	5.8	6	0.2	12	84	70	-14.0	39
26.5	34	Finland	7	11	4	20	24	36	12.0	34	7.7	7.4	-0.3	31	95	94	-1.0	21
28.0	35	USA	10	20	10	37	44	51	7.0	21	7.5	7.2	-0.3	33	81	80	-1.0	21
30.5	36	Portugal	10	19	9	35	35	42	7.0	21	5.7	5.2	-0.5	35	80	74	-6.0	31
32.8	37	Spain	9	14	5	23	28	38	10.0	30	7	6.2	-0.8	40	90	77	-13.0	38
34.0	38	Ireland	5	13	8	32	29	44	15.0	36	7.6	6.8	-0.8	38	93	88	-5.0	30
35.5	39	Turkey	26	45	19	40	37	60	23.0	38	5.6	4.9	-0.7	37	49	46	-3.0	27
38.3	40	Cyprus	7	21	14	38	48	66	18.0	37	6.2	5.4	-0.8	38	90	72	-18.0	40
40.0	41	Greece	9	27	18	39	49	74	25.0	39	6.6	4.7	-1.9	41	65	42	-23.0	41

Source: World Gallup data
See note to Table 3.