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"An Institutional, Social and Economic Performance Index (ISEPI) with an application to the European Neighborhood Policy "

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Abstract

In this paper we design and build a composite indicator to measure the macroeconomic, social and institutional dimensions of countries (ISEPI). The index allows not only comparing the relative situation of countries, but also its time evolution. In order to illustrate the usefulness of the index, we analyse the effects of the European Neighbourhood Policy in EU-Neighbouring Countries during the last decade. The obtained results show that ENP has had different effects according to the considered dimensions and that the evolution of neighbouring countries is quite heterogeneous taking into account their recent institutional and economic performance. From a policy perspective, these results reinforce the validity of the bilateral action plans that have characterized ENP recognising the different starting point and particular characteristics of each neighbouring country.

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1. INTRODUCTION AND OBJECTIVES

In this paper we develop a composite indicator related to the institutional, social and macroeconomic conditions in world countries. Our proposal adds to the growing literature that tries to overcome the shortcomings of unidimensional approaches such as those focusing on Gross Domestic Product per capita or those based on multidimensional index such as the United Nations' Human Development Index that has been widely criticized in the literature (see, for instance, Wu et al, 2014). The usefulness of this index will be, among others, to know the comparative situation among countries considered from different dimensions. Our wider perspective in the construction of the index will allow the researchers to focus on very different questions using an homogeneous dataset. For instance, to analyse the pros and cons of a particular policy trying to attract Foreign Direct Investment from an economic point of view, but also analysing the impact on institutional and social aspects (for instance, related to the functioning of the labour market once foreign investors have entered the country).

The use of composite indicators to compare different dimensions between developed and emerging economies (and even within them) is not straightforward. The literature is currently expanding this view not only in economic terms but also on social and institutional dimension. For instance, Giambona and Vasallo (2014) have developed a composite indicator of social inclusion for 27 member states of the European Union (EU) while Mitra (2013) proposes a multidimensional index of governance for African countries. Smits and Steendijk (2014) propose a methodology to develop an International Wealth Index (IWI) that makes possible to analyse household's material well-being, or economic status, that can be used for all low and middle income countries. More interestingly, within this context ,composite indicators are used not only for monitoring the implementation of policies, but also to assess their impact. Çolak and Ege (2013) assess the implementation and the performance of EU2020 strategy among the EU member states using a composite index.

Considering this background, in the second section of the paper we describe the methodology used to elaborate the Institutional, Social and Economic Performance Index (ISEPI), a composite index that captures country performance on different dimensions and that can be applied both to developed and emerging economies using both hard and soft data from several data sources. Next, in the third section, we provide descriptive evidence on the institutional, social and economic performance evolution of a wide sample of world countries. Finally, the usefulness of the ISEPI index is illustrated as a tool to analyse the impact of the European Neighbourhood Policy (ENP). The aim of the ENP is to promote political and institutional changes towards democratic governance and market liberalisation, a process that at the same time can be understood as a tool for economic development and convergence in neighbouring countries. ENP does not offer accession perspective to the EU for these countries, but promotes close political cooperation, close economic integration and access to the EU market as an incentive to carry out economic and institutional reforms with the aim also of improving the social cohesion in these countries. In this respect, in the fourth section of the paper, we analyse the impact of the

ENP by comparing the regional differences in the evolution of the ISEPI between European Neighbouring Countries (ENC) and a wider sample of economies that will help us to disentangle the differential effect of this policy. The paper ends with some final remarks.

2. METHODOLOGICAL ISSUES: DEFINING THE ISEPI INDEX

As Booysen (2002) argues, one can classify and evaluate indicators according to a number of general dimensions of measurement. Obviously, all the process is affected by the objective wanted to cover with the indicator. Once defined it, we should focus on the technique and method dimension to be used. The first decision involves the selection of variables and components. The selection is generally based on theory, empirical analysis, pragmatism or intuitive appeal, or some combination thereof.

In our case, we are obliged to work with a large set of data, first, because we might capture a huge variety of dimensions (and sub-dimensions) in the framework of the Index (to consider economic, social, institutional issues and sub-components). Second, due to the high number of countries and variables that differed widely in terms of units of measurement, and in statistical characteristics. We are therefore obliged to use a highly flexible method in order to account for all possible dimensions of the Institutional, Social & Economic Performance of the considered countries. Considering this, we will follow the proposal by Liu (1978). The main idea is to build a composite index using intermediate indexes computed using basic data or other indexes. The index structure and variable weights are chosen a priori based on expert judgement.

Taking this into account, our approach to analyse the Institutional, Social and Economic performance of considered countries is to elaborate a composite index (ISEPI from now on). The ISEPI index is built from 51 variables comprising both hard and soft data (see figure 1) and it comprises the following seven main sub-indexes that try to consider identified, measurable, and comparable socioeconomic aspects that are relevant from a global perspective[2]:

- *Macroeconomic environment (I1):* this first sub-index measures the economic environment of the country. It takes into account GDP, labour, public accounts, investment, international trade, and financial issues.
- *Costs and prices (I2)*: this sub-index considers different variables related to prices and costs: Consumer prices, labour costs, hourly wages, cost of live and exchanges rate.
- *Productivity and human capital (I3):* in this sub-index we summarise different aspects related to labour productivity and the level of human capital of every country: schooling levels, availability of qualified workers, among others.

[2] Groh and Wich (2012).

- *Technological and innovative capacity (I4):* this sub-index covers the aspects related to the technological capacity of the country as well as the efforts to improve it. Therefore, we take into account the technological capacity as well as different measures of technological adoption.
- *Business-friendly environment (I5):* this sub-index covers aspects related to factors helping or hindering business activity in a country. So, we take into account the quality of infrastructures, different measures of investment risks, administrative burdens, barriers to international trade and taxes on firms.
- *Quality of life and labour market conditions (I6):* this sub-index captures life expectancy, quality of live, working conditions (workers motivation and hours of work), and security (personal security and private property protection).
- *Market potential (I7):* The last stub-index captures the economic potential of a country from an economic point of view covering demand in terms of population and growth potential.

[FIGURE 1. ABOUT HERE]

In order to build the index, we apply the statistical method by Royuela *et al.* (2003) and López-Tamayo *et al.* (2013) following the proposal by Liu (1978) in the context of quality of life indicators. This procedure was built taking into account several premises that we have adapted to the peculiarities of the ISEPI in the followingway:

1. The index has to be able to aggregate base indicators measured in different units.
2. The aggregation process has to be able to compare the indicators with a high level of different relative dispersion.
3. The index has to allow the construction of a scale that *lets the data talk,* i.e., that reflects the statistical characteristics of the data.
4. The final index has to allow for a comparison over time: when a system's basic variables rise, the final index has to increase.
5. If the relative size of the systems changes over time, the index has to condense this information without overvaluing (undervaluing) the result for a specific system.

These criteria are the basis for our index, I, as a linear function of several, K, Institutional, Social & Economic attributes (X). The final index is obtained as an arithmetic average of the different sub-index, so for example, in order to obtain the sub-index I3 (Productivity and human capital), we combine the following seven attributes (K=7): Labour productivity (GDP per worker, v18), Public expenses in education as a percentage of GDP (v19), Share of population between 25 and 34 years old with secondary studies (v20), Share of population between 25 and 34 years old with tertiary studies (v21), Researchers in firms /1000 inhabitants (v22), Qualified workforce available (v23) and Entrepreneurship (v24).

Each attribute, X_f, is originally measured in its own units, but needs to be redefined and homogenised. We do so taking a relative measure, which converts the result into a percentage. If country i has a value in the

f attribute equal to X^i_f, then we say that we can measure how far country *i* differs from the global average in terms of the attribute merely by computing:

$$Y_f^i = X_f^i / \bar{X}_f \tag{1}$$

Then, the final index, I''^i, is a linear function of the attributes' vector Y^i, $Y^i=(Y_1^i, ..., Y_K^i)$:

$$I''^{,i} = Y^i * W, \tag{2}$$

where $W=(w_1, ..., w_K)$ are the weights given to every attribute. Weights have been taken as equal (although taking into account the direction of the effect, positive or negative, on the considered dimension). The robustness of the results to this methodological decision has been checked using multivariate analysis. In particular, we have use principal component analysis to look at the proportion of the variance explained by the first component extracted from the variables related to each dimension and we have also checked that the weights and signs are in line with the theoretical predictions summarised in figure 1. The results, which are available from the authors on request, confirm the validity of our approach for the seven sub-indexes.

Once (2) has been calculated, differences between countries can be expressed in a dispersion measurement, for example the variance *VAR(I'')* from *i*=1 to N, where N is the total number of countries. We understand that this variance is useful information about attribute Y_f. If we only had *one* attribute for *Productivity and human capital*, then the measurement of this sub-index would be defined by this particular variance. But as there is more than one attribute in each index, a general measurement for each aggregate index needs to be defined. Following (2), the total amount of information considered in the sub-index is the following weighted variance and covariance matrix of the attributes:

$$var(I'') = var(Y * W) = W' * var(Y) * W \tag{3}$$

Nevertheless, if the sub-index is calculated just as $I''=YW$, then the attributes with greater variance are overweighted. This effect can be seen in one example. If in the *Productivity and human capital* subindex, a country has a good position in six of the seven attributes, but is badly placed in the other (perhaps due to the fact that this attribute has a much higher variance than the others) the final result will be poor. In order to avoid this, we should compute the index as:

$$I' = Z * W, \tag{4}$$

where Z_f are the standardised variables: $Z_f = \left(X_f - \bar{X}_f\right)/sd\left(X_f\right)$. We can expect the variance of that index to be equal to one. But if there is information common to these attributes, we have:

$$var(I') = W' * R * W, \tag{5}$$

where *R* is the correlation matrix between the standardised attributes. This is the reason for computing the final standardised positions (number of standard deviations away from the trend) of all countries as:

$$I = {(Z * W)}\Big/{(W' * R * W)}. \tag{6}$$

Next, we add the variance-covariance matrix to the standardised positions of all countries defined in (6). So, the final index for the *Human capital and productivity* dimension is:

$$I3 = 100 * (1 + I * [W' * var(Y) * W]). \tag{7}$$

In order to make it more comprehensible we have included a level to the final measurement (100 in the base year). The methodology described, then, gives the relative position that a country has in the whole group of analysed countries. However, we have also considered the possibility of computing an increase or decrease in the sub-index over time. In this case, we have to take a base period. In this base period the country average will be equal to 100. So the temporal analysis will compare the relative position of a country in any variable in year *K,* with the base period average of all countries involved in the analysis:

$$Z_i^K = \frac{X_i^K - \bar{X}^{00}}{S_x^{00}}. \tag{8}$$

Therefore, we are measuring the relative position in terms of the base year standard deviation. The dispersion of all variables can also be higher or lower through time. As in any index number, the choice of the base year will be very important, but will also be completely *arbitrary*. And as we go further from the base year, the comparisons will lose some of their value. This is because the scale that we are using depends on the base year. Nevertheless, the base year can be changed without a great deal of work.

This procedure applied to this particular sub-index has been replicated for the other dimensions and the final index, the *ISEPI*, is calculated as an arithmetic average of the seven sub-indexes.

The final question that has to be addressed in the ISEPI deals with the changes of population size of all countries. These changes may affect both the basic measurements of the index structure (mean and variance) and the aggregation of countries in systems and subsystems. There are two common solutions: the Laspeyres and the Paasche indexes. The former does not use the change in size (change in population of each country) that we are considering, and simply computes the final result with the initial sizes of the base year (1995 population). This index is extensively used in the economics literature, due to the lack of information on component sizes. The second alternative, the Paasche index, does consider the change in sizes. As we have the relative sizes of all countries for each year (population from 1995 to 2013), this is the option we choose. Then we can technically define the ISEPI as a weighted (a priori) arithmetic

average index of partial indicators that express the relative standardised position of every individual (country, subsystem or system) after combining the variability of all variables, with a Paasche type temporal aggregation. To sum up, the ISEPI is an aggregate index that is computed using partial information of every considered dimension.

This index allows for comparisons between countries (or other major territorial aggregations) in each period and over time, taking the global average in 1995 as 100. As mentioned above, changing the base year would cause a change in the definition of the measurement of economic performance. If we compute an index number with 2000 as our base year the comparison will be done using the ISEPI definition of 2000, and it will not be the same as it was in 1995. Taking this into account, and in order to facilitate time and cross-country comparisons, we did a last transformation to the different index built according to the procedure described above. In particular, we rescaled the index into a 0-7 scale where a 0 is assigned to the minimum value and 7 to the maximum value of the index across countries and time-periods. These are the values that are shown and described across the paper.

3. THE ISEPI INDEX. RESULTS

Using the methodology explained in previous section, we elaborate a composite index (Institutional, Social & Economic Performance Index – ISEPI) that combines data related to different economic and institutional factors and, next, we analyse regional differences.

With respect to data sources regarding the 51 considered indicators, several databases have been used: the World Bank World Development Indicators, the World Investment Report by the United Nations Conference on Trade and Development, The International Institute for Management Development datasets and additional variables from the Conference Board and The World Economic Forum datasets. The period considered is 1995-2013. We have computed the ISEPI index for a wide sample of economies: the most competitive economies according to the World Economic Forum, the members of the European Union, and several emerging economies. The final sample of countries is formed by a set of 77 countries listed in table A.1 in the annex while table A.2 in the annex provides information on the exact definition and sources of the 51 indicators used to build the ISEPI.

The ranking obtained for the 77 considered countries of 2013 is shown in the Table 1. In the first positions there are, mainly, developed countries as Singapore (1st, 5.33), Luxembourg (2 nd, 4.79), Sweden (3 th, 4.64), Finland (4 th, 4.59) and Denmark (5th, 4.55). The last positions of the ranking are covered by developing African countries as Angola (75th, 1.99), Tanzania (76 th, 1.99), and Nigeria (77 th, 1.91).

[TABLE 1. ABOUT HERE]

Table A.3 and in the annex provide detailed information on the value of the different subindexes and the ranking of the 77 considered countries for 1995 and 2013 for each of them. As we can see in this table, top positions in the different dimensions are not always occupied by the same countries. While Singapore and Luxembourg are still in the first positions in the dimensions related to macroeconomic environment, technological capacity and market potential, this is not the case in the second dimension related to costs and prices or the sixth dimension associated to quality of life. The countries' relative position in the ranking for the macroeconomic environment is, of course, affected by the heterogeneous impact of the Great Recession. Some of the EMU countries most affected by the crisis (like Portugal, Spain or Greece) are in the last positions of the ranking. Emerging economies are in good positions in terms of costs and prices, but their relative positions in terms of productivity and human capital and technological and innovative capacity is not so good. Good relative positions in these two dimensions are occupied by Denmark, Finland, Israel, Korea, Sweden, Japan, Singapore, the United States or Germany among others. Business-friendly environment is also found in most of these countries. The ranking for quality of life and labour market conditions provides, however, a different picture: some of the countries with relative better life conditions are Switzerland, the United States, Denmark, Luxembourg and Germany. Last, the countries with more market potential are mainly emerging countries with top positions occupied by Singapore, Qatar, United Arab Emirates, Luxembourg or Arabia Saudi. It is worth mentioning that according to our index BRICS (Brazil, Russia, India, China and South Africa) are in the middle part of the ranking.

4. AN ASSESSMENT OF THE EUROPEAN NEIGHBOURHOOD POLICY (ENP) USING ISEPI

One of the objectives of the European Neighbourhood Policy (ENP) is to promote political and institutional changes towards democratic governance and market liberalisation, a process that at the same time can be understood as a tool for economic development and convergence in neighbouring countries.

In this section, based on the ISEPI index, we first describe the policy, and second we analyse the regional differences in the evolution of ISEPI in order to provide an assessment of the impact of the ENP on the different dimensions, but also to shed light on how the great recession has limited the impact of recent reforms. In order to do so, we do not only consider the ENC countries but a wider sample of economies that will help us to disentangle the differential effect of the ENP. In particular, we consider the most competitive economies according to the World Economic Forum, the 27 members of the European Union, and several developing and emerging economies, that constitute the real "control" group for ENC. So, the countries analysed in the previous section have been grouped into six categories: Developed, Developing, Emerging, European Union (EU04, EU04_07 and EU13), ENC-EAST and ENC-SOUTH.

In this section, our contribution from the previous literature is twofold. First, we analyse the impact of the ENP from a global perspective taking into account the institutional, social and economic dimensions, and

second, we analyse the regional differences in the evolution of this index through the comparison with a wider sample of economies that will help us to disentangle the differential effect of this policy.

4.1. Objectives of the ENP

As highlighted by Wesselink and Boschma (2012), after the fifth enlargement round of the European Union (EU) in 2004 its external borders shifted drastically. Suddenly a range of poorer, economically and politically less stable and less democratic countries bordered the EU. In response to these changing circumstances, the need was felt to create a unified policy towards the countries bordering the EU. The goal of this new unified policy would be to create a ring of friendly, stable and prosperous countries around the European Union in order to guarantee stability along the outer borders of the EU. The new policy would not offer accession perspective for these countries, as had been done before in order to drive reform in neighbouring countries. However, the policy would promote close political cooperation, close economic integration and ultimately access to the unified market, as a reward for convergence towards the EU 'Acquis' on economic regulations and progress in the areas of border security, prevention of illegal migration, an improved human rights record and expanded efforts towards democracy.

Although the core focus of the ENP is on trade and economic reforms, migration policies, institutional reform and collaboration in research and higher education are also part of the ENP, and all these elements are meant to contribute to the ultimate goal of creating a ring of stable, friendly and prosperous countries around the EU (Com 393 final, 2003). The bulk of the ENP is bilateral. The ENP and the EU-Russia strategic partnership cover 17 countries. Apart of Russia, the ENP countries fall into two regional groups: The ENP-East countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) and the ENP-South countries (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, the occupied Palestinian territory, Syria and Tunisia). The ENP is a differentiated policy in which each country is supported to reform in its own speed, and with its own priorities. Based on specific country reports, action plans were negotiated that describe key priority areas for policy reforms (see table 2). The first action plans were mutually recognized in February 2005. Based on these action plans, the EU has also drafted a strategy paper for almost each country for the 2007-2013 budget framework, and indicative programmes for the 2007-2010 and 2011-2013 period. Russia was also asked to participate in the ENP, but in subsequent negotiations it was decided that a separate policy instrument would be developed to guide Russian-European foreign policy (COM 393 final, 2003). This separate policy instrument, called the EU-Russia strategic partnership, has similar goals to the ENP and is funded through the same funding instrument.

Up to now, the EU does not yet have action plans for four of the ENC: Libya, Syria, Belarus and Algeria. In the first three countries the main reason is that a basic level of democracy and human rights is required before incorporation in the ENP can take place. Algeria and the EU are still in negotiations over the ratification of an action plan.

[TABLE 2. ABOUT HERE]

The evidence on the impact of the ENP on economic and institutional is scarce. Previous research produced within the SEARCH project[3] has found that the speed of the process of convergence of institutional quality towards European norms and values is still slow, although some progresses have been registered. In fact, according to Ascani et al. (2013), the results of the ENP on the eve of its tenth anniversary are much less impressive and the initial high hopes for a comprehensive and systematic legislative and regulatory alignment have not been realized institutional, social and cultural factors are central elements to consider when analysing social and economic dynamics in ENC. These results are mainly based on three particular analyses. First, Bartlett et al. (2013) analyse the link between economic growth and institutional reform in the ENC. Their results show that the ENP countries have a weaker institutional convergence to the EU than candidate countries. For them, the main reason is that the EU has not yet played an important role as a "transformative power", shaping faster institutional convergence and there is a danger that the reform processes will either stagnate or "run out of steam" if the EU does not take a more decisive role in the process. Second, Hlepas (2013) have analysed whether or not institutional quality has converged across countries and the influence of this process on ENC's competitiveness. The obtained results are in line with the ones obtained by Bartlett et al. (2013) suggesting that the impacts of the ENP have been relatively modest. Last, Revilla-Diez et al (2013) argue that there are several reasons why the ENP post-communist economies lag behind as compared to the high performing Asian countries that outstrip competitors in terms of economic growth. The most relevant one seems to be that post-socialist states did not manage to effectively change the institutions of the old regime for the new efficient ones. Moreover, even the minor institutional changes incorporated failed to work due to the lost faith in the state and the absence of fit with the existing informal institutional environment.

4.2. Descriptive evidence

With respect to those countries affected by the ENP we find that, with the exception of Israel, they are at the bottom positions of the figure. It has to be pointed out that there are some differences between those countries located to the south of European Union and those located to the east. If we compare the positions of these countries between 1995 and 2013, and between 2005 and 2013 (two first pictures of Figure 3) we can see a positive relationship between their initial position and their final position. In fact, only few countries were below the mean in 1995 and were over the mean of the whole sample in 2013.

From the box-plot descriptive analysis in figure 2, developed countries and European Union countries show the highest values of the global ISEPI index. With respect to developed countries, the best positions are for Singapore (5.33), Switzerland (4.47) and USA (4.40). In return, the worst positions are for United Arab Emirates (3.70), Qatar (3.55) and Saudi Arabia (3.26). It has to be noticed that this last worst score among developed countries it is only exceeded by the best register of the emerging country of Malaysia (3.74) and, in the case of ENP countries, by Israel (4.34). None of developing countries overcomes that score. Moreover, countries from European Union show a great dispersion, if we compare their results

[3] http://www.ub.edu/searchproject/wp-content/uploads/2013/09/Deliverable-5-2.pdf

with the rest of groups. In fact, the dispersion is higher (0.70) in the European Union group than in the developed countries (0.57). This fact shows the great complexity among the European Union, where countries as Luxembourg (4.79), Sweden (4.64) and Finland (4.59) almost double the last values from Croatia (2.60), Bulgaria (2.47) and Romania (2.40). Regarding the rest of countries, without taking into account Israel (4.34) -ENP countries- , and Malaysia (3.74) and Chile (3.211) -emerging countries-, the other three groups of countries show lower scores than the observed for the developed and European Union countries. Finally, if the evolution between 1995 and 2013 is analysed, it can be noticed that only in case of developed, Russia and European Union countries, a clear improvement in the ISEPI index is observed. In sum, emerging and ENP countries suffer from stabilization and a decreasing path is observed for developing countries.

[FIGURE 2. ABOUT HERE]

Figure 3 summarises the main results for these groups of countries in relation with the different dimensions that composes the ISEPI global index for the year of 2013. Where I1 refers to *Macroeconomic Environment,* I2 to *Costs and prices*, I3 to *Productivity and human capital,* I4 to *Technological and innovative capacity,* I5 to *Business-friendly environment,* I6 to *Quality of live and labour market conditions* and, finally, I7 to *Market potential.* The top left figure shows that the main differences between ENC-EAST countries and the EU04_07 countries is that the formers are in worst position in all dimensions except the first one (Macroeconomic environment) and the seventh (Market potential). This result is more intense in those dimensions more related with institutional quality as I4 (Technological and innovative capacity), I5 (Business-friendly) and I6 (Quality of live and labour market conditions). In the same way, dimensions for Russia (figure on the top right side) are at the same level of EU04_07 in all dimensions except for dimensions I5 (Business-friendly) and I6 (Quality of live and labour market conditions), two of the dimensions that capture more information about quality institutions. However, in case of ENC-SOUTH (bottom left picture) the differences are not related, mainly, with institutional quality. In fact, dimension I7 (Market potential) presents a better behaviour, I6 (Quality of live and labour market conditions) more or less in the same way and I3 (Productivity and human capital), I4 (Technological conditions) and I5 (Business-friendly) present mean scores below those for EU04_07 countries group. Finally, with respect en European Union (bottom right picture) counties it is worth that the enlargement countries are in better conditions that the whole European Union in all dimensions but in dimension I2 (cost and prices), where the European Union countries are better positioned than the fifth enlargement group of countries. More details on the relative performance of these regions in the different dimensions can be found in Figures A1 to A7 in the annex.

[FIGURE 3. ABOUT HERE]

If we analyse with more attention the information of the ISEPI global index inside the ENC (figure 4), we can observe that there are some differences between south and east countries. After the last big enlargement of the European Union, period 2005-2013, a positive relationship between the initial position

of the mean of each group of countries and its growth rate can be observed. However, there is one group of countries that suffers from a decreasing result during the period: ENC-SOUTH. On the other hand, inside each group of countries, results are not so homogeneous, as one could have had expected. Dealing with ENC-EAST countries, even the majority of countries have improve their results, Belarus presents a high decreasing growth rate (-10.2%), Moldova (-2.12) and Ukraine (-0.2%). Instead, for the ENC-SOUTH countries, although they had had a worst behaviour than their east policy partners, there are some especial results to be commented. Between 2005 and 2013, Morocco and Israel improved by 4.6% and 5.2%, respectively. In turn, the worst results came from Syrian Arab Republic (-15.3%), Jordan (-12.8%) and Egypt (-7.1%).

[FIGURE 4. ABOUT HERE]

4.3. Has ENP contributed to improve the European Neighbourhood Countries relative position?

In this sub-section, we analyse whether a convergence process in the ISEPI and its seven sub-index has been observed since the fifth enlargement round of the European Union in 2004. We focus on this period instead of starting our analysis in mid-nineties because most financial instruments related to the policy also started to be effective after 2000 (see table 2). We start with an unconditional β-convergence analysis running the following *a la Barro and Sala-i-Martin* (2003) regression:

$$g_i = \alpha + \beta I_{0,i} + \epsilon_i. \tag{9}$$

Where g denotes the growth rate between 2005 and 2013 of the considered index, I_0 represents its initial value and ϵ_i is an error term capturing common transitional shocks for all countries. The parameter β captures the speed of convergence into a unique steady-state which is assumed to be common to all countries involved in the analysis.

Figure 6 shows the results of this regression analysis for the ISEPI index and for its seven sub-index. It can be seen that the β parameter is negative, showing convergence in all dimensions less in dimension I5 (I5 -*Business-friendly environment*-). In the same way, a convergence process to a unique steady-state is observed in the global ISEPI index. Summing up, it seems that there is a common steady-state for all the 77 countries involved, but it could be a conditional β-convergence process for each economy into its own steady-state.

[FIGURE 5. ABOUT HERE]

In order to evaluate if convergence to a country-specific steady-state is observed in the considered period, we have run the following conditional β-convergence regression for the ISEPI and the different sub-indexes:

$$g_{it} = I_{0,it}\beta + X_{0,it}\gamma + Z_i + T_t + \epsilon_{it}. \quad (10)$$

Where g_{it} represents the annual growth rate, $I_{0,it}$ the initial values of each index, $X_{0,it}$ is a matrix with the variables conditioning the convergence process (including two dummy variables that capture whether the ENP has been driven by a plan or a contract), Z_i and T_t denote, respectively country and time specific fixed effects and, last, ϵ_{it} is a random error term.

First of all, regressions (9) and (10) have been estimated omitting time fixed effects (top part of table 3). As it can be seen, the β parameter is significant and negative in all cases, showing that, for the global index and for each of its dimensions, a convergence process have occurred during the period. With respect to conditioning variables, when the ENP has been adopted by means of a plan, only in the case of I1 -*Macroeconomic Environment*- and I6 -*Quality of live and labour market conditions*- the convergence speed has been improved. These improvements in convergence speed are, respectively, -0.08 and -0.04. But in case of dimension I4 -*Technological and innovative capacity*- a plan seems to worsen the convergence speed by 0.06. In case that ENP has been conducted by a contract, dimension I1 -*Macroeconomic Environment*- mildly worsens its convergence speed and none improvement is detected in the other sub-indexes as well as in the global ISEPI index.

[TABLE 3. ABOUT HERE]

If those common shocks that could have affected to all the economies are isolated by time fixed effects (bottom part of table 3), the results change a little. We can observe a convergence process in the case of I1 -*Macroeconomic Environment*- for ENP_plan countries and for dimension I7 -*Market potential*- in the cas of ENP_contract. However the β-parameters show very low convergence speeds. In the first case, the convergence speed is -0.07, and in the second -0.05 remaining the rest of results significantly unchanged.

In sum, the results obtained in this section show that ENP has had different effects according to the considered dimensions and that the evolution of neighbouring countries is quite heterogeneous taking into account their recent institutional and economic performance.

5. FINAL REMARKS

In this paper we have designed and built a flexible index in order to analyse the behaviour and evolution of Institutional, Social and Economic dimension of world economies. The ISEPI combines seven dimensions: macroeconomic environment, costs and prices, productivity and human capital, technological and innovative capacity, business-friendly environment, quality of life and labour market conditions and, finally, market potential.

The methodology has been applied to 77 countries in the period 1995-2013, combining data for 51 variables coming from several sources. The methodology is flexible in terms of the number of countries and time periods covered as well as in the sense that can be used with different variables measured with different units.

This index is interesting by itself but also for the potential applications. In that sense, in this paper we have used the ISEPI index on the analysis of the European Neighbourhood Policy (ENP). One of the objectives of ENP is to promote political and institutional changes towards democratic governance and market liberalisation, a process that at the same time can be understood as a tool for economic development and convergence in neighbouring countries. In this paper, we have analysed the macroeconomic and institutional impact of the ENP on ENC in a comparative perspective. We have analysed the regional differences in the evolution of this index in order to provide an assessment of the impact of the ENP on the different dimensions and to shed light on how the great recession has limited the impact of recent reforms. The obtained results have shown that ENP has had different effects according to the considered dimensions and that the evolution of neighbouring countries is quite heterogeneous taking into account their recent institutional and economic performance. From a policy perspective, these results reinforce the validity of the bilateral action plans that have characterized ENP recognising the different starting point and particular characteristics of each neighbouring country. These results are in line with previous findings but, however, further research will be needed to understand the channels through which institutional change associated to the ENP could enhance economic growth in the area.

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TABLES

Table 1. Country ranking according to the ISEPI Index for 2013

Country	ISO	ISEPI	Country	ISO	ISEPI
Singapore	SGP	5.33	Jordan	JOR	2.78
Luxembourg	LUX	4.79	West Bank and Gaza	PSE	2.78
Sweden	SWE	4.64	Mexico	MEX	2.76
Finland	FIN	4.59	Turkey	TUR	2.76
Denmark	DNK	4.55	Kazakhstan	KAZ	2.72
Netherlands	NLD	4.49	Libya	LBY	2.71
Switzerland	CHE	4.47	China	CHN	2.71
Ireland	IRL	4.43	Tunisia	TUN	2.66
United States of America	USA	4.40	Lebanon	LBN	2.65
Israel	ISR	4.34	Viet Nam	VNM	2.62
Belgium	BEL	4.26	Azerbaijan	AZE	2.61
Austria	AUT	4.24	Philippines	PHL	2.61
Canada	CAN	4.20	Russian Federation	RUS	2.61
Korea, Republic of	KOR	4.19	Croatia	HRV	2.60
Germany	DEU	4.09	Morocco	MAR	2.58
Japan	JPN	4.08	Georgia	GEO	2.56
Australia	AUS	3.97	Armenia	ARM	2.51
United Kingdom	GBR	3.97	Argentina	ARG	2.48
France	FRA	3.95	Brazil	BRA	2.48
Malaysia	MYS	3.74	Colombia	COL	2.48
United Arab Emirates	ARE	3.70	Bulgaria	BGR	2.47
Slovenia	SVN	3.60	Indonesia	IDN	2.47
Estonia	EST	3.60	Peru	PER	2.46
Qatar	QAT	3.55	Moldova	MDA	2.41
Malta	MLT	3.50	Romania	ROU	2.40
Czech Republic	CZE	3.39	Egypt	EGY	2.32
Spain	ESP	3.35	South Africa	ZAF	2.32
Lithuania	LTU	3.34	Algeria	DZA	2.31
Saudi Arabia	SAU	3.26	Belarus	BLR	2.31
Portugal	PRT	3.26	Ukraine	UKR	2.27
Italy	ITA	3.21	Iran, Islamic Republic of	IRN	2.26
Chile	CHL	3.21	Senegal	SEN	2.20
Poland	POL	3.15	Syrian Arab Republic (Syria)	SYR	2.18
Cyprus	CYP	3.10	India	IND	2.08
Hungary	HUN	3.08	Kenya	KEN	2.03
Thailand	THA	3.07	Angola	AGO	1.99
Latvia	LVA	3.07	Tanzania, United Republic of	TZA	1.99
Slovakia	SVK	2.94	Nigeria	NGA	1.91
Greece	GRC	2.85			

Table 2. Overview of Eastern countries that are part of the ENP

Country	Initial EU Contract (PCA[1] or AA[2])	Ratification Action Plan	CFSP invitation[3]	FTA provisions[4]
Armenia	July 1999	November 2006	Yes	Yes
Azerbaijan	July 1999	November 2006	Yes	Yes
Belarus	No negotiations until human rights situation improves		No	No
Georgia	July 1999	November 2006	Yes	Yes
Moldova	July 1998	February 2005	Yes	Yes
Palestine	July 1997	May 2005	No	No
Ukraine	March 1998	February 2005	Yes	Yes
Russia	December 1997	Roadmap adopted may 2005	No	No

Source: Wesselink and Boschma (2012). [1] PCA = Partnership and Cooperation Agreement. [2] AA = Association Agreement. [3] CFSP = Common Foreign Security Policy statement. [4] FTA = Free trade agreement.

Table 3. ENC Conditional β-Convergence. ISEPI 2000-2013

2000-2013	**ISEPI**	**ISEPI_I1**	**ISEPI_I2**	**ISEPI_I3**	**ISEPI_I4**	**ISEPI_I5**	**ISEPI_I6**	**ISEPI_I7**
Initial value	-0.298***	-0.395***	-0.350***	-0.175***	-0.141***	-0.318***	-0.341***	-0.513***
	[0.0231]	[0.0279]	[0.0237]	[0.0253]	[0.0186]	[0.0219]	[0.0234]	[0.0226]
ENP_plan	-0.00262	-0.0508*	-0.00662	-0.0223	0.0482***	0.00948	-0.0246	0.0318**
	[0.00520]	[0.0297]	[0.00977]	[0.0187]	[0.0162]	[0.0151]	[0.0203]	[0.0132]
ENP_contract	0.004	0.213***	0.00524	-0.0098	0.0273	-0.0242	0.0203	-0.0644**
	[0.0102]	[0.0605]	[0.0192]	[0.0368]	[0.0317]	[0.0297]	[0.0398]	[0.0259]
Constant	0.329***	0.145***	0.618***	0.170***	0.0863***	0.442***	0.342***	0.150***
	[0.0254]	[0.0144]	[0.0420]	[0.0252]	[0.0133]	[0.0307]	[0.0244]	[0.00797]
Country fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Year fixed effects	NO	NO	NO	NO	NO	NO	NO	NO
Observations	1001	999	1001	999	1000	999	1001	1001
R-squared	0.154	0.186	0.191	0.052	0.066	0.187	0.187	0.358
Number of countries	77	77	77	77	77	77	77	77

2000-2013	ISEPI	ISEPI_I1	ISEPI_I2	ISEPI_I3	ISEPI_I4	ISEPI_I5	ISEPI_I6	ISEPI_I7
Initial value	-0.323***	-0.381***	-0.346***	-0.171***	-0.133***	-0.355***	-0.342***	-0.525***
	[0.0242]	[0.0277]	[0.0237]	[0.0254]	[0.0188]	[0.0226]	[0.0235]	[0.0231]
ENP_plan	-0.00947*	-0.0494	-0.00876	-0.0218	0.0520***	-0.025	-0.0266	0.0283**
	[0.00548]	[0.0310]	[0.0103]	[0.0198]	[0.0170]	[0.0158]	[0.0215]	[0.0139]
ENP_contract	-0.00048	0.196***	0.00511	-0.0089	0.0297	-0.0503*	0.0219	-0.0711***
	[0.0102]	[0.0599]	[0.0191]	[0.0369]	[0.0317]	[0.0292]	[0.0399]	[0.0260]
Constant	0.348***	0.123***	0.612***	0.163***	0.0993***	0.450***	0.344***	0.144***
	[0.0264]	[0.0225]	[0.0422]	[0.0268]	[0.0158]	[0.0325]	[0.0269]	[0.0106]
Country fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1001	999	1001	999	1000	999	1001	1001
R-squared	0.18	0.223	0.221	0.075	0.089	0.234	0.203	0.373
Number of countries	77	77	77	77	77	77	77	77

FIGURES

Figure 1. Structure of the Institutional. Social and Economic Performance Index (ISEPI).

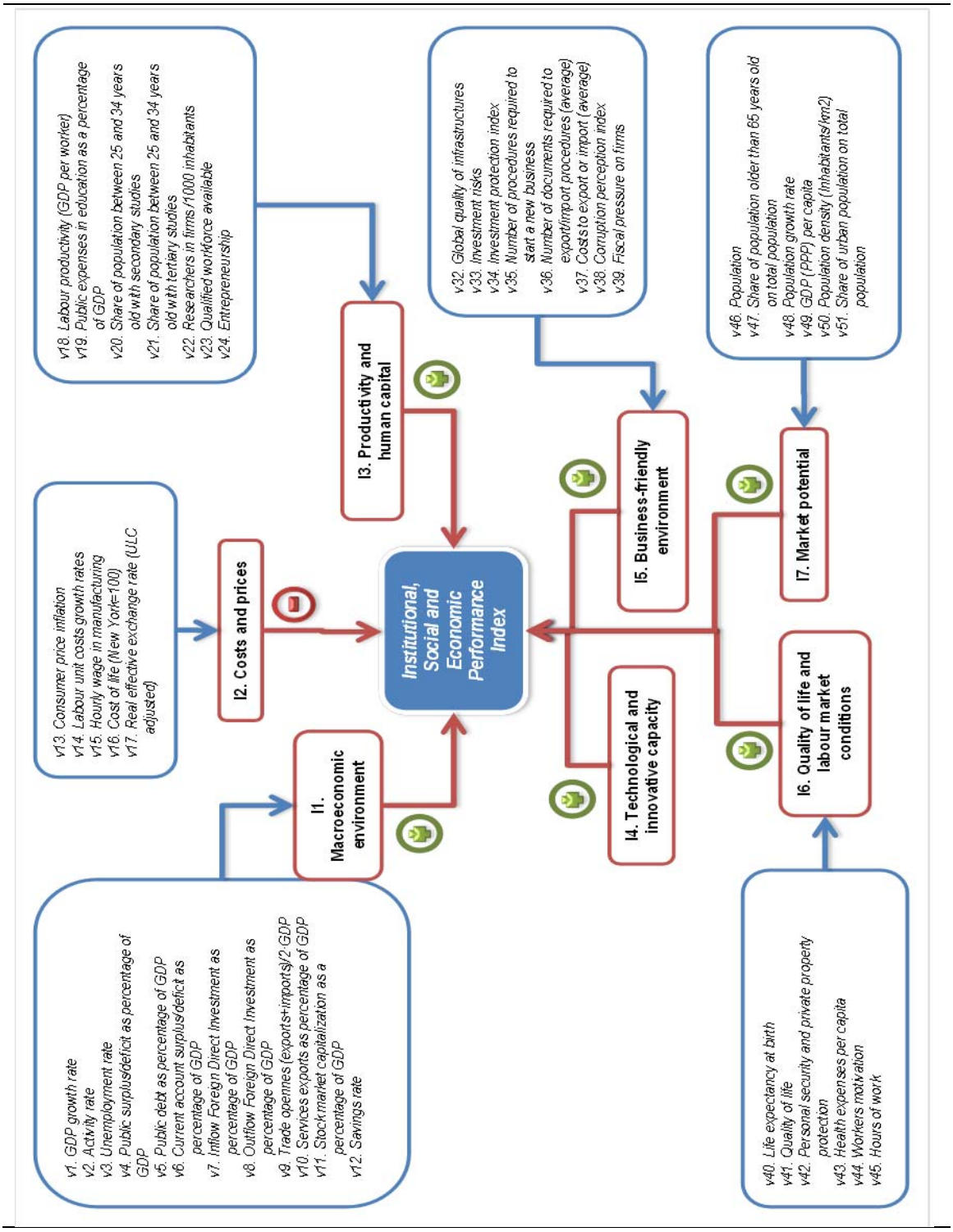


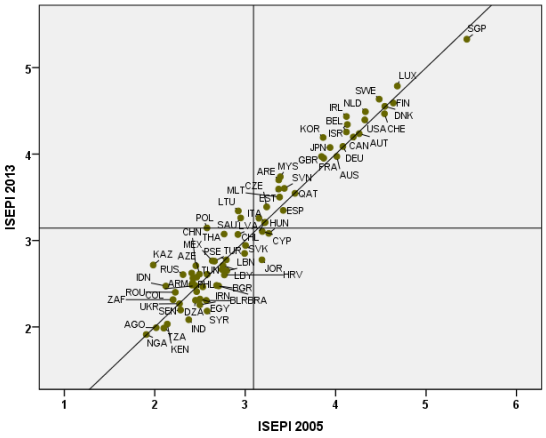
Figure 2. ISEPI Index (2013). Regional Results

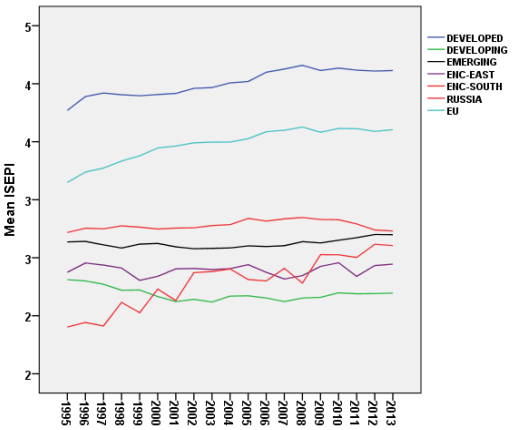
DEVELOPED	Mean	Std.Deviation	Range	Skewness
	4.11	0.57	2.07	0.74
	Highest	1	SGP	5.33
		2	CHE	4.47
		3	USA	4.40
	Lowest	3	SAU	3.26
		2	QAT	3.55
		1	ARE	3.70
DEVELOPING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	2.20	0.28	0.80	1.04
	Highest	1	KAZ	2.72
		2	COL	2.48
		3	IRN	2.26
	Lowest	3	NGA	1.91
		2	TZA	1.99
		1	AGO	1.99

EMERGING	Mean	Std.Deviation	Range	Skewness
	2.70	0.41	1.65	1.23
	Highest	1	MYS	3.74
		2	CHL	3.21
		3	THA	3.07
	Lowest	3	IND	2.08
		2	ZAF	2.32
		1	PER	2.46
ENC-EAST	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	2.45	0.14	0.34	-0.19
	Highest	1	AZE	2.61
		2	GEO	2.56
		3	ARM	2.51
	Lowest	3	UKR	2.27
		2	BLR	2.31
		1	MDA	2.41

ENC-SOUTH	Mean	Std.Deviation	Range	Skewness
	2.73	0.60	2.16	2.44
	Highest	1	ISR	4.34
		2	JOR	2.78
		3	PSE	2.78
	Lowest	3	SYR	2.18
		2	DZA	2.31
		1	EGY	2.32
EU	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	3.60	0.70	2.39	0.11
	Highest	1	LUX	4.79
		2	SWE	4.64
		3	FIN	4.59
	Lowest	3	ROU	2.40
		2	BGR	2.47
		1	HRV	2.60

Comparison 1995-2013.





Box-plot 2013.

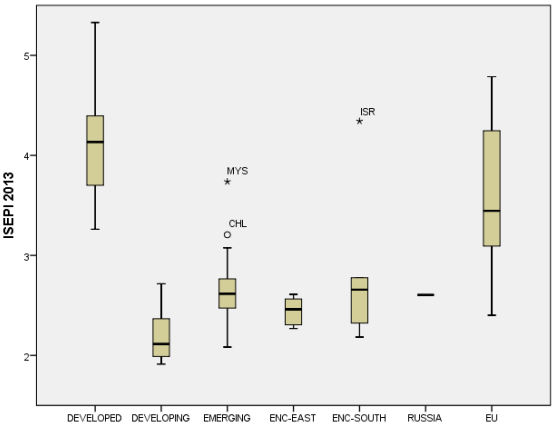


Figure 3. ISEPI Index (2013). Regional comparison of sub-indexes

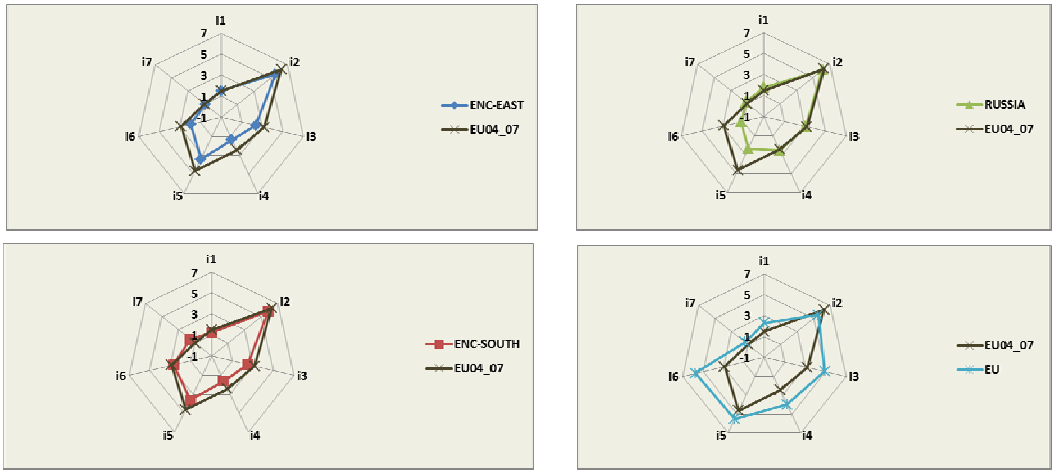
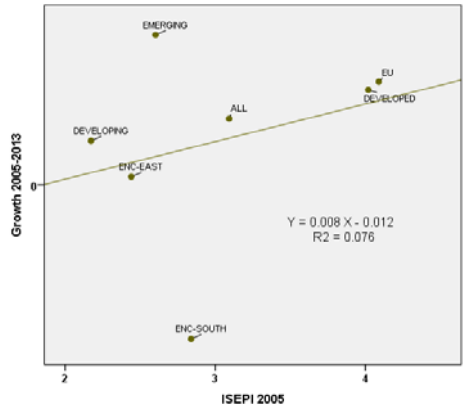


Figure 4. ISEPI Index (2013). ENC detailed analysis

		ISEPI 2005	ISEPI 2013	2005-2013
ENC-EAST	**Armenia**	2.42	2.51	3.8%
	Azerbaijan	2.49	2.61	4.7%
	Belarus	2.57	2.31	-10.2%
	Georgia	2.42	2.56	5.8%
	Moldova	2.46	2.41	-2.2%
	Ukraine	2.27	2.27	-0.2%
ENC-SOUTH	**Algeria**	2.45	2.31	-5.8%
	Egypt	2.50	2.32	-7.1%
	Israel	4.13	4.34	5.2%
	Jordan	3.18	2.78	-12.8%
	Lebanon	2.80	2.65	-5.2%
	Libya	2.75	2.71	-1.6%
	Morocco	2.46	2.58	4.6%
	Palestine	2.79	2.78	-0.5%
	Syrian Arab Republic (Syria)	2.58	2.18	-15.3%
	Tunisia	2.74	2.66	-2.9%
RUSIA	**Russian Federation**	2.00	2.00	0.0%
	ENC	2.69	2.62	-2.4%
	DEVELOPING	2.17	2.20	1.1%
	EMERGING	2.60	2.70	3.7%
	EU	3.53	3.60	2.2%
	DEVELOPED	4.02	4.11	2.4%
	ALL COUNTRIES	3.09	3.14	1.6%



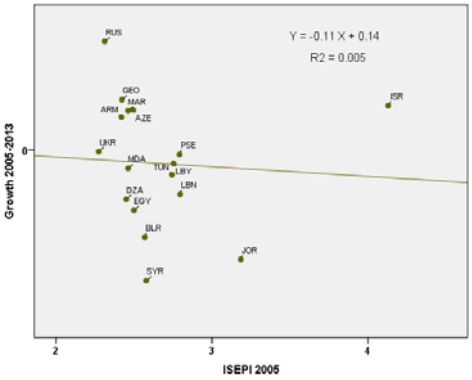
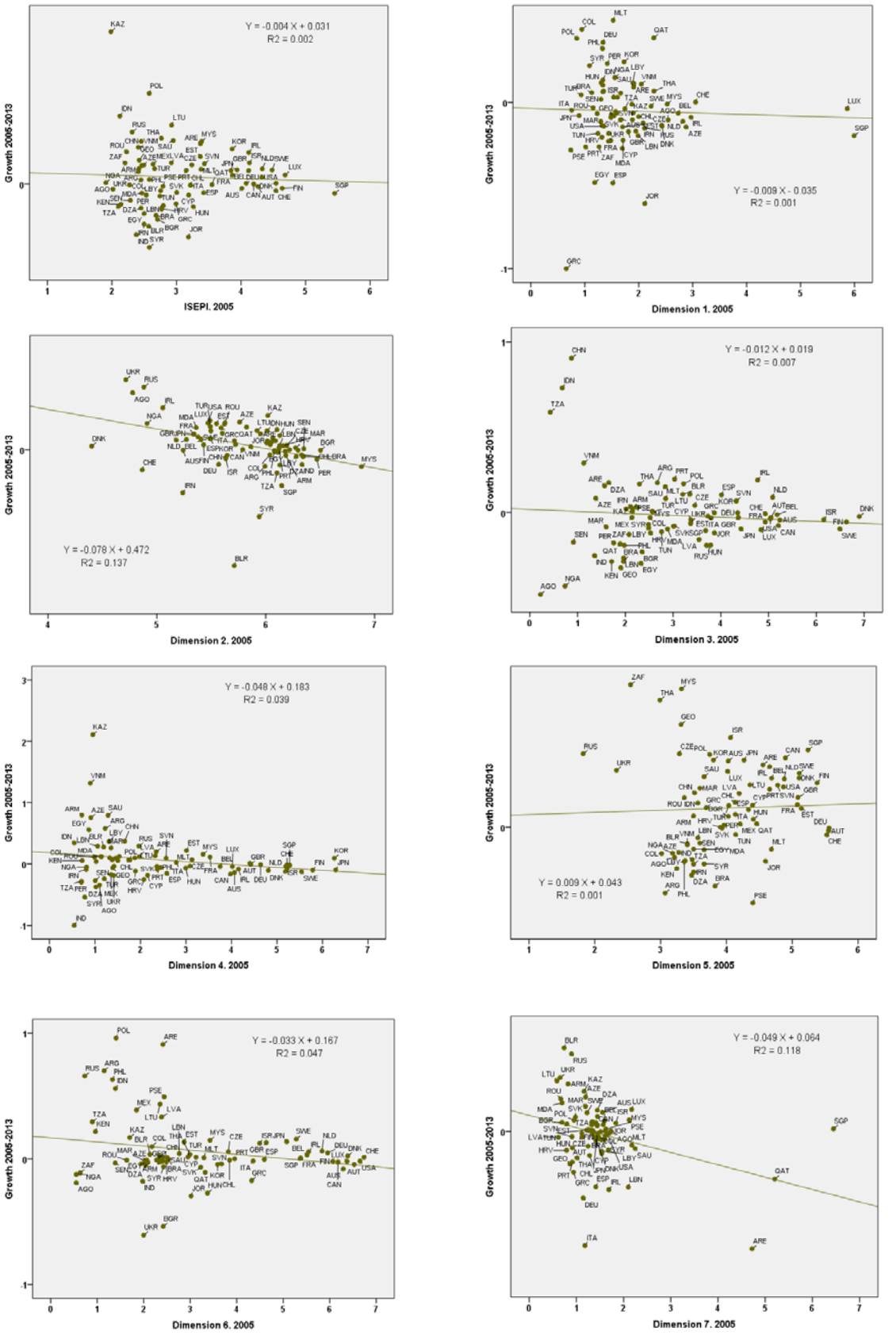


Figure 5. ENC Unconditional β-convergence. ISEPI and sub-indexes (2005-2013)



ANNEX

Table A.1. Countries included in the ISEPI Index.

Countries		ISO	Group	Countries		ISO	Group
01	Angola	AGO	DEVELOPING	40	Kazakhstan	KAZ	DEVELOPING
02	United Arab Emirates	ARE	DEVELOPED	41	Kenya	KEN	DEVELOPING
03	Argentina	ARG	EMERGING	42	Korea, Republic of	KOR	DEVELOPED
04	Armenia	ARM	ENC-EAST	43	Lebanon	LBN	ENC-SOUTH
05	Australia	AUS	DEVELOPED	44	Libya	LBY	ENC-SOUTH
06	Austria	AUT	EU95	45	Lithuania	LTU	EU04_07
07	Azerbaijan	AZE	ENC-EAST	46	Luxembourg	LUX	EUOLD
08	Belgium	BEL	EUOLD	47	Latvia	LVA	EU04_07
09	Bulgaria	BGR	EU04_07	48	Morocco	MAR	ENC-SOUTH
10	Belarus	BLR	ENC-EAST	49	Moldova	MDA	ENC-EAST
11	Brazil	BRA	EMERGING	50	Mexico	MEX	EMERGING
12	Canada	CAN	DEVELOPED	51	Malta	MLT	EU04_07
13	Switzerland	CHE	DEVELOPED	52	Malaysia	MYS	EMERGING
14	Chile	CHL	EMERGING	53	Nigeria	NGA	DEVELOPING
15	China	CHN	EMERGING	54	Netherlands	NLD	EUOLD
16	Colombia	COL	DEVELOPING	55	Peru	PER	EMERGING
17	Cyprus	CYP	EU04_07	56	Philippines	PHL	EMERGING
18	Czech Republic	CZE	EU04_07	57	Poland	POL	EU04_07
19	Germany	DEU	EUOLD	58	Portugal	PRT	EU81_86
20	Denmark	DNK	EUOLD	59	Palestine	PSE	ENC-SOUTH
21	Algeria	DZA	ENC-SOUTH	60	Qatar	QAT	DEVELOPED
22	Egypt	EGY	ENC-SOUTH	61	Romania	ROU	EU04_07
23	Spain	ESP	EU81_86	62	Russian Federation	RUS	RUSSIA
24	Estonia	EST	EU04_07	63	Saudi Arabia	SAU	DEVELOPED
25	Finland	FIN	EU95	64	Senegal	SEN	DEVELOPING
26	France	FRA	EUOLD	65	Singapore	SGP	DEVELOPED
27	United Kingdom	GBR	EUOLD	66	Slovakia	SVK	EU04_07
28	Georgia	GEO	ENC-EAST	67	Slovenia	SVN	EU04_07
29	Greece	GRC	EU81_86	68	Sweden	SWE	EU95
30	Croatia	HRV	EU13	69	Syrian Arab Republic (Syria)	SYR	ENC-SOUTH
31	Hungary	HUN	EU04_07	70	Thailand	THA	EMERGING
32	Indonesia	IDN	EMERGING	71	Tunisia	TUN	ENC-SOUTH
33	India	IND	EMERGING	72	Turkey	TUR	EMERGING
34	Ireland	IRL	EUOLD	73	Tanzania, United Republic of	TZA	DEVELOPING
35	Iran, Islamic Republic of	IRN	DEVELOPING	74	Ukraine	UKR	ENC-EAST
36	Israel	ISR	ENC-SOUTH	75	United States of America	USA	DEVELOPED
37	Italy	ITA	EUOLD	76	Viet Nam	VNM	EMERGING
38	Jordan	JOR	ENC-SOUTH	77	South Africa	ZAF	EMERGING
39	Japan	JPN	DEVELOPED				

Note.
DEVELOPED. Developed countries.
DEVELOPING. Developing countries.
ENC-EAST. European Neighbourhood countries (East)
ENC-SOUTH. European Neighbourhood countries (South)
EUOLD. Countries formed the European Union.
EU81_86. Countries engaged to the European Union between 1981 and 1986.
EU95. Countries added to the European Union in 1995.
EU04_07. Countries engaged to the European Union between 2004 and 2007.
EU13. Countries added to the European Union in 2013
RUSSIA. Russian Federation.

Table A.2. Data sources and description of variables (1/4)

I1. Macroeconomic environment		**(+)**	**Source**	**Description**	**Period**
v1	GDP growth rate	(+)	WDI	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2005 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources	1995-2012
v2	Activity rate	(+)	WDI	Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period.	1995-2012
v3	Unemployment rate	(-)	WDI	Unemployment refers to the share of the labor force that is without work but available for and seeking employment. Definitions of labor force and unemployment differ by country.	1995-2012
v4	Public surplus/deficit as percentage of GDP	(+)	WDI	Cash surplus or deficit is revenue (including grants) minus expense. minus net acquisition of nonfinancial assets. In the 1986 GFS manual nonfinancial assets were included under revenue and expenditure in gross terms. This cash surplus or deficit is closest to the earlier overall budget balance (still missing is lending minus repayments. which are now a financing item under net acquisition of financial assets).	1995-2012
v5	Public debt as percentage of GDP	(-)	WDI	Debt is the entire stock of direct government fixed-term contractual obligations to others outstanding on a particular date. It includes domestic and foreign liabilities such as currency and money deposits. securities other than shares. and loans. It is the gross amount of government liabilities reduced by the amount of equity and financial derivatives held by the government. Because debt is a stock rather than a flow. it is measured as of a given date. usually the last day of the fiscal year.	1995-2012
v6	Current account surplus/deficit as percentage of GDP	(+)	WDI	Current account balance is the sum of net exports of goods and services. net primary income. and net secondary income.	1995-2012
v7	Inflow Foreign Direct Investment as percentage of GDP	(+)	UNCTAD	**Inflow:** FDI stock is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise. plus the net indebtedness of affiliates to the parent enterprises.	1995-2011
v8	Outflow Foreign Direct Investment as percentage of GDP	(+)	UNCTAD	**Outflow:** FDI stock is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise. plus the net indebtedness of affiliates to the parent enterprises.	1995-2011
v9	Trade openness (exports+imports)/2·GDP	(+)	WDI	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.	1995-2012
v10	Services exports as percentage of GDP	(+)	WDI	Trade in services is the sum of service exports and imports divided by the value of GDP. all in current U.S. dollars.	1995-2012
v11	Stock market capitalization as a percentage of GDP	(+)	IMD	Stock market capitalization as a percentage of GDP. Standard & Poor's. Global Stock Markets Factbook 2012.	1995-2012
v12	Savings rate	(+)	WDI	Gross savings are calculated as gross national income less total consumption. plus net transfers.	1995-2012
I2. Costs and prices		**(-)**	**Source**	**Description**	**Period**
v13	Consumer price inflation	(-)	WDI	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals. such as yearly. The Laspeyres formula is generally used.	1995-2012
v14	Labour unit costs growth rates	(-)	IMD	Labour unit costs growth rates. OECD unit labor costs database April 2011. National sources.	1995-2011
v15	Hourly wage in manufacturing	(-)	IMD	Average number of working hours per year. UBS Prices and Earnings 2012. National sources	1995-2013
v16	Cost of life (New York=100)	(-)	IMD	Index of a basket of goods & services in major cities. including housing (New York City = 100). MERCER Cost of Living survey. March 2013. www.mercer.com	1995-2013
v17	Real effective exchange rate (ULC adjusted)	(-)	WDI	Real effective exchange rate is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs.	1995-2012

Table A.2. Data sources and description of variables (2/4)

I3. Productivity and human capital		**(+)**	**Source**	**Description**	**Period**
v18	Labour productivity (GDP per worker)	(+)	TCB	GDP per person engaged is obtained by dividing GDP by employment. It is one of the measures of labor productivity.	1995-2011
v19	Public expenses in education as a percentage of GDP	(+)	WDI	Public expenditure on education as % of GDP is the total public expenditure (current and capital) on education expressed as a percentage of the Gross Domestic Product (GDP) in a given year. Public expenditure on education includes government spending on educational institutions (both public and private). education administration. and transfers/subsidies for private entities (students/households and other privates entities).	1995-2012
v20	Share of population between 25 and 34 years old with secondary studies	(+)	WDI	Gross enrolment ratio. Secondary. All programmes. Total is the total enrollment in secondary education. regardless of age. expressed as a percentage of the population of official secondary education age. GER can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late school entrance and grade repetition.	1995-2012
v21	Share of population between 25 and 34 years old with tertiary studies	(+)	WDI	Gross enrolment ratio. Tertiary (ISCED 5 and 6). Total is the total enrollment in tertiary education (ISCED 5 and 6). regardless of age. expressed as a percentage of the total population of the five-year age group following on from secondary school leaving.	1995-2012
v22	Researchers in firms /1000 inhabitants	(+)	WDI	Researchers in R&D are professionals engaged in the conception or creation of new knowledge. products. processes. methods. or systems and in the management of the projects concerned. Postgraduate PhD students (ISCED97 level 6) engaged in R&D are included.	1995-2012
v23	Qualified workforce available	(+)	IMD	Skilled labor is readily available. IMD WCY Executive Opinion Survey based on an index from 0 to 10.	1995-2013
v24	Entrepreneurship	(+)	IMD	Entrepreneurship of managers is widespread in business. IMD WCY Executive Opinion Survey based on an index from 0 to 10.	1995-2013
I.4. Technological and innovative capacity		**(+)**	**Source**	**Description**	**Period**
v25	Share of high technology exports on total exports	(+)	WDI	High-technology exports are products with high R&D intensity. such as in aerospace. computers. pharmaceuticals. scientific instruments. and electrical machinery.	1995-2012
v26	R+D private expenses as a percentage of GDP	(+)	IMD	R+D private expenses as a percentage of GDP. OECD Main Science and Technology Indicators 2/2012.UNESCO http://stats.uis.unesco.org.National sources.	1995-2012
v27	Patents awarded to residents / 1000 inhabitants	(+)	WDI	Patent applications are worldwide patent applications filed through the Patent Cooperation Treaty procedure or with a national patent office for exclusive rights for an invention--a product or process that provides a new way of doing something or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent for a limited period. generally 20 years.	1995-2012
v28	Transfer knowledge from university to firms	(+)	IMD	Knowledge transfer is highly developed between companies and universities. IMD WCY Executive Opinion Survey based on an index from 0 to 10.	1995-2013
v29	Internet users / 1000 inhabitants	(+)	WDI	Internet users are people with access to the worldwide network.	1995-2012
v30	Mobile phone users / 1000 inhabitants	(+)	WDI	Mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service using cellular technology. which provide access to the public switched telephone network. Post-paid and prepaid subscriptions are included.	1997-2012
v31	Computers / 1000 inhabitants	(+)	IMD	Number of computers per 1000 people. Computer Industry Almanac Inc. April 2012. http://www.c-i-a.com. National sources.	1995-2013

Table A.2. Data sources and description of variables (3/4)

I5. Business-friendly environment		**(+)**	**Source**	**Description**	**Period**
v32	Global quality of infrastructures	(+)	WEF	How would you assess general infrastructure (e.g.. transport. telephony. and energy) in your country? [1 = extremely underdeveloped; 7 = extensive and efficient by international standards). World Economic Forum. Executive Opinion Survey.	2006-2012
v33	Investment risks	(+)	IMD	Euromoney country risk overall (scale from 0-100). Euromoney Country Risk Rankings September 2012. www.euromoneycountryrisk.com.	2002-2013
v34	Investment protection index	(+)	WDI	Business regulatory environment assesses the extent to which the legal. regulatory. and policy environments help or hinder private businesses in investing. creating jobs. and becoming more productive. (1=low. 6=high).	2005-2011
v35	Number of procedures required to start a new business	(-)	WDI	Start-up procedures are those required to start a business. including interactions to obtain necessary permits and licenses and to complete all inscriptions. verifications. and notifications to start operations. Data are for businesses with specific characteristics of ownership. size. and type of production. (Number).	2003-2013
v36	Number of documents required to export/import procedures (average)	(-)	WDI	**Export:** All documents required per shipment to export goods are recorded. It is assumed that the contract has already been agreed upon and signed by both parties. Documents required for clearance by government ministries. customs authorities. port and container terminal authorities. health and technical control agencies and banks are taken into account. Since payment is by letter of credit. all documents required by banks for the issuance or securing of a letter of credit are also taken into account. Documents that are renewed annually and that do not require renewal per shipment (for example. an annual tax clearance certificate) are not included. (Number). **Import:** All documents required per shipment to import goods are recorded. It is assumed that the contract has already been agreed upon and signed by both parties. Documents required for clearance by government ministries. customs authorities. port and container terminal authorities. health and technical control agencies and banks are taken into account. Since payment is by letter of credit. all documents required by banks for the issuance or securing of a letter of credit are also taken into account. Documents that are renewed annually and that do not require renewal per shipment (for example. an annual tax clearance certificate) are not included. (Number).	2005-2013
v37	Costs to export or import (average)	(-)	WDI	**Export:** Cost measures the fees levied on a 20-foot container in U.S. dollars. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents. administrative fees for customs clearance and technical control. customs broker fees. terminal handling charges and inland transport. The cost measure does not include tariffs or trade taxes. Only official costs are recorded. Several assumptions are made for the business surveyed: Has 60 or more employees; Is located in the country's most populous city; Is a private. limited liability company. It does not operate within an export processing zone or an industrial estate with special export or import privileges; Is domestically owned with no foreign ownership; Exports more than 10% of its sales. Assumptions about the traded goods: The traded product travels in a dry-cargo. 20-foot. full container load. The product: Is not hazardous nor does it include military items; Does not require refrigeration or any other special environment; Does not require any special phytosanitary or environmental safety standards other than accepted international standards. (Number). **Import:** Cost measures the fees levied on a 20-foot container in U.S. dollars. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents. administrative fees for customs clearance and technical control. customs broker fees. terminal handling charges and inland transport. The cost measure does not include tariffs or trade taxes. Only official costs are recorded. (Number).	2005-2013
v38	Corruption perception index	(+)	WDI	Transparency. accountability. and corruption in the public sector assess the extent to which the executive can be held accountable for its use of funds and for the results of its actions by the electorate and by the legislature and judiciary. and the extent to which public employees within the executive are required to account for administrative decisions. use of resources. and results obtained. The three main dimensions assessed here are the accountability of the executive to oversight institutions and of public employees for their performance. access of civil society to information on public affairs. and state capture by narrow vested interests. (1=low; 6=high).	1996-2012
v39	Fiscal pressure on firms	(-)	IMD	Collected corporate taxes on profits. income and capital gains. as a percentage of GDP. OECD Revenue Statistics 2012. Government Finance Statistics 2012. National sources.	1995-2013

Table A.2. Data sources and description of variables (4/4)

I6. Quality of life and labour market conditions		**(+)**	**Source**	**Description**	**Period**
v40	Life expectancy at birth	(+)	WDI	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.	1995-2012
v41	Quality of life	(+)	IMD	Quality of life. IMD WCY Executive Opinion Survey based on an index from 0 to 10.	1995-2013
v42	Personal security and private property protection	(+)	IMD	Personal security and private property rights are adequately protected. IMD WCY Executive Opinion Survey based on an index from 0 to 10.	1995-2013
v43	Health expenses per capita	(+)	WDI	Total health expenditure is the sum of public and private health expenditures as a ratio of total population. It covers the provision of health services (preventive and curative). family planning activities. nutrition activities. and emergency aid designated for health but does not include provision of water and sanitation. Data are in international dollars converted using 2005 purchasing power parity (PPP) rates.	1995-2012
v44	Workers motivation	(+)	IMD	Worker motivation in companies is high. IMD WCY Executive Opinion Survey based on an index from 0 to 10.	1995-2013
v45	Hours of work	(-)	IMD	Average number of working hours per year. UBS Prices and Earnings 2012. National sources.	1995-2013
I7. Market potential		**(+)**	**Source**	**Description**	**Period**
v46	Population	(+)	WDI	Population. total refers to the total population.	1995-2012
v47	Share of population older than 65 years old on total population	(-)	WDI	Population ages 65 and above as a percentage of the total population. Population is based on the de facto definition of population. which counts all residents regardless of legal status or citizenship--except for refugees not permanently settled in the country of asylum. who are generally considered part of the population of the country of origin.	1995-2012
v48	Population growth rate	(+)	WDI	Population growth (annual %) is the exponential rate of growth of midyear population from year t-1 to t. expressed as a percentage.	1995-2012
v49	GDP (PPP) per capita	(+)	WDI	GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GDP as the U.S. dollar has in the United States. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2005 international dollars.	1995-2012
v50	Population density (Inhabitants/km2)	(+)	WDI	Population density is midyear population divided by land area in square kilometers. Population is based on the de facto definition of population. which counts all residents regardless of legal status or citizenship--except for refugees not permanently settled in the country of asylum. who are generally considered part of the population of their country of origin. Land area is a country's total area. excluding area under inland water bodies. national claims to continental shelf. and exclusive economic zones. In most cases the definition of inland water bodies includes major rivers and lakes.	1995-2012
v51	Share of urban population on total population	(+)	WDI	Urban population refers to people living in urban areas as defined by national statistical offices. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects.	1995-2012

NOTE: WDI (World Development Indicators). UNCTAD (United Nations Conference on Trade and Development. IMD (International Institute for Management Development). TBC (The Conference Board). WEF (World Economic Forum).

Table A.3. ISEPI Global Indicator and Dimensions. 1995-2013 (1/2)

	ISEPI			Dimension 1			Dimension 2			Dimension 3		
	2013	1995	95-13	2013	1995	95-13	2013	1995	95-13	2013	1995	95-13
SGP	5,33 (1)	5,08 (1)	-0,25 (41)	4,79 (2)	5,73 (1)	0,94 (3)	5,26 (70)	5,5 (56)	0,24 (11)	3,29 (30)	2,77 (31)	-0,52 (50)
LUX	4,79 (2)	3,42 (19)	-1,36 (77)	5,65 (1)	2,78 (4)	-2,87 (77)	6,12 (33)	5,4 (61)	-0,72 (69)	4,35 (17)	3,47 (19)	-0,88 (67)
SWE	4,64 (3)	4,24 (3)	-0,39 (54)	2,18 (14)	1,63 (28)	-0,55 (61)	5,91 (50)	5,41 (60)	-0,5 (63)	5,87 (4)	5,53 (3)	-0,34 (42)
FIN	4,59 (4)	4,22 (4)	-0,37 (53)	1,61 (34)	1,12 (62)	-0,49 (60)	5,53 (64)	5,08 (70)	-0,45 (59)	6,27 (2)	5,78 (1)	-0,49 (47)
DNK	4,55 (5)	3,91 (8)	-0,64 (69)	2,08 (19)	1,53 (33)	-0,56 (63)	4,46 (74)	4,68 (73)	0,22 (12)	6,74 (1)	5,49 (4)	-1,25 (74)
NLD	4,49 (6)	3,84 (11)	-0,65 (70)	2,5 (8)	2,26 (6)	-0,24 (46)	5,48 (66)	5,13 (69)	-0,35 (53)	5,54 (6)	4,93 (8)	-0,6 (59)
CHE	4,47 (7)	3,88 (9)	-0,58 (64)	3,06 (4)	2,79 (3)	-0,27 (48)	4,47 (73)	4,44 (74)	-0,03 (23)	4,89 (10)	3,95 (17)	-0,94 (69)
IRL	4,43 (8)	3,85 (10)	-0,59 (65)	2,7 (5)	2,48 (5)	-0,23 (45)	5,9 (51)	5,88 (35)	-0,02 (22)	5,68 (5)	4,58 (12)	-1,1 (71)
USA	4,4 (9)	4,36 (2)	-0,03 (25)	1,16 (59)	1,72 (22)	0,57 (8)	6,05 (39)	5,65 (52)	-0,39 (55)	4,85 (11)	4,8 (9)	-0,05 (31)
ISR	4,34 (10)	3,5 (18)	-0,84 (75)	1,58 (36)	1,22 (57)	-0,36 (52)	5,43 (67)	5,48 (57)	0,05 (18)	5,9 (3)	3,44 (20)	-2,46 (77)
BEL	4,26 (11)	3,62 (15)	-0,63 (68)	2,55 (6)	1,74 (21)	-0,82 (74)	5,62 (61)	5,38 (63)	-0,24 (43)	5,11 (7)	5,11 (6)	0 (28)
AUT	4,24 (12)	3,61 (17)	-0,63 (67)	1,76 (29)	1,21 (59)	-0,55 (62)	5,65 (60)	5,33 (65)	-0,33 (50)	4,9 (9)	4,27 (14)	-0,63 (60)
CAN	4,2 (13)	3,98 (5)	-0,22 (37)	1,69 (31)	1,52 (35)	-0,17 (40)	5,79 (55)	5,72 (51)	-0,07 (27)	4,81 (12)	5,54 (2)	0,74 (9)
KOR	4,19 (14)	3,61 (16)	-0,58 (62)	2,15 (15)	2,1 (9)	-0,05 (34)	5,84 (53)	5,89 (32)	0,04 (21)	4,61 (15)	3,6 (18)	-1,02 (70)
DEU	4,09 (15)	3,66 (13)	-0,42 (55)	1,82 (24)	1,01 (66)	-0,81 (73)	5,24 (71)	4,94 (71)	-0,3 (47)	4,35 (18)	4,67 (10)	0,32 (20)
JPN	4,08 (16)	3,92 (7)	-0,16 (36)	0,82 (71)	1,95 (14)	1,12 (1)	5,67 (58)	4,32 (76)	-1,36 (75)	4 (20)	4,59 (11)	0,6 (12)
AUS	3,97 (17)	3,97 (6)	0 (20)	1,5 (38)	1,65 (27)	0,15 (24)	5,23 (72)	5,73 (50)	0,5 (5)	5 (8)	5,1 (7)	0,09 (26)
GBR	3,97 (18)	3,62 (14)	-0,35 (51)	1,49 (39)	1,71 (23)	0,22 (22)	5,37 (69)	5,48 (58)	0,1 (16)	4,24 (19)	4,54 (13)	0,3 (22)
FRA	3,95 (19)	3,71 (12)	-0,24 (40)	1,14 (62)	1,27 (54)	0,13 (26)	5,67 (59)	5,34 (64)	-0,33 (49)	4,66 (13)	5,13 (5)	0,48 (15)
MYS	3,74 (20)	3,26 (20)	-0,48 (56)	2,5 (7)	3,02 (2)	0,52 (9)	6,41 (6)	5,82 (42)	-0,59 (67)	2,58 (44)	2,06 (51)	-0,52 (51)
ARE	3,7 (21)	3,19 (21)	-0,51 (58)	2,13 (16)	1,68 (25)	-0,45 (59)	6,3 (14)	6,13 (15)	-0,18 (38)	1,81 (58)	2,22 (47)	0,41 (18)
SVN	3,6 (22)	2,84 (30)	-0,76 (73)	1,49 (41)	1,7 (24)	0,22 (21)	6,3 (15)	5,74 (48)	-0,56 (65)	4,62 (14)	3,31 (22)	-1,31 (75)
EST	3,6 (23)	2,63 (43)	-0,96 (76)	2,09 (18)	2,05 (11)	-0,05 (33)	6,12 (34)	5,19 (68)	-0,93 (71)	3,68 (24)	3,12 (23)	-0,56 (53)
QAT	3,55 (24)	2,96 (26)	-0,58 (63)	3,16 (3)	1,9 (17)	-1,26 (75)	6,35 (11)	6,19 (5)	-0,16 (36)	1,54 (63)	2,23 (46)	0,69 (10)
MLT	3,5 (25)	2,97 (25)	-0,53 (60)	2,28 (12)	1,52 (34)	-0,76 (70)	6,17 (27)	6,02 (22)	-0,15 (33)	3,08 (35)	2,31 (42)	-0,77 (63)
CZE	3,39 (26)	2,79 (33)	-0,6 (66)	1,45 (45)	1,86 (19)	0,41 (14)	6,29 (16)	6,13 (14)	-0,16 (35)	3,6 (27)	3,11 (24)	-0,49 (49)
ESP	3,35 (27)	3,09 (23)	-0,26 (47)	0,78 (72)	0,73 (75)	-0,05 (35)	5,73 (57)	5,63 (54)	-0,1 (30)	4,43 (16)	3,99 (15)	-0,44 (44)
LTU	3,34 (28)	2,54 (51)	-0,8 (74)	1,49 (42)	1,06 (64)	-0,43 (58)	6,37 (9)	6,12 (19)	-0,25 (44)	3,71 (23)	2,57 (36)	-1,15 (72)
SAU	3,26 (29)	2,74 (36)	-0,52 (59)	2,08 (20)	1,28 (52)	-0,8 (72)	6,14 (32)	5,88 (36)	-0,26 (46)	3,27 (31)	2,69 (32)	-0,57 (54)
PRT	3,26 (30)	2,9 (28)	-0,36 (52)	0,74 (73)	1,38 (41)	0,64 (7)	6,14 (31)	5,88 (33)	-0,26 (45)	3,63 (26)	3,05 (26)	-0,57 (55)
ITA	3,21 (31)	3,11 (22)	-0,1 (32)	0,72 (74)	0,74 (74)	0,02 (32)	5,97 (45)	5,81 (43)	-0,16 (34)	3,65 (25)	3,97 (16)	0,32 (21)
CHL	3,21 (32)	2,95 (27)	-0,25 (44)	1,83 (22)	1,94 (15)	0,12 (27)	6,2 (25)	5,82 (41)	-0,37 (54)	2,77 (40)	2,65 (34)	-0,12 (36)
POL	3,15 (33)	2,4 (66)	-0,74 (72)	1,18 (57)	1,31 (50)	0,13 (25)	6,59 (2)	5,39 (62)	-1,2 (74)	3,76 (22)	3,06 (25)	-0,71 (61)
CYP	3,1 (34)	3 (24)	-0,11 (33)	1,23 (55)	1,97 (13)	0,74 (4)	6,16 (29)	5,99 (24)	-0,17 (37)	3,23 (32)	2,77 (30)	-0,46 (45)
HUN	3,08 (35)	2,51 (52)	-0,57 (61)	1,46 (44)	0,75 (73)	-0,71 (68)	6,47 (4)	6 (23)	-0,47 (60)	2,99 (37)	2,92 (29)	-0,07 (33)
THA	3,07 (36)	2,85 (29)	-0,22 (38)	2,44 (10)	2,12 (8)	-0,32 (50)	6,28 (17)	6,24 (3)	-0,05 (25)	2,68 (41)	1,89 (61)	-0,79 (64)
LVA	3,07 (37)	2,58 (50)	-0,49 (57)	1,49 (40)	2 (12)	0,51 (10)	6,25 (19)	6,15 (11)	-0,1 (31)	2,98 (38)	2,16 (49)	-0,82 (65)
SVK	2,94 (38)	2,66 (42)	-0,28 (48)	1,35 (51)	2,07 (10)	0,72 (5)	6,23 (20)	5,73 (49)	-0,5 (61)	2,79 (39)	2,66 (33)	-0,13 (37)
GRC	2,85 (39)	2,8 (32)	-0,05 (28)	0 (77)	0,49 (76)	0,49 (12)	6,07 (37)	5,57 (55)	-0,5 (62)	3,86 (21)	2,95 (27)	-0,92 (68)
JOR	2,78 (40)	2,69 (39)	-0,09 (31)	0,83 (70)	1,32 (49)	0,5 (11)	6,33 (12)	6,28 (2)	-0,05 (26)	3,4 (29)	1,85 (63)	-1,56 (76)
PSE	2,78 (41)	2,76 (34)	-0,01 (23)	0,53 (76)	0,94 (68)	0,41 (15)	6,22 (23)	6,13 (15)	-0,09 (28)	2,31 (48)	1,84 (64)	-0,47 (46)
MEX	2,76 (42)	2,51 (53)	-0,25 (43)	1,47 (43)	1,28 (53)	-0,19 (42)	6,35 (10)	5,81 (45)	-0,54 (64)	2,08 (54)	2,02 (53)	-0,06 (32)
TUR	2,76 (43)	2,47 (58)	-0,3 (49)	0,97 (68)	1,43 (36)	0,46 (13)	6 (44)	4,43 (75)	-1,57 (76)	2,59 (43)	2,31 (41)	-0,27 (40)
KAZ	2,72 (44)	2,4 (67)	-0,32 (50)	1,78 (26)	1,2 (60)	-0,58 (65)	6,84 (1)	5,88 (34)	-0,96 (73)	2,16 (53)	2,27 (45)	0,11 (25)
LBY	2,71 (45)	2,67 (41)	-0,04 (27)	2,12 (17)	1,33 (48)	-0,79 (71)	6,11 (35)	6,18 (6)	0,07 (17)	2,26 (49)	1,72 (66)	-0,54 (52)
CHN	2,71 (46)	2,47 (57)	-0,24 (39)	1,85 (21)	1,88 (18)	0,03 (31)	5,52 (65)	5,93 (29)	0,41 (7)	1,66 (60)	0,9 (76)	-0,76 (62)
TUN	2,66 (47)	2,61 (44)	-0,05 (29)	1,01 (67)	1,39 (39)	0,38 (16)	6,03 (43)	5,84 (38)	-0,19 (39)	2,45 (45)	2,38 (39)	-0,07 (34)
LBN	2,65 (48)	2,82 (31)	0,17 (10)	1,59 (35)	1,33 (47)	-0,26 (47)	6,23 (22)	6,13 (15)	-0,1 (29)	1,44 (68)	1,94 (57)	0,5 (14)
VNM	2,62 (49)	2,59 (46)	-0,04 (26)	2,27 (13)	1,91 (16)	-0,36 (54)	5,93 (47)	6,13 (15)	0,2 (13)	1,46 (66)	1,28 (74)	-0,18 (38)
AZE	2,61 (50)	2,36 (70)	-0,25 (45)	2,45 (9)	0,82 (69)	-1,63 (76)	6,39 (7)	5,46 (59)	-0,94 (72)	1,5 (64)	2 (56)	0,51 (13)
PHL	2,61 (51)	2,75 (35)	0,14 (11)	1,76 (28)	1,4 (38)	-0,36 (53)	6,06 (38)	5,85 (37)	-0,21 (41)	1,6 (62)	2,5 (37)	0,9 (4)
RUS	2,61 (52)	1,9 (76)	-0,7 (71)	1,78 (27)	1,22 (58)	-0,56 (64)	6,1 (36)	5,65 (53)	-0,44 (57)	3,07 (36)	3,43 (21)	0,36 (19)
HRV	2,6 (53)	2,59 (47)	-0,02 (24)	1,04 (66)	1,33 (46)	0,29 (18)	6,32 (13)	5,97 (25)	-0,35 (52)	2,23 (50)	2,14 (50)	-0,09 (35)
MAR	2,58 (54)	2,44 (60)	-0,14 (34)	1,14 (63)	1,08 (63)	-0,06 (37)	6,26 (18)	5,92 (30)	-0,34 (51)	1,46 (65)	1,91 (60)	0,45 (17)
GEO	2,56 (55)	2,41 (64)	-0,15 (35)	1,41 (48)	1,35 (43)	-0,06 (36)	6,19 (26)	5,76 (47)	-0,44 (56)	1,29 (70)	2,17 (48)	0,88 (5)
ARM	2,51 (56)	2,26 (74)	-0,25 (42)	1,15 (61)	0,43 (77)	-0,72 (69)	6,04 (41)	5,81 (44)	-0,23 (42)	2,2 (51)	1,6 (68)	-0,6 (57)
ARG	2,48 (57)	2,71 (38)	0,23 (9)	1,17 (58)	0,76 (72)	-0,42 (57)	5,6 (62)	5,96 (27)	0,36 (9)	3,14 (34)	2,27 (44)	-0,86 (66)
BRA	2,48 (58)	2,47 (56)	-0,01 (21)	1,19 (56)	1,24 (56)	0,05 (30)	6,16 (28)	5,28 (67)	-0,89 (70)	1,4 (69)	2,46 (38)	1,06 (3)
COL	2,48 (59)	2,4 (65)	-0,07 (30)	1,36 (50)	0,98 (67)	-0,38 (55)	5,92 (49)	5,97 (26)	0,05 (19)	2,44 (46)	2,01 (54)	-0,43 (43)
BGR	2,47 (60)	2,58 (49)	0,11 (14)	1,38 (49)	1,16 (61)	-0,23 (44)	6,49 (3)	6,04 (21)	-0,45 (58)	1,81 (59)	2,58 (35)	0,77 (7)
IDN	2,47 (61)	2,46 (59)	-0,01 (22)	1,51 (37)	1,82 (20)	0,31 (17)	6,47 (5)	5,91 (31)	-0,56 (66)	1,17 (72)	1,2 (75)	0,03 (27)
PER	2,46 (62)	2,58 (48)	0,12 (13)	1,75 (30)	1,34 (45)	-0,41 (56)	6,22 (24)	6,17 (9)	-0,04 (24)	1,44 (67)	1,91 (59)	0,47 (16)
MDA	2,41 (63)	2,43 (61)	0,02 (18)	1,32 (54)	1,41 (37)	0,09 (28)	5,83 (54)	5,94 (28)	0,11 (15)	2,6 (42)	2,01 (55)	-0,59 (56)
ROU	2,4 (64)	2,48 (55)	0,08 (16)	1,12 (64)	1,3 (51)	0,18 (23)	6,23 (21)	6,1 (20)	-0,12 (32)	2,06 (55)	2,04 (52)	-0,02 (30)
EGY	2,32 (65)	2,59 (45)	0,27 (5)	0,61 (75)	1,6 (31)	0,99 (2)	6,05 (40)	6,16 (10)	0,12 (14)	1,63 (61)	2,28 (43)	0,65 (11)
ZAF	2,32 (66)	2,34 (71)	0,02 (19)	0,93 (69)	1,63 (29)	0,7 (6)	6,16 (30)	5,84 (39)	-0,32 (48)	1,81 (57)	1,54 (69)	-0,27 (39)
DZA	2,31 (67)	2,38 (68)	0,07 (17)	1,44 (46)	0,79 (71)	-0,65 (67)	5,75 (56)	5,8 (46)	0,05 (20)	1,94 (56)	1,64 (67)	-0,31 (41)
BLR	2,31 (68)	2,43 (63)	0,12 (12)	1,65 (33)	1,03 (65)	-0,62 (66)	3,06 (77)	4,93 (72)	1,87 (1)	3,54 (28)	2,94 (28)	-0,6 (58)
UKR	2,27 (69)	2,36 (69)	0,09 (15)	1,1 (65)	1,35 (44)	0,25 (19)	6,03 (42)	5,31 (66)	-0,72 (68)	3,15 (33)	1,94 (58)	-1,22 (73)
IRN	2,26 (70)	2,68 (40)	0,43 (2)	1,82 (23)	1,6 (30)	-0,22 (43)	4,34 (76)	6,14 (13)	1,81 (3)	2,18 (52)	2,32 (40)	0,14 (24)
SEN	2,2 (71)	2,43 (62)	0,24 (7)	1,33 (53)	1,38 (42)	0,05 (29)	6,37 (8)	6,18 (7)	-0,19 (40)	0,75 (74)	1,51 (70)	0,76 (8)
SYR	2,18 (72)	2,72 (37)	0,54 (1)	1,33 (52)	1,55 (32)	0,22 (20)	4,35 (75)	6,18 (8)	1,83 (2)	2,31 (47)	1,82 (65)	-0,49 (48)
IND	2,08 (73)	2,49 (54)	0,41 (4)	1,42 (47)	1,25 (55)	-0,17 (41)	5,96 (46)	6,34 (1)	0,38 (8)	1,01 (73)	1,89 (62)	0,87 (6)
KEN	2,03 (74)	2,29 (73)	0,26 (6)	1,15 (60)	0,8 (70)	-0,35 (51)	5,92 (48)	6,19 (4)	0,27 (10)	1,22 (71)	1,49 (72)	0,27 (23)
AGO	1,99 (75)	1,73 (77)	-0,26 (46)	2,28 (11)	2,19 (7)	-0,09 (38)	5,86 (52)	1,42 (77)	-4,44 (77)	0,12 (77)	1,47 (73)	1,35 (1)
TZA	1,99 (76)	2,22 (75)	0,24 (8)	1,68 (32)	1,39 (40)	-0,29 (49)	5,54 (63)	6,14 (12)	0,61 (4)	0,68 (75)	0,67 (77)	-0,01 (29)
NGA	1,91 (77)	2,33 (72)	0,41 (3)	1,79 (25)	1,67 (26)	-0,12 (39)	5,42 (68)	5,83 (40)	0,41 (6)	0,42 (76)	1,5 (71)	1,08 (2)

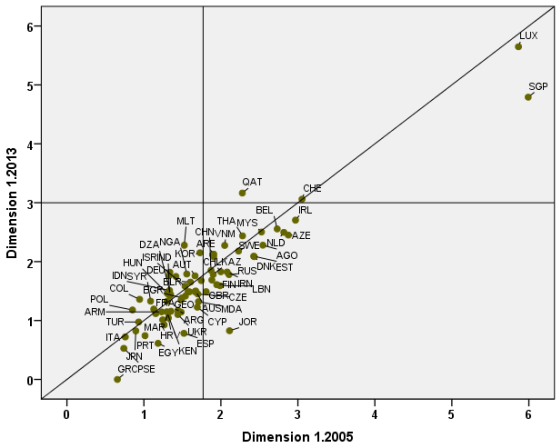
Table A.3. ISEPI Global Indicator and Dimensions. 1995-2013. (2/2)

	Dimension 4			Dimension 5			Dimension 6			Dimension 7		
	2013	1995	95-13	2013	1995	95-13	2013	1995	95-13	2013	1995	95-13
SGP	5,17 (4)	5,14 (5)	-0,03 (31)	6,88 (1)	3,8 (12)	-3,09 (77)	5,38 (16)	5,76 (11)	0,37 (11)	6,51 (1)	6,87 (1)	0,36 (4)
LUX	3,85 (16)	2,39 (20)	-1,46 (71)	4,93 (24)	2,38 (76)	-2,55 (74)	6,24 (4)	5,57 (12)	-0,67 (61)	2,36 (4)	1,96 (7)	-0,39 (72)
SWE	4,84 (8)	6,62 (3)	1,78 (3)	6,22 (4)	3,56 (62)	-2,66 (75)	6,11 (8)	5,86 (7)	-0,25 (52)	1,32 (46)	1,08 (53)	-0,23 (68)
FIN	5,2 (3)	7 (1)	1,8 (2)	6,35 (2)	3,86 (9)	-2,49 (73)	5,95 (10)	5,56 (13)	-0,38 (57)	1,23 (51)	1,12 (51)	-0,11 (57)
DNK	4,57 (10)	4,68 (6)	0,11 (26)	6,12 (5)	3,82 (10)	-2,31 (71)	6,53 (3)	5,83 (8)	-0,69 (62)	1,36 (40)	1,35 (38)	-0,01 (33)
NLD	4,31 (13)	4,23 (9)	-0,08 (34)	5,84 (6)	3,51 (67)	-2,33 (72)	6,19 (7)	5,23 (15)	-0,96 (70)	1,58 (18)	1,59 (19)	0,02 (31)
CHE	5,15 (5)	3,75 (13)	-1,39 (70)	5,35 (20)	3,86 (8)	-1,49 (56)	6,82 (1)	6,94 (1)	0,13 (22)	1,53 (22)	1,46 (30)	-0,07 (48)
IRL	3,8 (17)	4,23 (8)	0,42 (17)	5,8 (7)	3,54 (63)	-2,26 (70)	5,86 (11)	5,11 (17)	-0,75 (67)	1,3 (48)	1,1 (52)	-0,19 (65)
USA	4,88 (7)	6,79 (2)	1,91 (1)	5,66 (10)	3,66 (56)	-2 (66)	6,53 (2)	6,31 (3)	-0,21 (51)	1,64 (14)	1,58 (20)	-0,05 (47)
ISR	5 (6)	3,42 (15)	-1,58 (72)	5,54 (14)	3,8 (12)	-1,74 (60)	5,05 (18)	5,14 (16)	0,09 (27)	1,89 (8)	2 (6)	0,1 (20)
BEL	3,6 (19)	2,81 (18)	-0,78 (55)	5,62 (11)	3,65 (59)	-1,97 (65)	5,68 (14)	5,34 (14)	-0,34 (55)	1,61 (17)	1,33 (42)	-0,28 (70)
AUT	4,46 (11)	2,72 (19)	-1,74 (73)	5,47 (17)	3,94 (4)	-1,52 (57)	6,23 (6)	6,72 (2)	0,49 (9)	1,17 (52)	1,07 (55)	-0,1 (55)
CAN	3,33 (22)	4,12 (12)	0,79 (8)	6,28 (3)	3,54 (64)	-2,74 (76)	6,02 (9)	6,09 (4)	0,07 (29)	1,47 (27)	1,33 (40)	-0,14 (58)
KOR	6,85 (1)	4,18 (10)	-2,67 (77)	4,84 (26)	3,62 (60)	-1,22 (50)	3,43 (29)	4,09 (23)	0,66 (6)	1,61 (16)	1,82 (10)	0,2 (9)
DEU	4,59 (9)	3,75 (14)	-0,84 (57)	5,54 (15)	4,06 (2)	-1,48 (55)	6,23 (5)	5,91 (5)	-0,32 (54)	0,84 (65)	1,29 (44)	0,45 (2)
JPN	5,68 (2)	6,14 (4)	0,46 (14)	5,43 (18)	3,2 (73)	-2,23 (67)	5,77 (13)	5,76 (10)	0 (39)	1,16 (54)	1,47 (28)	0,31 (5)
AUS	3,51 (20)	4,16 (11)	0,65 (12)	5,11 (22)	3,8 (12)	-1,31 (53)	5,78 (12)	5,9 (6)	0,12 (24)	1,67 (11)	1,46 (31)	-0,21 (67)
GBR	4,4 (12)	4,47 (7)	0,07 (28)	5,7 (9)	3,44 (68)	-2,26 (69)	5,23 (17)	4,51 (20)	-0,72 (63)	1,36 (38)	1,22 (47)	-0,14 (59)
FRA	3,93 (14)	3,36 (16)	-0,57 (46)	5,55 (13)	3,91 (6)	-1,64 (58)	5,41 (15)	5,8 (9)	0,39 (10)	1,33 (44)	1,18 (49)	-0,15 (60)
MYS	3,91 (15)	2,9 (17)	-1,01 (62)	5,19 (21)	2,93 (75)	-2,25 (68)	3,93 (24)	4,42 (22)	0,49 (8)	1,64 (13)	1,68 (12)	0,04 (29)
ARE	2,81 (26)	1,86 (25)	-0,95 (61)	5,71 (8)	3,8 (12)	-1,91 (64)	4,61 (19)	2,98 (31)	-1,63 (77)	2,53 (3)	3,64 (2)	1,11 (1)
SVN	2,81 (27)	1,9 (24)	-0,9 (59)	5,6 (12)	3,8 (12)	-1,8 (61)	3,52 (28)	2,61 (36)	-0,92 (69)	0,89 (63)	0,85 (64)	-0,03 (39)
EST	3,67 (18)	1,73 (26)	-1,94 (76)	5,53 (16)	3,66 (58)	-1,88 (62)	3,25 (32)	2,26 (49)	-0,99 (71)	0,82 (66)	0,41 (76)	-0,41 (73)
QAT	2,06 (39)	1,39 (44)	-0,67 (51)	4,52 (34)	3,8 (12)	-0,72 (41)	2,96 (38)	3,53 (27)	0,57 (7)	4,22 (2)	1,7 (11)	-2,52 (77)
MLT	3,35 (21)	1,58 (32)	-1,77 (74)	4,26 (39)	3,8 (12)	-0,46 (36)	3,32 (31)	3,24 (29)	-0,08 (44)	2,05 (7)	2,33 (4)	0,28 (6)
CZE	2,98 (23)	1,66 (30)	-1,33 (67)	4,27 (38)	3,02 (74)	-1,24 (51)	4,04 (22)	2,76 (34)	-1,27 (76)	1,09 (57)	1,01 (58)	-0,09 (53)
ESP	2,18 (36)	1,6 (31)	-0,59 (47)	4,64 (30)	3,87 (7)	-0,77 (44)	4,57 (20)	4,74 (18)	0,17 (21)	1,1 (56)	1,05 (57)	-0,05 (45)
LTU	2,63 (29)	1,26 (55)	-1,37 (69)	5,11 (23)	3,8 (12)	-1,31 (52)	3,38 (30)	2,34 (46)	-1,04 (72)	0,71 (75)	0,66 (70)	-0,04 (42)
SAU	2,31 (31)	1 (74)	-1,31 (66)	4,41 (35)	3,8 (12)	-0,61 (40)	2,53 (42)	2,56 (37)	0,02 (36)	2,09 (6)	2,01 (5)	-0,08 (51)
PRT	2,16 (37)	1,54 (36)	-0,62 (48)	5,38 (19)	3,7 (55)	-1,67 (59)	3,95 (23)	3,84 (24)	-0,12 (47)	0,8 (67)	0,87 (63)	0,07 (26)
ITA	2,86 (25)	2,18 (21)	-0,68 (52)	4,35 (37)	3,39 (70)	-0,96 (46)	4,28 (21)	4,58 (19)	0,31 (13)	0,65 (76)	1,07 (54)	0,43 (3)
CHL	1,86 (42)	1,19 (59)	-0,67 (50)	4,55 (31)	3,8 (12)	-0,75 (43)	3,8 (25)	3,74 (26)	-0,07 (43)	1,43 (31)	1,53 (23)	0,09 (23)
POL	1,88 (41)	1,06 (67)	-0,83 (56)	4,86 (25)	3,53 (65)	-1,32 (54)	2,76 (40)	1,54 (69)	-1,22 (75)	0,99 (59)	0,95 (61)	-0,04 (44)
CYP	1,76 (44)	1,68 (28)	-0,08 (33)	4,79 (27)	3,8 (12)	-0,99 (48)	3,17 (34)	3,17 (30)	0 (38)	1,4 (34)	1,6 (18)	0,2 (10)
HUN	2,8 (28)	1,56 (35)	-1,23 (65)	4,55 (32)	3,81 (11)	-0,74 (42)	2,45 (44)	1,73 (68)	-0,72 (65)	0,86 (64)	0,83 (66)	-0,03 (38)
THA	1,58 (50)	1,91 (23)	0,33 (20)	4,54 (33)	3,35 (71)	-1,19 (49)	3,1 (35)	3,41 (28)	0,32 (12)	0,91 (62)	1,06 (56)	0,16 (15)
LVA	2,22 (35)	1,36 (47)	-0,86 (58)	4,77 (28)	3,8 (12)	-0,97 (47)	3,17 (33)	2,13 (58)	-1,04 (73)	0,6 (77)	0,45 (75)	-0,15 (62)
SVK	2,27 (33)	1,2 (57)	-1,07 (63)	3,92 (50)	3,8 (12)	-0,12 (28)	3,01 (36)	2,21 (52)	-0,8 (68)	1,04 (58)	0,96 (60)	-0,08 (50)
GRC	1,67 (47)	1,3 (54)	-0,38 (44)	3,99 (47)	3,78 (54)	-0,21 (31)	3,57 (27)	4,51 (21)	0,94 (4)	0,79 (69)	0,98 (59)	0,2 (11)
JOR	1,07 (65)	1,24 (56)	0,17 (24)	3,95 (48)	3,8 (12)	-0,16 (29)	2,12 (58)	2,43 (44)	0,31 (14)	1,73 (9)	1,91 (8)	0,18 (13)
PSE	1,47 (53)	1,66 (29)	0,19 (23)	3,04 (61)	3,8 (12)	0,76 (13)	3,65 (26)	2,49 (38)	-1,16 (74)	2,21 (5)	2,49 (3)	0,28 (7)
MEX	1,12 (63)	1,2 (58)	0,08 (27)	4,26 (40)	3,8 (12)	-0,46 (35)	2,56 (41)	1,84 (67)	-0,72 (64)	1,51 (23)	1,64 (15)	0,13 (17)
TUR	0,91 (66)	0,95 (75)	0,03 (30)	4,39 (36)	3,8 (12)	-0,59 (39)	2,99 (37)	2,88 (33)	-0,11 (46)	1,47 (26)	1,46 (32)	-0,02 (34)
KAZ	2,96 (24)	1,17 (63)	-1,79 (75)	1,94 (77)	3,8 (12)	1,86 (1)	1,98 (63)	1,94 (64)	-0,04 (42)	1,35 (42)	0,52 (73)	-0,83 (76)
LBY	1,79 (43)	1,57 (34)	-0,22 (40)	2,91 (65)	3,8 (12)	0,89 (10)	2,37 (49)	2,47 (41)	0,1 (26)	1,41 (33)	1,6 (17)	0,19 (12)
CHN	2,27 (34)	1,32 (52)	-0,95 (60)	4,01 (45)	3,99 (3)	-0,02 (26)	2,25 (54)	1,89 (65)	-0,36 (56)	1,39 (35)	1,37 (35)	-0,02 (37)
TUN	1,46 (54)	1,04 (68)	-0,42 (45)	4,02 (44)	3,8 (12)	-0,22 (32)	2,42 (46)	2,47 (39)	0,05 (32)	1,26 (50)	1,35 (37)	0,09 (24)
LBN	1,37 (55)	1,73 (27)	0,36 (18)	3,41 (54)	3,8 (12)	0,39 (23)	2,88 (39)	2,98 (32)	0,1 (25)	1,64 (15)	1,85 (9)	0,21 (8)
VNM	2,08 (38)	1,42 (42)	-0,66 (49)	3,16 (59)	3,8 (12)	0,64 (17)	2,35 (50)	2,42 (45)	0,07 (30)	1,11 (55)	1,16 (50)	0,05 (28)
AZE	1,6 (48)	1,34 (51)	-0,26 (42)	2,94 (64)	3,8 (12)	0,86 (11)	2,04 (59)	1,87 (66)	-0,17 (48)	1,36 (41)	1,21 (48)	-0,15 (64)
PHL	2,31 (32)	2,05 (22)	-0,26 (41)	2,89 (67)	3,6 (61)	0,72 (15)	2,17 (57)	2,25 (50)	0,09 (28)	1,48 (24)	1,62 (16)	0,14 (16)
RUS	2,54 (30)	1,19 (60)	-1,35 (68)	2,37 (75)	0,46 (77)	-1,91 (63)	1,22 (70)	0,48 (75)	-0,73 (66)	1,17 (53)	0,89 (62)	-0,28 (71)
HRV	1,55 (51)	1,34 (50)	-0,2 (38)	3,91 (51)	3,8 (12)	-0,11 (27)	2,43 (45)	2,68 (35)	0,25 (17)	0,73 (73)	0,83 (65)	0,1 (21)
MAR	1,7 (46)	1,01 (71)	-0,7 (53)	4,17 (42)	3,8 (12)	-0,37 (33)	1,99 (62)	2,04 (62)	0,06 (31)	1,31 (47)	1,29 (45)	-0,02 (36)
GEO	1,31 (58)	1,35 (49)	0,05 (29)	4,69 (29)	3,8 (12)	-0,9 (45)	2,3 (51)	2,31 (47)	0 (37)	0,75 (72)	0,14 (77)	-0,61 (75)
ARM	1,28 (60)	1,5 (41)	0,22 (22)	3,66 (53)	3,8 (12)	0,14 (24)	2,28 (52)	2,19 (54)	-0,09 (45)	0,98 (61)	0,5 (74)	-0,48 (74)
ARG	1,93 (40)	0,81 (77)	-1,12 (64)	2,24 (76)	4,08 (1)	1,84 (2)	1,96 (64)	3,78 (25)	1,83 (1)	1,36 (39)	1,33 (41)	-0,03 (41)
BRA	1,72 (45)	1,02 (70)	-0,7 (54)	2,91 (66)	3,66 (57)	0,75 (14)	2,53 (43)	2,08 (59)	-0,45 (59)	1,44 (29)	1,54 (22)	0,1 (22)
COL	1,1 (64)	1,03 (69)	-0,07 (32)	2,69 (74)	3,33 (72)	0,64 (18)	2,39 (48)	2 (63)	-0,39 (58)	1,44 (30)	1,51 (25)	0,07 (25)
BGR	1,59 (49)	1,38 (46)	-0,22 (39)	4,21 (41)	3,8 (12)	-0,41 (34)	1,11 (73)	2,47 (42)	1,35 (3)	0,72 (74)	0,63 (71)	-0,09 (52)
IDN	0,73 (71)	1,16 (64)	0,43 (16)	3,92 (49)	3,4 (69)	-0,52 (38)	2,17 (56)	2,45 (43)	0,28 (15)	1,34 (43)	1,3 (43)	-0,04 (43)
PER	0,49 (75)	1,18 (62)	0,69 (10)	4 (46)	3,8 (12)	-0,2 (30)	1,93 (65)	2,19 (55)	0,25 (16)	1,42 (32)	1,47 (27)	0,06 (27)
MDA	1,28 (59)	1,15 (65)	-0,13 (35)	3,19 (57)	3,8 (12)	0,61 (20)	1,87 (66)	2,05 (60)	0,18 (20)	0,77 (70)	0,67 (69)	-0,11 (56)
ROU	1,26 (61)	1,09 (66)	-0,18 (37)	3,76 (52)	3,8 (12)	0,03 (25)	1,62 (68)	2,29 (48)	0,67 (5)	0,76 (71)	0,75 (67)	-0,01 (32)
EGY	1,35 (57)	1,01 (72)	-0,34 (43)	3,33 (56)	3,8 (12)	0,47 (21)	2 (61)	2,05 (61)	0,04 (33)	1,29 (49)	1,23 (46)	-0,05 (46)
ZAF	1,37 (56)	1,54 (37)	0,17 (25)	4,02 (43)	3,51 (66)	-0,51 (37)	0,56 (75)	0,79 (73)	0,23 (18)	1,36 (37)	1,52 (24)	0,16 (14)
DZA	0,64 (73)	1 (73)	0,36 (19)	2,79 (72)	3,8 (12)	1,01 (4)	2,03 (60)	2,16 (56)	0,13 (23)	1,56 (19)	1,46 (29)	-0,1 (54)
BLR	1,52 (52)	1,36 (48)	-0,16 (36)	3,18 (58)	3,8 (12)	0,62 (19)	2,21 (55)	2,24 (51)	0,03 (35)	0,98 (60)	0,7 (68)	-0,28 (69)
UKR	1,15 (62)	1,38 (45)	0,23 (21)	2,87 (68)	3,8 (12)	0,93 (8)	0,78 (74)	2,15 (57)	1,37 (2)	0,79 (68)	0,59 (72)	-0,2 (66)
IRN	0,73 (69)	1,32 (53)	0,58 (13)	2,86 (69)	3,8 (12)	0,94 (7)	2,39 (47)	2,21 (53)	-0,18 (50)	1,46 (28)	1,39 (34)	-0,07 (49)
SEN	0,73 (70)	1,4 (43)	0,67 (11)	3,36 (55)	3,8 (12)	0,44 (22)	1,34 (69)	1,31 (71)	-0,03 (41)	1,48 (25)	1,45 (33)	-0,03 (40)
SYR	0,36 (76)	1,57 (33)	1,22 (4)	3,11 (60)	3,8 (12)	0,69 (16)	2,27 (53)	2,47 (40)	0,2 (19)	1,55 (20)	1,66 (13)	0,11 (19)
IND	0 (77)	0,94 (76)	0,94 (6)	3,02 (62)	3,94 (5)	0,92 (9)	1,62 (67)	1,45 (70)	-0,17 (49)	1,55 (21)	1,66 (14)	0,11 (18)
KEN	0,76 (68)	1,19 (61)	0,43 (15)	2,7 (73)	3,8 (12)	1,1 (3)	1,17 (71)	1,2 (72)	0,03 (34)	1,32 (45)	1,35 (39)	0,03 (30)
AGO	0,72 (72)	1,51 (38)	0,79 (7)	2,82 (71)	3,8 (12)	0,98 (5)	0,44 (77)	0,18 (77)	-0,26 (53)	1,7 (10)	1,55 (21)	-0,15 (61)
TZA	0,51 (74)	1,51 (40)	1,01 (5)	2,97 (63)	3,8 (12)	0,82 (12)	1,16 (72)	0,68 (74)	-0,48 (60)	1,37 (36)	1,36 (36)	-0,02 (35)
NGA	0,78 (67)	1,51 (39)	0,74 (9)	2,84 (70)	3,8 (12)	0,95 (6)	0,48 (76)	0,47 (76)	-0,01 (40)	1,66 (12)	1,51 (26)	-0,15 (63)

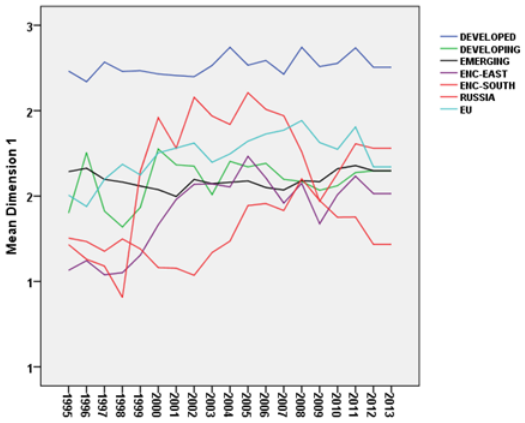
Figure A1. Dimension 1 (2013). Regional Results

DEVELOPED	Mean	Std.Deviation	Range	Skewness
	2.25	1.16	3.97	1.13
	Highest	1	SGP	4.79
		2	QAT	3.16
		3	CHE	3.06
	Lowest	3	JPN	0.82
		2	USA	1.16
		1	AUS	1.50
DEVELOPING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.65	0.36	1.13	0.33
	Highest	1	AGO	2.28
		2	IRN	1.82
		3	NGA	1.79
	Lowest	3	KEN	1.15
		2	SEN	1.33
		1	COL	1.36
EMERGING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.65	0.51	1.58	0.33
	Highest	1	MYS	2.50
		2	THA	2.44
		3	VNM	2.27
	Lowest	3	ZAF	0.93
		2	TUR	0.97
		1	ARG	1.17
ENC-EAST	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.51	0.50	1.35	1.67
	Highest	1	AZE	2.45
		2	BLR	1.65
		3	GEO	1.41
	Lowest	3	UKR	1.10
		2	ARM	1.15
		1	MDA	1.32
ENC-SOUTH	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.22	0.49	1.59	0.26
	Highest	1	LBY	2.12
		2	LBN	1.59
		3	ISR	1.58
	Lowest	3	PSE	0.53
		2	EGY	0.61
		1	JOR	0.83
EU	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.67	0.99	5.65	2.37
	Highest	1	LUX	5.65
		2	IRL	2.70
		3	BEL	2.55
	Lowest	3	GRC	0.00
		2	ITA	0.72
		1	PRT	0.74

Comparison 1995-2013.



Evolution 1995-2013.



Box-plot 2013.

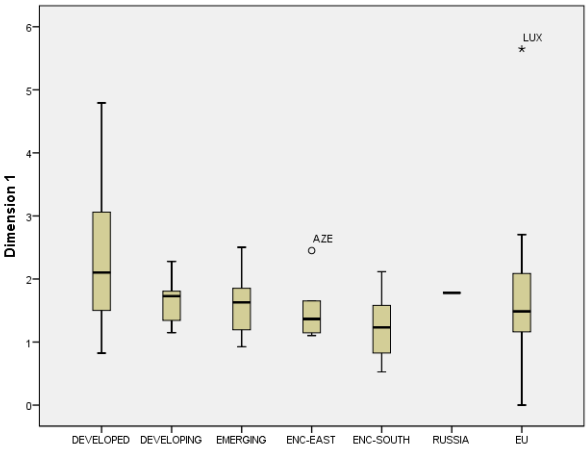
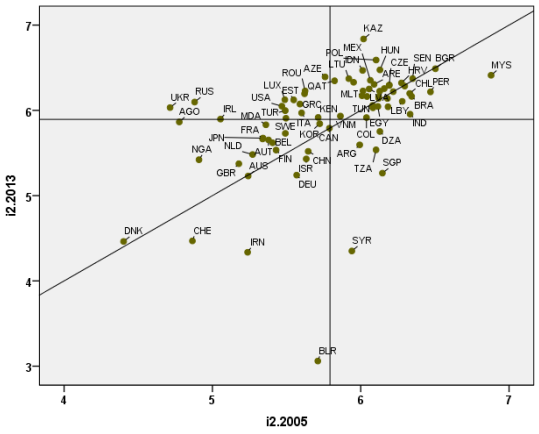


Figure A2. Dimension 2 (2013). Regional Results

DEVELOPED	Mean	Std.Deviation	Range	Skewness
	5.71	0.58	1.88	-1.08
	Highest	1	QAT	6.35
		2	ARE	6.30
		3	SAU	6.14
	Lowest	3	CHE	4.47
		2	AUS	5.23
		1	SGP	5.26
DEVELOPING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	5.77	0.74	2.50	-0.78
	Highest	1	KAZ	6.84
		2	SEN	6.37
		3	KEN	5.92
	Lowest	3	IRN	4.34
		2	NGA	5.42
		1	TZA	5.54
EMERGING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	6.09	0.28	0.95	-0.86
	Highest	1	IDN	6.47
		2	MYS	6.41
		3	MEX	6.35
	Lowest	3	CHN	5.52
		2	ARG	5.60
		1	VNM	5.93
ENC-EAST	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	5.59	1.25	3.33	-2.33
	Highest	1	AZE	6.39
		2	GEO	6.19
		3	ARM	6.04
	Lowest	3	BLR	3.06
		2	MDA	5.83
		1	UKR	6.03
ENC-SOUTH	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	5.87	0.60	1.98	-2.17
	Highest	1	JOR	6.33
		2	MAR	6.26
		3	LBN	6.23
	Lowest	3	SYR	4.35
		2	ISR	5.43
		1	DZA	5.75
EU	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	5.96	0.46	2.13	-1.38
	Highest	1	POL	6.59
		2	BGR	6.49
		3	HUN	6.47
	Lowest	3	DNK	4.46
		2	DEU	5.24
		1	GBR	5.37

Comparison 1995-2013.



Evolution 1995-2013.

Box-plot 2013.

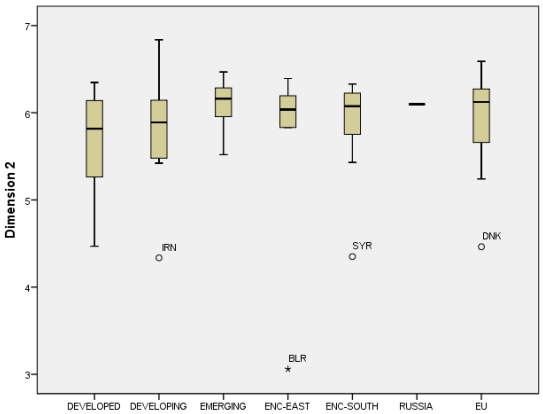
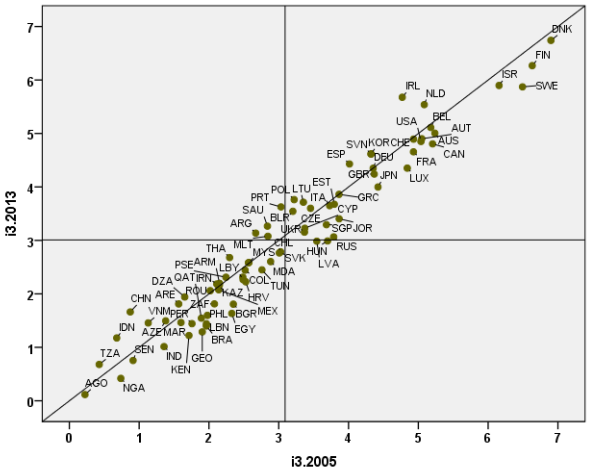


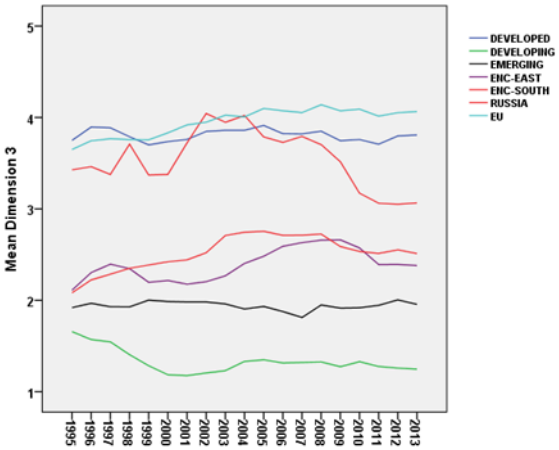
Figure A3. Dimension 3 (2013). Regional Results

DEVELOPED	Mean	Std.Deviation	Range	Skewness
	3.81	1.29	3.46	-0.91
	Highest	1	AUS	5.00
		2	CHE	4.89
		3	USA	4.85
	Lowest	3	QAT	1.54
		2	ARE	1.81
		1	SAU	3.27
DEVELOPING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.25	0.90	2.33	0.25
	Highest	1	COL	2.44
		2	IRN	2.18
		3	KAZ	2.16
	Lowest	3	AGO	0.12
		2	NGA	0.42
		1	TZA	0.68
EMERGING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.96	0.68	2.12	0.36
	Highest	1	ARG	3.14
		2	CHL	2.77
		3	THA	2.68
	Lowest	3	IND	1.01
		2	IDN	1.17
		1	BRA	1.40
ENC-EAST	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	2.38	0.90	2.26	0.02
	Highest	1	BLR	3.54
		2	UKR	3.15
		3	MDA	2.60
	Lowest	3	GEO	1.29
		2	AZE	1.50
		1	ARM	2.20
ENC-SOUTH	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	2.51	1.32	4.46	2.17
	Highest	1	ISR	5.90
		2	JOR	3.40
		3	TUN	2.45
	Lowest	3	LBN	1.44
		2	MAR	1.46
		1	EGY	1.63
EU	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	4.06	1.25	4.93	0.27
	Highest	1	DNK	6.74
		2	FIN	6.27
		3	SWE	5.87
	Lowest	3	BGR	1.81
		2	ROU	2.06
		1	HRV	2.23

Comparison 1995-2013.



Evolution 1995-2013.



Box-plot 2013.

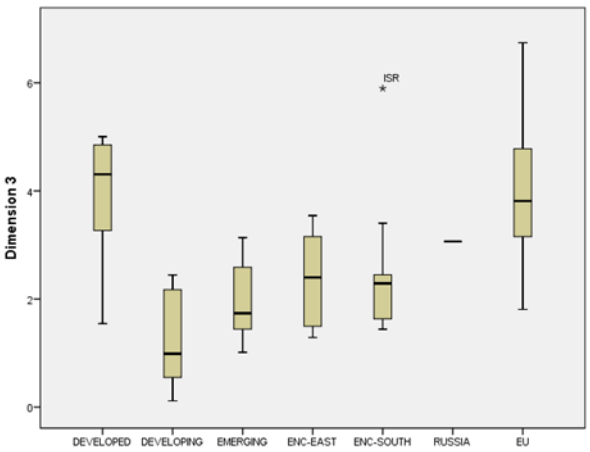
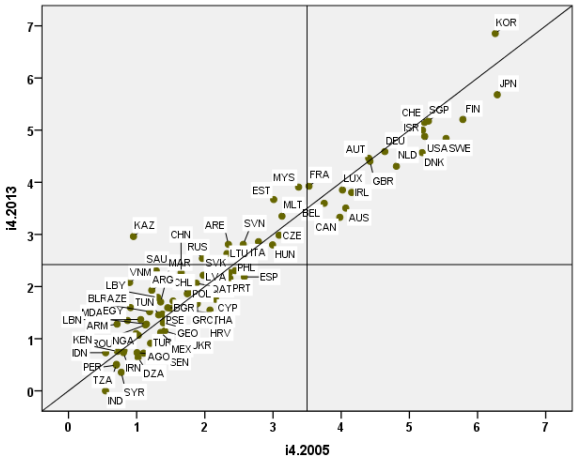


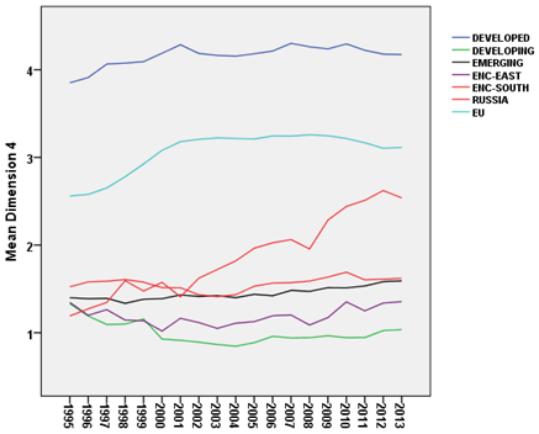
Figure A4. Dimension 4 (2013). Regional Results

DEVELOPED	Mean	Std.Deviation	Range	Skewness
	4.17	1.59	4.79	0.19
	Highest	1	KOR	6.85
		2	JPN	5.68
		3	SGP	5.17
	Lowest	3	QAT	2.06
		2	SAU	2.31
		1	ARE	2.81
DEVELOPING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.04	0.79	2.45	2.61
	Highest	1	KAZ	2.96
		2	COL	1.10
		3	NGA	0.78
	Lowest	3	TZA	0.51
		2	AGO	0.72
		1	SEN	0.73
EMERGING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.59	0.96	3.91	0.70
	Highest	1	MYS	3.91
		2	PHL	2.31
		3	CHN	2.27
	Lowest	3	IND	0.00
		2	PER	0.49
		1	IDN	0.73
ENC-EAST	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.35	0.17	0.45	0.56
	Highest	1	AZE	1.60
		2	BLR	1.52
		3	GEO	1.31
	Lowest	3	UKR	1.15
		2	ARM	1.28
		1	MDA	1.28
ENC-SOUTH	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.62	1.27	4.64	2.40
	Highest	1	ISR	5.00
		2	LBY	1.79
		3	MAR	1.70
	Lowest	3	SYR	0.36
		2	DZA	0.64
		1	JOR	1.07
EU	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	3.11	1.16	3.94	0.11
	Highest	1	FIN	5.20
		2	SWE	4.84
		3	DEU	4.59
	Lowest	3	ROU	1.26
		2	HRV	1.55
		1	BGR	1.59

Comparison 1995-2013.



Evolution 1995-2013.



Box-plot 2013.

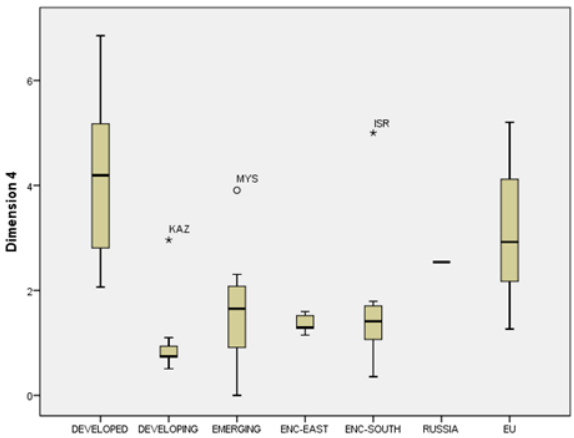
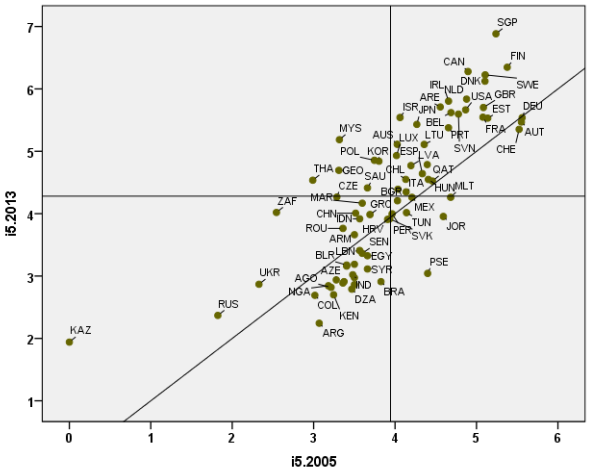


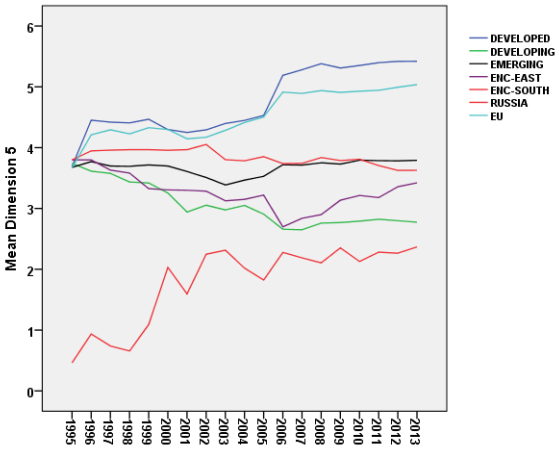
Figure A5. Dimension 5 (2013). Regional Results

DEVELOPED	Mean	Std.Deviation	Range	Skewness
	5.42	0.77	2.47	0.57
	Highest	1	SGP	6.88
		2	CAN	6.28
		3	ARE	5.71
	Lowest	3	SAU	4.41
		2	QAT	4.52
		1	KOR	4.84
DEVELOPING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	2.77	0.40	1.42	-1.11
	Highest	1	SEN	3.36
		2	TZA	2.97
		3	IRN	2.86
	Lowest	3	KAZ	1.94
		2	COL	2.69
		1	KEN	2.70
EMERGING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	3.79	0.82	2.94	-0.31
	Highest	1	MYS	5.19
		2	CHL	4.55
		3	THA	4.54
	Lowest	3	ARG	2.24
		2	PHL	2.89
		1	BRA	2.91
ENC-EAST	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	3.42	0.68	1.83	1.66
	Highest	1	GEO	4.69
		2	ARM	3.66
		3	MDA	3.19
	Lowest	3	UKR	2.87
		2	AZE	2.94
		1	BLR	3.18
ENC-SOUTH	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	3.63	0.83	2.75	1.45
	Highest	1	ISR	5.54
		2	MAR	4.17
		3	TUN	4.02
	Lowest	3	DZA	2.79
		2	LBY	2.91
		1	PSE	3.04
EU	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	5.04	0.77	2.58	-0.07
	Highest	1	FIN	6.35
		2	SWE	6.22
		3	DNK	6.12
	Lowest	3	ROU	3.76
		2	HRV	3.91
		1	SVK	3.92

Comparison 1995-2013.



Evolution 1995-2013.



Box-plot 2013.

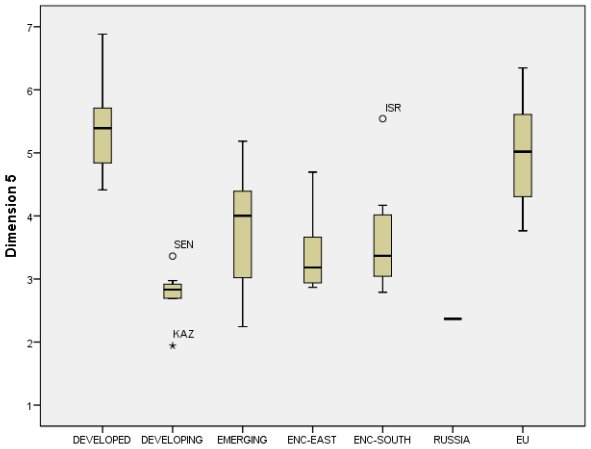
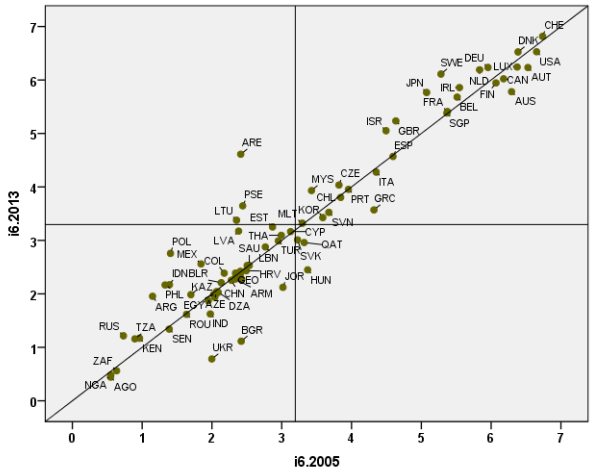


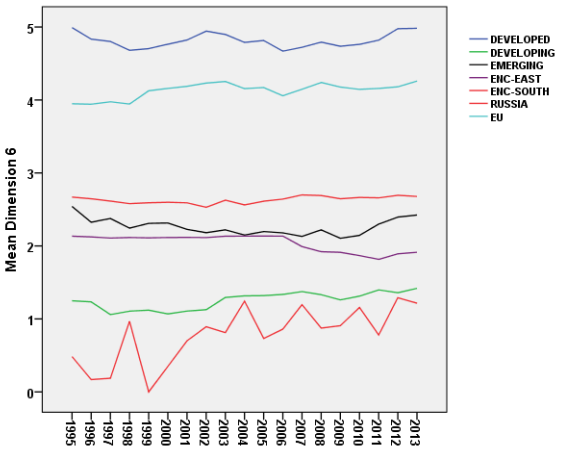
Figure A6. Dimension 6 (2013). Regional Results

DEVELOPED	Mean	Std.Deviation	Range	Skewness
	4.98	1.52	4.28	-0.58
	Highest	1	CHE	6.82
		2	USA	6.53
		3	CAN	6.02
	Lowest	3	SAU	2.53
		2	QAT	2.96
		1	KOR	3.43
DEVELOPING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.42	0.77	1.94	0.09
	Highest	1	IRN	2.39
		2	COL	2.39
		3	KAZ	1.98
	Lowest	3	AGO	0.44
		2	NGA	0.48
		1	TZA	1.16
EMERGING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	2.42	0.86	3.37	-0.09
	Highest	1	MYS	3.93
		2	CHL	3.80
		3	THA	3.10
	Lowest	3	ZAF	0.56
		2	IND	1.62
		1	PER	1.93
ENC-EAST	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.91	0.58	1.52	-2.05
	Highest	1	GEO	2.30
		2	ARM	2.28
		3	BLR	2.21
	Lowest	3	UKR	0.78
		2	MDA	1.87
		1	AZE	2.04
ENC-SOUTH	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	2.68	0.98	3.06	1.95
	Highest	1	ISR	5.05
		2	PSE	3.65
		3	LBN	2.88
	Lowest	3	MAR	1.99
		2	EGY	2.00
		1	DZA	2.03
EU	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	4.26	1.58	5.41	-0.10
	Highest	1	DNK	6.53
		2	LUX	6.24
		3	DEU	6.23
	Lowest	3	BGR	1.11
		2	ROU	1.62
		1	HRV	2.43

Comparison 1995-2013.



Evolution 1995-2013.



Box-plot 2013.

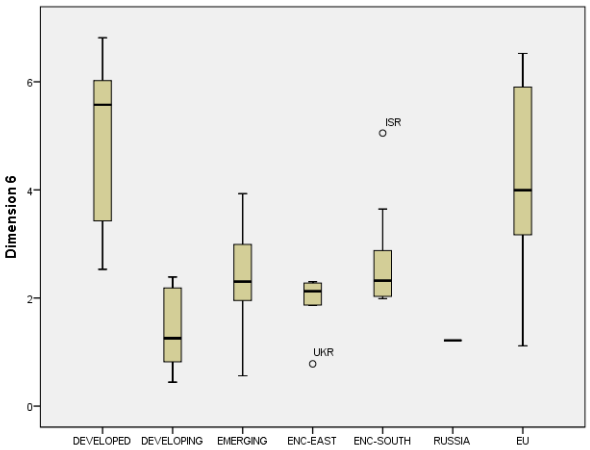
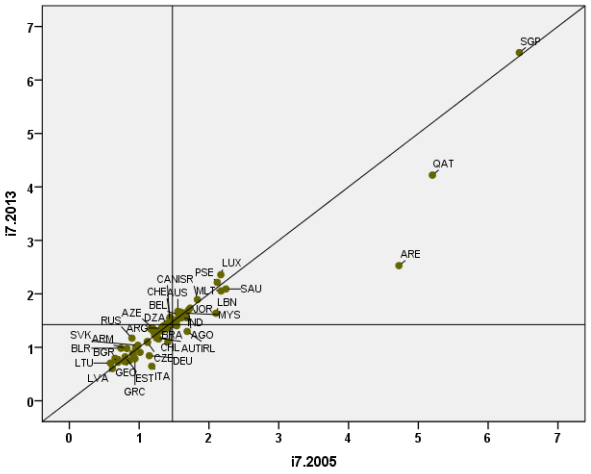


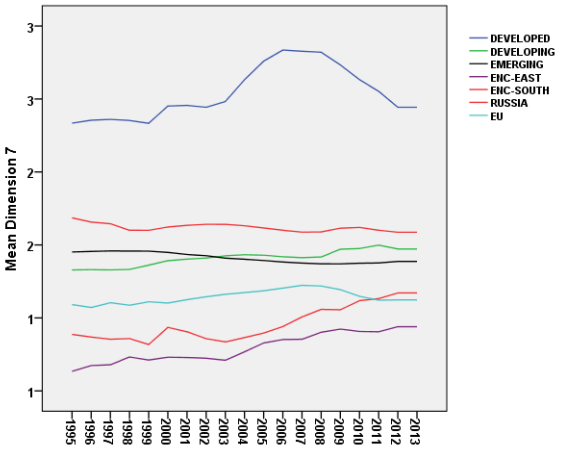
Figure A7. Dimension 7 (2013). Regional Results

DEVELOPED	Mean	Std.Deviation	Range	Skewness
	2.44	1.67	5.36	2.00
	Highest	1	SGP	6.51
		2	QAT	4.22
		3	ARE	2.53
	Lowest	3	JPN	1.16
		2	CAN	1.47
		1	CHE	1.53
DEVELOPING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.47	0.14	0.37	0.80
	Highest	1	AGO	1.70
		2	NGA	1.66
		3	SEN	1.48
	Lowest	3	KEN	1.32
		2	KAZ	1.35
		1	TZA	1.37
EMERGING	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.39	0.18	0.73	-1.55
	Highest	1	MYS	1.64
		2	IND	1.55
		3	MEX	1.51
	Lowest	3	THA	0.91
		2	VNM	1.11
		1	IDN	1.34
ENC-EAST	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	0.94	0.23	0.61	1.46
	Highest	1	AZE	1.36
		2	BLR	0.98
		3	ARM	0.98
	Lowest	3	GEO	0.75
		2	MDA	0.77
		1	UKR	0.79
ENC-SOUTH	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.59	0.30	0.95	0.98
	Highest	1	PSE	2.21
		2	ISR	1.89
		3	JOR	1.73
	Lowest	3	TUN	1.26
		2	EGY	1.29
		1	MAR	1.31
EU	**Mean**	**Std.Deviation**	**Range**	**Skewness**
	1.12	0.42	1.75	1.23
	Highest	1	LUX	2.36
		2	MLT	2.05
		3	BEL	1.61
	Lowest	3	LVA	0.60
		2	ITA	0.65
		1	LTU	0.71

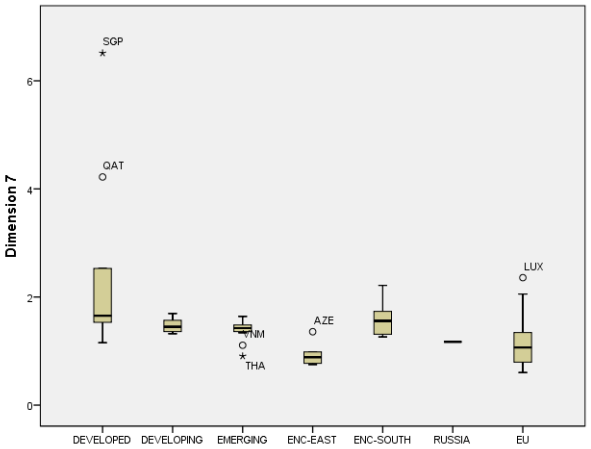
Comparison 1995-2013.



Evolution 1995-2013.



Box-plot 2013.



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