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Socioeconomic and Political Development: Their Measurement and Connections

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Socioeconomic and Political Development: Their Measurement and Connections

Kostas Rontos [α] & Ioannis Vavouras [σ]

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I. Introduction

Empirical analysis approaches, measures and evaluates development mainly from its economic point of view. Social and political factors although considered by theory as playing an important role towards the advancement of the overall development of nations are mostly underestimated in empirical work. This is the outcome of several reasons. The most significant one is that the sociopolitical dimensions of development cannot be easily defined and measured in contrast to its economic dimension. Actually, economic development as a quantitative variable is identified with economic growth and is measured by international organizations and national statistical services for all countries of the world with relatively simple and widely acceptable indexes, such as real income per capita, while social and political aspects of human action can only be successfully expressed by more complicated procedures on which generally there is no wider agreement.

However, it has been established long ago that economic growth although a necessary is not a sufficient condition for the development of nations. Development is a much wider concept than growth that incorporates as well the social and the political transformation of countries. The identification and more importantly the analysis of these sociopolitical transformations is associated with major difficulties. It must be realized, however, that this problem should not be the reason for policymakers and academic researchers to reduce their concern for the social and political dimensions of overall development. Actually, in modern societies there exist additional needs for the reduction of wealth inequalities and for the more fair distribution of the economic result of human activities, for the effective reduction of corruption, for a better social security system and what is called "social state", for health and education systems of high quality, for increased government effectiveness in order the state to satisfy social needs more efficiently and for high standards of political rights and democracy, so that citizens to live in a comfortable, fair, secure and pleasant sociopolitical environment.

The recent worldwide economic crisis has unveiled that whenever an economic crisis is associated with a social and political crisis, that might be hidden or unobservable to some extent, then the economic crisis is deeper and more long lasting. In this way, symmetric economic disturbances or shocks, that is disturbances of economic activity that have simultaneous impacts on all countries, might have country specific or asymmetric consequences, that is they might have differential effects on various countries by affecting some economies more deeply than others, and therefore they might require a different macroeconomic policy mix. Therefore, although economic shocks might be symmetrical in their origins they might have asymmetrical effects on various courtiers due to their differentiated sociopolitical environment. In other words, economic development is not guaranteed in the long-run unless it is associated with high levels of social and political development. The countries more deeply affected by the recent economic crisis and sovereign debt crisis seem to be those where the levels of social and political development are not considered as very

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high. This is not astonishing since social cohesion and democratic institutions are effective guides to the formulation and implementation of the appropriate policies to overcome economic problems.

Fortunately, widely recognized international agencies and organizations have relatively recently developed methodologies to measure variables that express social and political dimensions or aspects of development, as it will be presented in the next section of the paper, that allow empirical research to incorporate them in studies on the overall development. It must be stressed however from the outset that overall development is a multidimensional phenomenon associated with a variety of social, economic and political factors or variables, such as high per capita income, high human development, high government effectiveness, significant reduction of income and wealth inequalities, large social transformations, reduced corruption and adoption of democratic political mechanisms and procedures. In the following paragraphs we discuss in some detail the variables that have been used in our factor analysis as the main characteristics of the level of overall development of nations.

The variable very widely used in empirical research as the best measure or the best available indicator of the level of economic development is real income per capita. International organizations such as the United Nations, the World Bank and the OECD classify countries as developed or developing according to their prevailing or average income per capita levels. Although income per capita is criticized as an inadequate indicator of economic development, mainly because it is an inefficient measure of the average living standards and quality of life prevailing in a country, it is still recognized as the best available measure of the average level of economic development.

We argue moreover that overall development is also associated with the degree of human development that is by the level of health, the degree of access to knowledge and the level of well-being prevailing in a given country, as a wider notion than economic development. Human development refers to the expansion of people's freedoms and capabilities to live their lives as they choose (UNDP, 2009). Human development is both a process and an outcome. It is not only concerned with the process through which human choices are enlarged, but it also focuses on the outcomes of the enlarged choices (UNDP, 2002).

Moreover, we accept that overall development is also associated with the degree of government effectiveness. An effective public sector promotes all the three dimensions of development, i.e. economic, social and political. Kaufmann, Kraay and Mastruzzi define governance as "the traditions and institutions by which authority in a country is exercised. This includes the processes by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them" (Kaufmann, Kraay and Mastruzzi, 2009).

Another variable that we consider to be associated with all the three aspects or dimensions of the overall level of development is the level of perceived public sector corruption prevailing in a country[1]. Public sector corruption is usually defined as the abuse of public power for private benefit (Tanzi, 1998) or the abuse of public office for private gain (Martinez-Vazquez, Arze del Granado and Boex, 2007). The World Bank defines public sector corruption as the abuse of public authority for private interest (World Bank, 1997). OECD defines public sector corruption as the misuse of public office, roles or resources for private benefit, material or otherwise (OECD, 1996). A definition provided by the nongovernmental organization Transparency International that covers corruption in both the public and the private sectors of the economy is the misuse of trusted power for own profit (Transparency International, 2011).

Corruption is a complex and a multidimensional phenomenon having several causes and effects. The factors that are associated to corruption are numerous. The most important ones are the level of economic development, the type of political authority, the quality of governance, the quality of the institutional framework, the effectiveness of the justice system, the degree of globalization, the level of competition, the structure and the size of public sector, as well as the cultural qualities, the geographic location and history[2]. In summary, widespread corruption largely unveils the existence of institutional and political weaknesses as well as economic and social underdevelopment. It is recognized that corruption may be the single most significant barrier to both democratization and economic development (Rose-Ackerman, 1999). The general attitude towards corruption is also determined by the level of individual morality that is by the system of individual behavioral and moral attributes (Rontos, Salvati and Vavouras, 2013a). Basically, corruption is detrimental to economic growth and development by adversely affecting investment[3]. The extent, however, of the consequences corruption has on economic

[1] It has been acknowledged from the first stages of human civilization that whoever is in a position to exercise power may also be in the position to use his public office for individual benefit. For an analysis of the concept and the various definitions of corruption, see Johnston (2001).

[2] For an analysis of the determinant factors of corruption see among others Lambsdorff (2006) and Treisman (2000).

[3] It must be stressed however that some early works on the subject argued that corruption improves economic efficiency and therefore promotes economic growth operating as the necessary "grease" to lubricate the wheels of state bureaucracy. See for example Leff (1964) and Huntington (1968).

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development is largely determined by the existing institutional framework (de Vaal and Ebben, 2011). On another account, corruption is a "disease" which is caused by poverty, that is controlled only when economies develop (Treisman, 2000; Paldam, 2002)[4].

It is also acknowledged that there exists a strong connection between the level of overall development and the quality of the political system. Underdevelopment is widely considered to be both a symptom and a cause for the malfunctioning of democratic institutions (Warren, 2004). Moreover, democracy and the consequent public accountability reduce the costs of development. In a sense, the political system or the "political macrostructure" is responsible for determining the political motivation of all players in a state system and it is the very reaction of these factors that determines the behavior of state bureaucracy (Lederman, Loayza and Soares, 2005). As a result, a highly developed and well-functioning democracy serves as a tool for increasing the level of overall development (Zhang, Cao and Vaughn, 2009).

In this paper our first objective is to examine all the above factors, that is income per capita, human development, government effectiveness, public sector corruption, and political freedom in the forms of political rights and civil liberties, as the main indicators of the overall development and the ways that their combination in several levels classifies countries and determines the patterns of development. Our analysis reveals that all the above factors are correlated and in general are of crucial importance in determining the extent of overall development worldwide[5]. It is assumed that political rights and civil liberties represent or measure the level of political development of countries while the rest variables in the model represent the socioeconomic one. In any case the methodology used will confirm or not the above assumption on its specific worldwide application.

II. Data

Our analysis is based on six variables that have been derived for 176 countries (see list of countries in Table 6 and full values of variables in Appendix 1). It is the total number of countries for which data for all these variables existed in the year 2010. It could therefore be considered as a worldwide analysis. The variables have been derived from official statistics and other reliable and well-known international data sources as it is explained below.

1. To approximate the level of economic development in each country the variable Gross National Income per capita in purchasing power parities or current international dollars was used (GNI.PC.PPP). GNI.PC.PPP is gross national income (GNI) converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GNI as a U.S. dollar has in the United States[6]. GNIPC.PPP is very useful in economic analysis when the objective is to compare broad differences between countries in living standards since, as we have stated, purchasing power parities take into account the relative cost of living in various countries, while nominal GNI (or GDP) does not incorporate any such considerations. GNI.PC.PPP is an indicator widely used in international comparisons of economic development. The data used refer to the year 2010 and are provided by the World Bank (2010a) and for that year cover 215 economies.
2. The human development index (HDI) has been used as a summary measure of the level of human development. It is estimated by the United Nations Development Programme (UNDP) and it measures the average achievements in a given country in three dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. It is a composite index with life expectancy in birth, mean years of schooling, expected years of schooling and gross national income (GNI) per capita as its main components. Despite its inherent limitations the index is a useful comparative measure of the level of human development. According to this index countries are classified in three categories: High human development, if the value of the index is higher than 0.800, medium human development, if the value of the index is between 0.500 and 0.799 and low human development, if the value of the index is lower than 0.500. The data used refer to the year 2010. They are provided by the UNDP (2010) and for that year cover 169 countries and 25 territories. Since the HDI includes as one of its main components GNI per capita that has already been used as the basic variable of economic development, we used the variable HDI. NONINCOME, that is the HDI excluding its income dimension or component.
3. To express government effectiveness the relevant World Bank government effectiveness indicator (GE) has been used. This indicator is very useful because it aims at capturing the quality of public services provided, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation,

[4]Moreover, we must point out that corruption is extensive in low income countries, not because their inhabitants present a natural proclivity towards the said phenomenon, but because the conditions of life make them prone to that (Lalountas, Manolas and Vavouras, 2011).

[5]This outcome is compatible with our argument on the importance of these variables as determinants of the overall level of development presented in a relevant work. See Rontos, Salvati and Vavouras (2013b).

[6]See http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD.

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and the credibility of the government's commitment to such policies (Kaufmann, Kraay and Mastruzzi, 2010). The aim of the indicator is therefore to capture the capacity of the public sector to implement sound policies. GE is one of the six composite indicators of broad dimensions of governance, the so called worldwide governance indicators (WGI) covering over 200 countries since 1996 and produced by Kaufmann, Kraay and Mastruzzi (World Bank, 2010b). The values of GE lie between -2.5 and 2.5. Actually, the variable has been transformed to a standard normal one (with mean 0 and standard deviation 1), so that cross-country and over time differences in the measurement scale are avoided. Higher values correspond to better governance. Although this indicator measures subjective perceptions regarding government effectiveness and it is not the outcome of a quantitative objective measurement, it is of a great importance since it reveals how government effectiveness is being perceived.

4. To express corruption the corruption perceptions index (CPI) has been used. The CPI is an international index provided annually by the nongovernmental organization Transparency International. It should be acknowledged that CPI is the most extensively used index for relevant empirical studies. It is a composite indicator, based on a variety of data derived from 13 different surveys carried out by 10 independent and reputable organizations. It measures corruption in a scale from 0 to 10, where 0 represents the highest possible corruption level, while as the scale increases there is the perception that corruption does not exist in a given country. Despite the fact that the index is not the outcome of an objective quantitative measurement of corruption, it is of great importance since it reveals how this phenomenon is being perceived. The major strength of the CPI lies in the combination of multiple data sources in a single index, a fact that increases the reliability of each country's score (Lambsdorff, 2006)[7]. The data used for the CPI refer to the year 2010 and as it has already been stated are provided by Transparency International (2010) and for that year cover 178 countries or territories.
5. To approximate the quality of democracy in each country the "political rights" index (PR) has been used. The index is based on the evaluation of three sub-indexes, namely electoral process, political pluralism and participation and functioning of government. The index is estimated by the Freedom House organization (2013). The PR index measures from 1, which ranks a country as very free, up to 7, which ranks a country as not free. According to the PR index countries are characterized as free countries (F) if they score 1.0-2.5 in the 1-7 scale, partly free countries (PF) if they score 3.0-5.0 in the 1-7 scale and not free countries (NF) if they score 5.5-7.0 in the 1-7 scale. The data used for the PR index refer to the year 2010 and are provided by the organization Freedom House (2010) and for that year cover 194 countries and 14 territories.
6. To approximate the extent of civil liberties in each country the "civil liberties" index (CL) has been used. The index is based on the evaluation of four sub-indexes, namely freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy and individual rights. The index is estimated by the Freedom House organization (2013)[8] . The CL index measures from 1, which ranks a country as very free, up to 7, which ranks a country as not free. According to the CL index countries are characterized as free countries (F) if they score 1.0-2.5 in the 1-7 scale, partly free countries (PF) if they score 3.0-5.0 in the 1-7 scale and not free countries (NF) if they score 5.5-7.0 in the 1-7 scale. The data used for the CL index refer to the year 2010 and are provided by the organization Freedom House (2010) and for that year cover 194 countries and 14 territories.

It must be stressed that the average of the PR and CL ratings is known as the "freedom rating" index (FR) and determines the overall status of a country as a free, partly free and not free. However, since the two indexes focus on different aspects of democracy and freedom and since there are some deviations between the PR and CL ratings for several countries, we decided to use the two separate ratings instead of the average FR index.

III. Methodology

A two-step multivariate strategy has been developed in order to characterize the socioeconomic and the political system of each country according to the selected economic and non-economic features describing the level of economic, social and political development in each country. Analysis steps include: (i) a factor analysis and (ii) a non-hierarchical cluster analysis.

Factor analysis was used to detect the internal relations and structures among the variables GNI.PC.PPP, HDI.NONINCOME, GE, CPI, CL and PR by grouping and reducing their number.

The statistical measure Kaiser-Mayer Olkin (K.M.O.) of sampling adequacy and Bartlett's Test of

[7] For an extended analysis and assessment of the various indicators of corruption, see mainly UNDP (2008).

[8] For more details see Methodological Summary, Freedom House (2013).

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Sphericity were calculated. Principal components analysis was employed to extract the number of factors, with Eigenvalues>1 taken as a criterion, which was verified by Scree Plot. Conducting factors rotation the maximum likelihood method was used as extraction method and Varimax with Kaiser Normalization as rotation method.

Then, a non-hierarchical k-means cluster analysis (CA) was carried out with the aim at separating countries in a few groups exhibiting homogeneous socioeconomic and political patterns. The scores of the factors extracted from the above analysis were used as clustering criteria. The aforementioned scores were calculated according to the Bartlett method. The best partition (i.e. the optimal number of clusters in terms of group separation) was chosen according to the Cubic Clustering Criterion (CCC) that works through the maximization of the ratio of the intra-group variance to the inter-group variances. Variance Ratio Criterion (VRC), that also was applied, suggested the same number of clusters. An ANOVA table, that was also constructed, indicates which variables contribute mostly to the differentiation of the clusters. Moreover, the analysis has been extended to the indication of the greatest similarities and dissimilarities between the clusters formed

IV. Results

First of all descriptive statistics of the six variables inserted in the model are presented in Table 1. We can also see that 176 countries were inserted in the analysis for all the variables (N = 176).

Table 1: Descriptive statistics

	Mean	Std. Deviation	Analysis N
CPI.2010	4.011	2.0933	176
GE.2010	-.0593	.97877	176
CL.2010	3.3580	1.80230	176
HDI.NONINCOME.2010	.63461	.207620	176
PR2010	3.5227	2.14331	176
GNI.PC.PPP.2010	13,323.01	15,136.160	176

Factor analysis suggests the existence of two factors according to the Eigenvalues criterion (Table 2) and the Scree Plot (Figure 1). As a result, factor analysis confirms our hypothesis of the existence of two distinct factors of development, the socioeconomic and the political one.

Table 2 : Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.178	69.633	69.633	4.178	69.633	69.633
2	1.011	16.857	86.490	1.011	16.857	86.490
3	.419	6.985	93.475			
4	.202	3.360	96.834			
5	.100	1.674	98.508			
6	.090	1.492	100.000			

Extraction Method : Principal Component Analysis.

Note that initially 86.49 % of the variation is explained by the model.

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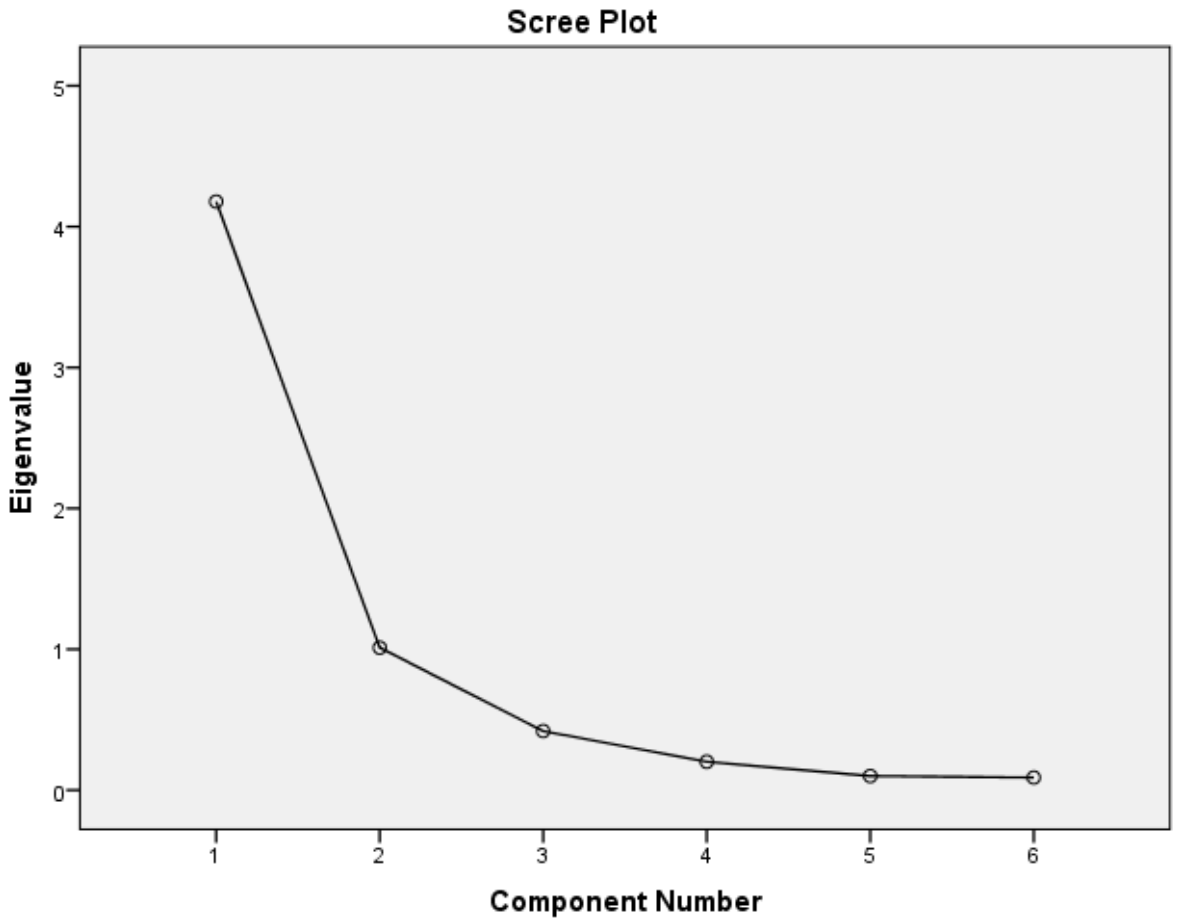

Figure 1

In order to ensure the endogenous correlations, the statistical measure Kaiser-Mayer Olkin (K.M.O.) was used, which indicates the data suitability, the existence of adequate endogenous correlations and the adequacy of the sample, ranging in 0.784. At the same time, Bartlett's Test Sphericity = 988, 15, df = 105, p = 0.00 verifying the possibility of variable correlation, by using factor analysis.

Table 3 : Total variance explained

Factor	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.775	46.248	46.248
2	2.055	34.256	80.504

Extraction Method : Maximum Likelihood

It is important to note, that the two factors retained, show that the total variance explained by the model is 80.54 % and that we have only 19.46 % loss (Table 3). The contribution of each factor to the variance explanation is also presented in the Table 3.

Table 4 : Rotated factor matrix

	Factor	
	1	2
GNI.PC.PPP.2010	.879	-.143
CPI.2010	.852	-.398
GE.2010	.805	-.438
HDI.NONINCOME.2010	.666	-.266
CL.2010	-.346	.922
PR2010	-.254	.873

The results from the use of the Varimax Rotation with Kaizer Normalization method, in which the basic hypothesis is that the factors that occur are independent with each other, are analyzed below. In fact, the resulted factors could be labeled as follows:

- Factor 1 : Socioeconomic aspects of development with variance explained = 46,248%. Four variables are loaded on this factor: GNI.PC.PPP, CPI, GE, and HDI.NONINCOME, that represent actual socioeconomic aspects of development and count factor loadings which range from 0.879 to 0.666. All variables have very high loads, which fluctuate more than 0.6.The perceptual variables and their factor loadings are presented in the Table 4.

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- Factor 2 : Political aspects of development with variance explained = 34,256%. Two variables are loaded on this factor: CL and PR, which represent actual political aspects of development and have very high loads (0.922 and 0.873 respectively- Table 4).

In Figure 2 it is shown how the six variables are located in a rotated factor space.

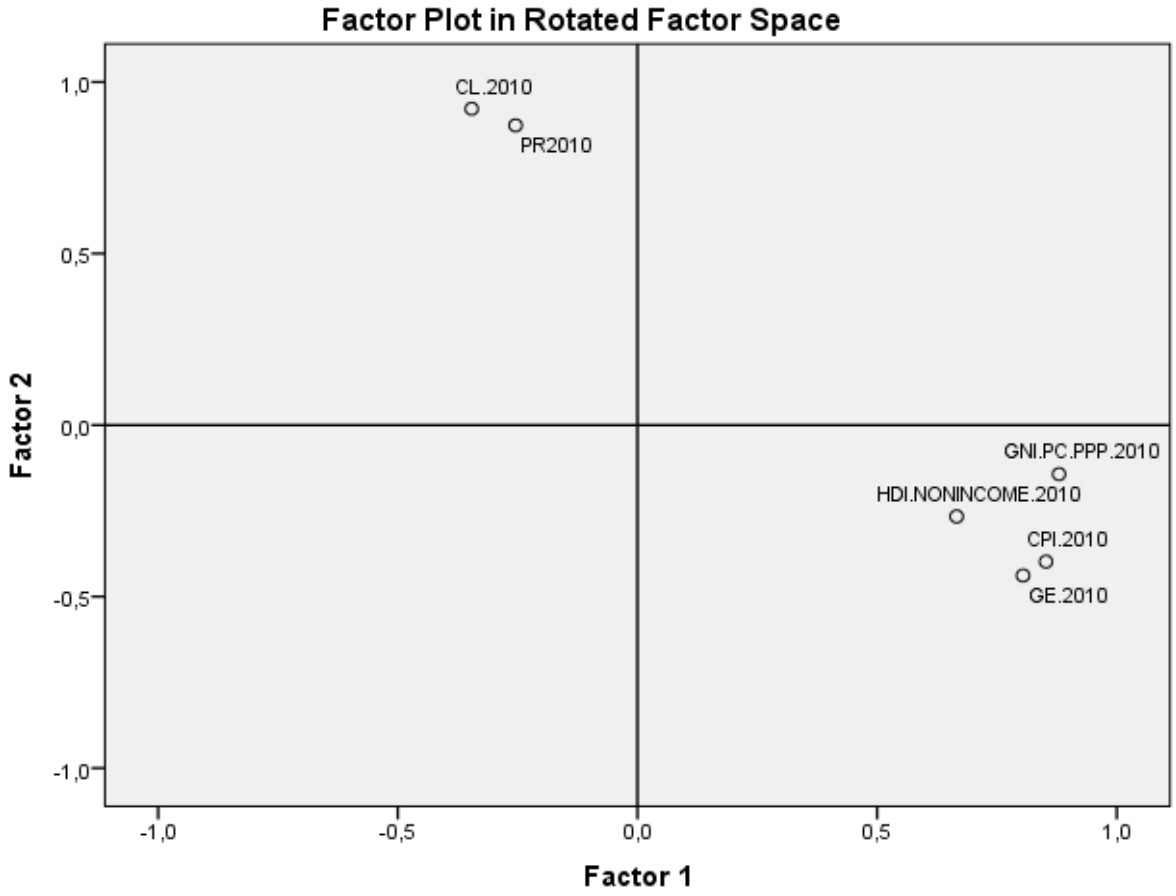

Figure 2

Cluster analysis identified four groups of homogeneous countries according to our socioeconomic and political criteria as they are determined by the scores of the two aforementioned factors (Table 5). As it has already been stated, the full list of countries according to the cluster membership is shown in Table 6.

Table 5 : Results of cluster analysis: average value by factors' score and cluster

Factors	Clusters			
	1	2	3	4
Factor 1: Socioeconomic development	-.30821	1.46801	2.18501	-.59533
Factor 2: Political development*	1.10621	-.78835	1.59198	-.62630
Number of countries (N = 176)	55	31	9	81

According to the scale of PR and CL positive average score here means low political development and vice-versa.

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According to the above cluster analysis we can observe the following:

Cluster 1 includes a considerable number of countries (55) characterised as mainly socially and economically-disadvantaged and very politically-disadvantaged in Africa, Asia and Latin America. Most of them are considered as third world countries. Afghanistan, Armenia, Cameroon, Central African Republic, Colombia, Cuba, Egypt, Ethiopia, Georgia, Iran, Iraq, Vietnam are examples of them. However, two countries included in this group are not considered as third world countries, namely China and Russia.

Cluster 2 includes a total of 31 countries that can be classified as developed and consolidated democracies placed mainly in the European Union and in the Northern America with high economic and social development and considerable high political development (the lowest score of factor 2 on average among clusters). Examples of countries belonging to this cluster are Australia, Austria, Belgium, Canada, Denmark, Germany, Finland, France, Israel, Japan, Netherlands, New Zealand, Spain, Sweden, South Korea, United Kingdom and the United States.

Cluster 3 includes a limited number of 9 countries that can be classified as those showing a considerably higher socio-economic development (the highest score of factor 1 on average among clusters) but already unstable political systems (the highest score of factor 2 on average among clusters). To this cluster belong some very rich oil exporting countries of the Middle East (Bahrain, Qatar, Kuwait, Saudi Arabia and United Arab Emirates. However three non oil exporting high income countries are also included in this cluster, namely Hong Kong, Singapore and Brunei.

Finally, in the most populated cluster 4 have been classified 81 countries showing very low levels of socio-economic development (the lowest score of factor 1 on average among clusters) but showing also fairly good levels of political development.

Table 6 : Cluster membership by country

Cluster 1	Cluster 2	Cluster 3	Cluster 4
Macau	Australia	Bahrain	Countries with high GNI (Higher than the median GNI.PC.PPP = 4,625 $)
Timor – Leste	Austria	Brunei	
Afghanistan	Barbados	Hong Kong	
Algeria	Belgium	Kuwait	Albania
Angola	Canada	Oman	Argentina
Armenia	Chile	Qatar	Bosnia and Herzegovina
Azerbaijan	Cyprus	Saudi Arabia	Botswana
Belarus	Denmark	Singapore	Brazil
Bhutan	Estonia	United Arab Emirates	Bulgaria
Burundi	Finland		Costa Rica
Cambodia	France		Croatia
Cameroon	Germany		Czech Republic
Central African Republic	Iceland		Dominica
Chad	Ireland		Dominican Republic
China	Israel		Ecuador
Colombia	Japan		El Salvador
Congo – Brazzaville	Korea (South)		FYR Macedonia
Cote d'Ivoire	Luxembourg		Greece
Cuba	Malta		Guatemala
Democratic Rep, of Congo	Netherlands		Hungary
Djibouti	New Zealand		Italy
Egypt	Norway		Jamaica
Equatorial Guinea	Portugal		Latvia
Eritrea	Seychelles		Lebanon
Ethiopia	Slovenia		Lithuania
Gabon	Spain		Maldives
Gambia	Sweden		Mauritius
Georgia	Switzerland		
Guinea	United Kingdom		
Haiti	United States		
Iran	Uruguay		
Iraq			
Jordan			

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Kazakhstan Kyrgyzstan Laos Libya Malaysia Mauritania Morocco Myanmar Pakistan Russia Rwanda Somalia Sri Lanka Sudan Swaziland Syria Tajikistan Thailand Tunisia Turkmenistan Uzbekistan Vietnam Yemen Zimbabwe			Mexico Montenegro Namibia Panama Paraguay Peru Poland Romania Serbia Slovakia South Africa Trinidad and Tobago Turkey Ukraine Venezuela **Countries with low GNI (Lower than the median GNI.PC.PPP = 4,625 $)** Bangladesh Benin Bolivia Burkina Faso Cape Verde Comoros Ghana Guinea – Bissau Guyana Honduras India Indonesia Kenya Kiribati Lesotho Liberia Madagascar Malawi Mali Moldova Mongolia Mozambique Nepal Nicaragua Niger Nigeria

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			Papua New Guinea Philippines Samoa Sao Tome and Principe Senegal Sierra Leone Solomon Islands Tanzania Togo Tonga Uganda Vanuatu Zambia

However, this forth most populated cluster presents an extended variation in strictly economic terms as they are represented by GNI.PC.PPP. Actually the range of GNI.PC.PPP among the 78 countries of the cluster (3 of the 81 with missing income were omitted) is 31,300 $, while the interquartile range is 10,970 $. With a median value of 4,625 $, countries as Slovakia, Czech Republic, Trinidad and Tobago, Greece and Italy have extremely high GNI values (21,870-31,740 $), while some others as Mozambique, Malawi, Sierra Leone, Niger and Liberia have extremely low GNI values (900-440 $). The fact that the score of the socioeconomic factor, which was used for countries' clustering (together with political factor), came from the combination of GNI and three more variables (CPI, GE, HDI) may explain this variation of the strict economic variable (GNI) of the model. Due to this heterogeneity, we could classify the countries in cluster four in two sub-groups (Table 6), according to the median GNI.PC.PPP.

Table 7 : Distances between final cluster centers

Cluster	1	2	3	4
1		2.597	2.540	1.756
2	2.597		2.486	2.070
3	2.540	2.486		3.557
4	1.756	2.070	3.557	

According to Table 7, the greatest dissimilarities exist between the countries of the third and fourth clusters, as they present opposite developmental characteristics in their socioeconomic and political systems. Additionally, the lowest distance exists between the countries of first and the forth cluster mainly due to the low levels of socioeconomic development that both of them present.

Table 8 : Anova Analysis

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Factor 1: Socioeconomic development	47.903	3	.281	172	170.298	.000
Factor 2: Political development	47.050	3	.251	172	187.713	.000

The ANOVA analysis presented in Table 8 indicates, that overall, each of the factor's score used in the present clustering, i.e. the socioeconomic and political one differs significantly across the clusters (p-value = 0.00 for both factor scores). However, according to F values, the variable contributing slightly more to cluster's differentiation is the political development.

V. Discussion and Conclusions

Factor analysis indicated that the six variables considered as the main determinants of development, namely the level of income per capita, the degree of human development, the level of perceived corruption, the extent of government effectiveness, the extent of

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political rights and the extent of civil liberties are integrated into two basic factors of development: the socioeconomic factor and the political factor, confirming therefore our initial hypothesis. The socioeconomic factor comprises the level of income per capita, the degree of human development, the level of perceived corruption and the extent of government effectiveness, while the political factor comprises the extent of political rights and the extent of civil liberties.

Following this distinction of the two factors of development, countries can be classified as we have already stated into four main distinct groups: The first group comprises those countries associated with low values of the socioeconomic factor and low values of the political factor. Countries included in this group should pay balanced efforts on their socioeconomic and political transformation in order to develop. The second group comprises those countries associated with high values of the socioeconomic factor and high values of the political factor. Countries included in this group seem to fulfill the conditions that guarantee their long-run development. These two groups of countries (i.e. the first and the second) seem to confirm the prevailing hypothesis that the socioeconomic and the political development are positively correlated (Needler, 1968). In fact until the mid 1970s only highly developed economies enjoyed political democracy[9]. That is, it was accepted that economic development (to restrict only to that) generates political development and vice versa. Later, however, it was realized that growth might have and negative effects on democracy (destabilizing growth hypothesis)[10].

The rest two groups of countries (i.e. the third and the forth) seem to contradict the above common assumption. As we have shown, the third group comprises 9 countries associated with high values of the socioeconomic factor and low values of the political factor. For these countries, the high levels of socioeconomic development are not compatible with high political development. A "deficit" of political development seems to exist. As a result it could be argued that the high levels of socioeconomic development of these countries are not long run guaranteed or sustainable. The "deficit" of political development inhibits their development prospects. A primary objective of the countries included in this group is the adoption of policies that promote their political development. The forth group is a very large group comprising 81 countries. This is a very heterogeneous group, mainly as far as its socioeconomic determinants, characterized by low values of the socioeconomic factor and relatively high values of the political factor. As we have already pointed out, in this group of countries the low level of socioeconomic development seems to be the basic factor inhibiting their long-run development.

The primary objective of the countries included in this group is the adoption of policies that promote their socioeconomic development, not ignoring of course that the political development of these countries might also require to be increased.

Considering that the first two groups of countries (including in total 86 countries) seem to confirm the prevailing hypothesis that socioeconomic and political development are positively associated while the last two groups of countries (including in total 90 countries) seem to contradict this hypothesis, we investigate the relationship between the two factors of development taking all countries together. As it was expected, the correlation between each one of the variables comprising the level of political development and each one of the variables comprising the level of socioeconomic development is found to be moderate ($r<0.7$)[11]. As a result, the prevailing hypothesis of the positive correlation between the two factors cannot be empirically confirmed, at lest completely and at least in the specific form of model specification.

Moreover, our cluster analysis has revealed that the largest dissimilarities or divergences exist between the third and the forth group of countries, while the smallest ones between the first and the forth group. Moreover, the analysis has shown that the score of each basic factor of development (i.e. the socioeconomic and the political one), differs significantly across the clusters. However, it has been established that the variable contributing more to the differentiation of clusters seems to be the political development.

In summary, the above empirical work has highlighted that the level of socioeconomic development and the level of political development are the most important dimensions that determine the overall long-run developmental patterns worldwide. The basic outcome of our empirical analysis is that in order to increase the level of overall development, not only economic but also social and political efforts should be undertaken. In some countries, emphasis should be given to their socioeconomic development (countries belonging to group 4), in some to their political development (countries belonging to group 3), and in some countries to both dimensions of development, socioeconomic and political (countries belonging to group 1).

The main conclusion of the above analysis is therefore that not all countries should follow identical strategies in order to increase their overall long-run development levels. As we have already stated, in some

[9] For a review of the theory explaining this relationship between development and democracy, see Romer (1994).

[10] The destabilizing growth hypothesis was proposed by Paldam (1998). And in fact, some relevant empirical work indicates that democracies do not appear to show different growth performance than non-democracies (Alesina, Özler, Roubini and Swayel, 1992). However, most empirical work on this subject investigates the relationship between political instability and economic growth.

[11] See Rontos, Salvati and Vavouras (2013b).

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countries emphasis should be given to their socioeconomic development, in some to their political development and in some others to both of them. In line of the above analysis we argue that a high overall level of development is achieved and maintained in the long-run only when the socioeconomic development is associated with the consolidation of democracy. Rising incomes is therefore a necessary but not a sufficient condition to increase overall development, unless it is associated with the improvement of the other socioeconomic determinants of development as well as with the consolidation of democracy.

Appendix 1 : List of countries considered in the analysis with the selected variables

Country	CPI	PR	GNI	HDI	GE	CL	Country	CPI	PR	GNI	HDI	GE	CL
Afghanistan	1.4	6	910	0.39	-1.47	6	Laos	2.1	7	2400	0.52	-0.94	6
Albania	3.3	3	8570	0.74	-0.27	3	Latvia	4.3	2	16630	0.80	0.69	1
Algeria	2.9	6	8060	0.70	-0.56	5	Lebanon	2.5	5	13820	0.74	-0.34	3
Angola	1.9	6	5170	0.48	-1.12	5	Lesotho	3.5	3	1980	0.45	-0.36	3
Argentina	2.9	2	15500	0.79	-0.21	2	Liberia	3.3	3	440	0.33	-1.24	4
Armenia	2.6	6	5640	0.71	-0.15	4	Libya	2.2	7	16750	0.77	-1.21	7
Australia	8.7	1	36910	0.93	1.81	1	Lithuania	5	1	18010	0.81	0.72	1
Austria	7.9	1	39800	0.88	1.88	1	Luxembourg	8.5	1	61250	0.87	1.7	1
Azerbaijan	2.4	6	9240	0.70	-0.83	5	Madagascar	2.6	6	950	0.48	-0.82	4
Bahrain	4.9	6	21240	0.81	0.59	5	Malawi	3.4	3	860	0.40	-0.39	4
Bangladesh	2.4	3	1810	0.50	-0.84	4	Malaysia	4.4	4	14160	0.76	1.09	4
Barbados	7.8	1	18850	0.79	1.4	1	Maldives	2.3	3	7840	0.66	-0.21	4
Belarus	2.5	7	13590	0.75	-1.13	6	Mali	2.7	2	1030	0.36	-0.88	3
Belgium	7.1	1	38330	0.89	1.59	1	Malta	5.6	1	24170	0.83	1.15	1
Benin	2.8	2	1580	0.43	-0.53	2	Mauritania	2.3	6	2400	0.45	-0.93	5
Bhutan	5.7	4	4970	0.52	0.57	5	Mauritius	5.4	1	13800	0.73	0.76	2
Bolivia	2.8	3	4620	0.66	-0.45	3	Mexico	3.1	2	14400	0.77	0.16	3
Bosnia and	3.2	4	8870	0.73	-0.73	3	Moldova	2.9	3	3370	0.64	-0.62	4
Botswana	5.8	3	13640	0.63	0.5	2	Mongolia	2.7	2	3660	0.65	-0.61	2
Brazil	3.7	2	11000	0.72	0.07	2	Montenegro	3.7	3	12790	0.77	0.07	2
Brunei	5.5	6	49790	0.84	0.88	5	Morocco	3.4	5	4580	0.58	-0.17	4
Bulgaria	3.6	2	13510	0.77	0	2	Mozambique	2.7	4	900	0.32	-0.46	3
Burkina Faso	3.1	5	1260	0.33	-0.58	3	Namimbia	4.4	2	6270	0.62	0.1	2
Burundi	1.8	4	580	0.31	-1.09	5	Nepal	2.2	4	1210	0.46	-0.76	4
Cambodia	2.1	6	2070	0.52	-0.82	5	Netherlands	8.8	1	41810	0.91	1.73	1
Cameroon	2.2	6	2260	0.48	-0.88	6	New Zealand	9.3	1	29140	0.91	1.86	1
Canada	8.9	1	38370	0.91	1.86	1	Nicaragua	2.5	4	2660	0.59	-0.96	4
Cape Verde	5.1	1	3690	0.57	-0.05	1	Niger	2.6	5	720	0.29	- 0.709	4
Central African	2.1	5	780	0.34	-1.4	5	Nigeria	2.4	5	2140	0.45	-1.19	4
Chad	1.7	7	1360	0.33	-1.5	6	Norway	8.6	1	57910	0.94	1.79	1
Chile	7.2	1	14950	0.80	1.17	1	Oman	5.3	6	25770	0.70	0.58	5
China	3.5	7	7600	0.68	0.12	6	Pakistan	2.3	4	2780	0.50	-0.76	5
Colombia	3.5	3	9020	0.71	0.14	4	Panama	3.6	1	13050	0.77	0.13	2
Comoros	2.1	3	1090	0.43	-1.73	4	Papua New Guinea	2.1	4	2400	0.46	-0.75	3
Congo – Brazzaville	2.1	6	3180	0.28	-1.23	5	Paraguay	2.2	3	5050	0.66	-0.92	3
Costa Rica	5.3	1	11290	0.74	0.31	1	Peru	3.5	2	9320	0.72	-	3
Cote d'Ivoire	2.2	6	1800	0.40	-1.32	5	Philippines	2.4	4	3960	0.64	-	3

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Croatia	4.1	1	18680	0.79	0.61	2	Poland	5.3	1	19180	0.81	0.7	1
Cyprus	6.3	1	30910	0.84	1.49	1	Portugal	6	1	24600	0.81	1.03	1
Czech Republic	4.6	1	23540	0.86	1	1	Qatar	7.7	6	76470	0.83	0.93	5
Denmark	9.3	1	41100	0.89	1.72	1	Romania	3.7	2	14300	0.78	-0.14	2
Djibouti	3.2	5	2450	0.43	-0.99	5	Russia	2.1	6	19210	0.75	-0.39	5
Dominica	5.2	1	11960	0.72	0.65	1	Rwanda	4	6	1150	0.43	-	5
Dominican Republic	3	2	8990	0.69	-0.62	2	Samoa	4.1	2	4250	0.69	0.056	2
Ecuador	2.5	3	7850	0.72	-0.67	3	Sao Tome Principe	3	2	1970	0.51	-0.68	2
Egypt	3.1	6	6030	0.64	-0.43	5	Saudi Arabia	4.7	7	23150	0.77	-0.08	6
El Salvador	3.6	2	6460	0.67	0	3	Senegal	2.9	3	1910	0.46	- 0.509	3
Equatorial Guinea	1.9	7	21980	0.53	-1.68	7	Serbia	3.5	2	11090	0.76	-0.11	2
Eritrea	2.6	7	540	0.35	-1.37	7	Seychelles	4.8	3	22660	0.77	0.17	3
Estonia	6.5	1	19370	0.83	1.22	1	Sierra Leone	2.4	3	820	0.33	-1.19	3
Ethiopia	2.7	5	1030	0.36	-0.34	5	Singapore	9.3	5	56890	0.86	2.24	4
Findland	9.2	1	37080	0.88	2.24	1	Slovakia	4.3	1	21870	0.83	0.85	1
France	6.8	1	34760	0.88	1.44	1	Slovenia	6.4	1	26530	0.88	1.03	1
Gabon	2.8	6	13070	0.67	-0.85	5	Solomon Islands	2.8	4	2200	0.51	-0.94	3
Gambia	3.2	5	1960	0.42	-0.67	5	South Africa	4.5	2	10330	0.62	0.33	2
Georgia	3.8	4	4950	0.73	0.29	4	Spain	6.1	1	31420	0.88	0.98	1
Germany	7.9	1	38100	0.90	1.55	1	Sri Lanka	3.2	4	5040	0.69	-0.16	4
Ghana	4.1	1	1610	0.53	-	2	Sudan	1.6	7	2020	0.41	-1.36	7
Greece	3.5	1	27640	0.86	0.52	2	Swaziland	3.2	7	5570	0.52	-0.52	5
Guatemala	3.2	4	4630	0.57	-0.7	4	Sweden	9.2	1	40120	0.90	2.01	1
Guinea	2	7	990	0.34	-1.14	6	Switzerland	8.7	1	49960	0.90	1.91	1
Guinea – Bissau	2.1	4	1180	0.35	-1.04	4	Syria	2.5	7	5090	0.63	-0.55	6
Guyana	2.7	2	3460	0.63	-0.13	3	Tajikistan	2.1	6	2120	0.60	- 0.905	5
Haiti	2.2	4	1120	0.45	-1.61	5	Tanzania	2.7	4	1430	0.46	-	3
Honduras	2.4	4	3750	0.62	-0.66	4	Thailand	3.5	5	8150	0.68	0.085	4
Hong Kong	8.4	5	47270	0.89	1.73	2	Togo	2.4	5	990	0.43	-1.38	4
Hungary	4.7	1	19550	0.81	0.69	1	Tonga	3	5	4560	0.70	-0.33	3
Iceland	8.5	1	29350	0.90	1.57	1	Trinidad and	3.6	2	24400	0.76	0.25	2
India	3.3	2	3340	0.54	-	3	Tunisia	4.3	7	8960	0.70	0.19	5
Indonesia	2.8	2	4190	0.61	-0.19	3	Turkey	4.4	3	15460	0.70	0.35	3
Iran	2.2	6	11400	0.71	-0.51	6	Turkmenistan	1.6	7	7460	0.68	- 1.557	7
Iraq	1.5	5	3460	0.57	-1.22	6	Uganda	2.5	5	1250	0.44	-0.55	4
Ireland	8	1	33550	0.91	1.31	1	Ukraine	2.4	3	6590	0.73	-0.77	2
Israel	6.1	1	25760	0.89	1.24	2	United Arab	6.3	6	46990	0.85	0.78	5
Italy	3.9	1	31740	0.87	0.51	2	United Kingdom	7.6	1	35840	0.86	1.56	1
Jamaica	3.3	2	7470	0.73	0.18	3	United States	7.1	1	47310	0.91	1.44	1
Japan	7.8	1	34780	0.90	1.39	2	Uruguay	6.9	1	13560	0.78	0.65	1
Jordan	4.7	6	5810	0.70	0.07	5	Uzbekistan	1.6	7	3150	0.64	-0.79	7
Kazakhstan	2.9	6	10620	0.74	-0.27	5	Vanuatu	3.6	2	4300	0.62	-	2
Kenya	2.1	4	1640	0.51	-0.53	4	Venezuela	2	5	12040	0.73	-	4

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Kiribati	3.2	1	3520	0.62	-0.85	1	Vietnam	2.7	7	3060	0.59	0.309	5
Korea (South)	5.4	1	28830	0.89	1.18	2	Yemen	2.2	6	2470	0.46	-	5
Kuwait	4.5	4	53340	0.76	0.1	4	Zambia	3	3	1370	0.43	0.801	4
Kyrgystan	2	6	2070	0.61	-0.63	5							

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