Proceedings of the 2023 International Conference "ECONOMIC SCIENCE *FOR RURAL DEVELOPMENT" No 57*
Jelgava, LBTU ESAF, 10-12 May 2023, pp. 276-286
DOI: 10.22616/ESRD.2023.57.027

ECONOMIC CRISES AND FACTORS FOSTERING SMALLER ECONOMIC DOWNTURN AND SPEEDIER RECOVERY

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Abstract. COVID-19 pandemic caught the world by surprise. On March 11th, 2020, World Health Organization (WHO) announced the global pandemic, and governments started to initiate various kinds of non-pharmaceutical interventions (NPI) and disease containment measures. These NPI measures reduced the mobility of the population and slowed down business activities. State governments had to come up with viable fiscal support packages for the health and economic sectors. It created a unique opportunity for economists and academia to compare the effectiveness of different state governments and policies vis-a-vis the consequences of suddenly imposed health and economic challenges. It raised the issue of why in some countries the depth of the crisis (GDP % change) and speed of recovery from the crisis (attaining the level of 2019 GDP) was different. In order to comprehend the complexity of various factors influencing economic developments, this article aims to research economic and other social-economic factors defining the depth of the crisis and speed of recovery. The article will also try to establish whether these factors could be associated with more financial and fiscal resources needed in the due course and further increase of the outstanding public debt and debt service costs in the future. The author will be using the regression method to compare various economic variables. Results prove that stringency and NPI measures were not the only factors influencing the depth of the crisis. Research findings indicate that public debt plays a crucial role in precluding the recovery and efficient use of fiscal resources. However, the quality of institutions, governance, and confidence in government are clear contributors to the efficient use of limited fiscal resources and shallower economic crisis and speedier recovery, too.

Key words: COVID-19 crisis, economic recovery, fiscal policy, institutional quality, public debt.
JEL code: E44, E62, H62, H63, O43

Introduction

COVID-19 caught the world by surprise. On March 11th, 2020, World Health Organization (WHO) announced the global pandemic. Thus, in fact, initiating the imposition of various kinds of non-pharmaceutical intervention (NPI) and containment measures and reduction of mobility of population and slowed down business activities in order to reduce the spread of lethal disease.

COVID-19 pandemic provided once in a life time opportunity to compare actions and policy measures of various governments in the time of the crisis, when states were borrowing substantial financial resources in order to support economies with vast amount of fiscal resources. Great Financial Crisis (GFC) had substantially increased the debt of almost all countries. Fiscal space has been substantially reduced. COVID-19 required an additional borrowing to tackle the emergency. Some countries experienced more pronounced negative GDP change and slower recovery than others. COVID-19 pandemic provided new grounds and data for economists and academia to analyse the preconditions and factors safeguarding speedier recovery and return to the pre-crisis GDP levels, thus allowing in the future for more efficient use of the limited fiscal resources and precluding governments from further increase of the public debt.

The author with multi factor linear regression analysis will research why in some countries the depth of crisis (GDP % change) was shallower and the recovery to the pre-crisis level of GDP was sooner or speedier than in the others. The author also will study why there are countries experiencing more severe economic downturn, slower recovery and are forced to use more sizable fiscal packages than others. In the light of these questions, the author embarks on the analysis of the efficiency of the use of the limited fiscal resources and the study of the other factors defining the efficiency of the use of these precious fiscal resources, especially in the times of crises.

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Through comprehensive analysis of the sample of OECD countries, the author concludes that besides the public debt, institutional quality, government effectiveness and confidence in government play crucial role in the overall process of managing the crisis and conducting the day to day macroeconomic management of the country's fiscal and financial situation.

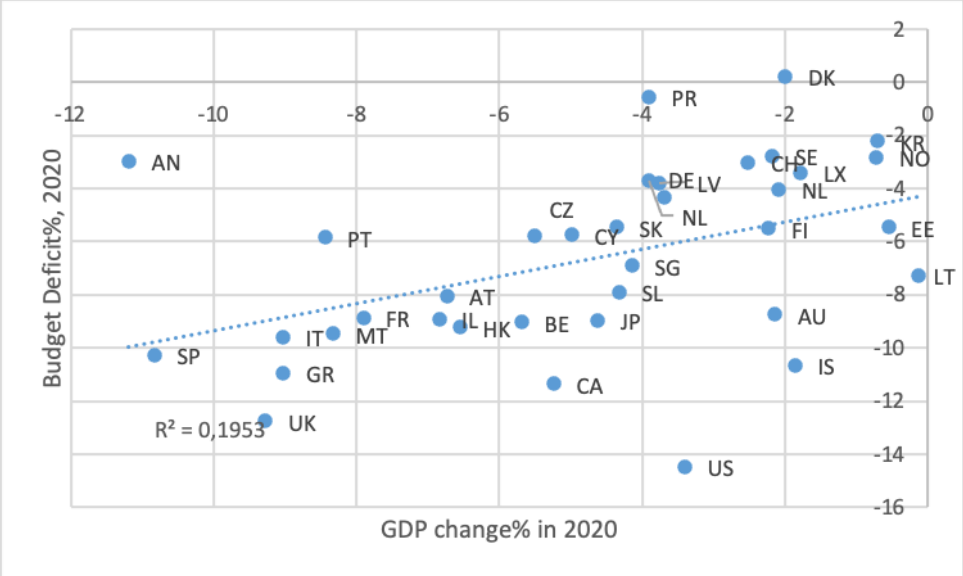
In the light of currently high inflationary environment and increasing service costs of the rising and outstanding debt, the author alleges that the paper will serve as an inspiration to review the current macroeconomic policies and to make necessary adjustments.

Research results and discussion

1. Raising debt levels reduce potential GDP growth

Governments implemented non-pharmaceutical intervention (NPI) measures in order to reduce spread of COVID-19 pandemic, thus substantially impairing economic activity, GDP growth, fiscal revenues and increasing budget deficits and outstanding public debts. Some countries in 2020 witnessed even double-digit GDP decrease, encountering even larger budget deficits.

Additional borrowing was immediately needed and had to be financed immediately in the financial markets.



Source: author's calculations based on IMF, WEO database, October 2022

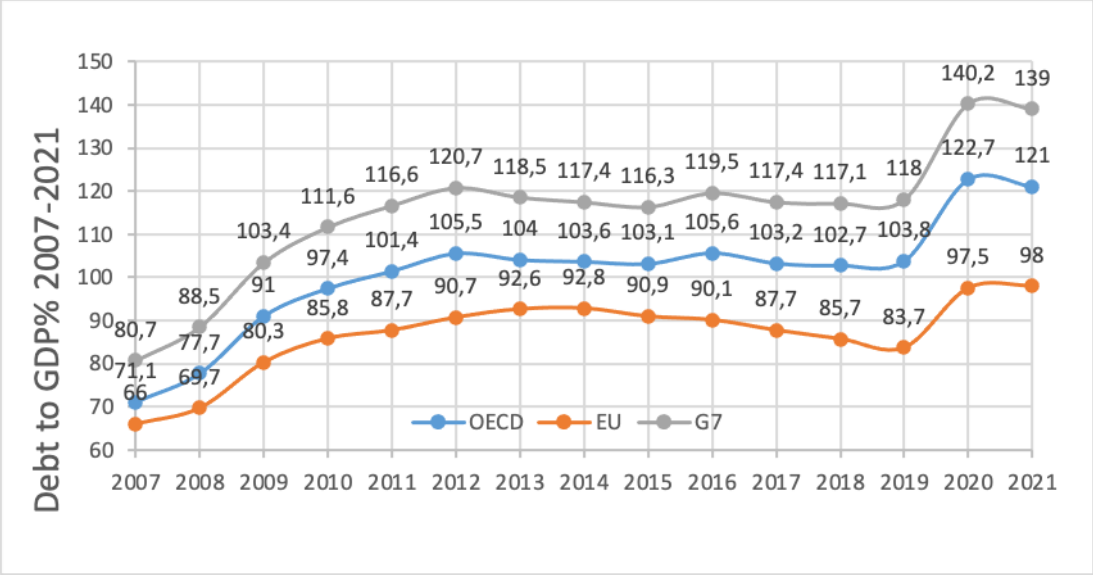
Fig. 1 **GDP and budget deficit change in 2020**

Fiscal support to health system and economy required substantial additional borrowing in the financial markets and increased budget deficits even further. Figure 1 reflects the situation in OECD countries, where in addition to the decreasing budget revenues, large fiscal spending and borrowing was needed to support economic activity and aggregate demand. Nevertheless, additional borrowing and increasing of the debt did not secure GDP from falling in 2020 in the majority of the countries.

It has been established that NPI measures played certain role in slowing down economic activity. However, stringency of NPI measures and mobility reduction of population was not the only factor of slowing down economic activity and reducing GDP growth (Sapir, 2020) and further increase of the budget deficit.

Great Financial Crisis (GFC) had substantially elevated the outstanding debt levels of many countries around the world. In the "peacetime", when GFC was over, from 2011 to 2020 only few countries e.g. Malta, Israel, Norway, Sweden and Switzerland (IMF, 2022) had returned to their pre-crisis debt levels to

GDP of 2007. Thus, fiscal space was not freed for the future crises and challenges continued to mount and COVID-19 economic crisis increased debt levels further to new elevated levels Figure 2.



Source: author's calculations based on IMF, WEO Database October, 2021

Fig. 2**. Debt to GDP% in 2007-2021**

Ghosh, et.al. in 2013 came up with data and methodology for 23 advanced economies over 1970–2007 defining the "fiscal space," as the difference between forecasted future debt ratios to GDP and debt limits. In 2007, there were no signs of serious risks associated with serious challenges of shrinking fiscal space. Fifteen years later after two major crises (GFC and COVID-19) the situation has changed and requires to revisit this study again. Especially under the circumstances of rapidly increasing interest rates and surging debt servicing costs, which have serious implications for future fiscal space.

Since fiscal space is limited and governments had used substantial resources in the previous GFC crisis (Botev, et.al., 2016), it is important to reflect on the respective financial position and initial financial stance of the respective governments during COVID-19 crisis in order to better capture the whole picture of the financial and fiscal positions. Although countries had different levels of outstanding financial obligations or debt levels at the beginning of the COVID-19 crisis, OECD economies were able swiftly borrow and finance crisis needs, thus making it possible to compare and analyse the policies of the respective countries and find the factors which made one group of the countries using limited fiscal resources more efficient and recovering to the pre-crisis GDP level sooner than the others, which after all allowed them to save precious fiscal resources and to preserve the fiscal space.

After (GFC) of 2008-2010, Reinhart and Rogoff (Reinhart and Rogoff, 2010a) claimed that there is certain threshold of debt to GDP and after reaching 90% debt to GDP level growth will be impaired and prospects become gloomier. The study produced series of an additional research from various angles and certain critique also made (Reinhart and Rogoff, 2010b) to revisit their original paper.

GFC ended and economists and analysts did not arrive at the firm conclusions. Consensus among economists and researchers was not reached. One camp of economists (Afonso and Alves, 2014; Baum, et.al., 2012; Cecchetti, et.al., 2011; Chudik, et.al., 2017; Woo and Kumar, 2015) came to the conclusion clearly demonstrating the role of public debt in the future growth once it reaches certain threshold. The other camp (Ash, et.al., 2017; Herndon, et.al., 2013; Pescatori, et.al., 2014) adamantly refused to accept that notion and presented different evidence not approving high debt to GDP level negative influence on the future GDP growth. (Herndon, et.al., 2013) accused Reinhart and Rogoff for poor quality of data analysis

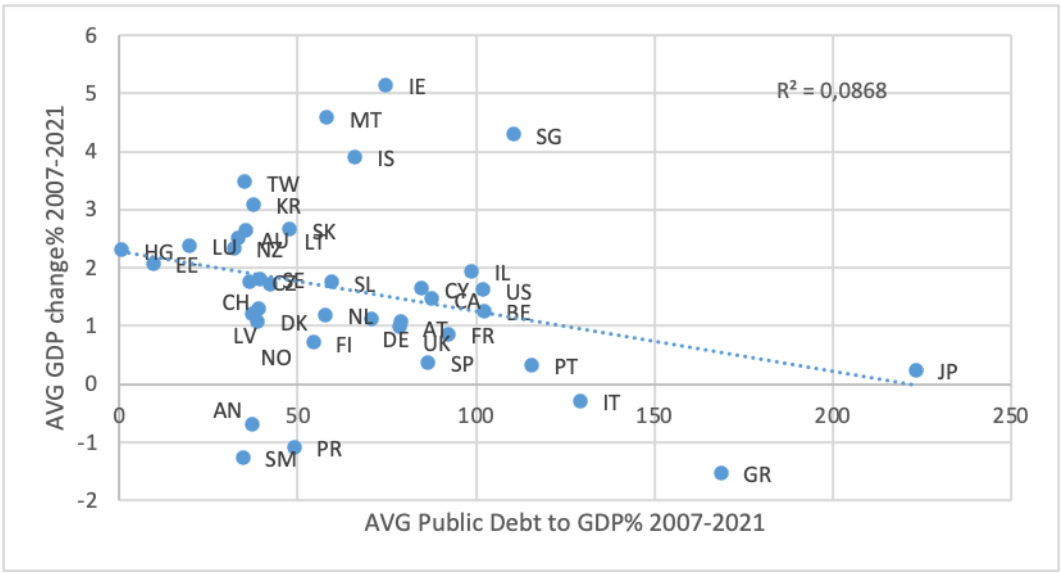
and misleading final conclusions. Some other economists and researchers also did not agree with those conclusions. However, (Panizza and Presbitero, 2012) were less adamant and careful with strict conclusions and only admitted that: "it seems that advanced economies in our sample are still below the country-specific threshold at which debt starts having negative effect on growth".

Additional studies analysed the permanent and transitory effects of the public debt on the economic growth (Abubakar and Mamman, 2020) acknowledging negative effect of the debt effects on GDP growth, but emphasizing that short term rise of the debt would not be harmful. Heimberger's study (Heimberger, P., 2021) claimed that there is no universal threshold when debt is detrimental to the future growth for all the countries, and the 90% is not a "magic" number.

The discussion whether elevated debt levels to GDP impair future growth remained unresolved. COVID-19 economic crisis provided unique opportunity to bring the research about debt to GDP level and future growth impairment further. Therefore, the concept that when debt to GDP reaches certain threshold level, GDP grows slows, the usage of the borrowed financial resources becomes less efficient. Instead of safeguarding fast and steady recovery and stimulating GDP growth, GDP growth and recovery slows down. Thus, further deteriorating financial conditions for the refinancing of the outstanding debt obligations and creates uncertainty and instability, worsening credit rating of the country and creating the speculative grounds in the financial markets. Therefore, it is important to analyse what are the reasons.

2. Factors influencing the depth and length of crisis

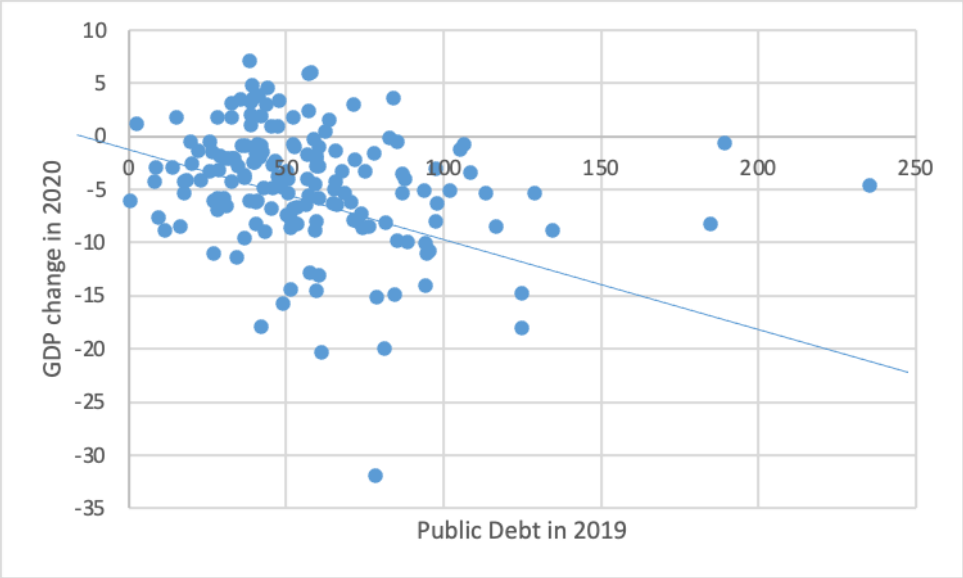
Figure 3 reflects the development of public debt and GDP growth over the period of fifteen years (2007-2021) in advanced economies and approves the hypothesis that larger public debt correlates with smaller GDP growth.



Source: author's calculations based on IMF, WEO database, October 2022

Fig. 3. **AVG Public debt to GDP% and GDP change% in OECD countries in 2007-2021**

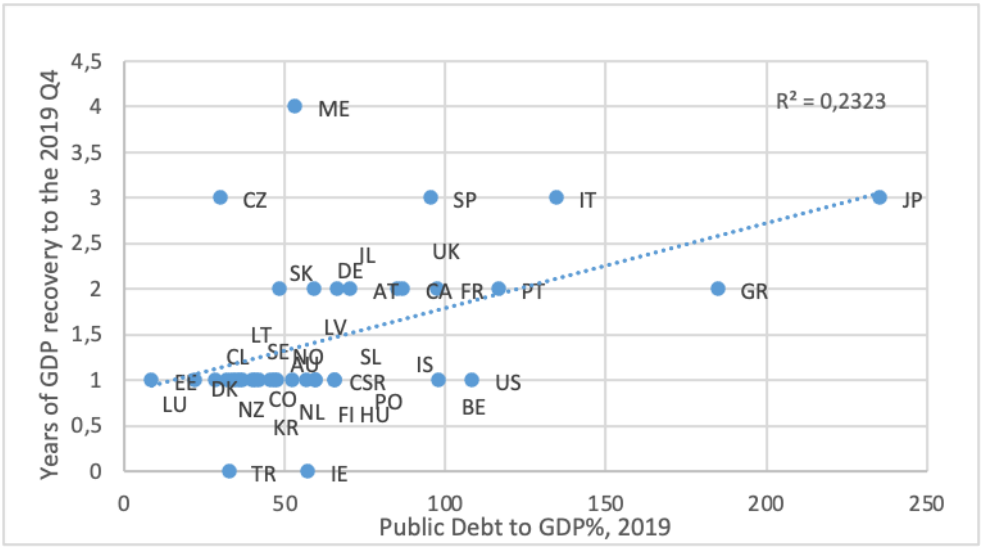
COVID-19 economic crisis provided economists with new data and allowed to continue the research. Reinhart's and Rogoff's hypothesis became more and more evident and easier to justify. New analysis of the GDP % change in 2020 or the depth of the crisis was conducted by the author, comparing 152 countries using the latest data from World Economic Outlook (WEO), (IMF, 2022b), which in Figure 4 demonstrates that the crisis is deeper in the countries with larger outstanding public debt.



Source: author's calculations based on IMF, WEO database, October 2022

Fig. 4. **Public debt in 2019 and GDP change% in 2020 (152 countries)**

The overall conclusion that level of the public debt to GDP has negative effect on the future economic growth raises further question whether it is justifiable to continue to increase debt level further, knowing that future growth will be impeded and the recovery or the time required to reach pre-crisis GDP levels will be lengthier and costlier as pictured in Figure 4.



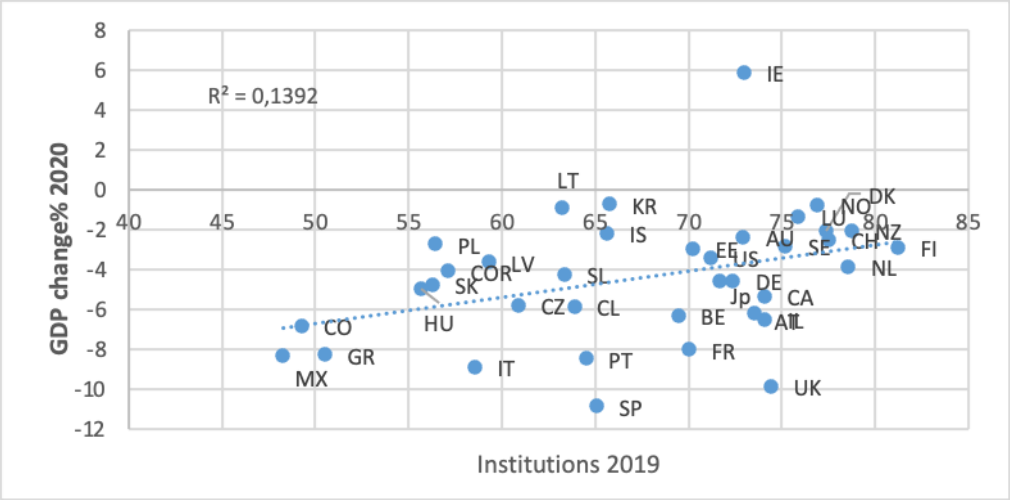
Source: author's calculations based on IMF, WEO database, October 2022

Fig. 5. **Years of GDP recovery to 2019 Q4 level**

Figure 5 reflects close correlation between size of the public debt and time needed to reach pre-pandemic GDP level of 2019Q4. GFC aftermath studies did not allowed to state with certainty that debt, once it reaches particular threshold is detrimental for the faster recovery. COVID-19 economic crisis provides an additional evidence in supporting Reinhart's and Rogoff's arguments back in 2010.

3. Quality of Institutions, Governance and Confidence in Government

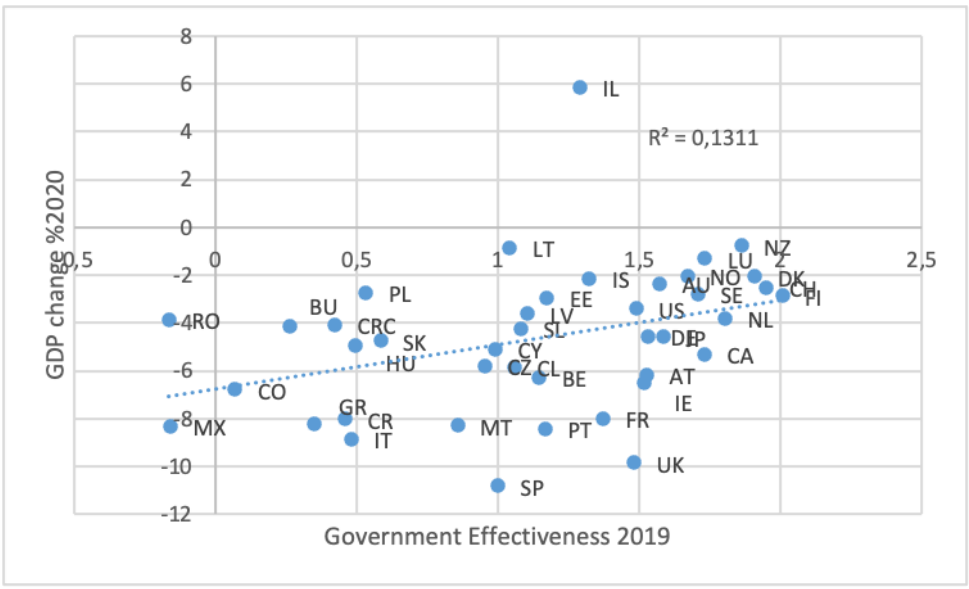
Are mobility reduction and public debt only factors influencing the depth of the crisis and speed of recovery? World Economic Forum (WEF) database provides data for the Quality of Institutions.



Source: author's calculations based on WEF database, 2019

Fig. 6. **Institutions and GDP % change in 2020 or the depth of crisis**

Quality of Institutions, Governance, Confidence in Government policies are important set of factors, which have been analysed in various circumstances. Acemoglu and Robinson in their world famous book *Why Nations Fail: The Origins of Power, Prosperity and Poverty (2012)*, concluded that institutional quality is one of the key factors of economic growth. The author reveals that quality of Institutions is not only increasing the income, and especially increasing the income per capita (Rodrik and Subramanian, 2003; Rodrik, et.al., 2002), but also cushions the depth or severity of the economic crisis. Analysis of various factors of the severity of COVID-19 economic crisis demonstrates that countries with better institutional quality score better and have smaller negative size of GDP % change in 2020 (Figure 6) than other countries.



Source: author's calculations based on IMF, WEO database, October 2022; Worldwide Governance Indicators, 2019

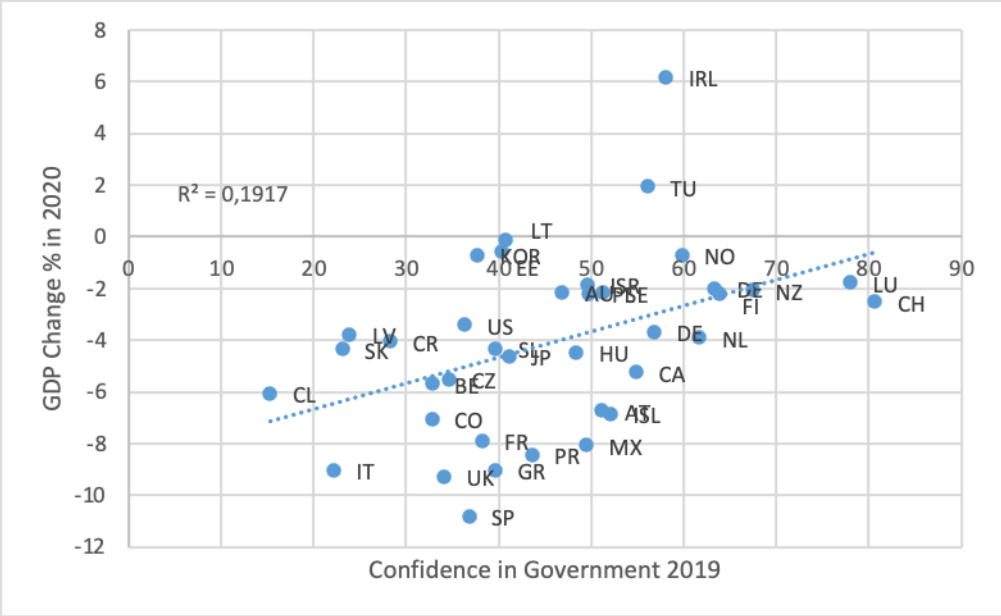
Fig. 7. **Government effectiveness and GDP % change in 2020 (the depth of crisis)**

The Worldwide Governance Indicators consists of six key indicators: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption. The names of indicators are self-explanatory, indicating the strength or respective weaknesses of particular branch of the government. Strength in setting up, creating, regulating, stabilizing,

legitimizing functioning of the respective market and protecting property rights and ensure contract enforcement of the market economy (Kaufmann, et.al., 2005).

"If you cannot measure it", Lord Kelvin once famously exclaimed, "you cannot improve it" (World Bank Institute, 2009). By offering the tools to gauge the governance and monitor changes of its quality, the World Bank's Worldwide Governance Indicators (WGI) present the framework of Institutional Quality measurement design and evaluation. WGI provide an information regarding the states' ability to govern and to safeguard necessary environment for the state's market economy to function and to carry out the duties and the tasks. Figure 7 demonstrates that negative GDP % change in 2020 or depth of the crisis was smaller in countries with better or higher government effectiveness in 2019.

Trust in Government and government policies is another important indicator reflecting the behaviour of the public and readiness to follow and to execute the decisions, orders and invitations of the government in turbulent times, like COVID-19 crisis. Figure 8 reflects that countries with higher Confidence in Government had less deep economic crisis and less negative GDP growth in 2020. It correlates with an assumption that people having more Confidence in Government, had to had less strict stringency or containment measures and thus, smaller mobility decrease and decrease of economic activity.



Source: author's calculations based on OECD Data base 2021; IMF, WEO database October, 2022

Fig. 8. **Confidence in Government and GDP change % or the depth of crisis**

Summing up Quality of Institutions, Government Effectiveness and Trust in Government indicators of 2019 in Table 1, provides a new set of data, allowing to carry out analysis how these factors influence or help to facilitate the crisis and whether lower borrowing stems from higher Quality of Institutions, Government Effectiveness and Trust in Government. Table 1 also includes the initial debt level of 2020 (end 2019), thus providing comprehensive information about the debt level and the respective Institutional, Government effectiveness and Trust in Government factors and allowing to rank the OECD countries according to the all four indicators in column Total Rating. Out of that Total Rating, the author builds further the analysis whether countries with better Total Rating have more appetite to borrow in order to tackle the problems and whether they borrowing more than countries with lower Total Ranking.

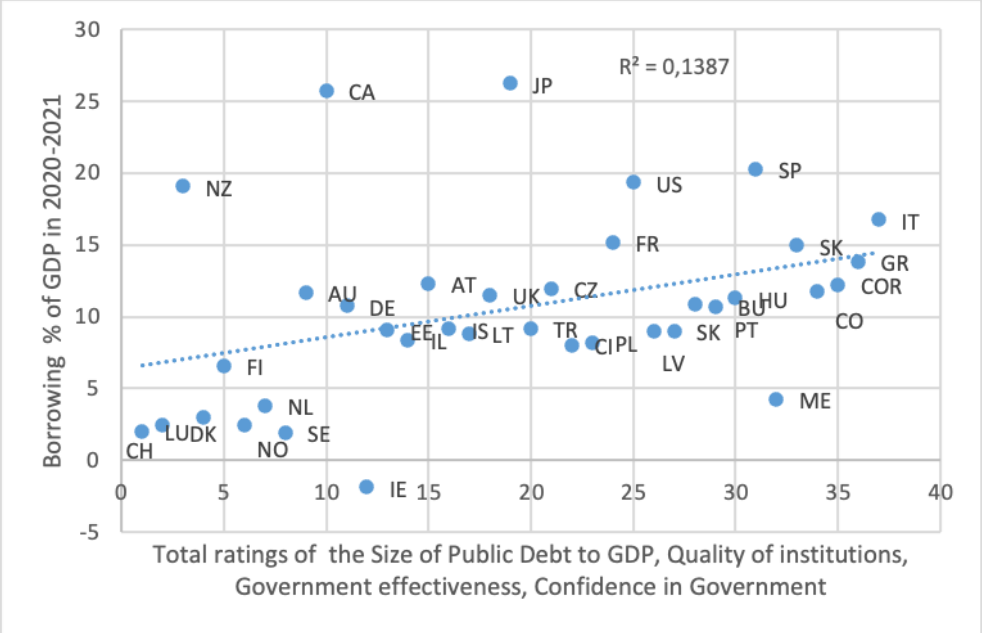
Table 1

Ratings of Size of Debt, Government Effectiveness, Quality of Institutions and Confidence in Government in 2019

Country	Debt 2019	Rating	Government effectiveness_2019	Rating	Institu-tions 2019	Rating	Confi-dence in Governm ent	Rating	Total Rating
Luxembourg	22.3	2	1.73	6	75.9	7	78	2	17
Switzerland	39.6	11	1.95	2	77.5	4	80.7	1	18
New Zealand	31.8	5	1.67	9	78.8	2	67.5	3	19
Denmark	33.7	7	1.91	3	77.4	5	63.3	5	20
Finland	59.6	23	2.01	1	81.2	1	63.9	4	29
Norway	40.9	12	1.86	4	76.9	6	59.8	7	29
Netherlands	48.5	16	1.80	5	78.6	3	61.7	6	30
Sweden	34.9	8	1.71	8	75.2	8	51.3	13	37
Australia	46.7	14	1.57	11	72.9	14	46.9	19	58
Canada	87.2	29	1.73	7	74.1	11	54.9	11	58
Germany	58.9	22	1.53	12	72.4	15	56.8	9	58
Ireland	57.2	20	1.29	19	73.0	13	58.1	8	60
Estonia	8.5	1	1.17	20	70.2	18	40.3	23	62
Iceland	66.2	26	1.52	14	74.1	10	52.1	12	62
Austria	70.6	27	1.53	13	73.5	12	51.2	14	66
Israel	58.8	21	1.33	18	65.6	21	49.6	16	76
Lithuania	35.9	9	1.04	26	63.3	26	40.7	22	83
UK	83.9	28	1.48	16	74.4	9	34.1	30	83
Japan	236.3	37	1.59	10	71.7	16	41.1	21	84
Turkey	32.6	6	0.05	36	53.9	34	56.1	10	86
Czech Rep	30.0	4	0.96	28	60.9	27	34.67	29	88
Chile	28.3	3	1.06	25	63.9	24	15.3	37	89
Poland	45.6	13	0.53	30	56.4	31	49.8	15	89
France	97.4	30	1.37	17	70.0	19	38.2	26	92
USA	108.8	33	1.49	15	71.2	17	36.3	28	93
Latvia	36.7	10	1.10	23	59.3	28	23.9	34	95
Slovenia	65.4	24	1.08	24	63.4	25	39.7	24	97
Portugal	116.6	34	1.17	21	64.5	23	43.6	20	98
Belgium	97.7	31	1.15	22	69.5	20	32.8	31	104
Hungary	65.5	25	0.50	31	55.7	33	48.4	18	107
Spain	98.3	32	1.00	27	65.1	22	36.8	27	108
Mexico	53.3	18	-0.16	37	48.3	37	49.5	17	109
Slovak Rep	48.1	15	0.59	29	56.3	32	23.1	35	111
Costa Rica	56.4	19	0.42	33	57.1	30	28.3	33	115
Colombia	52.4	17	0.07	35	49.3	36	32.8	32	120
Greece	185.6	36	0.35	34	50.5	35	39.6	25	130
Italy	134.1	35	0.48	32	58.6	29	22.2	36	132

Source: author's calculations based on IMF, WEO October database 2022, and OECD Data base 2021

Anglo-Saxonian countries and Japan clearly stand out as the separate group of aggressive borrowers during pandemic, hoping to provide huge fiscal stimulus at the outset of the crisis to facilitate arising problems. However, rest of the OECD countries except Spain, Italy and France had modest appetite to borrow. Figure 9 allows to draw a conclusion that countries with better Quality of Institutions, Government Effectiveness and Trust in Government and lower initial 2020 debt to GDP level, were borrowing less in 2020 and 2021. Thus, approving the hypothesis that these countries used less new financial resources, used fiscal resources more efficiently and managed to have less negative GDP growth and shallower crisis in 2020.



Source: author's calculations based on IMF, WEO 2022, OECD Data base 2021; WGI, 2019

Fig. 9. **OECD Country's Ratings of Size of the Public Debt to GDP, Quality of institutions, Government effectiveness and Confidence in Government in 2019**

Countries with better Quality of institutions, Government effectiveness and Confidence in Government and lower initial 2020 debt to GDP level not only had less negative GDP numbers and economic crisis, but also recovered sooner reaching pre-crisis 2019 GDP level, than the countries with larger debt level at the beginning of the 2020 and lower Institutional Quality, Government effectiveness and Confidence in Government and as the result deeper crisis.

Preliminary studies also approve the hypothesis that countries with better institutional quality, government effectiveness and trust in government policies not only recover sooner to the pre-crisis 2019 level GDP, but also are capable to reach the envisaged and projected GDP level of 2020, which was forecasted before COVID-19 pandemic.

Conclusions, proposals, recommendations

Every economy from time to time witnesses smaller or larger economic turbulences. COVID-19 crisis provided opportunity to compare how the countries tackled economic crisis associated with COVID-19 imposed problems. The paper provides an answer why some countries in 2020 experienced less negative GDP % change and which countries had deeper crisis. Based on COVID-19 twin (health and economic) crisis analysis results, the author concludes:

1) countries with smaller debt burden, better institutional quality, especially government effectiveness, more confidence in government, had smaller GDP % change in 2020;

2) countries with smaller debt burden, better institutional quality, especially government effectiveness, more confidence in government had shallower economic crisis in 2020 and recovered to the pre-crisis 2019 GDP level sooner than the others;

3) countries with smaller debt burden, better institutional quality, especially government effectiveness, more confidence in government, borrowed less, spent available fiscal resources more efficiently and increased less the outstanding debt obligations;

4) based on COVID-19 twin (health and economic) crisis analysis results, the author concludes that countries with larger outstanding Public Debt levels recovered later.

Efficient use of limited fiscal resources is reflected in smaller use of the discretionary fiscal resources and smaller borrowing in the markets in order to minimize negative GDP growth and secure economic recovery.

Periods after financial or economic crisis always must be used to renew the fiscal space and to rebuild the fiscal buffers in order to be able to act in the next crisis, which will definitely will come uninvited. Period after Great Financial Crisis was not wholeheartedly used to renew initial fiscal and debt positions. Only few countries managed to restore the 2007 debt to GDP level and therefore safeguarded speedier recovery.

The next discussion is awaiting whether higher Quality of Institutions, Government effectiveness and Confidence in government provides an additional clout also to provide speedier overall recovery and reaching the GDP levels in the upcoming years planned before COVID-19 crisis. Preliminary studies approve the hypothesis that countries with better institutional quality, government effectiveness and confidence in government not only recover sooner to the pre-crisis 2019 level of GDP, but also are capable to reach the envisaged and projected GDP level of 2020 in 2019, which was forecasted before COVID-19 pandemic.

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