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## THE IRRESISTIBLE EASE OF MAKING AN INDEX: WHAT WE LEARN FROM NGI?

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**Abstract:** There is a number of indices measuring globalization processes. Started with OECD/Eurostat, (the OECD's glossary from 2002 is defining globalization as increasing internationalization of markets for goods and services, the means of production, financial systems, competition, corporations, technology and industries) , the phenomenon inspired other intellectual circles. AT Kearny composite index is measuring the economic globalization, political and social). This project was followed by KOF Index , whose main author is Axel Dreher (Dreher et al, 2010) who identified the difference between the extent of the process within small and big countries. Main components are including economic globalization, political globalization and the flow of information and people. MGI (Maastricht Globalization Index), which followed the process of globalization indices creation, is focusing on four dimensions: technological, ecological, economic, and socio-cultural (Figge at Martens, 2016) That was for the first time that the eco dimension became a part of the globalization index. The NGI, created as an individual intellectual product of P. Vujakovic , added a new approach distinguishing the countries which are mostly trading and having social relations with their first neighbors and those who have relations worldwide (concerning them fully globalized). But , the problem of globalization is bringing a number of new consideration , having in mind the role of ICT , the digital “nomads” , or , the opposite processes , now stronger then before, of new protectionism. The paper is focusing on the contribution of the New Globalization Index in understanding the results and effects of the globalization process in Serbia. The analyses shows that the indices as the NGI and the other could be successfully used in the economic researches, thanks to their transparent way of identification of the results based on quantitative methodology that is used. It is important to underline that the process is going on supplying the research community with new improvements of these products or replacing them with more sophisticated once.

**Keywords:** globalization, index, New Globalization Index, Serbia`s ranking ,new protectionism

### 1. INTRODUCTORY REMARKS

In order to offer to present economic processes and to identify objectively the trends and relative positions of countries, financial centers or economic in a more transparent way. a number of scholars , institutes and creative researchers have devoted their intellectual efforts in constructing indices. In some of the projects, the most prominent economic thinkers were involved contributing to the projects. Let us mention just Michael Porter (The Global Competitiveness Report, perhaps the most cited and used), Michael Mainelli (The Smart Centers Index, just five editions up to now) , Hernando de Soto (International Property Right Index), Zarić, S. (2015) Zoltan Szanto (The Social Futuring Index, one of the most recent products launched by a team from Corvinus University in Budapest) Szanto et al (2020) ,etc. In the field of measuring always intriguing processes of globalization, many scholars took part. Creating indices has a defined methodology and became, as we could see, a continuous one of the favorable methodologies in reaching good scientific results. There are certain methodologies of constructing an index. but , the most common approach for composite measure of a number of variables is proposing a four-steps process:

- a. selecting possible items
- b. examining their mutual relations,
- c. scoring the index. and finally,
- d. validating it.

Passing through a number of globalization indices, one could see that the process of globalization is attracting a number of researchers. In this article we are focusing on the New Globalization Index.

### 2. GLOBALIZATION AND HOW TO MEASURE IT

The entire process of globalization is catching the attention of not only the economists, but also wider range of scholars in social sciences. It's a result of the fact that globalization, mostly perceived as an economic process, has also its political and social aspect , and , why not mentioning , its ecological aspect. These indices could transparently show the place of a certain country (national economy) via the extent of the globalization. The process of creating , publishing and promoting of certain indices has shown us

- a, on one side, how predominant was the process of economic globalization,
- b. what were the important changes in the way of measuring social globalization (just to mention the diminishing importance of the paper (“Gutenberg`s) products such as newspapers and books and the new era of digital world with no borders ,
- c. the processes of political globalization (from memberships in multinational political organizations to participating in the specialized UN missions world-wide),
- d. and, of course, sharing the ecological values.

Careful reading and understanding the scores and numbers from the indices , one could search the answers about the position of certain countries, how deep the process of globalization is and where are some limits (Serbian case is showing the lack of portfolio investments, late start in managing the ecological problems, besides the , generally accept principles of permeability of the borders. Many of the problems, besides the fact of a number of globalization indices, remain still out of the attention of the researcher. Thus, still there is no methodology for measuring a new protectionism (detected via public procurement processes, “green” protectionism , currency rates, and so on). The pandemics and the political crises now are emphasizing the problem of protectionism (Alvaro, 2021). So , this is one illustrative fact what is missing and how the process of creating an index is practically a continuous one.

### 3. CHARACTERISTICS OF THE NGI

As indicated, this paper deals with the New Globalization Index (NGI), developed by Petra Vujaković (2010). One of the primary motivations for the introduction of this index was the aim of adding further variables to the globalization index in order to capture some aspects of globalization that were disregarded in the construction of previous indices. Out of the 21 variables included in the index (shown in Table1), five were not included in any of the previously constructed indices. These variables are marked by an italic font and are grouped into three subindices (*ibid*, p. 6-16).

*Table 1. The variables and sub indices of the NGI*

<b>FINANCE (37%)</b>	<b>TRADE &amp; POLITICS (32%)</b>	<b>SOCIAL (31%)</b>
FDI stock as a GDP percentage (19%)	Trade in goods as a GDP percentage, weighted with geographical distance (11%)	Trade in services (14%)
FDI flow as a GDP percentage (13%)	<i>Non-resident trademark applications as a percentage of all non-resident trademark applications (14%)</i>	Migration stock as a percentage of total population (9%)
<i>Portfolio investment stock as a GDP percentage (20%)</i>	<i>Non-resident patent applications as a percentage of all non-resident patent applications (14%)</i>	International tourism (arrivals and departures) as a percentage of total population (15%)
Portfolio investment flow as a GDP percentage (14%)	Transfers as a GDP percentage (10%)	International voice traffic as a percentage of total population (15%)
Income payments to and receipts from foreign nationals as a GDP percentage (19%)	<i>International environmental agreements (16%)</i>	International book trade as a GDP percentage (11%)
International internet bandwidth (15%)	International organization membership (18%)	International newspaper trade as a GDP percentage (14%)
	Number of embassies in a country (16%)	<i>Outbound student mobility as a percentage of all tertiary students in a country (12%)</i>
		UN peacekeeping personnel (11%)

The separation into three subindices was obtained by the principal component analysis, which Vujaković performed in order to gain subindices that would correspond to the theoretical presupposition about globalization having its economic, political, and cultural aspect (Vujakovic, 2010, p. 4-5). Even though there are some surprising results, for which Vujaković offered some explanations,<sup>1</sup> the obtained division of subindices roughly corresponds to the theoretical presupposition. In parentheses are given the percentages that indicate relative contributions of different subindices to the whole NGI index (in bold) and those that show relative contributions of different variables to their respective subindices (not in bold).

<sup>1</sup> For example, Vujaković claims that the placement of international internet bandwidth among the financial variables could be explained by the frequent use of international internet networks by financial institutions (Vujakovic, 2010, p. 16).

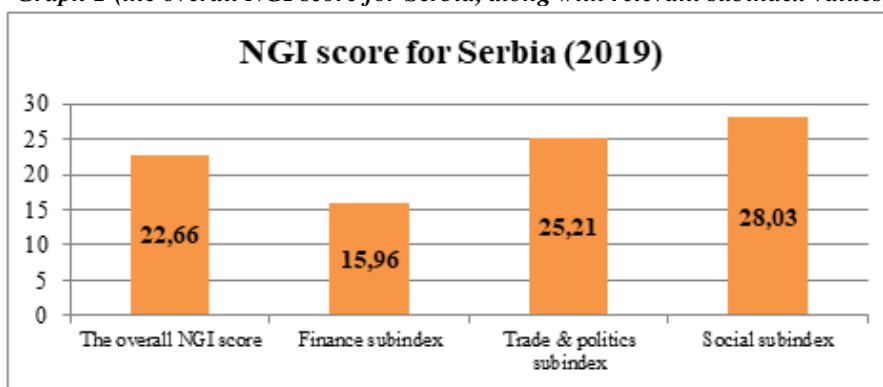
Besides the addition of new variables, the crucial difference between the NGI and other indices has to do with the incorporation of a distinction between globalization and regional integration. This innovation was influenced by Vujakovic's view of globalization as a process that is not constrained by geographical distances and, as such, could easily take place among physically distant parts of the world. To the contrary, regional integration is viewed as involving countries in a relative mutual proximity. Concretely speaking, Vujaković measured the factor of globalization as opposed to regional integration by correcting the trade in goods variable for the geographical distance between countries (*ibid*, p. 9-11).

The distinction between globalization and regional integration has also been captured by the Global Economic Integration Index (GEII), developed by researchers from Asian Development Bank (Huh & Park, 2019). Unlike NGI, which does away with regional integration, GEII separately measures intraregional and extraregional integration, also adding new variables to the index. There are also variables included in other indices (e.g., ecological footprint in the MGI or McDonald's and IKEA facilities in the KOF index<sup>2</sup>) that are not included in the NGI. Regardless of that, the NGI presents a useful measure of globalization levels in specific countries, such as Serbia.

#### 4. THE NGI AND THE CASE OF SERBIA

A good way to demonstrate the utility of an index would be to provide a concrete measure of globalization levels for specific countries. Graph 1 shows the overall NGI score and scores for each subindex in the case of Serbia. The data used to get the scores are from 2019 for all variables available. In cases in which the data for that year were not available, the available data from the most proximate year were used.<sup>3</sup>

*Graph 1 (the overall NGI score for Serbia, along with relevant subindex values)*



Source: own calculation

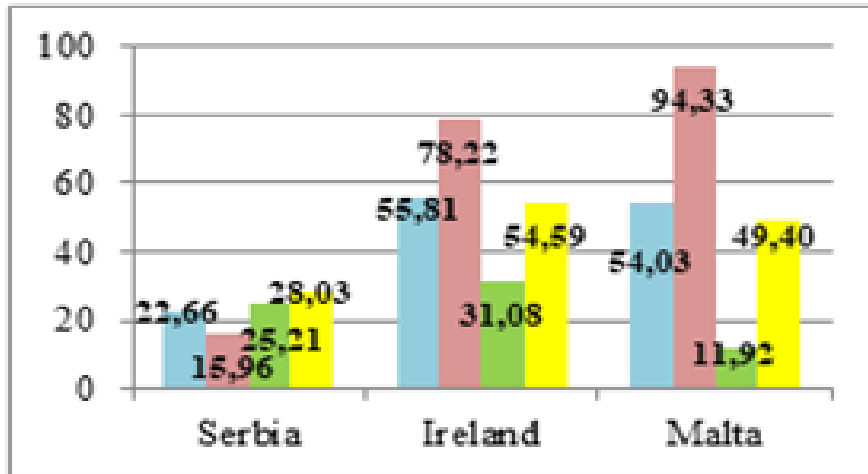
These results provide some interesting information. It is clear that the overall NGI score for Serbia is being pushed downwards by the relatively low score in the finance subindex. More concretely, the NGI score is being pushed downwards primarily by low levels of portfolio investments (both stock and flow), as well as relatively low values of the FDI stock variable. As for the trade & politics subindex, the score is negatively affected by the values of trade in goods, as well as the shares of non-resident patent and trademark applications, whereas political variables drive the score up. The highest score for Serbia, however, is reached in the case of international newspaper trade variable, which belongs to the social subindex (all data available upon request).

More information on the level of globalization in Serbia (as measured by the NGI) could be obtained by the comparison of scores for Serbia and other countries. The Graphs 2-4 shows how index and subindex scores for Serbia fare compared to the same scores for some of the most globalized countries, some of the least globalized countries, and some of the neighboring countries, respectively. The data used is either from 2019 or the proximate years, depending on the availability. The legend is provided next to the last graph.

<sup>2</sup> For more on variables from these indices, see Figge & Martens (2016, p. 385) and Dreher et al. (2010, p. 138).

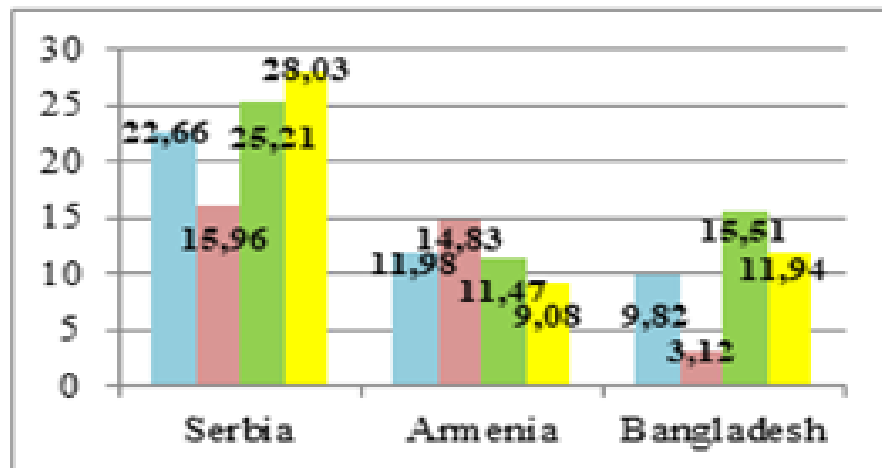
<sup>3</sup> The international tourism departures data were not available for any year. In that case, it was assumed that the average of the lowest (Croatia) and the highest (Albania) value from the region holds for Serbia.

Graph 2 (Serbia and the most globalized countries)



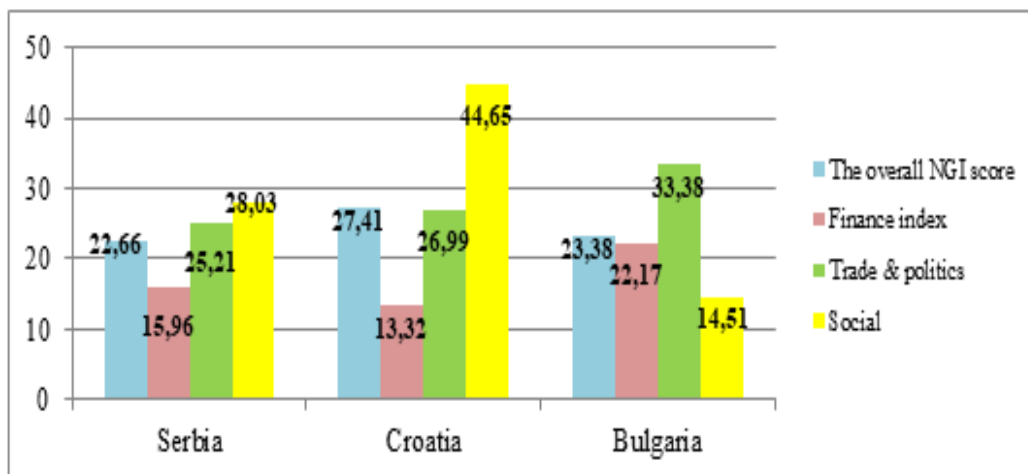
Source: Own calculation

Graph 3 (Serbia and the least globalized countries)



Source: Own calculation

Graph 4 (Serbia and two of its neighbors, along with the legend for the graphs)



Source: Own calculation

As these graphs show, there are not many ironclad regularities in comparisons of Serbia and countries from different groups. The most notable steady features are the relative similarities between Serbia and its neighbors, as well as high globalization levels in the Graph 1 group being primarily driven by high levels of financial globalization. The data used in the construction of the index was obtained from the World Bank (n.d.), UNCTAD (n.d.), WIPO (n.d.), IMF (n.d.), CIA (n.d.), UN (n.d.), UNESCO (n.d.), ITC (n.d.), ITU (n.d.), Embassy Pages (n.d.) and Nation Master (n.d.).

## 5. CONCLUSION

In this paper, we examined the construction of globalization indices, focusing on the New Globalization Index (NGI). We discussed the issue of globalization and ways it could be measured, also pointing to similar issues in measuring new protectionism. We emphasized the prevalence and ease surrounding the present day index construction practices. However, we stressed that, nevertheless, the construction of an index could provide very useful information, particularly when applied to specific countries. In demonstrating so, we focused on the example of NGI and its measure for Serbia. In discussing the relevant index and subindex scores for Serbia, we showed only a small sample of information that could be obtained by the construction of an index. We are sure that further work could shed more light both on the utility of indices and the concrete information about the phenomena being measured by them.

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