

Macroeconomic and Cultural Determinants of the COVID-19 Pandemic Crisis

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(Presented by Academy Member Vladimer Papava)

The main purpose of the study presented in the paper is to reveal some important macroeconomic and cultural features of the economic crisis caused by the COVID-19 pandemic. The study used the methods of system analysis and modeling. Since the source of the crisis was not the economy but the catastrophic impact of the coronavirus on various fields of human activities, the importance of developing the knowledge economy as well as the relevance of the concepts of the green economy and green growth are discussed and substantiated. In the study it's underscores that globalization is not a direct reason for the coronavirus crisis but it may significantly exacerbate such crises unless a clean environment is promoted and relevant “green” technologies are actually used in all the sectors of the economy. The author pays particular attention to the issue of increased economic uncertainty and according results of studies shows the necessity of strengthening comprehensive economic forecasting and analytical activities both in the private sector as well as when developing a macroeconomic policy. © 2021 Bull. Georg. Natl. Acad. Sci.

COVID-19 pandemic, high uncertainty, knowledge-based economy, cultural determinant of behavior

The analysis of the impact of COVID-19 in 2020 reveals a number of new peculiarities that can be used to characterize modern world and global economy. Firstly, it should be noted that at present the world civilization is particularly characterized by high degree of uncertainty which is the effect of the ongoing processes taking place in different spheres of society and which go beyond the scope of each sphere and in frequent cases they lead to significant and sometimes crisis-ridden shock effects. The COVID-19 pandemic has turned out to be a clear example of this phenomenon. At

present the economy is a “hostage” of medicine. It is a matter of speculation as to what economic losses will be experienced as the root cause of the economic crisis originated from the pandemic [1]. As the current economic crisis is considered to be COVID-related, the concept of “Coronomics” was coined to reflect the impact and consequences of the coronavirus on the economy [2].

The increased risk of an environmental impact on human health, for instance, is more evidence of the increased interrelations among society's spheres. Certainly, the studies found that the

emergence of new diseases, including pandemic diseases, is closely linked to the degradation of ecosystems and habitats which is a consequence of climate change, the intensive extraction of resources, urban and agricultural expansion and polluting the environment [3]. As for COVID-19 [4], the studies also clearly showed a link between the air pollution level and the deaths from this virus. According to one of the studies even a slight increase (by $1 \mu\text{g}/\text{m}^3$) of particular matter (PM_{2.5}) leads to the increased risk of deaths from COVID-19 by 15%.

It is important to have a conceptual understanding of the reality that we are facing qualitatively new global economic crisis, although its root causes are not endogenous but exogenous; that is, they are not generated in the economy but are triggered by a source outside of the economy and in the case of this pandemic the causes are generated as a result of the rapid spread of the coronavirus. Due to the circumstances, individual countries and the whole world are facing this new crisis which is different from a typical economic crisis and is now being called the “Coronomic Crisis” [1].

When examining the pandemic-triggered crisis, a systemic study of its macroeconomic and cultural components is important and this can be an important factor in ensuring the relative sustainability of the economy and entrepreneurial activities. This paper is dedicated to the analysis of the macroeconomic and the cultural determinants of the pandemic crisis and the issues of using them as factors in ensuring macroeconomic stability and the sustainability of the private sector.

Key Macroeconomic Structures of the Pandemic

In the context of the global economy, the spread of COVID-19 has made macro-economic determinants, such as the extent of the decline in the economic growth and the specifics of the post-

crisis economic recovery, coronavirus shocks, and Coronomic tax regulations, particularly relevant.

The coronavirus causes a triple economic shock: a demand shock, a supply shock and a financial shock [5-9]. The estimates of demand shocks vary by country while the economic recovery speed and degree will depend on the effectiveness of national economic policies. Greater similarity is found in terms of supply shocks and long-term effects in the countries.

A financial shock is particularly severe for each country and represents a key component in the loss reduction policies of governments. Correct Coronomic tax regulations also play an important role.

Pandemic and Macro Aspect of the Knowledge-Based Economy

With the increased risks and uncertainty, the knowledge-based economy is the fundamental basis for sustainable development. In the context of the COVID-19 pandemic, the knowledge-based societies and the knowledge-based economy allow for generating adequate modern knowledge and creating and using innovative technologies, including digital technologies. In this regard, we found it quite interesting to use the global knowledge index in order to determine the development level of countries as well as their successes and their weaknesses for the purposes of benchmarking [10]. This index has been calculated every year since 2017 and is a summary indicator of the knowledge performance in the countries surveyed. It covers the following seven fields: pre-university education (PUE), technical and vocational education and training (TVE), higher education (HGE), research, development and innovation (RDI), information and communications technology (ICT) and the economy (ECN) and the General Enabling Environment (GEE). The analysis of the situation in Georgia and its comparison with global and leading countries shows the challenges being faced by the country (Fig. 1):

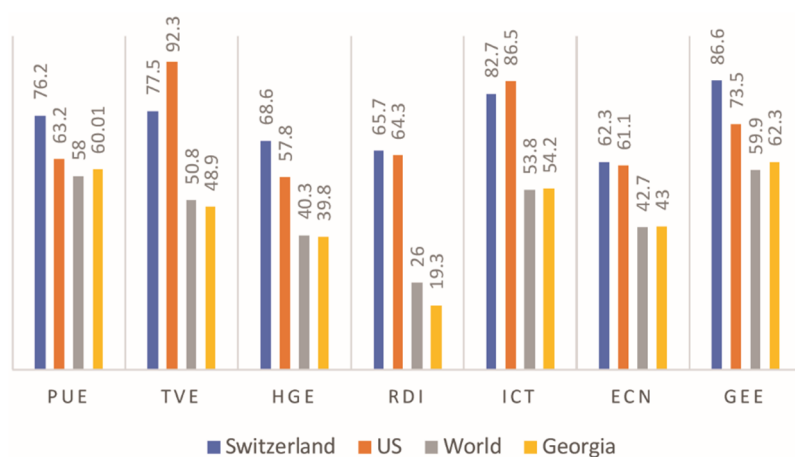


Fig. 1. Georgia's Position in the Global Knowledge Index (Source [10]).

According to the Global Knowledge Index 2020 it is important for all the countries to make more investments in studies and innovations. This indicator for Georgia lags behind the average global indicator and is much less than those of the leading countries. It is noteworthy that the Global Knowledge Index reflects the knowledge as a system with all of its important economic and social contexts by using quite comprehensive indicators.

It is to be noted that research and innovations play a critical role in ensuring the economic growth and effective use of the export potential in the developing countries (see, e.g., [11]). Additionally, it should be taken into account there is a real danger of the emergence of zombie firms that under the circumstances created by the pandemic which will be focused on generating innovations. This makes it expedient to identify such zombie companies and exclude them from using potential anti-crisis measures and state benefits. During the post-crisis period one of the challenges would be to adopt relevant legislative changes that would facilitate freeing economy from zombie companies [12].

In addition to the Coronomic factor, it should be taken into consideration that the modern stage of globalization is characterized by a number of particular characteristics of post-industrial development of which the most important is the

intensive realization of the knowledge-based economy [13]. It is also to be noted that globalization adds such dimensions to the knowledge-based economy as resource and technological, informational, communicational and institutional structures. According to the post-industrial theory, the key resources for the post-industrial economy are information and knowledge. The main type of activity is a high level of the automation of production processes mainly utilizing science-based technologies from the body of key technologies. From the types of economic activities, various services have become most common. It is well known that while agriculture was a dominant field in the pre-industrial society and while industry was dominant in the industrial society, the theoretical knowledge of universities as places where knowledge is actively generated is becoming a key determinant in the post-industrial society.

Increased uncertainty, the existing factors leading to Coronomic and other exogenous crises and the high risk of the emergence of these factors make more a knowledge-based economy more relevant for the future. This includes the digitalization of the economy and society as a whole and the promotion of knowledge-based social and economic development (green growth) [14], knowledge-based capital [15, 16] and knowledge-based entrepreneurial activities [13].

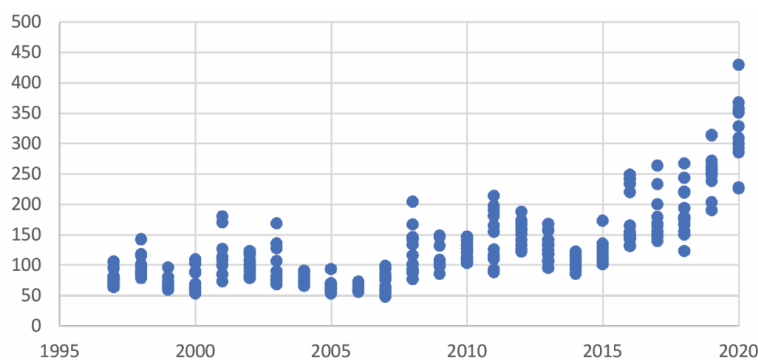


Fig. 2. Global Economic Policy Uncertainty (Source [18]).

Substantial Increase in Uncertainty as a Modern Challenge

An important feature is the increased level of uncertainty caused by the COVID-19 pandemic in all spheres of society, especially in the economy. For example, the uncertainty of global economic policy (for its measurements, see [17]) almost tripled over the last 25 years (Fig. 2).

Certainly, globalization is not a direct cause of the COVID-19 pandemic but it contributes significantly to the emergence of any serious global challenge if the side effects are not addressed which is not possible in frequent cases (Black Swan Theory) [19]). It is worth noting that if the existing trends continue (which is highly likely), the uncertainty will increase much more in the nearest ten years (see Fig. 3) and will probably create new sources of global challenges and risks which are yet unknown to us. It has become extremely important

to design a knowledge-based decision-making process at every level of the social and economic systems by strengthening the long-term forecasting substantially (at the level of the private sector of the economy and entrepreneurship through business analytics and in the field of economic policy – through complex macroeconomic analyses).

COVID-19 Pandemic and the Cultural Factor

The culture factor is significant in forming the knowledge-based economy [13] as well as in realizing the green economy concept [20]. The history of the coronavirus spreading in 2020 clearly showed the dependence of the extent of the pandemic crisis on the cultural factor. The pandemic has become such a significant phenomenon that it is now impossible to talk about any area of social life or any activity in any country

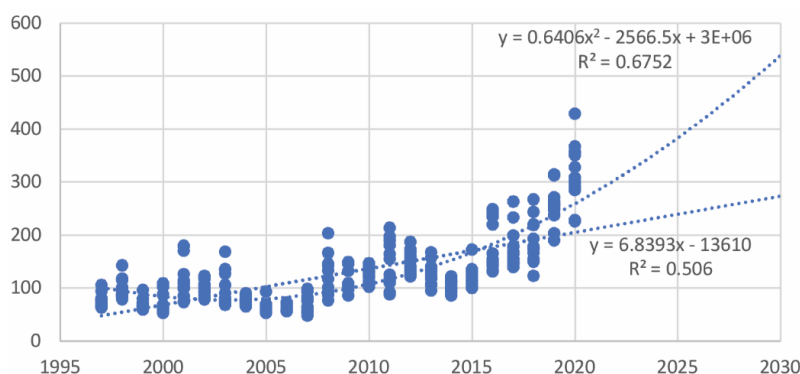


Fig. 3. Retrospective and Forecasting Dynamics of Global Economic Policy Uncertainty (by the author using dates of resources [18]).

without its mention. Those factors which have proven to be effective in fighting the pandemic have become particularly relevant. Besides the health care system, we consider that the peculiarities of national cultures are quite important for the state authorities in different countries. Furthermore, this phenomenon gained attention and some publications have emerged in the recent period (see [21, 22]). Economics needs to be studied in more depth and systemically given its importance in view of the complexity of the global problem. The first conclusions important to be drawn are related to the influence of national cultural peculiarities on the spread of the pandemic which primarily hinges on maintaining the requirements of social distancing. Additionally, the peculiarities of national cultures are important determinants. Due to the format of Hofstede's six-dimensional cultural model, the characteristics of culture such as power distance, individualism and indulgence were found to be the most crucial. According to Hofstede's concept, power distance reflects the existence of egalitarian or hierarchical power in society. This parameter reveals the interrelationship of culture and power. Individualism reflects what culture considers to be national rights and which type of power belongs to a person (an individual) if it is considered that success depends on collectivity and interdependence. Indulgence reflects the degree of loyalty and tolerance towards differences in society and the level of influence that public opinion can have on an individual [23, 24]. It was found that the higher the power distance is, the more disciplined the population is in enforcing the mandatory restrictions imposed by the government through the regulations. On the contrary, in countries with a low power distance, the observance of the mandatory requirements is weaker and the rate of the pandemic's outbreak is consequently higher. In countries with high level of individualism, it was more difficult to contain the spread of pandemics as

compared to collectivist cultures which can quite logically be explained by the different attitudes towards observing the mandatory requirements of the restrictions imposed. The cultural indicator of indulgence has a similar logical basis. Considering the abovementioned, the peculiarities of the cultural factor, first and foremost, should be reflected in the strategies and concrete actions chosen by the governments in their respective countries.

It is important to take into consideration the specifics of the national culture, as a determinant, which will be revealed in the actual behaviors, life and activities of individuals in various fields under the conditions of the coronavirus.

Conclusion

Significant macroeconomic and cultural determinants have been highlighted based on examining the peculiarities of the economic crisis caused by the COVID-19 pandemic. In order to respond to the challenges similar to those being encountered during this pandemic, it is quite urgent to formulate and implement knowledge-based economy as well as green economy and green growth concepts. Although the globalization is not a direct cause of the coronavirus crisis, it may further exacerbate similar crises unless the protection and maintenance of clean environment is ensured and green technologies are actually used in all economic sectors. Special attention should be given to the problem of the prospective increase of economic uncertainty and comprehensive forecasting and analytical activities should be substantially increased in order to reduce it, both at private sector level as well as in the course of developing and implementing macroeconomic policies. The peculiarities of the cultural determinants that influence human behaviors must be taken into consideration in order to increase the effectiveness of the state regulations during the coronavirus crisis.

ეკონომიკა

COVID-19-ის პანდემიით გამოწვეული კრიზისის მაკროეკონომიკური და კულტურული დეტერმინანტები

გ. ბედიანაშვილი

ივანე ჯავახიშვილის სახ. თბილისის სახელმწიფო უნივერსიტეტი, ეკონომიკისა და ბიზნესის ფაკულტეტი; ევროპის უნივერსიტეტი, გლობალიზაციის ეკონომიკური და სოციალური პრობლემების კვლევითი ინსტიტუტი, თბილისი, საქართველო

(წარმოდგენილია აკადემიის წევრის ვ. პაპავას მიერ)

სტატიაში წარმოდგენილი კვლევის ძირითადი მიზანია COVID-19-ის პანდემიით გამოწვეული ეკონომიკური კრიზისის ზოგიერთი მნიშვნელოვანი მაკროეკონომიკური და კულტურული თავისებურებების გამოვლენა. კვლევაში გამოყენებულ იქნა სისტემური ანალიზისა და მოდელირების მეთოდები. გამომდინარე იქიდან, რომ კრიზისის წყარო არ იყო ეკონომიკა და იგი აისახა საზოგადოების სხვადასხვა სფეროზე კორონავირუსის კატასტროფული ზემოქმედების შედეგად, სტატიაში განხილული და დასაბუთებულია ცოდნის ეკონომიკის ფორმირების მნიშვნელობა, ასევე მწვანე ეკონომიკისა და მწვანე ზრდის კონცეფციების აქტუალურობა. კვლევაში აღნიშნულია, რომ გლობალიზაცია არაა პირდაპირი მიზეზი კორონავირუსული კრიზისის, თუმცა შეიძლება გახდეს მსგავსი კრიზისების მნიშვნელოვანი გამწვავების იმპულსის მიმცემი, თუ არ იქნა სუფთა გარემოს არსებობის ხელშეწყობა და შესაბამისი „მწვანე“ ტექნოლოგიების რეალური გამოყენება ეკონომიკური საქმიანობის ყველა სექტორში. განსაკუთრებული ყურადღება აქვს დათმობილი ეკონომიკური განუზღვრელობის მნიშვნელოვანი ზრდის პრობლემას, კვლევის შედეგად ნაჩვენებია მისი შემცირებისთვის კომპლექსური საპროგნოზო-ანალიტიკური საქმიანობის გაძლიერების აუცილებლობა როგორც კერძო სექტორის დონეზე, ისე მაკროეკონომიკური პოლიტიკის ფორმირებისას.

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