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PUBLIC DEBT SUSTAINABILITY CHALLENGES IN THE REPUBLIC OF SERBIA DURING THE COVID-19 PANDEMIC

Abstract: The scientific and professional public has been debating the impact of public debt on economic development for a long time. Although the 2007 crisis further highlighted the importance of the debt problem of the economies around the world, this problem became more relevant with the emergence of the COVID-19 pandemic and has become particularly prominent due to the uncertainty of its duration. For this very reason this paper aims to contribute to a clearer understanding of the consequences stemming from the crisis caused by the COVID-19 pandemic regarding the public debt of the Republic of Serbia. To indicate the extent of the indebtedness problem that is affecting the Serbian economy, especially compared to the countries of the Western Balkans. The primary methods used in the paper –analysis and synthesis, comparative method, and method of generalisation – were adapted to the stated goal and the the research subject. The obtained results suggest guidelines for the authorities' priority activities with the aim of reducing public expenditure so that sustainable dynamics of the public debt can be achieved and conditions for improving the dynamics of economic growth can be met.

Keywords: COVID-19 pandemic, public debt sustainability, Republic of Serbia.

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1. Introduction

For several decades, public debt has been a constant source of income, the main goal of which is not only the establishment of a budget balance but also the efficient financing of the economic policy led by the government of a country. Public debt is a result of a budget deficit, so the state, through public borrowing, takes the responsibility of returning the borrowed funds with the agreed interest. It also represents a form of non-fiscal public income, and it is projected in the financial obligations of the state, on the one hand through the loan agreement, and on the other hand, based on the legal obligations which come from the obligations of the state towards domestic or foreign investors, towards other countries or international monetary institutions.

Developing countries have precise dynamics of public debt compared to developed countries. In the process of economic development, they often find themselves in a situation where the levels of public debt are positively correlated with the levels of economic growth.

The faster growth dynamics enable the changes of these countries along a downward path of debt, provided that the accumulation of debt is supported by a carefully designed policy and strategy of public debt management. Public debt, however, becomes unsustainable when the debt burden begins to grow, that is, when debt growth exceeds income growth and debt servicing begins to exceed recommended threshold levels.

A public debt crisis in a national economy does not only negatively affect the public sector and the efficiency of performing its essential functions in the economy, such as defence, security, justice, health, social protection, etc., but also leads to a disruption of the balance and an increase in the instability of a country's economy. In cases of high public debt, there is a significant increase in interest rates in the public and private sectors, so personal consumption and investments are in decline. In the case when the public debt exceeds the limit of sustainability, the GDP decreases by 5-10%, with the consequent effect on the growth of unemployment. In such conditions, it is essential to predict the public debt crisis ex-ante and take timely measures to solve it (Arsić, 2012, p. 114). To avoid this situation, it is necessary to take several measures. First, successful debt reduction requires fiscal consolidation

and the combined application of economic policy measures, which will support economic growth. Second, the implementation of fiscal consolidation measures should aim at eliminating structural weaknesses in the economy. Third, economic policymakers should be aware that reducing public debt is a long-term problem that requires the application of combined economic policy measures.

The global financial and economic crisis of 2007 left a legacy of public debt at a historically high level in almost all countries, especially in the developed ones, on a scale that has not been registered to date. Given the extreme severity of the crisis, which many have called the "Great Recession", this accumulation of debt acted as a shock absorber for production through the operation of automatic stabilisers for the costs incurred by the stabilisation of the financial sector and the fiscal stimulus measures taken at the beginning of the crisis. While debt ratios have generally declined since the crisis, they remain at high levels in some countries. However, the COVID-19 pandemic, which occurred at the beginning of 2020, represented a somewhat different but more severe shock to the global economy. Due to the implementation of "lockdown" measures in mid-March, real GDP made a record decline in almost all countries of the world in the first quarter of 2020. Fiscal positions were strongly affected by the crisis both through automatic stabilisers and discretionary fiscal measures. This significant fiscal policy support, together with monetary policy measures, was necessary to mitigate the negative economic effects of the crisis caused by the COVID-19 pandemic.

Bearing in mind that the issue of public debt is a multi-decade problem faced by the economy of the Republic of Serbia and considering the scale of the current crisis caused by the COVID-19 pandemic, the research subject of this paper is the analysis of the state and dynamics of public debt in the previous period with reference to 2020 -2021. The paper aims to provide an answer to the following research question: to what extent did the COVID-19 pandemic contribute to the deterioration of the state of the public debt of the Republic of Serbia compared to the period before the crisis?

Achieving the main objective of the research was carried out using the methods of analysis and synthesis, comparative methods, and gene-

ralisation methods. The key research information base consists of data from relevant Serbian databases (Ministry of Finance of the Republic of Serbia) and internationally comparable databases (International Monetary Fund, EUROSTAT, and Trading Economics).

In accordance with the set subject and goal of the research, this paper, in addition to the introductory considerations, consists of the following units: the first part refers to the consideration of the problem of indebtedness and defining the limit of the sustainable level of indebtedness; the problem of public debt in the conditions of the COVID-19 pandemic was analysed in the second part of the paper, and after pointing out the dynamics of public debt in the Republic of Serbia in the previous period, a synthesis of the concluding considerations that were reached by researching the aforementioned problem was made.

2. Sustainability of public debt

The need for borrowing arises from the basic macroeconomic equation, where a country's aggregate production is lower than its aggregate consumption. Due to the internal imbalance, which results in an increase in the demand for foreign goods, a deficit in the foreign trade balance occurs. The foreign trade deficit leads to a decrease in the inflow of foreign currency from exports, which has a negative impact on the budget deficit. Internal borrowing reduces the liquidity of the economy and leads to the effect of crowding out private investments, increasing interest rates due to greater demand for money, and reducing income levels, which leads to recession. In addition to borrowing on the domestic market, borrowing can also be done abroad, which creates external indebtedness that is achievable if the country is perceived as a highly credible debtor that can adequately service its obligations in the future. Borrowing is not common for developing countries. It is common for developed countries whose primary goal is not to finance unemployment, inflation, budget deficit, and the like. It is a regular practice for developed countries in modern conditions. Indebtedness appears as a need for financial resources due to the gap between public revenues and public expenditures, previous ineffective borrowing, increased investment in the public sector, infrastructure, etc.

Numerous researchers confirm the existence of a positive relationship between the size of external debt and economic development. The results of empirical research show that if the external debt exceeds the critical limit, it will have a negative impact on investments, the level of international competitiveness, the stability of financial markets, and the dynamics of economic activity. It is impossible, however, to establish a borrowing limit that is applicable to all national economies because different national economies bear the burden of borrowing differently. Some are experiencing a crisis with a tiny percentage of public and external debt in the gross domestic product, while others are functioning with a share of public debt that exceeds the level of the gross domestic product. The limits of borrowing sustainability cannot be determined precisely, but they are reached at the moment when the goals of macroeconomic policy are in danger. In other words, the sustainability of borrowing has not been achieved until public expenditures, which are financed by borrowing, increase the degree of utilisation and raise the quality of the production capacity of the economy (Despotović, Cvetković, & Veličković, 2010).

The level of sustainability of public debt is primarily determined by the level of economic development and the character of the economic policy pursued by the government of a country. Public debt depends on the changes of numerous variables, their level, and dynamics, but also on uncertainty in their change (primary fiscal deficit, rate of economic growth, interest rate, and exchange rate). In addition, the sustainability of public debt is an endogenous variable that depends on fiscal policy, so in conditions of high public debt, credible fiscal consolidation is the most important.

The problem of debt sustainability, which developing countries faced in the past, encouraged some developed countries to take specific measures in cooperation with the World Bank and the International Monetary Fund, the implementation of which would ensure the exit of the mentioned countries from the zone of excessive indebtedness. Developed countries, therefore, carry out constant supervision over underdeveloped countries in order to prevent the accumulation and unsustainability of debt and to encourage the inflow of capital to these countries.

The International Monetary Fund has developed a framework for analysing the sustainability of public and external debt as an instrument to prevent the occurrence of and eliminate the debt crisis. This framework consists of two complementary components that include (Janković & Stanišić, 2015, p. 267) the sustainability analysis of the total public debt and the sustainability analysis of the total external debt.

Each of these components contains a base scenario that is composed of a series of macroeconomic projections that make up the policies adopted by the government with clearly established assumptions and parameters and a series of sensitivity tests applicable to the given base scenario. The change of debt indicators and stress tests enables the assessment of countries' vulnerability to payment crises. The obtained results must be evaluated on the basis of relevant and country-specific circumstances, taking into account the specific characteristics of the country's debt. Due to these specificities, two frameworks were created - one for low-income countries and the other for market-oriented economies.

The main objective of the first framework is to support these countries in making borrowing decisions in a way that suits their funding needs, considering their current and future debt servicing capability. This framework provides a risk assessment of over-indebtedness in order to take adequate and timely measures.

The performed analysis of debt sustainability, based on this framework, consists of (Janković & Stanišić, 2015, p. 266): standardised analyses that pre-assess the debt and the dynamics of its servicing under the base scenario and changes using possible shocks; debt sustainability assessments in relation to debt thresholds of specific countries that depend on the quality of policies and institutions and a recommended borrowing strategy that limits the risks of debt problems.

Table 1. *Debt sustainability thresholds according to the Debt Sustainability Framework (DSF) of the World Bank and the International Monetary Fund*

Quality of economic policies	**Present value of debt as a % of**			**External debt servicing as a % of**	
	Export	GDP	Budget income	Export	Budget income
Low	100	30	200	15	25
Medium	150	40	250	20	30
High	200	50	300	25	35

Source: International Monetary Fund (2022a). The Debt Sustainability Framework for Low-Income Countries. Retrieved from https://www.imf.org/external/pubs/ft/dsa/lic.htm

According to this framework, the position is conceived that a country with a low income and better economic policies and institutions can withstand a higher level of external debt, and these countries, based on the quality of the policy, are classified into three categories: low, medium and high quality of the policy. Also, this framework establishes three thresholds for each indebtedness indicator (level of exports, gross domestic product, and income). High thresholds correspond to a high level of economic policies, which is logical since countries with high credibility of economic policies can have higher values of debt indicators compared to countries with ineffective economic policies.

Based on sustainability thresholds (Table 1), the risk of over-indebtedness can be classified into four categories:

1) **Low risk** – all indicators are far below debt thresholds for certain countries.
2) **Moderate risk** – the base scenario does not indicate an overdraft, but during the stress testing, the indebtedness thresholds are exceeded.
3) **High risk** - debt thresholds are exceeded in the base scenario, but also a worsening of the situation during stress testing and

4) **The problem of over-indebtedness** - occurs when there is a significant overdraft of debt that lasts continuously.

However, it is not a rare case that the indicators give different results, which calls for careful interpretation and assessment of the observed country's state of debt.

There are different approaches to analysing the sustainability of external debt, which provide essential information to economic policymakers (Dragutinović, 2012, p. 13). The econometric approach is used when testing time series, which is, testing public revenues, expenditures, fiscal results, and other quantities in order to determine their stationarity or cointegration. The accounting approach is used when calculating the primary fiscal result, which is necessary to stabilise the share of public debt in the gross domestic product. The value of the necessary adjustment represents the difference between the primary fiscal result, which is necessary for debt stabilisation, and the actual or projected primary fiscal result. The macroeconomic approach uses econometric models to estimate the equilibrium dependence between the fiscal result and a series of explanatory variables. Using projections of key explanatory variables, it is possible to calculate the norm of fiscal result for an individual country in the future.

3. The public debt issue in the context of the COVID-19 pandemic

Increasing development opportunities outside the domestic accumulation framework and through the exchange deficit (financially covered by external debt) is economically justified if the funds acquired are used in respect to economic efficiency. In other words, the funds should be used to accelerate national economic growth to the level that prevents further borrowing, as well as to encourage its structural transformations with the aim of strengthening the economy's export capacity, in order to provide funds for repaying debts and interest. If the external sources capital is used for non-productive purposes, economic growth and chances for debt repayment will decrease. The amount of external debt is a significant indicator of the fiscal and economic stability of a country; hence the issue of public debt management is a very important issue for the development of an economy.

Growing debts in the conditions of economic and financial liberalisation, accompanied by the global inflation of the 'monetary bubble' (most prominent during the last three decades) lead to significant macroeconomic problems and limit economic growth and development. This is evident in countries that use external and total debt for consumption purposes, instead of productive investments and development, as well as in those countries that have a higher debt repayment compared to the increase in gross domestic product (Šojić, 2019, p. 36).

The increase in borrowing is additionally influenced by crisis situations (e.g., the global financial crisis followed by the Great Recession) but can also be different in nature and related to health concerns, such as the current COVID-19 pandemic. The COVID-19 pandemic was an unexpected exogenous shock that brought most of the world's economies into a state of recession at the beginning of 2020 (Petrović-Ranđelović & Radukić, 2021, p. 160). Serious economic and social consequences of the pandemic were caused by shock interactions on the supply side (decline in production and investment, limited opportunities to purchase production factors) and on the demand side (decline in demand due to uncertainty, decline in household income and purchasing power). In such conditions, there was a decline in flows of global trade and investment, a depreciation of commodity prices, a deterioration of economies' external position and the emergence of a global recession.

The pandemic represents a health shock that initiates a shock on the supply side and a shock on the demand side, thereby reducing opportunities for the realisation of economic activities and setting limits for the development of economies worldwide. Faced with an unprecedented crisis in economic history, uncertainty regarding the realisation of economic activities imposed new challenges on economic policy makers, who took measures to stabilise business conditions and provide support for economic recovery. "For the first time since the Great Depression, both advanced and emerging market economies will be in recession in 2020. Today, there is a common awareness that the scale of this crisis, with related economic paralysis, high unemployment and rising debt, appears much wider and deeper than the global financial crisis of 2008-2009" (Schilirò, 2020). Precisely for this reason, governments around

the world have taken significant fiscal, monetary and financial measures in a very short period, i.e., a slightly different set of economic policy measures which, due to the unique nature of this health shock, is not based on the application of previously known solutions. Doing this was important because the COVID-19 pandemic has not only affected low/middle income countries, but rather the entire world. A high degree of economies' integration into the world economy and the act of keeping interest rates at a historic low significantly facilitated the spillover of negative effects on global production networks and supply chains. In their study of economic recovery chances Carlsson-Szlezak et al. (2020) identified three scenarios through the concept of "shock geometry". According to the most optimistic, V-shaped, scenario — aggregate production quickly recovers and returns to the pre-crisis level. However, according to the second scenario, the recovery path is U-shaped, with output falling rapidly but not returning to pre-crisis levels. The third, L-shaped, path shows output declining and growth rates continuing to decline, with the gap between pre- and post-crisis output widening. At the very beginning of the pandemic, the general opinion was that the economies would move in a V-shaped path, but with the increase in the number of infected people, there was a great pressure on countries' health systems, which indicated immense economic consequences and the most difficult scenarios that would hit economies around the world.

Unlike the global financial crisis and the Great Recession of 2007, central banks reacted immediately to prevent recession, but also to ensure the sustainability of public debt. The public debt sustainability assessment was carried out by Briseno and Perote (2020) on the example of the Eurozone countries which were faced with three major crises in the last two decades: the mortgage crisis, the public debt crisis and the crisis caused by the COVID-19 pandemic. They found that the COVID-19 pandemic had caused Eurozone countries facing negative economic growth rates and high unemployment to increase their public debts to levels that cannot be considered sustainable. Reforms in Europe's pension and unemployment insurance systems are therefore necessary to ensure the sustainability of public debt amid the COVID-19 pandemic. In addition, although a high level of public debt may reduce the rate of economic growth, Butkus et al. (2021) found that the statistically nega-

tive marginal effect debt has on growth begins to manifest itself at lower values of the debt-to-GDP ratio when the cost multiplier is lower and vice versa. Essentially, fiscal, monetary and macroprudential policy intervention measures significantly mitigated the drop in production due to the crisis caused by the COVID-19 pandemic.

According to Kightley and Jędrzejowicz (2021) the dynamics of public debt depend on two key variables - the country's primary balance and the difference between the average effective interest rate on public debt and nominal GDP growth (r - g). In the case of a negative difference between r and g, a zero primary surplus will eventually lead to a fall in the debt-to-GDP ratio, regardless of its initial size. Another way to present the implications of the debt dynamics equation is to assume that under conditions of existence of a negative difference between r and g, any size of the primary deficit will result in a final debt-to-GDP ratio. Moreover, assuming that the difference between r and g remains negative, not only will the fiscal costs of higher public debt stay absent, but the welfare costs will also be lower than usual due to the reduction in the marginal product of capital.

A lower or negative difference between r and g can prevent a further increase in the debt ratio, but also lead to a reduction in debt. If the difference between r and g is negative, a country with a higher debt ratio can actually run a larger primary deficit than a less indebted country, in order to stabilise its debt. However, when it comes to debt reduction, the primary surplus must always be one percentage point higher than its debt stabilisation level, for debt-to-GDP to fall by one percentage point. A significant reduction in public debt from current levels would require running substantial primary surpluses over several years, even if the difference between r and g is favourable.

The question remains: what are the implications of low interest rates on fiscal sustainability, that is, will fiscal adjustments be more expensive in such circumstances? If interest rates are too low and there is no room to lower them further, monetary policy does not play a significant role in reducing public debt (interest rates facilitate maintaining high public debt rates and make it harder to reduce them). Consequently, in the context of the COVID-19 pandemic and in a world of low interest rates,

fiscal policy should show greater effectiveness in neutralising negative effects the crisis has on economies worldwide.

With the aim of mitigating negative economic consequences of the pandemic in the first quarter of 2020, most countries applied a combined set of economic and tax policy measures, direct incentives (allowances) from the budget, along with measures preserving liquidity. Republic of Serbia introduced measures totalling RSD 675.9 billion through three packages (Marjanović et al., n.d.): the first package included all three groups of assistance in the amount of RSD 608.3 billion; the second package represented a combination of tax policy measures and measures of direct payment in the sum of RSD 66 billion; the third package was of a sectoral nature since the support was intended for companies operating in the tourism sector and it was the smallest in terms of size (RSD 1.6 billion).

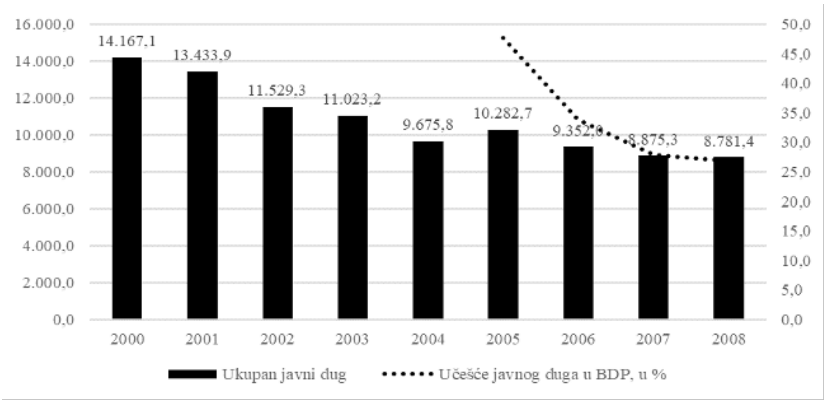
4. Analysis of Serbia's public debt dynamics in the COVID-19 pandemic context

In 2001 significant efforts were made towards the realisation of a comprehensive program of economic reforms and certain economic policy measures were applied. Without further analysing the results, it can be concluded that until the appearance of the first COVID-19 effects, relatively satisfactory results were achieved in the elimination of economic restrictions that undermined the plans Serbia had for its economy (macroeconomic stability, stable inflation, growth in the employment rate...). The relatively satisfactory macroeconomic performance of the Serbian economy achieved in the previous period, represented a good basis for entering the COVID-19 crisis zone with much lower economic and social costs of adapting to the new conditions.

Observing the dynamics of Serbia's public debt, two periods can be clearly distinguished. In the period from 2001 to 2008 (Chart 1) there was a drastic reduction in public debt — from EUR 14.2 billion to EUR 8.8 billion, due to the 66% write-off of the debt towards the Paris Club and a 62% write-off towards the London Club. Likewise, paying debts to foreign creditors, along with paying EUR 1.3 billion on the basis of

foreign currency savings and domestic debts, both had an impact on reducing public debt levels. Intensively implementing the transitional program aimed at liberating economic flows, consequently led to revenues from privatisation being a dominant category in filling Serbia's budget, while its deficit was not particularly emphasised (Kalaš et al. 2016, p. 25).

Chart 1. *Serbia's public debt dynamics, in total and in % of GDP, 2000-2008*



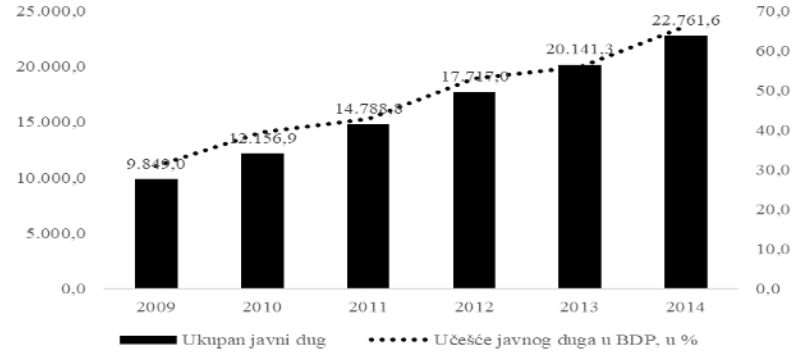
Source: Republic of Serbia, Ministry of Finance (2022). Table 5. Republic of Serbia's public debt in the period from 2000 to 31 May 2022, 5 July 2022. Retrieved from https://mfin.gov.rs/dokumenti2/makroekonomski-i-fiskalni-podaci

The second period is characterised by the public debt going through an ascending and descending phase in its dynamics, which can be observed through three phases.

In the phase from 2009 to 2014 (Chart 2), a sharp increase in public debt was noticeable — from EUR 9.9 billion to EUR 22.8 billion. Its GDP share was more than doubled (from 30.9% in 2009 to 66.2% in 2014) due to the negative effects of the global financial crisis and the Great Recession manifesting on Serbia's economy (slow economic activity and declining GDP growth), as well as due to internal limiting factors. Despite the privatisation of state-owned and social enterprises

leading to increase in income, in the period from 2000 to 2014, public debt increased faster than real economic activity. In particular, the level of public debt more than doubled in 2014 compared to 2008, i.e., an average increase of 22.7% was recorded per year.

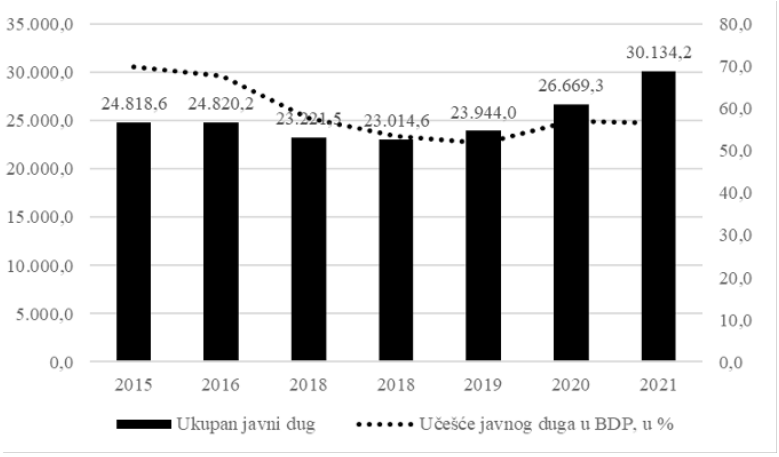
Chart 2. *Serbia's public debt dynamics, in total and in % of GDP, 2009-2014*



Source: Republic of Serbia, Ministry of Finance (2022). Table 5. Republic of Serbia's public debt in the period from 2000 to 31 May 2022, 5 July 2022. Retrieved from https://mfin.gov.rs/dokumenti2/makroekonomski-i-fiskalni-podaci

In the second phase, from 2015 to 2019 (Chart 3), the Serbian economy recovered due to the implementation of fiscal consolidation measures, which initiated the trend of fiscal deficit reduction (from 3.5% in 2015 to 0.2% in 2019), as well as to the reduction of public debt both in absolute amount and in relation to GDP (from EUR 24.8 billion to EUR 24 billion; from 70% in 2015 to 51.9 % in 2019, respectively) (Republic of Serbia, Ministry of Finance, 2022).

Chart 3. *Serbia's public debt dynamics, in total and in % of GDP, 2015-2021*



Source: Republic of Serbia, Ministry of Finance (2022). Table 5. Republic of Serbia's public debt in the period from 2000 to May 31, 2022, July 5, 2022. Retrieved from https://mfin.gov.rs/dokumenti2/makroekonomski-i-fiskalni-podaci

The third and ongoing phase pertaining to the beginning of the pandemic is also the most uncertain one – both in terms of its duration and the extent of its consequences. According to Petrović-Ranđelović and Radukić, from the current frame of reference – while the pandemic is still in progress and both its duration and magnitude are impossible to accurately predict – no reliable estimates can be given concerning the impact of the current crisis on the national economy (2021, pp. 160–161).

The COVID-19 pandemic brought about a significant decline in global economic activity. The impact on Serbia's economy was reflected in the deterioration of key macroeconomic indicators – a decline in production; decline in and cessation of foreign trade; increase in the budget deficit and public debt, etc. However, a 1% drop in the country's economic activity during the pandemic in 2020 was relatively small in comparison to the EU member states and the WB4 (Albania, Bosnia and Herzegovina, Montenegro, and North Macedonia), which suffered drops of 5.9% and 7.0% on average, respectively (International Mone-

tary Fund, 2022b). This was due to a good starting position, structural characteristics of the Serbian economy, and measures taken to limit the economic impact of the pandemic.

Table 3. *Changes in internal and external public debt of Serbia, 2000-2021*

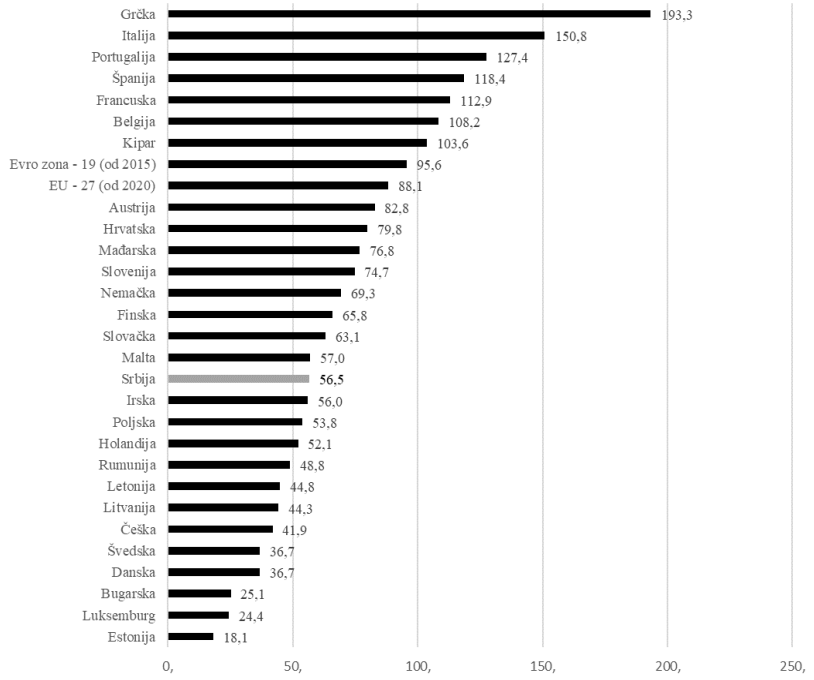
	Internal public debt (bn EUR)	External public debt (bn EUR)	Share of external debt in total public debt (%)
2000	4,1	10,0	71,0
2001	3,8	9,5	71,2
2002	4,1	7,2	62,7
2003	4,2	6,5	59,5
2004	4,0	5,2	54,4
2005	4,2	5,3	52,1
2006	3,8	4,7	50,7
2007	3,4	4,6	52,0
2008	3,1	4,6	53,4
2009	4,0	4,4	44,7
2010	4,5	5,8	48,3
2011	5,4	7,2	48,9
2012	6,4	8,6	48,6
2013	7,0	10,2	50,8
2014	8,2	11,9	52,6
2015	9,0	13,3	53,8
2016	8,7	13,9	56,0
2017	9,0	12,3	53,2
2018	9,4	12,0	52,4
2019	9,8	12,6	52,7
2020 COVID-19	11,2	14,0	52,6
2021 COVID-19	11,3	17,4	57,7

Source: Republic of Serbia, Ministry of Finance (2022), Table 5. Public debt of the Republic of Serbia in the period of 2000-2022-05-31, July 5, 2023. Retrieved from https://mfin.gov.rs/dokumenti2/makroekonomski-i-fiskalni-podaci

The application of "measures in the form of subsidies to the economy and the population, tax delays, reduction of reference interest rates of central banks, expansionary monetary policy, 'cheap money' policy, as well as the state aid to the most vulnerable sectors in the hospitality, transport and tourism, contributed to deepening budget deficits and growth in public debts of the countries around the world" (Đorđević et al., 2021, p. 69). For instance, at the beginning of the crisis, the budget deficit of the EU states widened from 0.6% of GDP in 2019 to 6.8% of GDP in 2020 (EUROSTAT, 2022); similarly, the budget deficit of the Western Balkan (WB) countries was on average running at 0.7% of GDP in 2019 and 7.7% of GDP in 2020 (Authors' calculations based on data retrieved from Trading Economics, 2022). The rise in Serbia's budget deficit in 2020 compared to 2019 (-8.3% of GDP and 0.2% of GDP, respectively) was higher than the WB average (7.7% of GDP in 2020). In 2020, Montenegro recorded the most dramatic increase in the budget deficit in the entire region (from 2% of GDP in 2019 to 10.1% of GDP in 2020), while Bosnia and Herzegovina's budget deficit was the lowest (5.3% of GDP) (Authors' calculations based on data retrieved from Trading Economics, 2022). Throughout the course of 2021, this downward trend continued both in Serbia (4.6% of GDP) and elsewhere (European Union – 4.6% of GDP; Albania 4.8% of GDP, Bosnia and Herzegovina 0.3% of GDP, North Macedonia 5.4% of GDP).

Economic policymakers' immediate reactions – namely the expansionary fiscal policy measures aimed at halting the decline in economic activity and maintaining the rate of economic growth – caused a sharp increase in public debt in virtually every country in the world. Serbia's public debt increased from EUR 23.9 billion in 2019 to EUR 26.6 billion in 2020 and then to 30.1 EUR billion in 2021 (Chart 3). This increase stemmed from numerous fiscal and monetary adjustments to the Serbian economy in response to pandemic circumstances. A more reliable indicator of the severity of the crisis is a relative increase in Serbia's public debt levels to 57% and 56.5% of GDP over the last two years.

Chart 4. Debt-to-GDP ratio (in %) in the EU member states and Serbia in 2021.



Source: EUROSTAT (2022) Retrieved from https://ec.europa.eu/eurostat/data/database

The structure of public debt shows that external public debt was higher than internal throughout the entire period between 2000 and 2021 (Table 3). This was particularly the case at the end of 2021 when external public debt amounted to EUR 17.4 billion, or 57.7% of total public debt; in the same year, internal public debt totaled EUR 11.3 billion, or 37.6% of total public debt. Indeed, these data confirm that the structure of Serbia's public debt was adversely impacted by the pandemic.

The state of Serbia's public debt can also be analysed in relation to its currency structure. According to data obtained from the Public Debt Administration (2021, p. 3), the share of outstanding public debt denominated in foreign currencies at the end of December 2021 was 71.5%. The largest portion of total public debt consisted of borrowings in euros (57.7%), followed by dinars (57.7%), then US dollars (10.8%), and finally borrowings in other currencies (0.8%). In comparison with the

pre-crisis period, a significant increase in the share of debt in the domestic currency could be observed. This was due to attempts at reducing the exposure of the domestic economy to foreign currency risk through the issuance of domestic currency securities.

Table 4. *Debt-to-GDP ratio (in %) in the countries of the Western Balkans, 2000–2021.*

	Albania	Bosnia and Herzegovina	Monte-negro	North Macedonia	Serbia	Region average
2000.	63,7	34,6	n/a	45,5	224,7	135,1
2001.	60,6	35,2	n/a	45,2	106,3	75,8
2002.	64,1	31,1	76,7	40,4	76,1	58,3
2003.	60,2	27,6	40,8	36,4	71,7	54,1
2004.	57,4	25,4	45,3	34,5	62,1	48,3
2005.	58,2	25,5	38,5	36,6	51,3	44,0
2006.	56,6	21,2	36,6	30,5	37,9	34,2
2007.	53,5	18,7	31,7	23,5	31,2	27,4
2008.	55,1	30,8	34,1	20,6	30,5	25,6
2009.	59,6	35	43,6	23,7	33,9	28,8
2010.	57,7	40,8	45	24,2	41,2	32,7
2011.	59,4	39,5	48,5	27,7	43,9	35,8
2012.	62,1	42,2	56,8	33,6	54,4	44,0
2013.	70,3	42,4	58,6	33,9	57,6	45,8
2014.	71,9	45,8	63,3	38	67,5	52,8
2015.	73,7	45,5	68,7	38	71,2	54,6
2016.	73,3	44	66,3	39,8	68,7	54,3
2017.	71,8	37,9	66,2	39,3	58,6	49,0
2018.	69,4	34,2	71,8	40,4	54,4	47,4
2019.	67,2	32,5	78,7	40,4	52,7	46,6
2020.	75,9	36,5	107,3	51,8	57,8	54,8
2021.	74,2	36,5	86,7	53,2	57,1	55,2
Prosek	64,4	34,7	58,3	36,2	64,1	50,2

Source: International Monetary Fund (2022b). World Economic Outlook Database, April 2022. Retrieved from https://www.imf.org/en/Publications/WEO/weo-database/2022/April

To create an accurate assessment of the condition of Serbia's public debt, the country's position must be considered in relation to the EU member states and WB countries. Serbia's debt-to-GDP ratio for 2021 was 36.6 percentage points lower than the EU-27 average (Chart 4). However, in comparison with the neighbouring countries, such as Romania and Bulgaria (48.8% and 25.1%, respectively), Serbia's relative debt-to-GDP ratio was much higher. This was chiefly due to Serbia's relatively low debt ceiling compared to developed economies, owing to the country's poorer credit rating.

Data in Table 4 show that for the entire period analysed, the highest average values of debt-to-GDP ratio were recorded in Albania and Serbia (64.4% and 64.1%, respectively). In the case of Albania, the highest debt-to-GDP ratio was observed during the pandemic in 2021 (75%) and the lowest in 2007 (53.5%). Serbia's debt-to-GDP ratio was at its highest at the beginning of the period in question (224.7%), while its lowest value was recorded in 2008 (30.5%). For the same period, the lowest average debt-to-GDP ratio (34.7%) was recorded in Bosnia and Herzegovina. Furthermore, Bosnia and Herzegovina's highest debt-to-GDP ratio was observed in 2014 (45.8%), while this indicator reached its lowest value in 2007 (18.7). During the same time period, the average values of the debt-to-GDP ratio in Montenegro and North Macedonia were 58.3% and 36.2% respectively; while Montenegro recorded its highest debt-to-GDP ratio of 107.3% during the pandemic in 2020.

Table 5. *WB countries ranking according to the debt-to-GDP ratio indicator (in %), 2000–2021.*

	Albania	Bosnia and Herzegovina	Montenegro	North Macedonia	Serbia
2000.	2	4	n/a	3	1
2001.	2	4	n/a	3	1
2002.	3	5	1	4	2
2003.	2	5	3	4	1
2004.	2	5	3	4	1
2005.	1	5	3	4	2
2006.	1	5	3	4	2
2007.	1	5	2	4	3
2008.	1	3	2	5	4
2009.	1	4	2	5	3
2010.	1	4	2	5	3
2011.	1	4	2	5	3
2012.	1	4	2	5	3
2013.	1	4	2	5	3
2014.	1	4	3	5	2
2015.	1	4	3	5	2
2016.	1	4	3	5	2
2017.	1	5	2	4	3
2018.	2	5	1	4	3
2019.	2	5	1	4	3
2020.	2	5	1	4	3
2021.	2	5	1	4	3

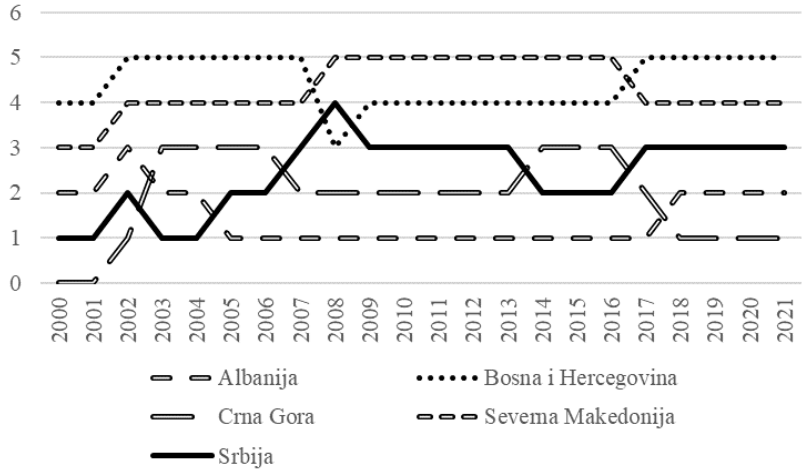
Source: Authors' calculations based on data presented in Table 4.

The average debt-to-GDP ratio was improving during the time between 2006 and 2008, as a result of initial reform steps having been put into effect. Then, due to the economic slowdown arising from the global financial and economic crisis in 2009, the region's average debt-to-GDP ratio started showing an upward trend which lasted until 2016, which is when trends in relative indebtedness of the WB countries re-

versed again. The average indebtedness levels of Albania, Montenegro, and Serbia (64.4%, 58.3%, and 64.1%, respectively) remained above the region's average (50.2%) within the entire period in question. In order to broaden the understanding of the indebtedness issue and to position Serbia more precisely relative to other WB countries, a country ranking concerning the same time interval has been conducted (Table 5).

Graphical representation (Chart 5) of changes in the debt-to-GDP ratio for the WB region enables one to make an accurate assessment of the state of Serbia's public debt. During the entire period, Serbia's average debt-to-GDP ratio was the third highest in the region, which highlights potential problems in the country's debt sustainability in the coming period.

Chart 5. WB countries ranking according to the debt-to-GDP ratio indicator (in %), 2000–2021.



Source: Author's graphic presentation based on data presented in Table 5.

5. Conclusion

The COVID-19 crisis is considered the gravest (in terms of measures taken) and hardest (in terms of how it manifested itself) one after the Great Depression of the 1930s and its long-term effects are still uncertain. Compared to the previous crises, the 'Great Lockdown' is characterised by sudden and simultaneous shocks in both aggregate supply and demand. Lockdown measures, which were being applied virtually simultaneously across the globe, struck all sectors of the global economy with a series of harmful effects. With a decline in aggregate demand, global supply chain disruptions ensued – together with a fall in production, employment, investment, and productivity of the global economy.

The pandemic has had numerous damaging effects on key macroeconomic aggregates, namely the state of public debt, and has undermined the stability of all world economies. The economic policy measures aimed at fostering stable business conditions and recovering the economy from the shock caused public debt to increase. This further led to rising uncertainty over the attainment of short-term economic policy goals, full employment, price stability, and balance of payments equilibrium.

The level of a country's public debt is sustainable if the government is able to meet all of its current and future payment obligations and if such indebtedness is consistent with fiscal spending and fiscal deficit plans. Public debt is also considered sustainable if the funds generated in such a way are used to stimulate economic growth and the potential (export-oriented) productive capacity of the economy.

The state and structure of public debt are the indicators showing how efficiently an economy functions and are instrumental in determining the future dynamics of economic growth and development. The indebtedness of Serbia's economy is fundamentally a long-term issue that can be traced back to the time of the Socialist Federal Republic of Yugoslavia (SFRY). The analysis of the state of Serbia's public debt confirms uneven public debt dynamics during the period analysed (2000-2021). Reform processes of the early 2000s led to a decline in the level of public debt; this trend continued until 2008 when the level of public debt was

about 38% lower than it was in 2000. Then, the onset of the global financial and economic crisis caused key macroeconomic indicators of the state of Serbia's economy to deteriorate (a decline in GDP, employment, industrial production, and investment). This crisis also led to a reversal of a positive trend in public debt changes and more than doubled the increase in the debt-to-GDP ratio. Fiscal adjustment measures implemented in 2014 finally delayed further increases in public debt; thus the period between 2015 and 2019 saw steady trends in the level of public debt and a relatively favourable debt-to-GDP ratio.

The urgency of economic recovery measures following the outbreak of the COVID-19 pandemic caused significant deterioration in public finances and increases in public debt in 2020 and 2021 by about 11% and 21% respectively in relation to 2019. Besides, the analysis performed shows the indebtedness of the Serbian economy to be below the EU average, with the exception of two comparable economies – Romania and Bulgaria. On the other hand, compared to other WB countries the state of Serbia's public debt seems unsustainable considering the country's ranking as third most indebted within the period analysed. Causative factors behind negative trends in public debt levels during the 2020/2021 crisis include the budget deficit level, further needs for debt financing, and debt repayment. Increasing a country's budget deficit is one of the most frequently implemented political solutions for dealing with the current crisis; the results show that a considerable increase in Serbia's budget deficit that occurred in 2020 caused the country's public debt to rise.

Based on everything above-mentioned, we conclude that even though the policy of increasing public debt in order to improve economic dynamics may be effective in the short term, a higher debt-to-GDP ratio can partially or completely counteract the fiscal stimulus effects in the medium term and delay the recovery from the pandemic. With the upper limit on the debt-to-GDP ratio prescribed by the Maastricht criteria (60%) in mind, it is essential that measures for the gradual stabilisation of public finances and reduction of public expenditure be adopted in the coming medium-term period; this will not damage the prospects of achieving dynamic economic growth and it should reverse current trends in public debt levels (by making them positive and su-

stainable). We estimate that the budget deficit level will decrease from the current value of 4.6% to 0.7% of GDP by 2023, which will result in the debt-to-GDP ratio dropping to 54.1%. However, the COVID-19 crisis will inevitably have a negative long-term impact on changes in all the key macroeconomic aggregates. This exogenous shock is, thus, the worst disruption in economic history.

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IZAZOVI ODRŽIVOSTI JAVNOG DUGA REPUBLIKE SRBIJE U USLOVIMA PANDEMIJE COVID-19

Apstrakt: Naučna i stručna javnost već duže vreme vodi raspravu po pitanju uticaja javnog duga na privredni razvoj. Iako je kriza iz 2007. godine dodatno potencirala značaj problema zaduženosti privreda zemalja širom sveta, ovaj problem je postao aktuelniji s pojavom pandemije COVID-19 i naročito dobio na težini usled neizvesnosti dužine njenog trajanja. Upravo iz tog razloga ovaj rad ima za cilj da doprinese jasnijem razumevanju posledica krize izazvane pandemijom COVID-19 na javni dug Republike Srbije i da ukaže na razmere problema zaduženosti sa kojima se suočava srpska privreda, posebno u odnosu na zemlje Zapadnog Balkana. Osnovne metode koje su korišćene u radu – metode analize i sinteze, komparativni metod i metod generalizacije, prilagođene su navedenom cilju i specifičnosti predmeta istraživanja. Dobijeni rezultati istraživanja trasiraju smernice za prioritetne aktivnosti nadležnih državnih organa u pravcu smanjenja javnih rashoda sa ciljem ostvarivanja održivog kretanja javnog duga i stvaranja uslova za dinamiziranje tempa privrednog rasta.