



Publisher

<http://jssidoi.org/esc/home>



FISCAL SUSTAINABILITY AND FISCAL RISK IN THE EU: FORECASTS AND CHALLENGES IN TERMS OF COVID-19

**Andrey Zahariev¹, Anelia Radulova², Aleksandrina Aleksandrova³,
Mariana Petrova⁴**

^{1,2,3} *D. A. Tsenov Academy of Economics, Em. Chakarov 2 Str., 5250 Svishtov, Bulgaria*

⁴ *St. Cyril and St. Methodius University of Veliko Tarnovo, T.Tarnovski 2 Str, 5000 Veliko Tarnovo, Bulgaria*

*E-mails: ¹a.zahariev@uni-svishtov.bg, ²a.radulova@uni-svishtov.bg, ³a.alexandrova@uni-svishtov.bg,
^{4*}m.petrova@ts.uni-vt.bg (Corresponding author)*

Received 20 September 2020; accepted 10 February 2021; published 30 March 2021

Abstract. This study focuses on examining the relationship between fiscal and debt sustainability indicators in EU Member States, based on the multidimensional approach to estimating and forecasting different time horizons applied by the European Commission. The relationship between fiscal sustainability and the numerical fiscal rules applied at national and supranational level in the context of the Stability and Growth Pact has been established. The dynamics of medium-term risks in the Member States of the European Union for the period 2015 - 2019 is traced. The main challenges to fiscal sustainability in the European space in the context of the COVID-19 pandemic are outlined.

Keywords: fiscal policy; fiscal rules; debt; fiscal sustainability; fiscal risk; COVID-19

Reference to this paper should be made as follows: Zahariev, A., Radulova, A., Aleksandrova, A., Petrova, M. 2021. Fiscal sustainability and fiscal risk in the EU: forecasts and challenges in terms of COVID-19. *Entrepreneurship and Sustainability Issues*, 8(3), 618-632. [http://doi.org/10.9770/jesi.2021.8.3\(39\)](http://doi.org/10.9770/jesi.2021.8.3(39))

JEL Classifications: E62, E63, G28, H62

1. Introduction

Fiscal sustainability as the ability of governments to sustain their current fiscal policies in the long run is largely linked to the concept of fiscal risks. To the extent that the sustainability of public finances affects intergenerational fairness and embodies principles that apply at all times and to all governments, regardless of their current indebtedness, EU Member States need to adjust to unforeseen circumstances beyond the control of the government, such as major changes in the business cycle or economic crises. The need to keep government debt under control and to maintain the ability to issue debt when needed is also essential for the smooth functioning of the economy.

Prior to the recent financial crisis, the indicators used to "measure" fiscal sustainability of EU Member States provided an opportunity to assess long-term risk. Yet, subsequent events have shown that this is not enough. Thus, there is a need to apply an approach that integrates the assessment of long-term sustainability with the assessment of more immediate issues and risks by involvement of additional indicators for measuring medium-term and short-term risk. In this line, to ensure a more efficient and coordinated fiscal policy within the European Union, common fiscal sustainability standards were introduced for all Member States.

The purpose of this research is, based on an assessment of the nature of the fiscal policy and the fiscal rules applied in the EU for its stabilization, to trace the dynamics of risk levels based on the multidimensional approach applied by the EC which brings together in a synthetic way results on debt sustainability analysis (DSA) and fiscal sustainability indicators. The last two paragraphs analyse the forecasts for fiscal sustainability and level of fiscal risk in EU Member States in the COVID-19 pandemic situation and outline the trends in the medium term.

2. Fiscal sustainability and fiscal rules in the EU

According to the OECD definition, fiscal sustainability is the ability of a government to maintain public finances at a credible and serviceable position in the long run (Gov. at Glance, 2014). Ensuring long-term fiscal sustainability requires accurate and continuous planning and correct forecasting of future values of public revenues and liabilities, taking into account the economic situation, the factors influencing economic development, etc. The unforeseen situation the governments of the EU Member States have faced since the outbreak of the COVID-19 pandemic has created preconditions for deterioration in fiscal positions of the countries, "a snow ball effect" in terms of the constantly growing debt levels and reduction of the potential for economic growth. The spending of the EU Member States in the form of recovery measures, as well as the unprecedented decline in economic activity in 2020, have posed a big challenge for governments to maintain fiscal sustainability. Ensuring fiscal sustainability and overcoming this challenge are directly related.

Fiscal sustainability largely depends on the level of debt (Prodanov & Naydenov, 2020; Vasconcelos, 2021). The question related to determining the maximum levels of government debt ratios is of interest for many economists and policy makers. The European Union follows strict rules on optimal debt and deficit levels. The Maastricht Treaty, concluded in 1992, set the requirements for keeping low levels of public debt and deficit while respecting budgetary discipline as a guarantee for ensuring fiscal sustainability (Lilova et al., 2017; Mazzanti et al., 2020). The next step towards compliance with fiscal discipline, supplementing and elaborating the provisions of the Maastricht Treaty, the European Commission took in 1997 with the adoption of the Stability and Growth Pact. Given the specifics of the fiscal systems of each Member State and the need to supplement existing treaties, the

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

so-called "Two-pack " and "Six-pack" - Revision of the Stability and Growth Pact in 2005, Treaty on Stability, Coordination and Governance within the Economic and Monetary Union-European Fiscal Pact (2013) were ratified. The introduction of increasingly restrictive measures and specific fiscal rules aims to achieve fiscal sustainability and balance the needs for additional funding and public sector stability in the Member States. Anderson, B. and Minarik, J. claim that the establishment of new fiscal rules must take into account not only the levels of government debt and deficit, but also the measures applied in crisis situations for economic recovery and growth and public credibility. Authors such as Aerts J. and Bizarro P. (Aerts & Bizarro, 2020), Onofrei M. (Onofrei et al., 2020) and others call for the application of a new analytical approach to the framework for fiscal governance and fiscal sustainability with a focus on government debt levels and the ability of governments to service it. The COVID-19 economic shock in all Member States and the Spring 2020 European Economic Forecast published in May 2020, which forecasts a new average European debt level of 103% for 2020, clearly prove the need for a new approach to the fiscal frameworks of the countries and the fiscal instruments used.

The fiscal discipline in the EU is mainly the subject of empirical research and, to a lesser extent, of fundamental theoretical formulations. A number of authors such as von Hagen (1991), Bayoumi and Eichengreen (1994), Alesina and Bayoumi (1996), Bohn and Inman (1996), von Hagen and Eichengreen, (1996) in the mid-1990s investigated the effectiveness of the fiscal rules used in the United States with the idea to "adapt" them to the specifics of the euro area.

The efforts to ensure stability of the Economic and Monetary Union also requires the introduction of fiscal rules in the EU Member States (Zahariev, 2012), which shifts the focus of research to Europe. The findings of the empirical research in the last two decades have proved the need to establish fiscal rules with fixed numerical values to provide for a balanced level of public finances in the long run. Today it is rarely disputable that the effectiveness of fiscal results depends *firstly* on the type of rule and *secondly* on the mechanisms of influence in case of "deviation" from the fixed numerical value.

The concept 'fiscal rules' is defined with precision by Kopits and Symansky (1998) as a permanent constraint on fiscal policy, expressed in terms of a summary indicator of fiscal performance such as the government budget deficit, borrowing, debt and others.

The European Commission has formulated four major categories of fiscal rules in force in EU Member States: ***constraints to balance the government budget, the level of public debt, public expenditure and public revenue***. As envisaged in the European Commission regulations, the strengths of a fiscal constraint in Member States are assessed according to the following criteria: *legal basis for establishing the rule; the type of institution that applies the rule; the presence of corrective mechanisms and sanctions for violations; media coverage of the rules and their observance or non-compliance; a body responsible for establishing a deviation from the target*. Logically, most empirical research on fiscal discipline focuses on identifying the level of debt and the risk of fiscal sustainability imbalances (Ayuso-i-Casals et al. 2009). Fewer are the rules on public expenditure and revenue: 55% (of the 113 rules currently in force) aim at balancing government budgets and 25.44% at reducing debt (Figure 1.). The expenditure rules introduced in the EU Member States constitute 16.67% of the total number and revenue rules - 2.63%.

The supranational fiscal rules, which account for 61.6% (Figure 2), are based on the preventive and corrective clauses in the Stability and Growth Pact, the effectiveness of which is directly dependent on the envisaged non-compliance sanctions (Ayuso-i-Casals, Gonzalez Hernandez, Moulin and Turrini, 2009). The fiscal rules in force at national level are largely in line with the provisions of Treaty on Stability, Coordination and Governance in the Economic and Monetary Union (Comisión Europea, 2011), concluded in 2013. The main requirement is the

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

introduction of a fiscal rule to ensure a balanced budget in the medium term and a mechanism for correction of significant deviations.

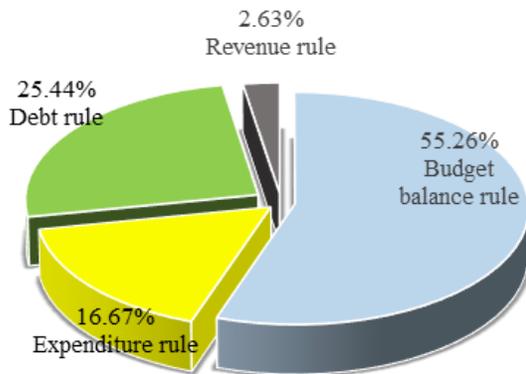


Figure 1.

Fiscal sustainability framework: a multidimensional approach (1)

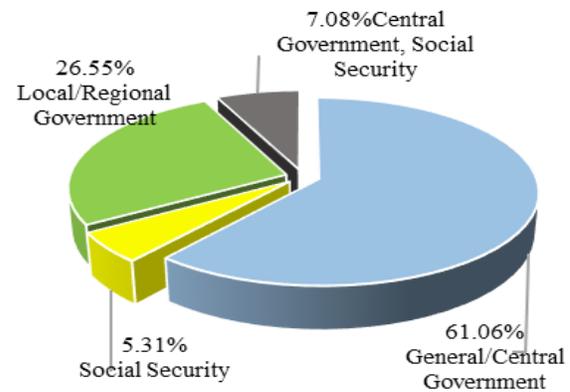


Figure 2.

Fiscal sustainability framework: a multidimensional approach (2)

Source: An official website of the European Union, author's interpretation

Note: The chart is based on the latest available update (2018) of the European Commission's fiscal governance database

The development of common fiscal rules allows for the coordination of fiscal policies - a circumstance essential for the functioning of the EU, as well as for the analysis, assessment and forecast of fiscal sustainability of the Member States. The established horizontal framework for assessing fiscal sustainability (European Commission, 2015) brings together in a synthetic way results on debt sustainability analysis (DSA) and fiscal sustainability indicators. Based on a set of fixed transparent criteria, the framework allows for gaining a consistent horizontal overview of fiscal sustainability in the short, medium and long term*, as well as across the EU Member States.

3. Indicators for assessment of the fiscal risks faced by the EU Member States

Fiscal risk is mainly defined as "a source of fiscal stress that could face a government in the future" (Polackova et al., 2002) or as "the possibility of deviations in fiscal variables from what was expected at the time of the budget or other forecast" (Cebotari et al., 2009). Fiscal risks, the presence of which affects fiscal sustainability, arise from "macroeconomic shocks and the realization of contingent liabilities" (Cebotari et al., 2009). The presence and the scale of fiscal risks are also affected by the time horizon, insofar as the factors causing "shocks" in economic systems may manifest themselves in the medium or in the long term.

The fiscal sustainability risks faced by the EU Member States are assessed by means of a comprehensive horizontal overview of fiscal sustainability challenges across time horizons (short, medium and long-term) and across countries based on a set of transparent criteria that bring together in a synthetic way results on debt sustainability analysis (DSA) and fiscal sustainability indicators.

* The time horizon of the short-, medium and long-term is respectively the upcoming year, the next 10-15 years and the infinite horizon (in practice, with fully-fledged projections up until 2070, and assuming that the main variables remain constant thereafter).

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

The multi-dimensional approach used by the European Commission to assess fiscal sustainability comprises three sustainability indicators of different time dimensions (S0, S1 and S2) which are jointly used with a debt sustainability analysis including government debt sensitivity tests and alternative scenarios (Figure 1). The set of indicators is used as part of the Commission's assessment of EU Member States budgetary plans in the context of the Stability and Growth Pact. The fact that the fiscal sustainability assessment indicators are the same for all EU Member States and are computed using the same methodology, allows for comparative analyses of the level of sustainability in individual countries compared to other Member States and to the values for the EU as a whole. They make it possible to assess the extent to which there is a need for a relatively big policy adjustment at present or in the future, as well as the type of policy adjustment required (fiscal or structural or a combination of both).

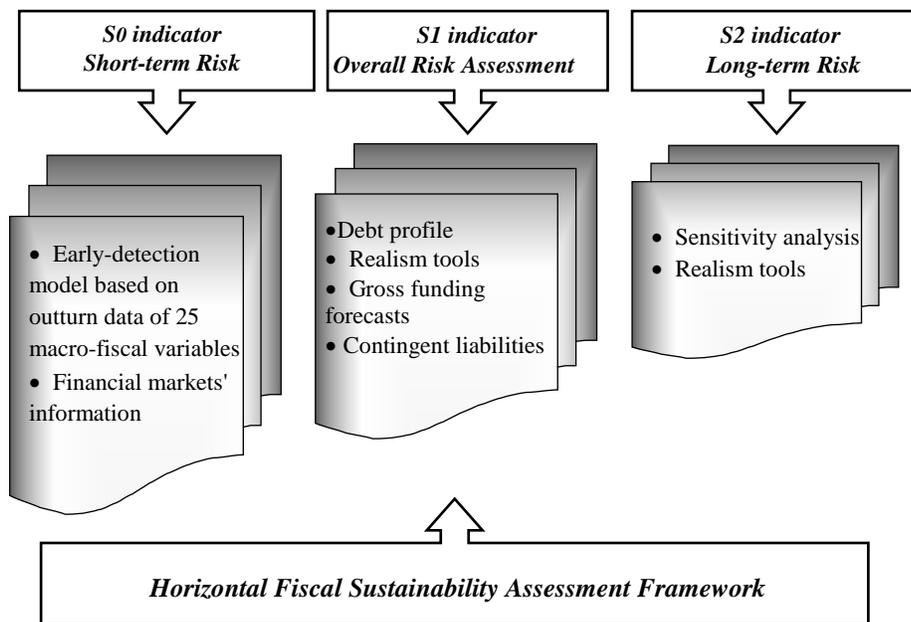


Figure 3. Fiscal sustainability framework: a multidimensional approach
Source: European Commission

The multi-dimensional approach of the Commission to assess fiscal sustainability integrates long-term projections with an assessment of more immediate challenges and risks. Both long-term and short-term analysis are supported by appropriate indicators that can indicate the scale and scope of sustainability challenges as follows:

The short-term fiscal challenges are assessed using a composite S0 indicator of the risks of potential 'fiscal stress'. The value of the indicator computed as the weighted proportion of fiscal, financial and macroeconomic variables (25 in total), performs as a potential fiscal stress signalling tool and an early-detection risk indicator over a one year horizon. To the extent that the S0 indicator is 'an early-detection indicator', it allows identification of risks of potential fiscal stress stemming from fiscal and financial aspects of the economy, including its short-term competitiveness (over a one-year horizon). The indicator also comprises variables used for the surveillance of macro-economic imbalances in order to identify potential risks early on in case of emergence of potentially harmful economic imbalances as well as to correct existing ones.

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

- **The medium-term fiscal challenges** are assessed using a modified S1 indicator (fiscal gap), which measures the fiscal adjustment required to bring debt ratios to 60% of GDP in 15 years, including future costs of ageing.

- **The long-term fiscal challenges** are assessed based on the use of the S2 indicator, which measures the 'gap' in the long-term sustainability. The values of the indicator determine the fiscal adjustment of the structural primary balance required to meet the debt ratio constraint over an infinite period, including ageing costs projections. Unlike the S1 indicator, **the S2 indicator by definition does not provide for a debt upper limitation** as it is computed over an infinite horizon. Thus, **the S2 indicator does not take into account the adjustment required to reduce debt below 60% of GDP** in accordance with the provisions of the Stability and Growth Pact for countries with a high debt burden. The higher the values of **the S2 sustainability indicator**, the more fiscal adjustments and adjustment of the risk of fiscal instability are required.

The multi-dimensional analysis of fiscal risks the EU Member States face aims: *first*, to identify the type and the intensity of the challenges to fiscal sustainability and, *second*, comparing the relative present and future deficit and debt values and future ageing costs to pursue appropriate corrective policies.

4. Medium-term assessment of the fiscal risk of the EU Member States for the period 2015-2019.

The increase in the level of government debt in the public and private sectors of a number of EU countries, especially following the 2008 global economic and financial crisis, is one of the main risks to the fiscal sustainability of the EU Member States. In the macro-economic context, serious challenges to easing government debt burden in the EU pose the very low inflation and the not very high GDP growth, which only contributes to a reduction in the relative debt-to-GDP ratio, but not to a real reduction in the size of the debt (Zahariev, et al., 2020a). The only positive effect on government debt management is the fact that the cost of government debt financing remains low, reflecting the historically low interest rate.

The problem of the sustainability of public finances in the EA and in the EU as a whole was brought to the fore by the significant increase in the level of debt due to the economic and financial crisis. Compared to 2007, it was 28.9% up in 2014 (for the EU-28 countries) and only in 2015 began to decline gradually, reaching a level of 80.4% in 2018. In line with the main provisions of the Stability and Growth Pact, the European Commission makes regular assessments (twice a year) of the degree of fiscal risk in the short, medium and long term. The findings of the Commission, presented in five annual reports (2016-2020) on the fiscal sustainability risks in the short run (the forthcoming year) – S0 indicator, confirm that none of the EU Member States has been exposed to high risk after 2015, the risks of short-term fiscal stress being significantly lower compared to the situation in 2009 (the first crisis year). The assessment of the medium-term challenges to sustainability, based on DSA and S1 indicator analysis and both deterministic and stochastic debt projections over a 10-year horizon in five consecutive years (2015 – 2019), allows for outlining the trends in the situation and the expectations on the fiscal sustainability of the EU Member States (Table 1).

For nine of the Member States: Bulgaria, Czech Republic, Denmark, Germany, Estonia, Latvia, Luxembourg, Malta and Sweden, the levels of fiscal risk on both indicators (DSA and S1) are low for the entire analysed period. The risk for Ireland, Croatia, Hungary, Cyprus, Latvia, the Netherlands, Austria, Poland and Slovenia (countries that "started" with relatively high debt-to-GDP ratios in 2014) is reported as low medium for 2019 (104.4% for Ireland, 109.2% for Latvia, 83.3% for Slovenia). With the exception of Poland and the Netherlands, states that managed to "lower" the debt level below 60% (the EU Treaty reference value) at the end of the analysed period, the other countries maintained levels higher than the reference values, with markedly declining trend over a horizon by 2030, including future aging costs. Countries are deemed to face high medium-term

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

sustainability risk whenever they have critical DSA or S1 values (grounded on the no-fiscal policy change scenario in terms of the lower and the upper risk thresholds (0 and 2,5 GDP percentage points respectively). The countries that are deemed of the highest sustainability risk in the medium term according to both the DSA and the S1 criteria for all years included in this analysis are Belgium, Spain, France and Italy, due to the high debt-to-GDP ratio - over 90% at the end of the analysed period, grounded on the no-fiscal policy change scenario.

Table 1. Assessment of the level of medium-term fiscal risks in EU Member States

state	Debt sustainability analysis - general risk assessment (Debt sustainability analysis - DSA)					S1 indicator - general risk assessment				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
BE	high	high	high	high	high	high	high	high	High	high
BG	low	low	low	low	low	low	low	low	Low	low
CZ	low	low	low	low	low	low	low	low	Low	low
DK	low	low	low	low	low	low	low	low	Low	low
DE	low	low	low	low	low	low	low	low	Low	low
EE	low	low	low	low	low	low	low	low	Low	low
IE	high	middle (high)	low (middle)	middle	low	high	middle (high)	middle (high)	Low	low
ES	high	high	high	high	high	high	high	high	High	high
FR	high	high	high	high	high	high	high	high	High	high
HR	high	high	high	middle	low (middle)	high	middle (high)	middle	middle	low (middle)
IT	high	high	high	high	high	high	high	high	High	high
CY	high (n.a.)	high (n.a.)	middle (high)	middle	low (middle)	high (n.a.)	high (n.a.)	middle (high)	Low (middle)	low (middle)
LV	low	low	low	low	low	low	low	low	Low	low
LT	low	low	low	low	low	middle	middle	middle	middle (low)	low
LU	low	low	low	low	low	low	low	low	Low	low
HU	middle	high (middle)	high	high	low (high)	middle	middle (low)	middle	middle	low (high)
MT	low	low	low	low	low	low	low	low	Low	low
NL	middle	low (middle)	low	low	low	middle	low (middle)	low	Low	low
AT	middle	middle	middle	low (middle)	low	middle	middle	middle	middle (low)	low
PL	middle	high (middle)	middle (high)	low (middle)	low	middle	middle	middle	middle (low)	low
PT	high	high	high	high	high	high	high	high	High	middle (high)
RO	high	high (middle)	high (low)	middle (high)	high (middle)	middle	middle	middle	middle	high (middle)
SI	high	high	middle (high)	low (middle)	low	high	middle (high)	middle	middle	low (middle)
SK	low	low	low	low	low	low	low	low	middle	low
FI	high	high	high	low (high)	middle (high)	high	high	middle (high)	Low (middle)	middle (high)
SE	low	low	low	low	low	low	low	low	Low	low
UK	high	high	high	high	high	high	high	middle (high)	middle	middle

Source: European Commission, Fiscal Sustainability Reports, author's interpretation based on the official European Commission forecasts for the period 2015-2019

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

For 2019, the medium-term risks are markedly assessed as high for Belgium, Spain, France, Italy, Portugal, Romania and the United Kingdom. In Belgium, Spain and Portugal, the assessment is based on the findings that the debt-to-GDP ratio remains at the level (for 2018) of 100%, 97.6% and 98.4% respectively. The risk for Romania is assessed as "high" (despite the relatively low levels of debt - 35% in 2018) for it is expected to rapidly increase at no change in fiscal policy due to the "rapid" increase in future aging costs.

The medium-term fiscal sustainability risks for Croatia, Cyprus, Hungary and Slovenia are deemed to be lower compared to 2018, because of better initial budgetary positions. Finland, that was assessed in three consecutive reports as being at high risk and expected to be at low risk in 2018, is again in the low risk category for the latest analysed period. The dynamics of risk levels for Romania is similar. A logical explanation for this is found in the more unfavourable initial budgetary position for Finland and the higher projected aging costs stemming from the pension reform in Romania

For 2018, the level of the debt-to-GDP ratio for the EU-28 countries is 80.4%, for EA (19) - 85% - values, due to the fact that the debt levels of more than half of the Member States (15 altogether) are above the EU Treaty threshold of 60%. The Commission's forecasts, based on the analysis of the budgetary positions in the autumn of 2019, regarding the venues for managing the EU debt level also do not "sound" very optimistic - expectations are for a reduction from 88.4% in 2014 to 70% in 2030 for the EU -28 countries and only if there is no change in the fiscal policy in the Member States.

5. Challenges to fiscal sustainability and the level of fiscal risk in the EU in the context of the COVID-19 pandemic

The impact of the COVID-19 pandemic on the economies of the EU Member States requires an adequate and timely fiscal response with an implication towards a significant increase in government debt. The governments of the Member States have taken a number of recovery measures in line with the State aid Temporary Framework adopted by the European Commission in March to support the economy in the context of the COVID-19 outbreak (Comisión Europea, 2019). In essence, these measures introduce the EC's fiscal response to the impact of the pandemic and support the economic recovery of the Member States, in particular, and the European Union as a whole. Two of the most significant and capital-intensive categories of recovery measures comprise direct spending and loan guarantees for the non-financial sector. In particular, they include: temporary unemployment benefits; subsidies for small and medium enterprises; increased support of the public health and insurance systems; deferral of tax payments, social payments and health insurance contributions; guarantee schemes for business support, etc. Their implementation now, in view of the liquidity problems some of the governments face, is definitely a prerequisite for an increase in sovereign debt.

The economically unpredictable situation resulting from the outbreak of the COVID-19 pandemics and the need for an immediate fiscal response confronted governments with the need to provide for funding within very short time horizon. This need is provoked not only by the economic recovery measures, but also by the functioning of automatic fiscal stabilizers. On the one hand, the implemented stabilization measures related to the deferral of social and tax payments and the declining incomes due to the downturn in economic activity have been significantly reducing tax revenues. On the other hand, the size of government guarantees required to promote small and medium-sized enterprises and the corporate sector will increase over time, as the amount of funds needed to recover depends on the duration of the recession, which is expected to deepen in the long run.

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

These expectations are confirmed by the fact that the average European levels of GDP growth and the change in the budget deficit are comparable in the periods before and during the World Economic Crisis and the COVID-19 pandemic, as according to the European Economic Forecast Spring 2020 (Comisión Europea, 2020) the projected effect on the change in the budgetary balance in early 2020 is significantly higher than in 2019.

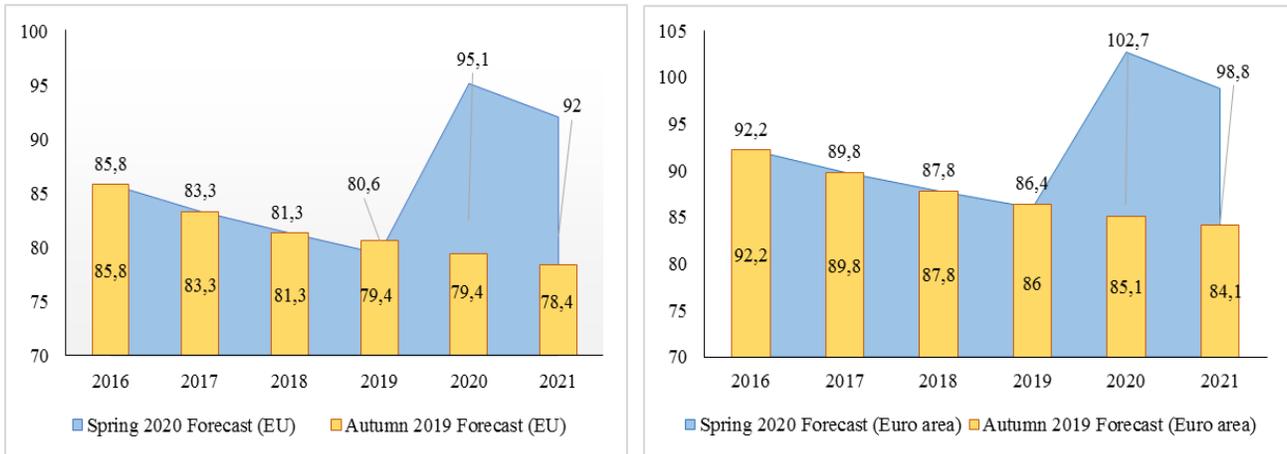


Figure 4. EU/Euro area average Gross debt, general government as a percentage of GDP, 2016-2021 (2020-2021 Forecast)

Source: European Economic Forecast Spring 2020, author's interpretation

According to the EC forecast data, the level of debt in the EA Member States is expected to increase between 7% and 22% in 2020, with the average level for the euro area showing a significant difference in the autumn 2019 and spring 2020 forecast data. With projected values of 85.1% in 2019, the updated forecast for May 2020 indicates a value of 102.7% (See Figure 4, right) or 17.6% up the projected. The EU forecasts are that after the expected peak in 2020, in 2021 the level of debt for the euro area will fall below the "psychological limit" of 100% to 98.8%. Regarding the EU, a peak of debt levels above 95% in 2020 and a subsequent decline to 92% in 2021 is projected in case that there are no drastic changes in fiscal policy. The levels of the same indicator in the previous 2019 are 79.4% (See Figure 4, left). The difference of 15.7% between the projected size for 2020 and that in 2019 is clear evidence of the expected unprecedented recession.

The deterioration in the economic situation following the COVID-19 pandemic required updating EU Member States' debt levels by adjusting for the drastic increases in countries' debt levels in response to the growing needs of financial resources for recovery interventions in the affected sectors. Of particular research interest in this situation is the difference in the level of gross debt (as a percentage of GDP) between the European Commission's Spring 2020 Forecast and Autumn 2019 Forecast, especially in countries that based on DSA analysis are deemed to be of high and low debt sustainability. For the purposes of conducting a comparative analysis, the countries are divided into 2 groups according to their assessment - high or low. The first group - countries with a high DSA assessment - includes Belgium, Spain, France, Italy and Portugal. It is noteworthy that the most serious difference in the EC forecast is observed in 2020, ranging from 12.4% for Portugal to 19.7% for Spain, which is explained by the economic shock caused by the pandemic at the beginning of 2020 (See Table 2). Since the countries, belonging to this group traditionally maintain relatively high debt levels and in view of the need for an adequate fiscal response to the situation, the observed deviation is not surprising. The deterioration in the economic

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

situation following the COVID-19 pandemic required updating EU Member States' debt levels by adjusting for the drastic increases in countries' debt levels in response to the growing needs of financial resources for recovery interventions in the affected sectors. Of particular research interest in this situation is the difference in the level of gross debt (as a percentage of GDP) between the European Commission's Spring 2020 Forecast and Autumn 2019 Forecast, especially in countries that based on DSA analysis are deemed to be of high and low debt sustainability. For the purposes of conducting a comparative analysis, the countries are divided into 2 groups according to their assessment - high or low. The first group - countries with a high DSA assessment - includes Belgium, Spain, France, Italy and Portugal. It is noteworthy that the most serious difference in the EC forecast is observed in 2020, ranging from 12.4% for Portugal to 19.7% for Spain, which is explained by the economic shock caused by the pandemic at the beginning of 2020 (See Table 2). Since the countries, belonging to this group traditionally maintain relatively high debt levels and in view of the need for an adequate fiscal response to the situation, the observed deviation is not surprising.

Table 2. Difference in the gross debt level projections of European Commission's Spring 2020 Forecast and Autumn 2019 Forecast

Country/ year	BE	ES	FR	IT	PT	BG	CZ	DK	DE	EE	IE	LV	LT	LU	MT	NL	AT	PL	SL	SK	SE
2019*	-0,9	-1,2	-0,8	-1,5	-1,5	-3,3	-2,2	0,6	1,0	-3,4	-0,3	2,5	0,0	12,8	-0,5	-0,6	0,7	-3,0	-0,9	-0,2	1,4
2020*	14,3	19,7	17,8	16,7	12,4	28,1	26,1	38,4	32,9	146,4	23,2	22,4	38,2	37,5	23,7	31,8	17,3	28,6	32,6	25,8	27,5
2021*	10,0	18,4	12,8	11,8	9,4	36,6	32,6	40,7	30,5	175,6	26,8	32,8	39,1	38,2	31,3	26,3	17,3	31,6	34,3	27,7	32,8
2019**	-1,2	-1,2	-0,8	-2	-1,8	-0,7	-0,7	0,2	0,6	-0,3	-0,2	0,9	0	2,5	-0,2	-0,3	0,5	-1,4	-0,6	-0,1	0,5
2020**	22,7	19	17,6	22,7	14,5	5,6	8	12,4	19	12,3	13	7,9	13,4	7,2	9,7	15	11,6	13	20,6	12,2	9,2
2021**	6,8	17,7	12,7	16,2	10,7	6,8	9,8	12,9	17	14,4	14	10,8	13,6	7,1	12,1	12	11,2	14	20,4	13	10,5
2019*, 2020*, 2021* Difference between Spring 2020 Forecast and Autumn 2019 Forecast in %																					
2019**, 2020**, 2021** Difference between Spring 2020 Forecast and Autumn 2019 Forecast in absolute value (net)																					

Source: European Economic Forecast Spring 2020, author's interpretation

The situation is different in the group of countries with a low DSA assessment, where the difference in values in % between Spring 2020 Forecast and Autumn 2019 Forecast is significantly bigger in Estonia being 146.4% for 2020 and 175.6% for 2021. The extremely large discrepancy in expectations from 2019 and 2020 in Estonia is due to the fact that it is the country with the traditionally lowest level of debt in the EU. In absolute terms, the debt / GDP level is expected to increase from 8.4% in 2019, to 20.7% in 2020 and 22.6% in 2021. Other countries the debt levels of which are expected to increase drastically are Denmark, Latvia and Luxembourg with differences in the expected projected levels for 2020 of 38.4%, 38.2% and 37.5% respectively. It is noteworthy that, contrary to expectations for a declining average European debt level in 2021 to fall below 100%, it is projected to increase in these countries. Such reading of the data and the need for a fiscal response to the situation call into question the low DSA assessment of debt sustainability.

Over the next few years, most EU Member States will face a growing need for adequate fiscal debt repayment solutions. To the extent that the fiscal response of the countries in the form of stabilization measures reduces the negative impact of the recession caused by COVID-19 in the short term, the time horizon, the deepening economic crisis and the need to service the debt create preconditions for increasing fiscal risks in the medium term.

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

6. The “new normality” of deficit financing for governmental support to the business under COVID-19 framework

The current COVID-19 crisis has characteristics never seen before because many sectors of the economy have responded to it by restructuring and changing the way they operate and the goals they pursue (Terziev, 2019). The global interaction of producers and traders in supply chains (Laktionova, Dobrovolskyi, Karpova, & Zahariev, 2019) will have a cascading effect on the financial performance of all businesses in the supply chain. Moreover, the COVID-19 crisis has brought to the fore the demand for quality medical services. Thus, companies related to the pharmaceutical and healthcare sectors are subject to increased interest from the capital market. The limiting factor for such businesses as well as for the healthcare sector in general seems to be the scarcity of skilled healthcare specialists (Adamov, et al., 2010) rather than the shortage of drugs or hospital beds.

The changing conditions led to new risks, including all related to the traditional risk-free investment instruments issued by governments of the EU Member States (Zahariev, et al., 2020a) and devaluation of assets (Prodanov & Pavlov, 2016), currencies (Kostov, 2016) and oil as well (Zahariev & Kostov, 2016). These changes are not likely to be transient but to remain in effect even after the crisis is over. This situation is often referred to as "new normality." It can therefore be argued that benchmarking based on government securities will be even more non-applicable in relation to economic recovery due to fiscal policy of EU and Member States to support the business with deficit financing instruments. The entire markets have been able to adapt to this "new normality", but all traditional valuation and business models, based on risk-free rate of return (T-Bills related), will be more difficult to apply due to their many assumptions, expected parameters and obvious covariance of business ingoing cash flow from governmental COVID-19 programs and deficit financing of those programs. The “new normality” requires management goals (Terziev, 2020). In such situations, many public companies and banking institutions face the risk of persistent negative performance and, eventually, bankruptcy (Zahariev, et al., 2020b). On April 9, 2020 the Bulgarian National Bank Governing Council approved the submitted by the Association of Banks in Bulgaria draft Procedure for Deferral and Settlement of Liabilities Payable to Banks and their Subsidiaries - Financial Institutions in relation to the state of emergency enforced by the National Assembly on 13 March 2020. Once approved, the document constitutes a private moratoria within the meaning of the European Banking Authority (EBA) Guidelines on treatment of public and private moratoria in light of COVID-19 (EBA / GL / 2020/02). As of June 30, 2020, a total of 118,584 claims for liabilities with a gross carrying value of EUR 5 billion were submitted under the Procedure for deferral and settlement of liabilities payable to banks and their subsidiaries - financial institutions (Zahariev, et al., 2020b). Of these, 98,499 were approved for EUR 4.15 billion. According to the first published data, the profit of the banking system of Bulgaria for 1H2020 is EUR 263.32 million, against EUR 469.4 million for the first six months of 2019 (BNB, 2020).

Above data suggests that the business failure scenario is very possible even if business entities have insured their profits with sound insurance intermediaries (Zahariev, et al., 2020c). The findings are considered valid not only for the EU Member States, but also for a country with advancement in the research on the development of a COVID-19 vaccine as Russia, where the public deficit on national and regional budget level is part of the “new normality” (Sabitova, Shavaleyeva, Lizunova, Khairullova, & Zahariev, 2020).

Conclusion

The European Commission's multidimensional approach to conducting a systematic and harmonised analysis of the sustainability of public debt for EU Member States and assessing fiscal risk levels in the short, medium and long term provides key information for regular budgetary surveillance under the Stability and Growth Pact, the

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

European Semester and the Europe 2020 strategy. The assessment criteria applied in the methodology make it possible to identify "vulnerable" countries in terms of public debt sustainability. All this by no means exhausts the obligations of the EU Member States to interpret the quantitative data and the related risk assessments for their "use" in the conduct of fiscal policy in the context of the individual country specifics. Providing for sufficient fiscal space to "deal" with adverse macroeconomic situations within the economic cycle remains one of the most serious challenges that the fiscal policy of a Member State and of the EU as a whole face.

In recent years, it has become increasingly supported that „countries can sustainably serve different levels of debt“ (Constâncio, 2020) and this largely depends on their fiscal space. According to authors such as Perote (Briceño & Perote, 2020), H., Navarro Ortiz, J. (Navarro-Ortiz & Sapena, 2020) respecting fiscal responsibility and avoiding excessive deficits is an important "first step" in ensuring fiscal sustainability, but substantial reform is needed in the fiscal rules implemented at European Union level. This claim is substantiated by the fact that in recent decades' fiscal policy within the EU has been limited to a rather passive manifestation, namely to the establishment of fiscal sustainability through compliance with deficit and debt limits, which resulted in the impossibility of adequate fiscal response to the debt crisis in the period 2008-2010. The discussion on the necessary reforms in the fiscal framework for the governance of the union is even more relevant and urgent at present, having in mind the unprecedented economic crisis the European economy is in since the outbreak of the COVID-19 pandemic.

Acknowledgement

This research was supported by the project, which has received funding from the The National Science Fund at the Bulgarian Ministry of Education and Science, Funding Competition for financial support for projects of junior basic researchers and postdocs – 2019, No. KII-06 M35/5 from 18/12/2019, “Fiscal discipline and/or growing the fiscal capacity of the Republic of Bulgaria?”, Project coordinator: Aleksandrina Aleksandrova, Researcher, PhD

References

- Adamov, V. et al., 2010. Human resources of the health system in Republic of Bulgaria. *Cahiers de sociologie et de démographie médicales*, 50 (1), 6-120, PMID: 20345082
- Aerts, J., & Bizarro, P. (2020). The reform of the European Stability Mechanism. *Capital Markets Law Journal*, 15(2), 159–174. <https://doi.org/10.1093/cmlj/kmaa001>
- Anderson, B. and J. Minarik (2006), "Design Choices for Fiscal Policy Rules", *OECD Journal on Budgeting*, vol. 5/4, <https://doi.org/10.1787/budget-v5-art25-en>.
- Audretsch, D.B., & Feldman, M. (1996). Innovative Clusters and the Industry Life Cycle. *Review of Industrial Organization*, 11(2), 253–273. <http://dx.doi.org/10.1007/BF00157670>
- Ayuso-i-Casals J., Hernandez D.G., Moulin L., Turrini A. (2009) Beyond the SGP: Features and Effects of EU National-Level Fiscal Rules. In: Ayuso-i-Casals J., Deroose S., Flores E., Moulin L. (eds) Policy Instruments for Sound Fiscal Policies. Finance and Capital Markets Series. Palgrave Macmillan, London. https://doi.org/10.1057/9780230271791_10
- BNB, 2020. *BNB statistics*, s.l.: s.n.

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

- Briceño, H. R., & Perote, J. (2020). Determinants of the public debt in the Eurozone and its sustainability amid the COVID-19 pandemic. *Sustainability (Switzerland)*, 12(16). <https://doi.org/10.3390/su12166456>
- Cebotari Aliona, (2008): Fiscal risks: sources, disclosure, and management/Fiscal Affairs Dept.; editors—Washington, DC: International Monetary Fund, 2008. <https://www.imf.org/external/pubs/ft/dp/2009/dp0901.pdf>
- Cebotari, Aliona, (2009): Fiscal Risks: Sources, Disclosure, and Management; Departmental paper 09/01; IMF Fiscal Affairs Department; 2009. <https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues>
- Comisión Europea. (2011). *TREATY ON STABILITY, COORDINATION AND GOVERNANCE IN THE ECONOMIC AND MONETARY UNION*. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:42012A0302\(01\)&from=BG](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:42012A0302(01)&from=BG)
- Comisión Europea. (2019). *Temporary Framework for State aid measures to support the economy in the current COVID-19 outbreak*. https://ec.europa.eu/competition/state_aid/what_is_new/sa_covid19_temporary-framework.pdf
- Comisión Europea. (2020). *Spring 2020 European Economic Forecast EUROPEAN ECONOMY* (Vol. 8014, Issue May). <https://doi.org/10.2765/788367>
- Constâncio, V. (2020). The Return of Fiscal Policy and the Euro Area Fiscal Rule. *Comparative Economic Studies*, 62(3), 358–372. <https://doi.org/10.1057/s41294-020-00122-3>
- European Commission. (2015). *Fiscal Sustainability Report 2015* (Vol. 8014, Issue January). <https://doi.org/10.2765/7398>
- European Communities. (2006). *Nová definice malých a středních podniků*. Brussels: European Communities. Retrieved October 9, 2014, from http://ec.europa.eu/enterprise/policies/sme/files/sme_definition/sme_user_guide_cs.pdf
- Government at a Glance. (2014). In *Government at a Glance*. <https://doi.org/10.1787/9789264209480-en>
- Kostov, D., 2016. A new yuan or a new monetary system. *Economic Archive*, LXIX(2), pp. 68-90. <https://www2.uni-svishtov.bg/NSArhiv/title.asp?lang=en&title=559>
- Kopits, G. & A. Symansky, S.A (1998). Fiscal Policy Rules. IMF. <https://www.imf.org/en/Publications/Occasional-Papers/Issues/2016/12/30/Fiscal-Policy-Rules-2608>
- Laktionova, O., Dobrovolskyi, O., Karpova, T. S. & Zahariev, A., 2019. Cost Efficiency of Applying Trade Finance for Agricultural Supply Chains. *Management Theory and Studies for Rural Business and Infrastructure Development*, 41(1), pp. 62-73. <https://doi.org/10.15544/mts.2019.06>
- Lilova, R., Radulova, A., & Alexandrova, A. (2017). Fiscal responsibility - necessity vs. obligation. The EU case. *Espacios*, 38(51). <https://www.revistaespacios.com/a17v38n51/17385131.html>
- Mazzanti, M., Mazzarano, M., Pronti, A. & Quatrosi, M. (2020). Fiscal policies, public investments and wellbeing: mapping the evolution of the EU. *Insights into Regional Development*, 2(4), 725-749. [http://doi.org/10.9770/IRD.2020.2.4\(1\)](http://doi.org/10.9770/IRD.2020.2.4(1))
- Navarro-Ortiz, J., & Sapena, J. (2020). Is external debt sustainable? A probabilistic approach. *Economic Modelling*, 93(July 2019), 142–153. <https://doi.org/10.1016/j.econmod.2020.07.014>
- Onofrei, M., Vatamanu, A. G., Bostan, I., Oprea, F., Paraschiv, G., & Lazar, C. M. (2020). The implication of fiscal principles and rules on promoting sustainable public finances in the EU countries. *Sustainability (Switzerland)*, 12(7). <https://doi.org/10.3390/su12072772>
- Pavelkova, D., Jircikova, E., Knapkova, A., Bialic-Davendra, M., & Saha, N. (2011). Empirical Evidence of Development of Plastic Clusters. In B. Katalinic (Ed.), *DAAAM International Scientific Book 2011* (pp. 619 – 637). Vienna (Austria): DAAAM International. DOI: <https://doi.org/10.2507/daaam.scibook.2011.50>

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

Polackova Brixi, H. and A. Schick, E. (2002). Government at Risk: Contingent Liabilities and Fiscal Risk (Issue April). <http://documents1.worldbank.org/curated/en/284531468771891611/pdf/multi0page.pdf>

Prodanov, S., Naydenov L., 2020. Theoretical, Qualitative and Quantitative Aspects of Municipal Fiscal Autonomy in Bulgaria. *Economic Studies journal*, Bulgarian Academy of Sciences - Economic Research Institute, issue 2, pp. 126-150. <https://ideas.repec.org/a/bas/econst/y2020i2p126-150.html>

Prodanov, S. & Pavlov, T., 2016. Comparative Analysis of the Leading Consumption-Based Asset Pricing Models. *Economic Archive*, LXIX(1), pp. 20-46. <https://www2.uni-svishtov.bg/NSArhiv/title.asp?lang=en&title=531>

Sabitova, N. M. et al., 2020. Tax Capacity of the Russian Federation Constituent Entities: Problems of Assessment and Unequal Distribution. In: *Regional Economic Developments in Russia*. s.l.: Springer, pp. 79-86. https://doi.org/10.1007/978-3-030-39859-0_7

Terziev, V., 2019. *The role of business in society*. Istanbul, Turkey, International Organization Center of Academic Research, pp. 324-330. ISBN: 978-605-82433-6-1

Terziev, V., 2020. *Programming as mechanism of managing, oriented towards results*. Chelyabinsk, Economic and Social Development, pp. 92-98.

Vasconcelos, V.V. (2021). Social justice and sustainable regional development: reflections on discourse and practice in public policies and public budget. *Insights into Regional Development*, 3(1), 10-28. [https://doi.org/10.9770/IRD.2021.3.1\(1\)](https://doi.org/10.9770/IRD.2021.3.1(1))

Zahariev, A. (2012). Debt Management, ABAGAR Publishing House Veliko Tarnovo, 287 pages, ISBN 978-954-427-981-3. Available at SSRN: <https://ssrn.com/abstract=2918699> DOI: <http://dx.doi.org/10.13140/RG.2.1.4872.3607>

Zahariev, A., & Kostov, D. (2016). The price of crude oil as a factor for USD volatility. *Ekonomika I Orhanizatsiia Upravlinnia*, 21(1), 15-23. <http://dx.doi.org/10.2139/ssrn.2915435>

Zahariev, A. et al. (2020a). Debt management evaluation through support vector machines: on the example of Italy and Greece. *Entrepreneurship and Sustainability Issues*, 7(3), 2382-2393. doi: [https://doi.org/10.9770/jesi.2020.7.3\(61\)](https://doi.org/10.9770/jesi.2020.7.3(61))

Zahariev, A. et al., 2020b. The Bank Insolvency: from Lehman Brothers to COVID-19 (International Remarks and National Peculiarities). *Economic and Social Developments*, 04-05 September, Issue 58, pp. 44-59. www.bit.ly/30CGFLz, Available at SSRN: <https://ssrn.com/abstract=3688961> or <http://dx.doi.org/10.2139/ssrn.3688961>

Zahariev, A. et al., 2020c. The Brokerage Insurance Companies under COVID-19 Framework (the Bulgarian experience). *Economic and Social Development*, 04-05 September, Issue 58, pp. 369-383. www.bit.ly/30CGFLz, Available at SSRN: <https://ssrn.com/abstract=3688949> or <http://dx.doi.org/10.2139/ssrn.3688949>.

Andrey ZAHARIEV, Professor of Finance and Dean of the Faculty of Finance at D. A. Tsenov Academy of Economics, Svishtov, Bulgaria. He is with a PhD degree in the field of the financial management of human resources and habilitation work in the field of public deficit and public debt (for assoc. professor position) and fiscal decentralization and financial management of municipalities (for professor position). He is currently Editor-in-Chief of *Economic Archive*, leading Bulgarian scientific journal in the field of social science. Research interests: debt management; public finance; human capital investment; international finance; financial analysis; financial management, fiscal decentralization.

ORCID ID: <https://orcid.org/0000-0001-7362-6133>

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES: @Entrepr6972881

Anelia RADULOVA, Assoc. professor in the Department of Finance and Credit at D. A. Tsenov Academy of Economics, Svishtov, Bulgaria. She holds a PhD degree in the field of the financial analysis and habilitation work in the field of investments. She is currently Editor-in-Chief of Economic Archive, leading Bulgarian scientific journal in the field of social science. Research interests: fiscal policy, fiscal policy of the EU, debt management; public finance; investments; financial analysis; fiscal sustainability.

ORCID ID: <https://orcid.org/0000-0002-5943-0393>

Aleksandrina ALEKSANDROVA, Researcher at the Scientific Research Institute, Assist. prof., PhD (part-time) in the Department of Finance and Credit at D. A. Tsenov Academy of Economics, Svishtov, Bulgaria. She holds a PhD degree in the field of the public finance (taxation). She is currently a Project coordinator of a Research project "Fiscal discipline and/or growing the fiscal capacity of the Republic of Bulgaria?" No. KII-06 M35/5 from 18/12/2019, supported by The National science fund at the Ministry of Education and Science. Research interests: public finance; debt management; fiscal policy of the European Union; taxation; international finance; financial analysis; corporate capital management.

ORCID ID: <https://orcid.org/0000-0001-9533-1563>

Mariana PETROVA, Professor, D.Sc in Physics and Mathematics, assoc.prof. St. Cyril and St. Methodius University of Veliko Tarnovo, Bulgaria; Professor Economics and Management in Department of Management, ISMA University, Riga, Latvia. Research interests: management of IT processes, project and services, business administration, modern information systems and innovations, knowledge economy, sustainable development.

ORCID ID: <https://orcid.org/0000-0003-1531-4312>

Register for an ORCID ID:

<https://orcid.org/register>

Copyright © 2020 by author(s) and VsI Entrepreneurship and Sustainability Center

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

