

SELECTED PROBLEMS OF CALCULATION OF FAILED STATES IN THE WORLD

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***Abstract:** The link between economic stability, democracy and the state of security is very tight. Different levels of economies of individual countries in the world with our performances and results make the order, which show not only their economic position but also their level of security. These levels are created by different calculations, from which we can economic, social and security levels of these states fairly easily deduced. The appropriate indices can be constructed from different indicators and they can help to estimate different levels of political, economic and social position selected of states.*

***Keywords:** World Security, Calculation of Selected Economic Indicators, Indexation of States, Sequence of the Worst and the Best States, Failed States*

1. Introduction

State failure in its capacity has a decisive influence on the level of democracy in the country. Democracy is closely linked with the economic and fail-safe situation in such countries.[2] The concepts of state failure or malfunctioning states have a short history tied to the end of the Cold War.[8] The recent history shows us that the world powers ended their rivalry through other states, where the war conflicts were led. These war states were military representatives, and were supported economically by the world powers: financially, materially, through a variety of consultants, etc. This assistance, mainly economic nature, allowed these governments of such states the existence. But the assistance was unexpectedly terminated after 1990. Lack of finance, economic incompetence and helplessness of these states have led that these states are not only becoming more and more dysfunctional, but even failing, failed and collapsed, plus a refuge for various interest and terrorist groups.[3]

In the contemporary state of the world is a determining factor in each country to achieve a healthy degree of democracy. The level of democracy and security in every country can be measured by various indices of the composite set of indicators. The following text will be described and explained design of selected indices, we decided to include a representative index showing the state of democracy, security and the level of national economies in the world. This situation is then crucial for the stability of certain geographical areas in the world.[10]

The aim of this paper is to show and comment on selected indices and compare the levels marked the worst, but even the best country in the world. Selected indices of evaluating all different countries according to established methodology and results of the order states where we have chosen the worst [best], i.e. such states where the level of democracy and economy to the lowest [highest] values.

The last part is the built table with an overview of selected countries from all these indices and index values are used to create comprehensive ranking worst [best] states.

2. Problem Formulation

They were chosen following three indices for purposes of the contribution from tens of several. The other indices have some missing information or the methodology was not clear enough etc.

2.1 Human Development Index [HDI]

The first notes the use of human development index is since 1990 the United Nations in its annual report on human development.

This index evaluates countries according to levels of human development:

- High level of development
- Medium level of development
- Low level of development – underdevelopment

The basis of the HDI has three dimensions:

- *Life Expectancy:*

A field signifying longevity, life expectancy at birth;

- *Education and Skills:*

Focus on the literacy of the population [with a fixed weight of 2/3] and the combined primary, secondary and tertiary sector to the gross enrolment ratio [GER – the Gross Enrolment Ratio] with weight 1/3;

- *Standard of Living:*

Calculated as the natural logarithm of gross domestic product per capita [GDP per capita] in purchasing power parity as an indicator, based on national statistics, according to the formula [see closer methodology HDI]

2.1.1 Methodology of HDI

HDI definition is contained in the UN Development Program Organization. Generally, if we want a diverse variable x converted to a single index [so that we can add various indices], we use the following rule [formula]:

$$x - index = \frac{x - \min(x)}{\max(x) - \min(x)},$$

where $\max(x)$... the highest value of the variable x

$\min(x)$... the lowest value of the variable x.

HDI index is the weighted sum of three indices [below] with a weight of 1/3.

Life Expectancy Index [LEI]:

$$LEI = \frac{LE - 25}{85 - 25}, \text{ where LE or Life expectancy - expected number of years remaining at a given age}$$

Education Index [EI]:

$$EI = \frac{2}{3} \cdot ALI + \frac{1}{3} \cdot GEI$$

$$ALI = \frac{ALR - 0}{100 - 0}, \text{ where ALI - Adult Literacy Rate [aged 15 and older]}$$

$$GEI = \frac{CGER - 0}{100 - 0}, \text{ where CGER ... combined gross enrolment ratio [composed of two components: familiarity with weight 1/3 and literacy with weight 2/3]}$$

Gross domestic product [GDP]:

$$GDP = \frac{\log(GDP_{pc}) - \log(100)}{\log(40000) - \log(100)}$$

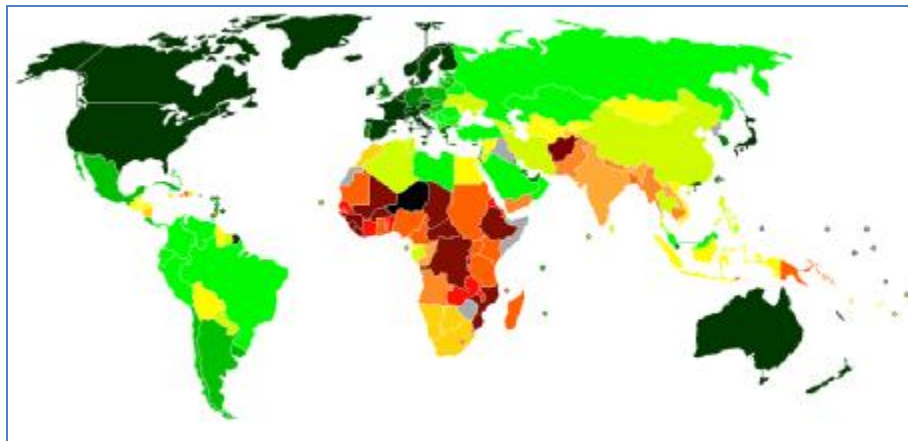
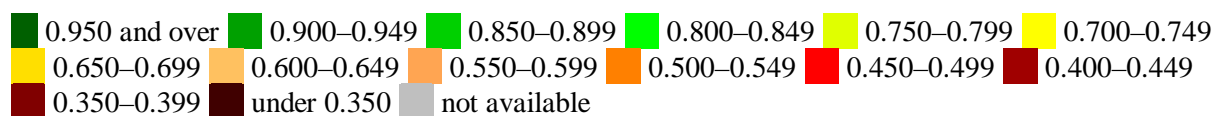


Figure 1: Map showing the index of HDI in 2009 [based on 2007 data, published on October 5, 2009]

Legend:



Source: Human Development Index. Available at WWW: http://www.newworldencyclopedia.org/entry/List_of_countries_by_Human_Development_Index

2.1.2 Criticism of HDI

HDI has been criticized in terms of lack of global perspective. Index focuses exclusively on national performance.

In addition to this index is blamed its boundaries from 0 to 1. This is due, because thus rich countries can not improve its position in some of the ingredients in the HDI index, although there is room for growth, longevity, etc. in the country.

To defend the HDI index is the fact that it can be used as a tool for social policy, which would be the basis for measuring the impact of economic policies and quality of life.

2.2 Global Peace Index [GPI]

Global peace index examines the status and degree of freedom in individual nations, regions. The index compiled at the Institute for Economy and Peace in collaboration with international experts investigating the world peace.

GPI was first presented in 2007 there were examined 121 countries [or states]. The number of countries expanded each year when the data are updated. Number of states is even to 149 for this year.

2.2.1 Methodology of GPI

The research team was drawn from The Economist Intelligence Unit in collaboration with academics and experts in the field of peace. They had the 24 of indicators on which they measured the peace. These 24 indicators had the most affect the investigation of the subject in various countries.

Tab. 1: Characteristic of the 24 indicators of GPI

Indicator	Source	Year[s]	Coding
Number of external and internal wars fought	UCDP	2000 to 2005	Total number
Estimated deaths due to external wars	UCDP	2004 to 2005	Total number
Estimated deaths due to internal wars	UCDP	2004 to 2005	Total number
Level of organized internal conflict	EIU	2007	Qualitative scale, ranked 1 to 5
Relations with neighbouring countries	EIU	2007	Qualitative scale, ranked 1 to 5
Level of distrust in other citizen	EIU	2007	Qualitative scale, ranked 1 to 5
Number of displaced persons as percentage of population	World Bank	2003	Refugee population by percentage of the origin country's population
Political instability	EIU	2007	Qualitative scale, ranked 1 to 5

Level of respect for human rights [political terror scale]	Amnesty International	2005	Qualitative measure
Potential for terrorist acts	EIU	2007	Qualitative scale, ranked 1 to 5
Number of homicides	UNSCT	2002 and 2004	Intentional homicides, including infanticide, per 100 000 people
Level of violent crime	EIU	2007	Qualitative scale, ranked 1 to 5
Likelihood of violent demonstrations	EIU	2007	Qualitative scale, ranked 1 to 5
Number of police and security officers	UNSCT	2000 and 2002	Civil security Officers per 100 000 people
Number of jailed persons	ICPS	2006	Persons incarcerated per 100 000 people
Military expenditure as a percentage of GDP	IISS	2004	Cash outlays for army forces as a percentage of GDP
Number of armed services personnel	IISS	2004	Full-time military personnel per 100 000 people
Import of major convention	SIPRI	2001 to 2005	Imports of major conventional weapons per 100 000 people
Exports of major conventional weapons	SIPRI	2001 to 2005	Exports of major conventional weapons per 100 000 people
United National deployments	IISS	2006 to 2007	Total number
Non-United National deployments	IISS	2006 to 2007	Total number
Number of heavy weapons	BICC	2003	Weapons per 100 000 people
Ease of access to small arms and light weapons	EIU	2007	Qualitative scale, ranked 1 to 5
Military capability or sophistication	EIU	2007	Qualitative scale, ranked 1 to 5

Source: Global Peace Index. Available at WWW: http://www.visionofhumanity.com/GPI_Indicators/index.php

If any indicator is measured by a qualitative measure of the scale 1 to 5, proceed by the following formula:

$$x = \frac{x - \text{Min}(x)}{\text{Max}(x) - \text{Min}(x)},$$

where max(x) ... the highest value of indicators in the countries included in the calculation

of the index,

min(x) ... the lowest value of indicators in the countries included in the calculation of the index.

The result is always in the range of 0 to 1 and end of the match the score of 1 to 5.

The research of GPI follows:

1. We note that the GPI index found some degree of rate correlated with indicators: income, education level and regional integration.
2. Countries with high levels of transparency in the public right and a low level of corruption, we could classify as country living in peace.
3. Small, stable countries which are part of the regional units, can most likely expect a high value of the GPI.

World map [see Fig.2], which shows the index of GPI 2008. The different colours indicate the state is the country. Colour scale represents 7 colours.

The green colour indicates countries that are stable, there GPI index takes low values. The colour is greener in the country, we can say that the country is in a quiet mode, stability and peace [see closer Tab 2]. These include e. g.:

New Zealand [1,188; 1st place], Austria [1,290; 4th place], Norway [1,322; 5th place], Ireland [1,337; 6th place], Czech Republic [1,360; 12th place]

The red colour is already alarming. She has signalled danger, the country is less stable, peace and freedom are almost too. Index value of GPI takes high values [for detail see Tab.2]. For vulnerable countries that are unstable, turbulent consider according to the index GPI:

Central African States – Central African Republic [2,753; 136th place], Nigeria [2,756; 137th place], Democratic Republic of the Congo [2,925; 140th place], Somalia [3,390; 148th place], the states are: Pakistan [3,050; 145th place], Afghanistan [3,252; 147th place], Iraq [3,406; 149th place].

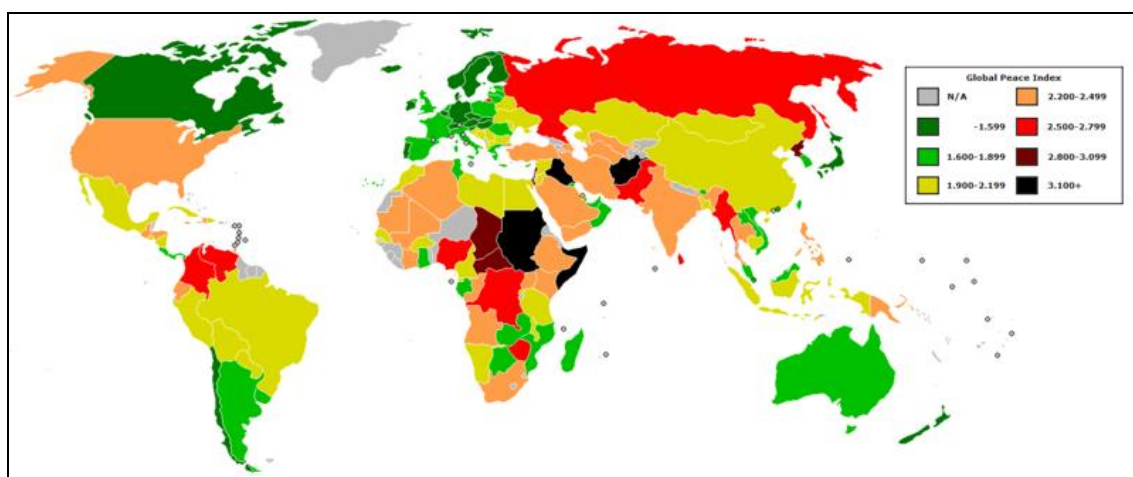


Figure 2: Map showing the index of GPI in 2008

Source: Global Peace index 2008. Available at WWW:
<<http://commons.wikimedia.org/wiki/File:GPI-world-map.png>>

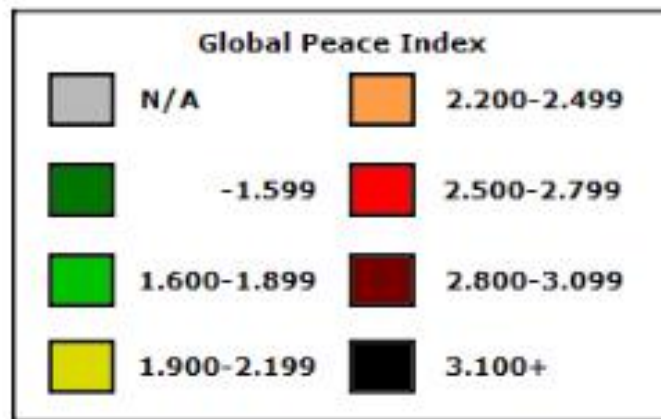


Figure 3: Legend index map showing GPI in 2008

Source: Global Peace index 2008. Available at WWW:
<http://commons.wikimedia.org/wiki/File:GPI-world-map.png>

2.2.2 Criticism of GPI

Even the GPI index, which could be considered a comprehensive description and evaluation of the status of the countries surveyed, is criticized. Publishers of the magazine “The Economist” admitted vagueness of some of the indicators, especially in the expenditure of soldiers. Especially in the U.S. have a problem with this indicator in terms of expenditure patterns of other soldiers. Subsequently, it was blamed for the index, the index value each year as a GPI. Can we take this index as a monitoring of individual countries overtime. Monitor whether a country is in quiet mode or not. Another criticism was directed at the absence of violence against women and children. GPI index indirectly affects this area, in some cases, it completely omitted. Particular case, such as Egypt, where women are 90 percent of the sexual organs mutilated. Or China, where the woman “infanticide” is still a problem in the context of the UNICEFF study 2000th.

On the other hand, the index is used by many international organizations like the World Bank, the Organization for European Economic and Development [OECD], etc.[9]

2.3 Failed States Index [FSI]

Since 2005 the Fund for Peace and the magazine Foreign Policy, publishes an annual index called the Failed States Index. The list only assesses sovereign states [by membership in the UNO].

2.3.1 Methodology of FSI

The FSI is constructed from twelve indicators. These indicators are built in three groups: social indicators, economic indicators, and political indicators.

The Failed States Index diagnose threats to national and then we can easily define a strategy for strengthening weak, failing, failed and collapsed states.[10]

Index consists of 12 indicators of fragility, which are divided into three groups:

- 1.Social indicators;
- 2.Economic indicators;
- 3.Political indicators.

Social indicators

This area examines the social indicators of the social environment of the state. We are interested in population density in relation to food supply and sustainable source of life. Further pressures are caused by certain groups of people, such as a particular religion, some economic productivity and social interaction.

Here we define four parameters:

1. Demographic pressures;
2. Massive movement of refugees and internally displaced peoples;
3. Legacy of vengeance-seeking group grievance;
4. Chronic and sustained human flight.

Economic indicators

In this area we are interested in the economics of law. Is a country of poverty level, the level of education of the population. Furthermore, how is the country with employment, which groups are most often classified into groups of unemployed. In addition, we are interested in what the business cycle the state is, if facing economic decline, or whether it is only a recession.

Here we define two parameters:

5. Uneven economic development along group lines;
6. Sharp and/or severe economic decline.

Political indicators

This includes juvenile law, the legitimacy of the state. The extent to which the State is able to provide the most extreme public goods.

Here we define six parameters:

7. Criminalization and/or delegitimation of the state;
8. Progressive deterioration of public services;
9. Widespread violation of human rights;
10. Security apparatus as „state within a state“;
11. Rise of factionalised elites;
12. Intervention of other states or external factors.

The resulting sequence of state is based on the total score of 12 indicators. For each parameter set 0 to 10 scale where 0 is the lowest intensity [most stable state] and 10 is the highest intensity [least stable state]. The overall score is the sum of 12 indicators, a scale of 0 to 120.

For better comprehensibility is colour scale [Fig. 3] which distinguishes three types:

1. Red colour: the critical state of law;
2. Orange colour: the state is in danger;
3. Yellow colour: the state is weakening at the border.

In the event that the state will score between 30 and 59.9 is considered stable and the colour scale is indicated by dark gray. If a country gets a lower score of 30 is considered the most stable colour and is marked with light gray.

Countries in zone “ALERT” [red colour] received score between 90 and 120. Countries in zone “WARNING” [orange colour] received score between 60 and 89.9. The zone “monitoring” [yellow colour] is the country obtained scores between 30 and 59.9. The last zone is “SUSTAINABLE” [green colour] includes countries with a score of 29.9 or less. I covered states with a stable economy and the overall economy.

We must say that if the state falls into certain categories [from above], so it doesn't just mean that as a dysfunction state. That group only indicates the areas in which the state is very prone to make from it gradually became a dysfunctional state. Everything is always a matter of time and then on the political scene of the state. Therefore it is necessary to have this in mind, if we want to make judgments about a country. This index would be a good supplement for time series where they both watched the development of indices, the country's economy [or the total economic wealth, respectively].

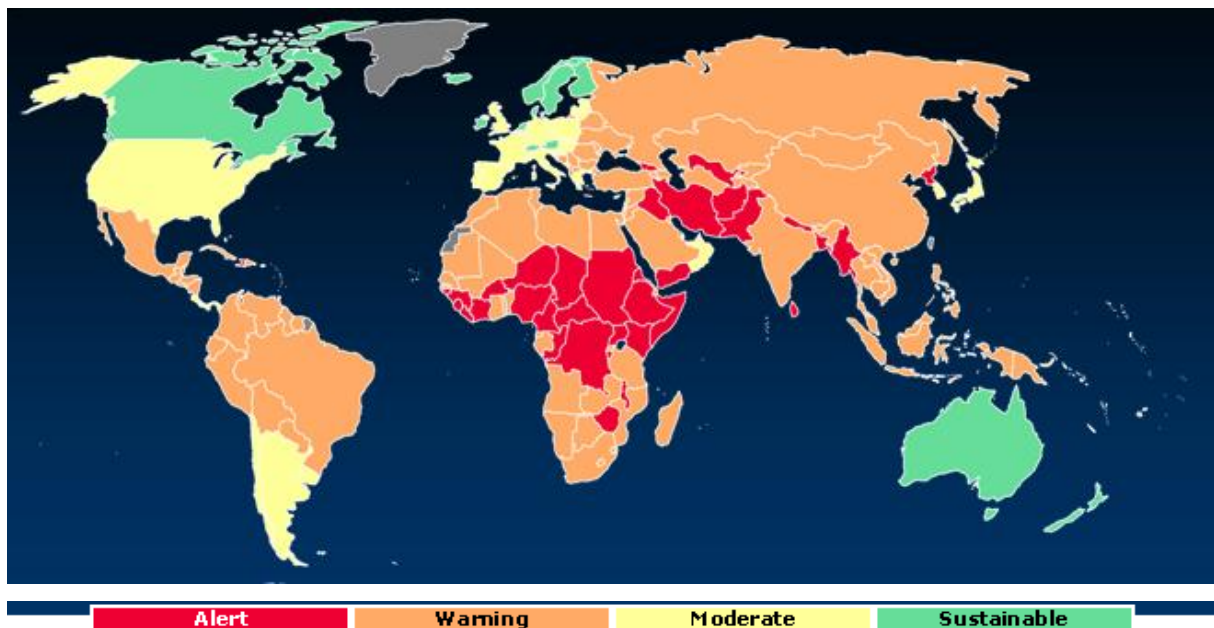


Figure 4: Map showing the index of FSI in 2010

Source: The Fund for Peace. Failed States Index Score 2010. Available at WWW: http://www.fundforpeace.org/web/index.php?option=com_content&task=view&id=452&Itemid=900

From the Fig. [Fig.3] shows that the countries making progress score greater than 60, is located in Central Africa. Moreover there would put the countries of southern Asia, located about India. For countries that are in the area of monitoring, most of Western Europe, as many South American countries, Mongolia, USA, etc. In these states are recorded area which could over time and any action to weaken the state.

There are stable states in other areas. These are Australia, New Zealand, Japan, Scandinavia, Ireland, Iceland and other countries with a green tint.

2.3.2 Criticism of FSI

This index is at least detailed from all of three selected indices. The part of economic index has only two indicators and they are not sufficient for the particular situation in the country. This section should be extended to enhance this part of index because other economic indicators may better compile the economic situation in the country. This index should be developed as full as possible and it is important to the real economic situation and it should reflect the level of the society in the state.

However, it is similarly but better developed in the social part of index. There are used four indicators which are also sufficient for the survey. It would be appropriate to finalize this issue on the level of the HDI index.

On the contrary the political part of the FSI in compile the best way, but still that does not adequately reflect the situation in the state. More details should be handled internal and external security as well as individual characteristics which are into the previous index GPI included.

3. The Solved Problem

In this chapter we pursued the worst ten states and the best ten states in terms of selected indices. Each state's sequence is determined by the indices and everything is recorded in the table. In the penultimate column is recalculated the geometric index and the last column has the final sequence of states. The last column shows where the states are located on our recalculated scale by the results of all three indices. There are not any special weights for these indicators assigned. We decided all of three individual indices as equivalent in this case because these indices by their nature affect practically the same issue [state failure] merely from different perspectives.

Tab. 2: Schedule showing position of the worst states

State	HDI	GPI	FSI	Geometrical average	Own sequence
Iraq	7 th place	1 st place, 3.341	6 th place	3 rd place	2 nd place
Afghanistan	6 th place	2 nd place, 3.285	7 th place	6 th place	5 th place
Somalia	1 st place	3 rd place, 3.257	1 st place	2 nd place	1 st place
Israel	15 th place	4 th place, 3.035	23 rd place	12 th place	7 th place
Sudan	3 rd place	5 th place, 2.922	3 rd place	4 th place	3 rd place
Democratic Republic of the Congo	5 th place	6 th place, 2.888	5 th place	5 th place	4 th place
Chad	2 nd place	7 th place, 2.880	4 th place	4 th place	3 rd place
Pakistan	10 th place	8 th place, 2.859	10 th place	9 th place	6 th place
Russia	19 th place	9 th place, 2.750	30 th place	18 th place	8 th place
Zimbabwe	4 th place	10 th place, 2.736	2 nd place	4 th place	3 rd place

*Source: own***Tab. 3: The Schedule showing position of the best states**

State	HDI	GPI	FSI	Total sequence	Own sequence
New Zealand	20 th place, 0.950	1 st place, 1.202	7 th place, 23.3	6 th place	5 th place
Norway	1 st place, 0.971	2 th place, 1.217	1 st place, 18.3	1 st place	1 st place
Denmark	16 th place, 0.955	2 th place, 1.341	6 th place, 23.2	6 th place	5 th place
Iceland	3 rd place, 0.969	4 th place, 1.225	12 th place, 29.0	5 th place	3 rd place
Australia	2 nd place, 0.970	5 th place, 1.252	8 th place, 25.9	4 th place	2 nd place
Sweden	7 th place, 0.963	6 th place, 1.269	3 rd place, 20.6	5 th place	3 rd place
Japan	10 th place, 0.960	7 th place, 1.272	13 th place, 31.2	10 th place	9 th place
Canada	4 th place, 0.966	8 th place, 1.311	11 th place, 27.7	7 th place	8 th place
Finland	12 nd place, 0.959	9 th place, 1.322	2 nd place, 19.2	6 th place	5 th place
Slovenia	27 th place, 0.917	9 th place, 1.322	21 st place, 36.6	17 th place	10 th place

Source: own

From the tables above, there is evident, it is not in this part of the work reflected the most current information. Also, these indices are not and do not process situations that are similar problems that show selected indices. For instance, we can bring the European countries as well that get into trouble and are closer evaluation index FSI. It is Greece or Iceland in present time.

Alternatively, it can indicate the complicated economic situation in Ireland or now in Spain. All those European states that do not belong into the category of Failed States, even though they are very close, only because of the methodology used, but other indices as indicators of the system is not sophisticated enough to capture the situation in these countries. These countries could be incorporated into other lower category but have an enormous geopolitical advantage which lies in its integration of the various international organisations [NATO, European Union – EU, etc.], and it is also with high probability because of their location in Europe.

The most visible situation is apparent in the case of Iceland which had collapsed the banking system in fact. Similarly, it has been in Greece, where the country has stood on the brink of destruction due to collapsing public finance. In the other state, in Iceland, there has been an exceptional aid by the EU, and in the other side Iceland has sent a serious intention to enter in the EU. In the case of Greece there has been the massive financial assistance from the EU. There are the reasons why the mentioned countries are not captured in the order of indices.

There are evaluated the causes in this work but just the effects are visualized in different countries around the world in different situations which are tested according to different indices.

4. Conclusion

Finally, we note that different, though similar methodology of the individual indices can classified different countries around the world into similar orders. However, the reason for our recalculating can be seen for instance in the case of Russia which has the very different place in every index.

It is clear in this order that the so-called failed, failing or collapsing states in the world are similarly classified by individual programs, and our treatment these differences produced on the final ranking. As already mentioned, we decide to have the same weight for each index and each of the three indices [HDI, GPI and FSI] has for the recalculation the same weight.

[For complete information: the total number of selected states which was tested, was restricted to 144 for GPI and HDI, respectively in the case of FSI 139.]

We put together a similar way to illustrate the best countries in the world ranking, which can be seen in comparison with the worst states where they were used vastly different value of input and output data.

Used indices reflect states and there are not counted other areas depressed by regional conflict and dysfunction, respectively "state failure" in another geographical unit than the state as the member of the United Nations. Such typical area are the areas in Palestine, which are not the state, but it is clear from the context that the regions are with similar characteristics of the state. The example of Palestine is important because it is not the state in this sense and is not represented in the UN. This is but a necessary condition for such construction Bertelsmann Stiftung Index [BSI], which only works with government departments, which are member countries of the UN. It is one of the BSI indices, which looks similar to the theme from another angle, but not

transparent methodology[1]. Even more different indices recalculated according to other methodologies similar subject matter, but these chosen three indices are the best in our discretion and sufficient to assess to what degree of state failure [or conversely stability] are selected states.

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