

What's the impact of social well-being factors on happiness?

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Research Article

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Abstract

This paper examines the effect of indicators like social support, healthy life expectancy, freedom to make life choices, generosity, corruption perception, real gross domestic product per capita and the Gini index on happiness.

Our study uses a multidimensional approach that included a principal component analysis and an econometric approach through a linear regression. Examining 137 countries observed over the 2017–2019 period, we found that perception, taking care of other people, corruption perception, freedom to make life choices and healthy life expectancy are the most determining factors of social well-being.

JEL Classification: C51, C83, D63, I31, P46.

Introduction

It is important for politicians to show an understanding of people's well-being. Indeed, the well-being of the population represents an essential objective for public authority. Well-being refers both to material (income, fortune, etc.) and immaterial benefits the population obtains (training, health, social relations).

The "Well-Being" measuring index includes around 44 indicators covering from three areas: society, economy and environment (Wittenbecher & Quentin, 2015). The starting point is the idea that social capital, human, natural and economic capital should be used, through different processes, to create well-being (Bradburn, 1969; Irwin et al., 1979; Bartram, 2012). Nevertheless, taking into account the social, economic and ecological dimensions should serve a purely economic objective, which is promoting the Gross Domestic Product (GDP).

1. Literature Review

Measuring well-being is certainly much more discrete than measuring economic development. It takes into account intangible values such as social relations, health and satisfaction of the population. Economic development of a country is measured around the world by changes in the GDP (Weiss & Fershtman, 1998). This important economic indicator, however, reaches its limits when it comes to capturing all aspects of a population's well-being and quality of life. Indeed, the GDP does not inform about the state of health of the population, the balance between private and professional life, quality of environment or level of satisfaction of the population (Tavernier et al., 2015). To properly measure the well-being of a country, the analytical framework needs to be broadened.

1.1 What is well-being?

The well-being for a population is to have sufficient means to meet its needs, organize its life independently, use and develop its capacities and pursue its objectives (Pawin, 2014). It therefore relates to quality of life (Tavernier et al., 2015). In addition to material dimensions such as income, wealth, consumption and housing, the notion of well-being covers also intangible dimensions such as education, health and social relations (Baudelot & Gollac, 2003); Frey, 2008). It also includes the legal and institutional framework which allows

citizens to participate in political life and which ensures the physical safety of people. Finally, well-being depends on environmental factors such as water quality, air quality and noise pollution.

In an approach to well-being that aims to be as broad as possible, we consider not only the objective living conditions, but also their subjective perception by the population (Diener, 1984; Argyle et al., 1994). This amounts to answering the following questions:

- How do people rate their housing conditions and the state of the environment?
- Do they feel safe?
- Are they satisfied with their life in general?

1.2 How do statistics measure well-being?

To measure well-being, the Federal Statistical Office (FSO) in Switzerland has developed around 44 indicators (Wittenbecher & Quentin, 2015). The basic idea is that well-being results from the allocation of the economic, natural, human and social capital of the country by means of different processes. The purely economic approach, where only GDP evolution is considered, is extended to other social, economic and ecological dimensions. In line with this proposal, the measurement index is subdivided into seven main themes:

1. **Framework conditions:** The processes of creating, distributing and preserving well-being take place within a social, economic and ecological framework. This is bound by the structures of society and the economy and takes into account the reactions of society to environmental changes. It also includes public institutions (social insurance, public health, education system, political institutions) as well as certain areas of political action (social, financial, environmental policy,..).
2. **Resources:** They represent the inputs necessary for the creation of well-being. We consider four types of resources: economic, natural, human and social resources. In addition to non-financial and financial resources, resources include, for example, environment quality, education level and health of the population, social relations and the level of trust in society.
3. **Activities:** These refer to all the processes of transforming resources into goods and services. The system of indicators takes into account different activities in the social, economic and environmental spheres. This includes, in addition to economic production processes, natural processes, domestic and family work (preparing meals, cleaning, playing with children) and leisure activities.
4. **Effects on resources:** The processes of creation and use of goods and services transform resources. These transformations are either the result of targeted investment decisions (investments in material capital, investment in human capital education), or side effects which can be positive or negative (increase in social capital through unpaid work, decrease in natural capital through pollution of soil, water and air).
5. **Goods and services:** They can be tangible or intangible and represent the offer of well-being. They include dimensions that satisfy particular needs, but also some fundamental functions of the environment, without which life would not be possible. In addition to economic goods and services, dimensions such as water supply, natural landscapes or volunteer work are considered.

6. **Use of goods and services:** Effective well-being results from the use and consumption of goods and services.
7. **Well-being :** It includes tangible and intangible, objective and subjective fundamentals. The indicator system considers ten dimensions of well-being. It should not, however, be seen only as the end result of the processes of production and use of goods and services. Some dimensions serve as inputs in the process of creating this same well-being (the financial wealth of households or human capital). Some components arise directly during the process of its creation: income from labor and capital is acquired through economic production, and some activities that are carried out for themselves can directly contribute to well-being.

The 2020 World Happiness Report, released on March 20, 2020, ranks 156 countries based on an average of three years of surveys between 2017 and 2019. The 2020 report especially focuses on the environmental, social, urban, and natural dimensions, and considers links between happiness and sustainable development.

1.3 Empirical literature review:

The indicator system broadens the perspective in several respects. Below are some findings that touch on several dimensions of well-being related to economic development. In particular, we observe that not all population groups participate equally in economic development and well-being.

A study in Switzerland (Wittenbecher & Quentin, 2015) found that disposable income is growing at a slower rate than GDP. In other words, GDP growth is only partially reflected in income. Households spend on average 57% of their gross income on consumer spending. The main item is housing and energy, which absorbs over 25% of expenditure. This study also showed that more than 80% of the Swiss population enjoys good mental health. Employed workers have significantly fewer psychological problems than non-active people and the unemployed. Integration into a social network is one of the main factors that protects mental health. The greater social integration, the better mental health. Authors also found that consumption of materials and energy tends to increase less sharply than GDP. This indicates a gain in terms of efficiency. In other words, the Swiss use less materials and energy to produce a range of added value. Finally, this study reveals that the level of satisfaction with life is high. Indeed, nearly three quarters of the inhabitants say they are very satisfied with their life. People with higher incomes are more satisfied than those with low incomes. This applies to the Swiss as well as to foreigners.

2. Empirical Analysis

2.1. Description of data

The World Happiness Report's use of a single item measure of subjective well-being is fundamentally different from more traditional Index approaches which use a range of indicators such as the United Nation's Human Development Index, the 2011 OECD Better Life Index, or the 2013 Social Progress Index (OECD, 1976 & 2011; Helliwell et al., 2017).

Data is collected from people in 137 countries over the 2017-2019 period and taken from the Gallup World Poll (GWP). Each measured variable reveals a populated-weighted average score on a scale running from 0 to 10

that is tracked over time and compared against other countries. These variables currently are:

- **Social support** is the perception and reality that one is cared for, has assistance from other people, and most importantly, that one is part of a supportive social network.
- **Healthy life expectancy** is average life in good health.
- **Freedom to make life choices** is the national average of binary responses to the question “Are you satisfied or dissatisfied with your freedom to choose what you do with your life?”
- **Generosity** is the state of being kind and generous.
- **The Corruption Perceptions Index (CPI)** is an index published annually by Berlin-based Transparency International since 1995 which ranks countries "by their perceived levels of public sector corruption, as determined by expert assessments and opinion surveys.
- **Real Gross Domestic Product per capita**
- **Gini Index** measures the degree of income inequality on a scale from 0 (= total equality of incomes) to 1 (= total inequality).

The descriptive analysis for the full set of 137 countries are reported in Table 1. It shows that the average happiness score is 5.558. For this variable, the median is 5.556 showing that this distribution is symmetrical. In other words, 50% of the countries have a score above 5.556 and the rest are below this value.

Table 1: Descriptive Statistics

	Obs	Mean	Std. Deviation	Min	Max
Happiness Score	137	5.55820	1.093948	2.817	7.808
Real GDP per capita	137	0.89737	0.360726	0	1.537
Social support	137	1.17358	0.269346	0.352	1.548
Healthy life expectancy	137	0.71309	0.241335	0.101	1.138
Freedom to make life choices	137	0.47200	0.136981	0.066	0.693
Generosity	137	0.18643	0.102654	0	0.57
Perception of Corruption	137	0.13645	0.114909	0	0.533
Percentage Gini Index	137	35.0782	11.97127	0	62.73

A principal component analysis was carried out on this data in order to detect the correlations between the different indicators and to determine homogeneous clusters. Table 2 shows that the indicators were selected from a coherent set. Indeed, the K-M-O measure is greater than 0.7. This table indicates that we need reject the null hypothesis that the correlations between the indicators are zero (Probability value of Bartlett’s Test is zero, less than 5%). In other words, the different indicators do correlate with each other.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (K-M-O).		0.840
Bartlett's Test of Sphericity	Approx. Chi-Square	610.698
	df	28
	Sig.	0.000

Table 3 shows the correlation matrix confirmed by Bartlett's test. We can see that the indicators which correlate most with well-being are the real GDP per capita (0.771). Health life expectancy (0.768). social support (0.762) and freedom (0.538). The negative Gini index (-0.313) shows that increasing inequalities negatively affect social welfare.

Table 3 : Correlation Matrix

	Happiness Score	GDP	Social support	Healthy life	Freedom	Generosity	Corruption	Gini Index
Happiness Score	1.000	0.771	0.762	0.768	0.538	0.064	0.417	-0.313
GDP	0.771	1.000	0.788	0.849	0.383	-0.110	0.298	-0.422
Social support	0.762	0.788	1.000	0.730	0.417	-0.051	0.184	-0.293
Healthy life	0.768	0.849	0.730	1.000	0.399	-0.097	0.325	-0.373
Freedom	0.538	0.383	0.417	0.399	1.000	0.253	0.439	-0.213
Generosity	0.064	-0.110	-0.051	-0.097	0.253	1.000	0.314	-0.093
Corruption	0.417	0.298	0.184	0.325	0.439	0.314	1.000	-0.278
Gini Index	-0.313	-0.422	-0.293	-0.373	-0.213	-0.093	-0.278	1.000

The indicators plot (Figure 1) given by the principal component analysis shows that citizens with high well-being are those with high GDP, high average life in good health and those who socially support others.

On the other hand. the plot shows that the Gini index negatively affects social welfare. This result is consistent with that of Alesina et al. (2004) in Europe and Niimi (2018) in Japan.

Figure 2 shows the distribution of the different countries. If we compare the two figures (1 & 2), we notice that the countries on the right part of the y-axis are those known by social well-being (Finland, Luxembourg, North Cyprus, Belgium,) unlike the others where we record a high level of inequalities (South Sudan, Madagascar, Chad, Congo,).

To further probe this dependency relationship between the different indicators and social well-being, an econometric study of this relationship is conducted.

2.2. Econometric approach

In order to determine the impact of the different indicators on social well-being, we will eliminate the Gini index since its impact is found to be negative on social well-being. Then, we propose the following model. Subscripts i ($i=1, \dots, 137$) denotes country index.

$$HS_i = \alpha_1 + \alpha_2 GDP_i + \alpha_3 SS_i + \alpha_4 HLE_i + \alpha_5 FRE_i + \alpha_6 GEN_i + \alpha_7 COR_i + \varepsilon_{it} \quad (1)$$

Where:

HS: Happiness Score,

GDP: Real GDP per capita,

SS: Social support,

HLE: Healthy life expectancy,

FRE: Freedom to make life choices,

GEN: Generosity,

COR : Perception of Corruption.

2.3. Results and discussion

The results for this regression are reported in Table 4.

Table 4: Estimation of the regression model

Happiness Score	Coef.	Std. Err.	t	P > t	[95% Conf. Interval]	
GDP	0.597	0.291	2.05***	0.042	0.021	1.172
Social support	1.351	0.309	4.37*	0.000	0.739	1.964
Healthy life	1.179	0.395	2.98*	0.003	0.398	1.961
Freedom	1.200	0.437	2.75*	0.007	0.336	2.064
Generosity	0.515	0.527	0.98	0.330	-0.527	1.557
Corruption	1.250	0.510	2.45**	0.016	0.24	2.26
Constant	1.762	0.26	6.78*	0.000	1.248	2.277

, **, & * denote statistical significance at the 1%, 2% and 5% levels respectively.*

The resulting model is:

$$HS_i = 1.762 + 0.597GDP_i + 1.351SS_i + 1.179HLE_i + 1.2FRE_i + 0.515GEN_i + 1.25COR_i \quad (2)$$

The estimates show that with the exception of state of being kind and generous which is not significant, all the other indicators positively affect social well-being.

Moreover, we found that perception and taking care of other people is the most determining factor (1.351) of social wellbeing, along with corruption perception (1.25), freedom to make life choices (1.2) and average life in good health (1.179). Income (0.597) and state of being kind and generous (0.515) come in second position. Our estimates show that the R-squared is 0.7439 showing that overall, the model is significant.

Figure 3 shows the linear relationship between each indicator with happiness. We notice, except for the generosity indicator which is stable, that the relationship between well-being indicators and happiness is highly growing.

ption, as determined by expert assessments and opinion surveys.

3. Conclusion

The aim of this paper is to examine the impact of human well-being indicators on happiness.

First, we presented a multidimensional approach using a principal component analysis of the different factors affecting social well-being to detect the correlation between these indicators and to determine homogeneous clusters. To this end, we used data collected from people in 137 countries over the 2017-2019 period by the Gallup World Poll (GWP). We found that perception and taking care of other people, corruption perception, the freedom to make life choices, average life in good health, income and state of being kind and generous positively affect happiness except the Gini index which negatively affected it.

Second, we eliminated the Gini index and we used an econometric model to estimate the parameters of the different indicators to determine which ones that affect most well-being. We found that perception and taking care of other people is the most determining factor of social well-being along with corruption perception, freedom to make life choices and average life in good health.

Declarations

The author declares no competing interests.

References

Alesina, A., Di Tella, R., and MacCulloch, R. (2004). Inequality and happiness: Are Europeans and Americans different? *Journal of Public Economics*, 88, 2009–2042.

Argyle, M., Schwarz, N., Strack F. (1994), *Subjective Well-being. An Interdisciplinary Perspective*. Oxford Pergamon Press.

Bartram D. (2012). Elements of a Sociological Contribution to Happiness Studies, *Sociology Compass*, 6, 8, pp. 644-656.

Baudelot, C., Gollac, M. (2003). *Travailler pour être heureux ? Le bonheur et le travail en France*. Paris, Fayard.

- Bradburn, N. (1969) *The Structure of Psychological Well-being*. Chicago, Aldine.
- De Pietro, C., Camanzind, P., Sturny, I., Crivelli, I., Edwards-Garavoglia, S., Spranger, A.,
- Diener, E. (1984). Subjective Well-being. *Psychological Bulletin*, 95, 3, pp. 542-575.
- Frey, B.S. (2008). *Happiness: A Revolution in Economics*, Cambridge, MIT Press.
- Helliwell, J., Layard, R., & Sachs, J. (2017). World happiness report 2017. *New York: Sustainable Development Solutions Network*.
- Irwin, R., Kammann, R., and Dixon, G. (1979). If You Want to Know How Happy I Am, You'll Have to Ask Me. *The New Zealand Psychologist*, 8, 1, pp. 10-12.
- Niimi, Y. (2018). What affects happiness inequality? Evidence from Japan. *Journal of Happiness Studies*, 19(2), 521–543.
- OCDE. (1976). *Mesure du bien-être social. Progrès accompli dans l'élaboration des indicateurs sociaux*. Paris, OCDE.
- OCDE. (2011). *How's Life?: Measuring Well-being*. Paris, OCDE.
- Pawin, R. (2014). Le bien-être dans les sciences sociales : Naissance et développement d'un champ de recherches. *L'Année Sociologique*, 64, 2, pp. 273-294.
- Tavernier, J. L., Cuneo, P., and Plateau, C. (2015). Measurement of quality of life and well-being in France: The drivers of subjective well-being. *Review of Income and Wealth*, 61, pp. 25-33.
- Weiss, Y. and Fershtman C. (1998). Social status and economic performance: A survey. *European Economic Review*, 42, pp. 801-820.
- Wittenbecher, F., and Quentin, W. (2015). Switzerland: Health systems review. *Health Systems in Transition*, 17(4), pp. 1-288.

Appendix

List of countries

Finland	Mauritius	Senegal
Denmark	Kazakhstan	Guinea
Switzerland	Estonia	Niger
Iceland	Philippines	Laos
Norway	Hungary	Albania
Netherlands	Thailand	Cambodia
Sweden	Argentina	Bangladesh
New Zealand	Honduras	Gabon
Austria	Latvia	South Africa
Luxembourg	Ecuador	Iraq
Canada	Portugal	Lebanon
Australia	Jamaica	Burkina Faso
United Kingdom	South Korea	Gambia
Israel	Japan	Nigeria
Costa Rica	Peru	Armenia
Ireland	Serbia	Georgia
Germany	Bolivia	Iran
United States	Pakistan	Jordan
Czech Republic	Paraguay	Mozambique
Belgium	Dominican Republic	Kenya
United Arab Emirates	Bosnia and Herzegovina	Namibia
Malta	Moldova	Ukraine
France	Tajikistan	Palestine
Mexico	Montenegro	Uganda
Taiwan	Russia	Chad
Uruguay	Belarus	Tunisia
Saudi Arabia	North Cyprus	Mauritania
Spain	Greece	Sri Lanka
Guatemala	Croatia	Congo (Kinshasa)
Italy	Mongolia	Myanmar

Singapore	Malaysia	Togo
Brazil	Vietnam	Ethiopia
Slovenia	Indonesia	Madagascar
El Salvador	Ivory Coast	Egypt
Panama	Benin	Burundi
Slovakia	Congo (Brazzaville)	Zambia
Uzbekistan	Azerbaijan	Haiti
Chile	Ghana	Lesotho
Bahrain	Turkey	India
Lithuania	China	Malawi
Poland	Turkmenistan	Botswana
Colombia	Bulgaria	Tanzania
Cyprus	Morocco	Rwanda
Nicaragua	Cameroon	Zimbabwe
Romania	Venezuela	South Sudan
Kuwait	Algeria	

Figures

Indicators Plot

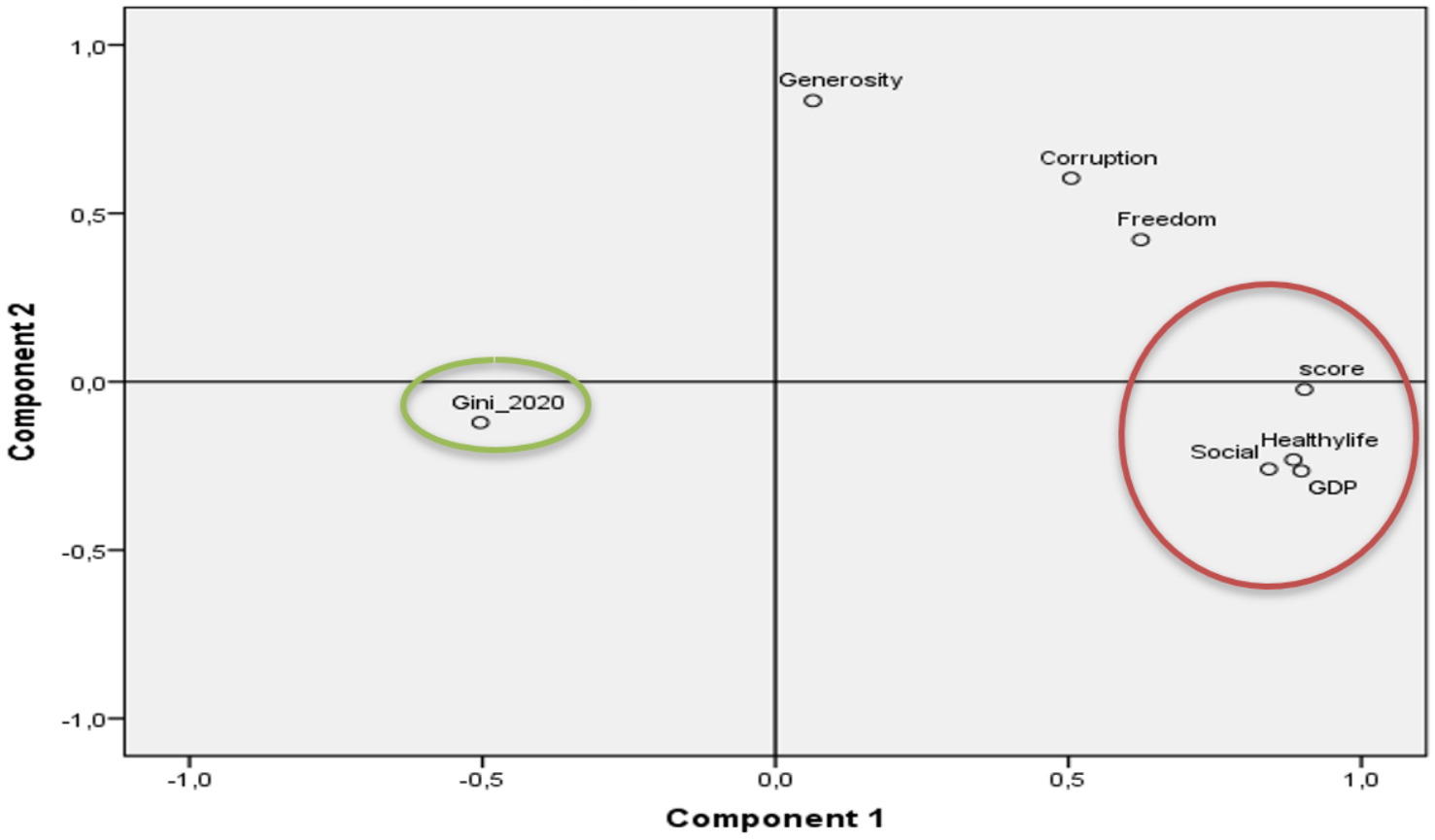


Figure 1

Indicators plot

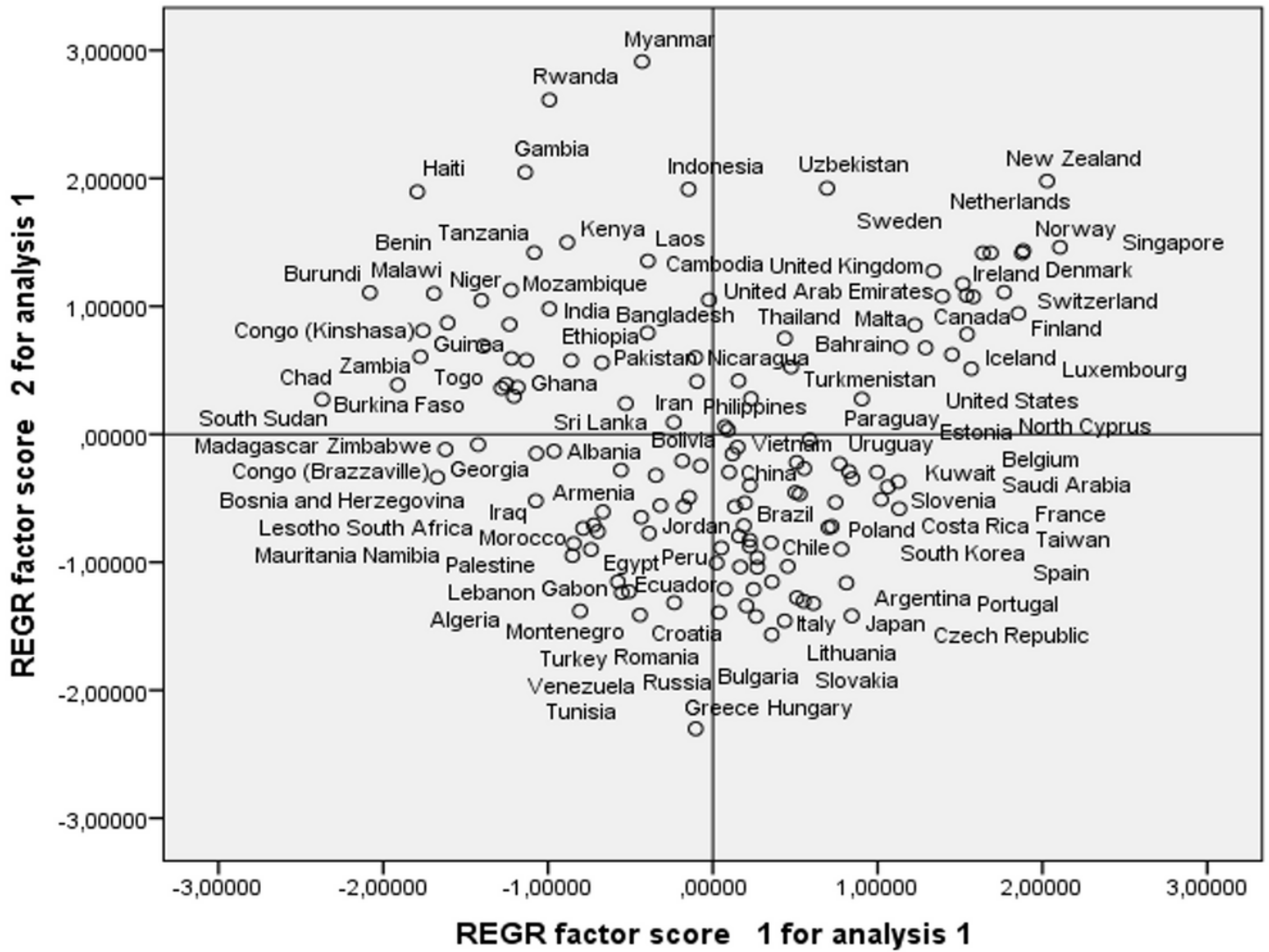


Figure 2

Countries plot

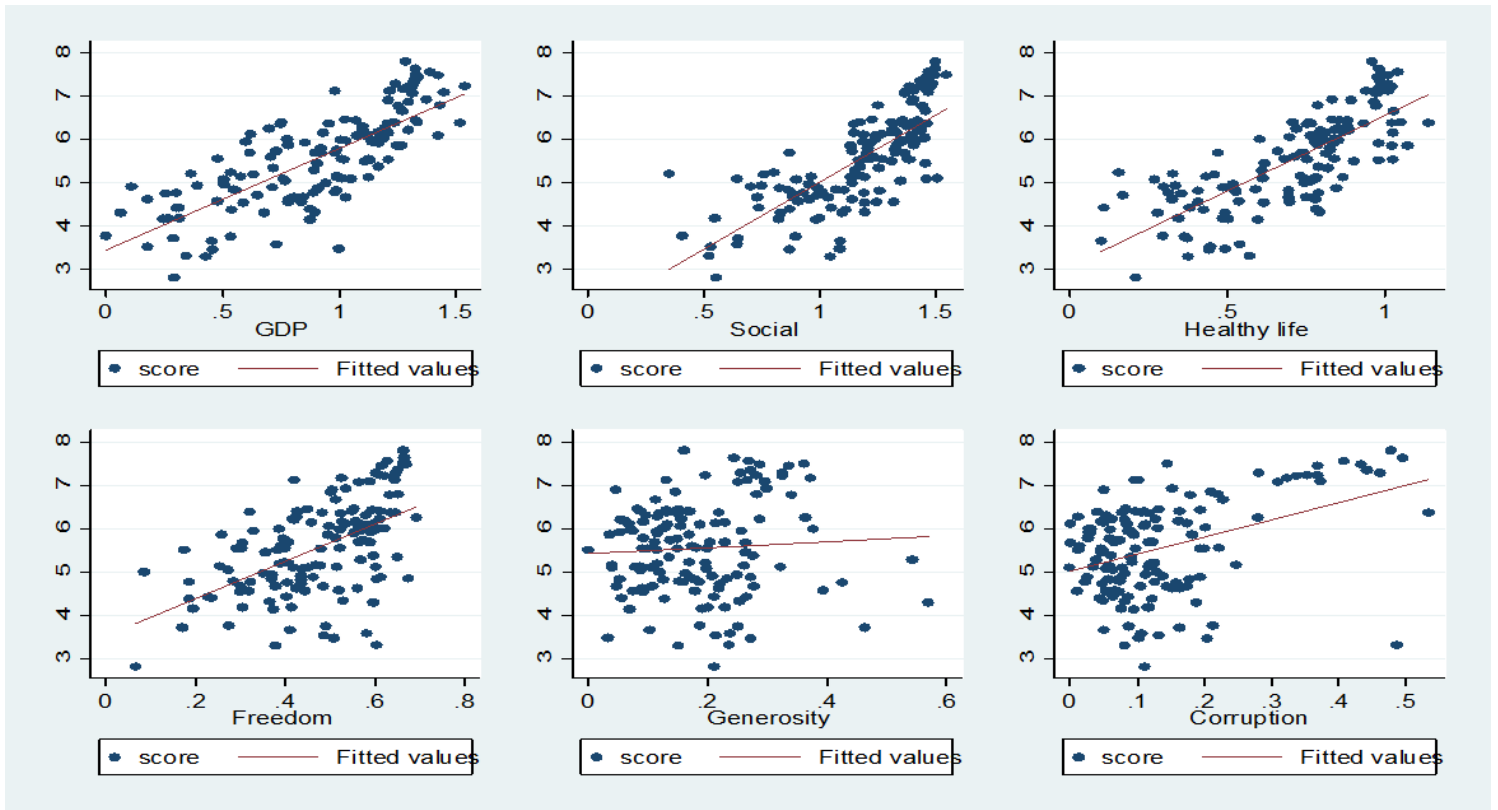


Figure 3

Countries plot