



This project is financed by the EU



**POLITICAL ECONOMY OF PUBLIC
DEBT & DEBT SUSTAINABILITY: THE
CASE OF MACEDONIA**
**Implementing the IMF's debt
sustainability analysis tool for market
access countries to Macedonia**

Center for Economic Analyses – CEA

Public debt is continuously rising to new levels, causing debt distress and risks. Debt sustainability in Macedonia and its context came to increasing attention after public debt more than doubled in the last decade, accompanied with other deteriorating debt related ratios. The situation calls for new efforts to contain vulnerabilities stemming from increasing levels of debt.

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February, 2019

CIP - Каталогизација во публикација
Национална и универзитетска библиотека "Св. Климент Охридски", Скопје

336.27:[32:330.1(497.7)(047.31)
336.27.053.1(497.7)(047.31)

GARVANLIEVA - Andonova, Vesna
Political economy of public debt & debt sustainability : the
case of Macedonia : Implementing the IMF's debt sustainability analysis
tool for market access countries to Macedonia / authors Vesna
Garvanlieva - Andonova, Marjan Nikolov. - Skopje : Center for economic
analyses - CEA, 2019. - 31 стр. : табели, граф. прикази ; 30 см

Фусноти кон текстот. - Библиографија: стр. 30-31

ISBN 978-608-4731-54-2

1. Nikolov, Marjan [автор]

а) Јавен долг - Политичка економија - Македонија - Истражувања б) Јавен
долг - Одржливост - Македонија - Истражувања

COBISS.MK-ID 109635338



This publication has been produced with the financial assistance of the European Union. The content of this publication is sole responsibility of the authors and can under no circumstances be regarded as reflecting the position of the European Union.

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List of abbreviations

CEA	Center for Economic Analyses
DSA	Debt Sustainability Analysis
EM	Emerging Markets
EU	European Union
FDI	Foreign Direct Investment
FS	Fiscal Strategy
GDP	Gross Domestic Product
GFN	Gross Financing Needs
GoM	Government of Macedonia
IMF	International Monetary Fund
MAC	Market Access Countries
MDB	Multilateral Development Banks
MKD	Macedonian denars
MoF	Ministry of Finance
NATO	The North Atlantic Treaty Organization
NBRM	National Bank of Republic of Macedonia
OBI	Open Budget Index
PDM	Public Debt Management
USD	United States Dollar
VAT	Value Added Tax
WB	World Bank

Introduction

Commonly, public debt sustainability is defined as the sovereign's ability to service its debt without undertaking large fiscal adjustments (to public revenue and/or expenditure) and without an ever-increasing public debt-to-GDP ratio. The pragmatically accepted definition of debt sustainability according to the IMF is: debt is sustainable if projected debt ratios are stable or decline, while also being sufficiently low. Thus, it refers to both the government's ability and willingness to repay its debt. Furthermore, it is necessary to stress that there is no universally accepted definition of debt or a quantitative limit that sets the sustainability of debt. Globally, the rising public debt raises concerns, although economists tend to agree that in the short term an increase in public debt, stemming from fiscal expansion, stimulates aggregate demand, which could help the economy grow; on the other hand, the longer-term economic impact of accumulating public debt is a subject of debate without a unified stance. While some argue that there is a negative long-term relationship between debt and growth, others pose doubts over any long-term association between the two for low or moderate levels of public debt.

A high level of public debt has adverse long-term economic consequences, such as an increase in long-term interest rates¹, future distortionary taxation, and the impossibility of monetary policy independence².

One's evaluation of the size of the public debt that a certain economy can reach depends on whether a higher debt-to-GDP ratio is acceptable when an economy is growing rapidly and it is thus expected that future revenues will be able to pay off the debt faster, or whether a higher debt-to-GDP ratio worsens as GDP growth diminishes to external developments.

Lessons learned from the past imply that it is not solely the size of the debt that counts, but that there is increasing focus on the "quality" of the debt stock, since it impacts the financial sector and the real economy as it shrinks the space for private investments and lowers future growth prospects. Therefore, counter fiscal positions are necessary to ensure that the high debt scenario does not continue because it makes investors uncertain if the debt will be repaid in the future; it also raises concerns of a possible default and a poor investment climate. Keeping in mind the different effects and results in the economy, there are in essence two types of fiscal policy interventions – either changes in government expenditures or changes in revenues or taxes.

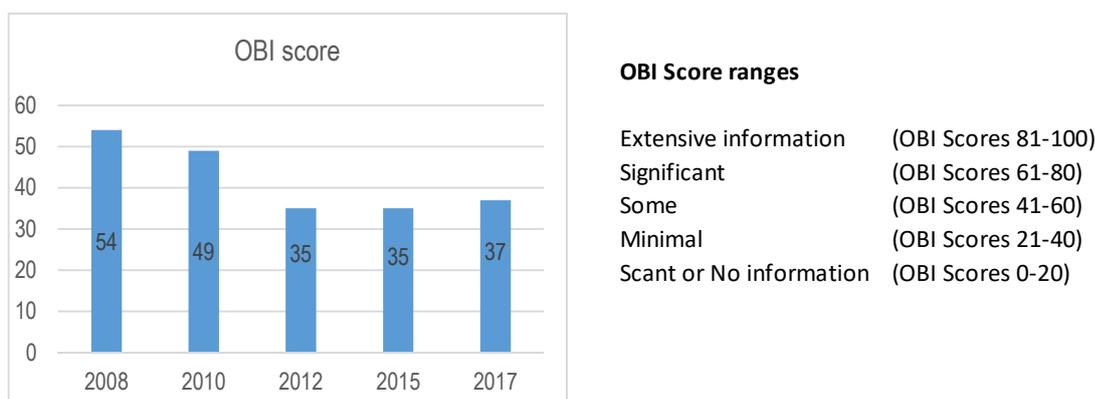
¹ Baldacci, E. and Kumar, M. S., 2010, Fiscal Deficits, Public Debt, and Sovereign Bond Yields, IMF Working Paper, available at: <http://www.imf.org/external/pubs/ft/wp/2010/wp10184.pdf>.

² Piergallini, A. and Rodano, G., 2009, Public Debt, Distortionary Taxation, and Monetary Policy, available at: <http://economia.unipv.it/eco-pol/PaperSeminari/2009-06-08-piergallini-rodano.pdf>.

1. The political economy of the Macedonian public debt³

According to the Open Budget Index (OBI) calculated annually by the International Budget Partnership, fiscal transparency in Macedonia falls into a group of countries that provide “minimal information”⁴. Back in 2008, Macedonia had been among countries that provided “some information” about their budget processes. Thus, a clear erosion of fiscal discipline and transparency has taken place, as illustrated in Figure 1.

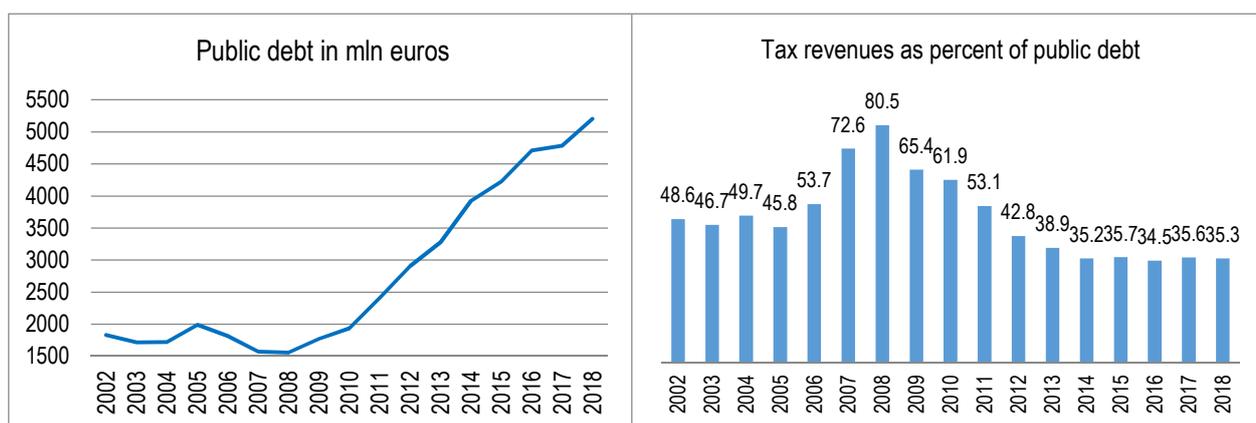
Figure 1 Open Budget Index for Macedonia (left-hand side) and OBI Score Ranges (right-hand side)



Source: OBI, International Budget Partnership.

In public finance management, the erosion of fiscal transparency and discretionary policies can lead to unexpected increases in debt, with adverse financial and economic consequences for taxpayers and the society as a whole. In the Macedonian context, public debt more than tripled between 2002 and 2018, while tax revenues as a share of public debt decreased from 80% in 2008, stabilizing at around 35% in 2014, as illustrated in Figure 2.

Figure 2 Public debt (€ millions) (left-hand side) and tax revenues as percentage of public debt (right-hand side), 2002-2018



Source: Author’s own calculations, based on Macedonia’s Ministry of Finance data.

³ This part is heavily based on the paper: Fiscal rules and fiscal councils: Lessons learned and applications for Macedonia, available at: <https://www.ceps.eu/publications/fiscal-rules-and-fiscal-councils-lessons-learned-and-applications-macedonia>. This section is also based on the CEA research: Political consensus for the economic future of the Republic of Macedonia, available at: https://cea.org.mk/documents/Politicki_konsenzus.pdf.

⁴ See more at OBI’s website: www.internationalbudget.org/budget-work-by-country/findgroup/group-data/?country=mk. Also, Nikolov, 2015.

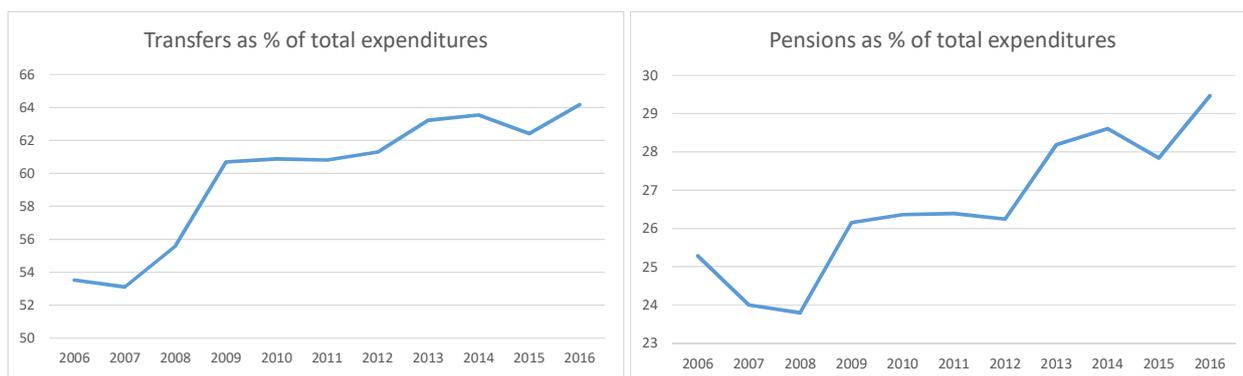
These figures are the result of both domestic and external factors. External factors materialized as a combination of the global financial crisis and NATO's decision not to extend an invitation to Macedonia to become a NATO member (NATO, 2008).

The domestic factors were, to a large extent, triggered by the external ones in the form of policy responses and resulted in a changed fiscal paradigm, which soon degenerated in the face of eroding fiscal discipline and the abuse of executive power to the point where the ruling party's style of governance has been labelled "state capture" (European Commission, 2015).

In 2006, the new government introduced a number of supply-side policy measures (immediately after the elections, when the right-wing VMRO DPMNE⁵ coalition took power, replacing the left-wing SDSM-led⁶ government coalition), aiming to reduce the tax burden and improve the business environment. The so-called "flat tax", according to which personal income and corporate profits would be taxed at one marginal rate (12% in 2007 and 10% in and after 2008), was introduced, together with the gross wages system, in expectation of higher domestic investments. Thus, the government moved to trickle-down policies of boosting the business sector with price competitiveness, tax havens, subsidies, and a cheap labor force.

On the other hand, current expenditures were dominated by non-discretionary spending (salaries, pensions, social assistance and agricultural subsidies), and transfers substantially increased in 2007-2008, as illustrated in Figure 3 and Figure 4.

Figure 3 Transfers and pensions as a percentage of total expenditures in Macedonia, 2006-2016

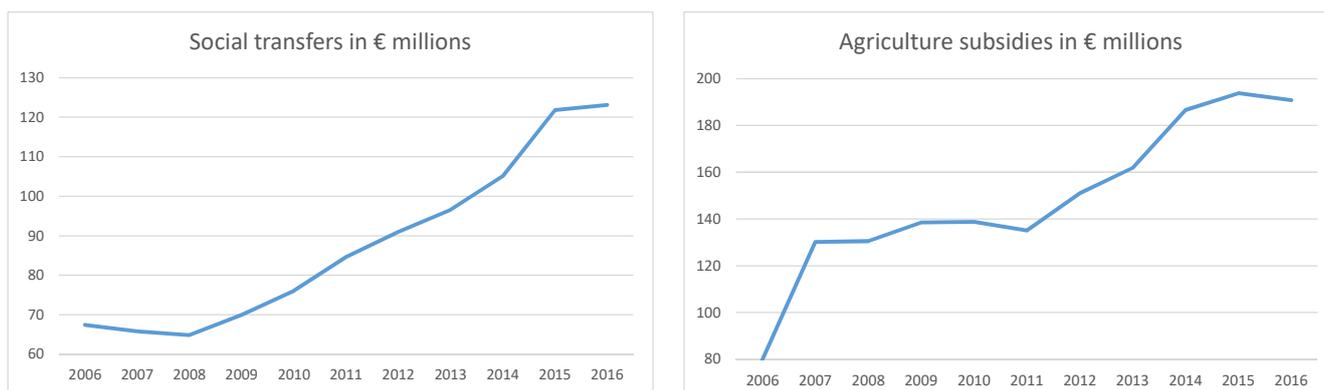


Source: Author's calculations based on Ministry of Finance data.

⁵ The Internal Macedonian Revolutionary Organization – Democratic Party for Macedonian National Unity.

⁶ Social Democratic Union of Macedonia.

Figure 4 Social transfers and agriculture subsidies in Macedonia, 2006-2016 (€ millions)



Source: Author's calculations based on Ministry of Finance data.

A public finance system is expected to have transparent procedures and rules that will regulate the budget process and that will reflect the culmination of the strategic planning phase of the budget process, in which the executive broadly aligns its policy goals with the resources available under the budget's fiscal framework, e.g., the total amount of expenditure, revenue, and debt.

Thus, well-set procedures and rules and transparency reduce the possibility of discretionary fiscal policies. In theory, fully informed voters create an environment for politicians to adopt socially optimal policies. However, on the 12th of December 2012, the Macedonian police force from the executive branch forcibly removed opposition MPs and journalists from the debate concerning the 2013 budget.

The government routinely exceeded its budget: fiscal data show budget expenditures and consequent budget deficits increased considerably prior to the elections (CEA, 2016b). Also, capital expenditures significantly intensified prior to and during each election cycle, followed by stabilization and a slight decrease. Social transfers increased significantly prior to and during the 2011, 2013 and 2014 elections (CEA, 2016b).

The fiscal policy of the Macedonian government was not in line with the fiscal sustainability of the country. There was a tendency for time inconsistency, deficit bias, low quality of fiscal forecasting, and pro-cyclicality episodes. We discuss these in more detail below.

Deficit bias and low quality of fiscal forecasting

The Macedonian government routinely overestimated budget revenues and expenditures. Our CEA calculations illustrate that the average annual overestimation of planned revenues (also IMF, 2016: 6, 20⁷) between 2009 and 2015 was around 7%⁸, while the average of planned expenditures between 2009 and 2015 was approximately 6%⁹.

Moreover, fearing it could lose power due to its mishandling of the financial crisis and its failure to gain entry into NATO and the EU, the previous right-wing VMRO DPMNE coalition government repeatedly pursued clientelistic electoral strategies and the practices of budget deficit bias and debt-driven growth. Figure 5 illustrates the

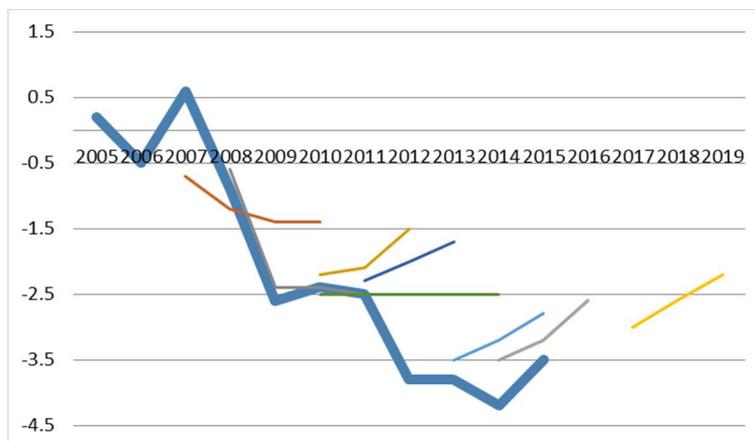
⁷ "The authorities are yet to implement key recommendations of the last two Article IV consultations: improve budget planning and medium-term budgetary framework, and adopt durable revenue and expenditure measures to support fiscal consolidation" (p. 6). Also: "...Institutional readiness needs improvement given limited linkages between the medium-term budget framework and the annual budget process, **persistent over-projection of revenues** and the periodic build-up of public sector payment arrears" (p. 20).

⁸ Planned revenues as per the executive budget proposal compared with actual revenues as per the final account.

⁹ Planned expenditures as per the executive budget proposal compared with actual expenditures as per the final account.

government's deficit bias. The bold line is the actual budget balance and the short lines are the planned budget balances as per the government's economic reform programs.

Figure 5 Deficit bias as a percentage of the GDP in Macedonia



Source: Author's calculations based on Ministry of Finance data and economic reform programs in Macedonia.

IMF estimates illustrate that unexpected public debt increase can be associated to on average: 23% because of incomplete information, 37% because of underestimating shocks, and 18% because of discretionary policies¹⁰. If we accept the assumption of the IMF about the average estimate of unexpected public debt increase being in the case of Macedonia the budget deficit bias (the difference between the planned and actual budget deficit as illustrated in the Figure 5) being some 230 million euros for the period presented, then in Macedonia the economic cost of the incomplete information, underestimating shocks, and of the discretionary policies are 53 mln euros, 85 mln euros and 41 mln euros respectively. Indeed, the minister of finance at the time of the global financial crisis shock, to surprise to the informed public, in 2008 was even stating that Macedonia could even gain from the global economic crisis?!

Time inconsistency

With the beginning of the global crisis, the government began accumulating arrears related to the VAT refund. It also went back on promises to increase the salaries of employees in the administration due to the reduction of the fiscal space. These are some examples of time inconsistency of governmental fiscal policy.

CEA, for example, reacted to the committee for finance and the budget at the parliament and was against the pro-cyclical policies¹¹ announced by the government at that time; we suggested the budget surplus be used to increase the deposits at the National Bank. Of course, that did not happen, and CEA was accused of being politically biased by the then minister of finance. Shortly after, the minister of finance was replaced by the parliament, and in his speech, he asked the MPs to support the Prime Minister in supplementing the budget on the same grounds as proposed by CEA.

Pro-cyclicality

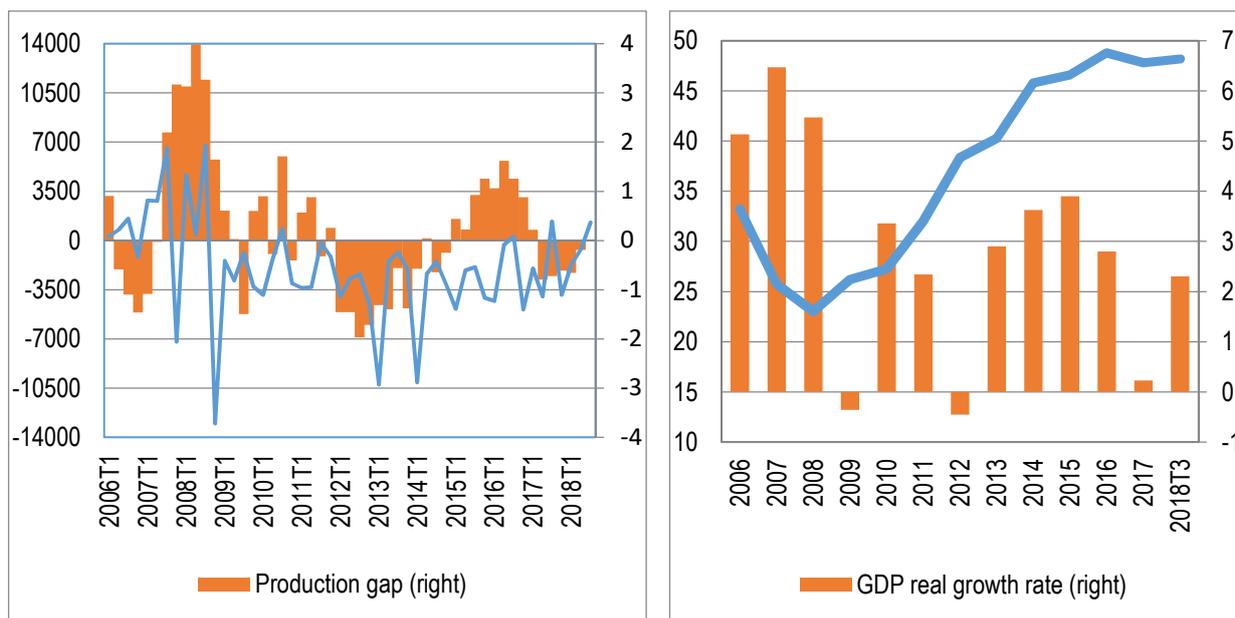
The positive effects of the positive production gap on budget revenues should have been used to improve the position of the central government's deposits. This would have prevented the accumulation of arrears in the

¹⁰ IMF resident representative presentation at the CEA event about fiscal transparency on 20th December 2012.

¹¹ http://www.soros.org.mk/CMS/Files/Documents/deklarativnoto_i_realnoto_preku_brojki.pdf.

economy and would have provided a better method of coping with the negative effects of the global crisis, as for example in 2012, when we experienced the crisis' double-deep (Nikolov, 2016).

Figure 6 Pro-cyclicality (left-hand graph) and the public debt with no growth (right-hand graph) in Macedonia



Source: Author's calculations based on Ministry of Finance data.

From Figure 6 we can see that during this period there were both pro-cyclical and counter-cyclical episodes in Macedonian public finances. It is always better to use the positive effects of the production gap in fiscal revenues to improve the position of the government deposits and, thus, to better manage the effects of negative shocks on the economy. This is especially important if we take into account that the public debt-to-GDP in Macedonia is almost 50%.

Creative accounting episodes

Regarding creative accounting episodes, the Ministry of Finance, under pressure from public and international financial institutions concerned with the unsustainable increase in public debt, changed the definition of public debt to exclude the Central Bank's debt. At the same time, the Ministry publicly presented the official state debt, which excluded the guaranteed debt of public enterprises. Public and independent think tanks increased pressure on the Ministry regarding these creative accounting episodes, particularly when, in March 2014, the voting records of multilateral development banks (MDB) revealed that the World Bank had abstained from voting on the Second Programmatic Competitiveness Development Policy Loan to Macedonia because of "[i]nadequate budget transparency and public financial management". In addition, in anticipation of additional public debt generation owing to road construction, the Macedonian Agency for State Roads was re-established as the Public Enterprise for State Roads, with the aim of removing its debt from the budget. Debrun & Kumar (2012) argue that "such practices [of creative accounting] undermine credibility of the public sector, with corrosive effects on trust and accountability in the public domain".

Finally, in December 2012, the executive branch forcefully removed opposition MPs and journalists from the parliament chamber in anticipation of the 2013 budget debate, highlighting its disdain for the rule of law and the

constitutional separation of powers. This not only constituted the derogation of fiscal transparency by the executive branch, but also a clear attack on the Constitution and the rule of law. Constitutional rules for separating executive and legislative powers and maintaining checks and balances were forcefully neutralized.

2. How much public debt can Macedonia sustain?

IMF (2010) suggests that Macedonia should consider a prudent level of 25% of public debt over the GDP (also following an IMF Vulnerability study from 2007), as there is no consensus among researchers and academics on what would be the appropriate debt target for emerging markets. IMF suggests a generally-accepted conclusion that emerging markets can sustain lower levels of debt than advanced economies because economic and institutional features limit both the feasibility and the credibility of these countries' debt-servicing abilities (Reinhart, Rogoff and Savastano, 2003; IMF, 2002). This clearly shows that the rule of law and quality of institutions are directly linked to the sustainable level of public debt in a specific country.

Furthermore, the IMF approach of modeling government budget constraint results in a prudent level of public debt to the GDP of around 20%. Thus, Macedonia as a hybrid regime with eroded fiscal transparency, eroded rule of law and with a poor good governance level (EC and EU, 2015) should not rely on the rule of thumb 40% public debt over the GDP level and should instead consider lower levels as sustainable levels of public debt. Macedonia, as a candidate EU country, should not even consider the 60% debt to the GDP level of the Maastricht criteria.

Discussion on public debt in Macedonia

For years, fiscal policy in Macedonia was used for the redistribution of public finances across various strata of individuals as a way of building political clients, as well as for redistribution across generations that reflects the driving force of populist politics, e.g., easy solutions for societal problems via generating public debt. The weak and fragile democracy produced sub-optimal fiscal policies with accumulating public debt, as previously discussed.

We can analyze public debt expansion in Macedonia through the **public choice literature approach with fiscal illusion and possible Keynesian expenditure policies**. Indeed, the Macedonian electorate acts as if it does not understand the notion of intertemporal budget constraint and continues to overestimate the benefits of current spending relative to the costs of future taxation. However, the generated debt after 2008 resulted in jobless economic growth, the rate of which was lower than in peer countries, and negative expenditure multipliers (Trenovski, 2013). Furthermore, transfers from the central budget to the pension fund are increasing, and current pensions reach around 50% of coverage from central budget transfers¹².

Certainly, clientelism and populism were fueled by the odious debt. In March 2014, international financial institutions started to consider the possibility of specific risk premiums associated with "odious" sovereign debt issued by the elites of the hybrid regime in Macedonia. Namely, at that time, voting records of MDBs revealed that the World Bank had abstained from voting on the Second Programmatic Competitiveness Development Policy Loan to Macedonia because of "[i]nadequate budget transparency and public financial management". Indeed, as already presented in Figure 1, fiscal transparency eroded dramatically during that period.

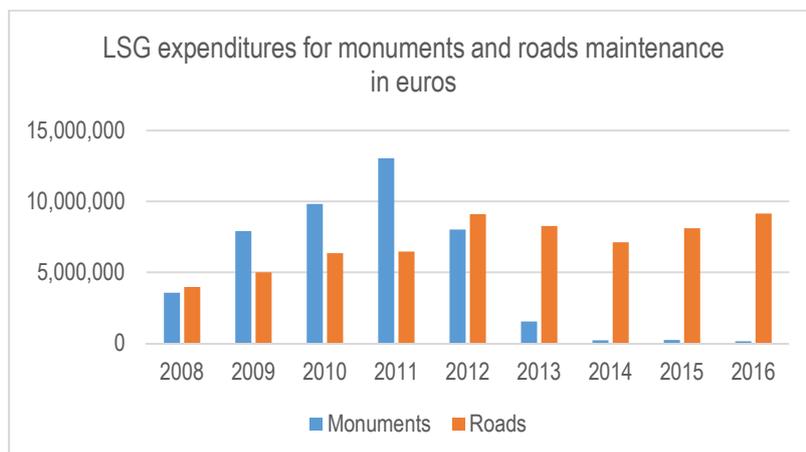
Another illustration of the practice of odious debt in Macedonia is the "Skopje 2014" project, during which hundreds of millions of euros were spent under suspicious way on monuments via local government public finances¹³. Figure

¹² CEA (2018): "Sustainability of the first pillar pension system in Macedonia", available at: <https://cea.org.mk/wp-content/uploads/2017/12/TSEA-Odrzhivost-na-penziskiot-fond-vo-MK-FINAL-2.pdf>.

¹³ Estimates goes up to 700 mln euros. See more on the research project within the PRIZMA BIRN initiative: <http://skopje2014.prizma.birn.eu.com/en>.

7 shows the scale of the odious scheme by presenting comparative expenditures in euros for monuments and the maintenance of local roads in Macedonia for the period 2008-2015. One can easily see that the expenditures for monuments in 2011 were more than double the expenditures for local roads maintenance in the whole country. Furthermore, more than 90% of these expenditures for monuments occurred in one of the smallest municipalities by territory in Macedonia - the municipality of Centar.

Figure 7 Expenditures for monuments (part of the so-called 'Skopje 2014' project) and local government roads maintenance in Macedonia for the period 2008-2015



Source: Author's calculations based on Ministry of Finance data.

The above also reveals Macedonia's self-interested politicians who cannot commit to policies and who create distortions in order to extract rent while in the office of the government. This tendency adds an additional constraint in the economy – the political economy constraint. It implies that **politicians in power compare the lifetime utility of extracting and seeking rent** during each period to the one-time shot of extracting all the resources available in the economy in one period and being thrown out of the office of the government (Alesina and Passalacqua 2015).

Distortions are generated by the fact that citizens must provide incentives to politicians to stay in the office of the government. These distortions may or may not disappear in the long-run. In particular, if politicians are as or more patient than citizens, they will value staying in office more and will thus set a tax rate equal to zero. If politicians are not as patient as citizens, it may be optimal to set positive taxation (Alesina and Passalacqua, 2015).

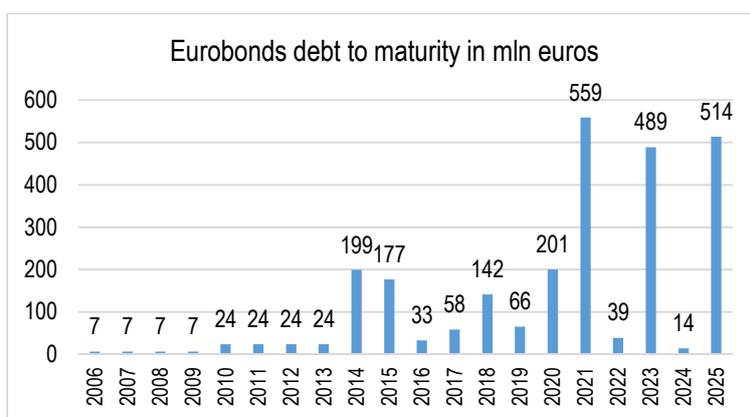
Indeed, politicians in the previous government in Macedonia were patient enough to erode the revenues of the budget, increase transfers, and seek rent, as already illustrated in Figure 2 and Figure 3. The majority of citizens were happy to provide incentives to politicians to stay in the office of the government as long as the transfers from the central budget were going to the fragmented clients of the citizenry in Macedonia (typical fiscal illusion effect). The current government is tempted to continue with the practice of the previous government of socio-economic engineering in state capture and this hybrid regime in Macedonia. Indeed, it is not easy to practice democracy in an impoverished citizenry.

Moreover, the Macedonian case demonstrates the **correlation between the political cycle and the transfers from the central budget** (CEA, 2012; CEA, 2016b). Alesina and Passalacqua (2015) argue that political budget cycles exist only in new democracies, such as Macedonia, and where fiscal manipulation may work because voters are inexperienced with electoral politics or may simply lack information. Certainly, the episodes of creative accounting support the arguments of the political cycle theory of public debt in Macedonia. Empirical findings demonstrate that the higher the degree of transparency, the smaller the political budget cycle, which is why fiscal transparency and the education of taxpayers and citizens on public finances, key budget documents, and participation are important in infant democracies. We, thus, strongly oppose the opinion of one of the previous ministers of finance: "if there is no demand for fiscal transparency we should not provide information". It is the

responsibility of the government and the minister of finance to set an ambient to tackle the poverty and inequalities and to further develop parliamentary democracy and to opt for fiscal transparency, accountability, and proper checks and balances instruments in public finance.

Inequalities and the fragmentation of society in Macedonia are relatively high, which might generate interclass conflicts (CEA, 2012). Political elites shifted the paradigm toward attracting FDI to boost growth in Macedonia through price competitiveness based on tax havens (CEA, 2016a; Nikolov and Stojanovic, 2018) and a cheap labor force. The results of the taxes are presented in the figures above, while the cheap labor force increased poverty among employed citizens in Macedonia (as shown by the latest statistics). The fact that mature Eurobonds in Macedonia will require a significant amount of euros to repay some of the public debt (see Figure 8) in the following period, as well as profits of the banking sector (see Figure 9), clearly illustrates that the potential for class conflict and a **war of attrition between the labor and the capital in Macedonia** over scenarios of servicing public debt is increasing.

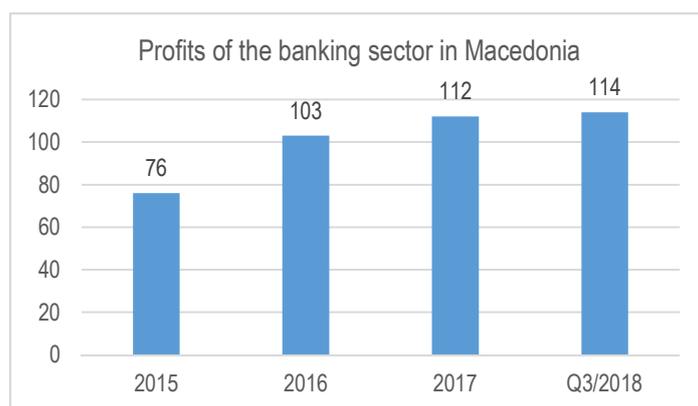
Figure 8 Eurobonds debt to maturity in mln euros



Source: Author's calculations based on Ministry of Finance data.

And the profits of the banking sector are increasing (Figure 9).

Figure 9 Profits of the banking sector in Macedonia in mln euros



Source: Author's calculations using National Bank data.

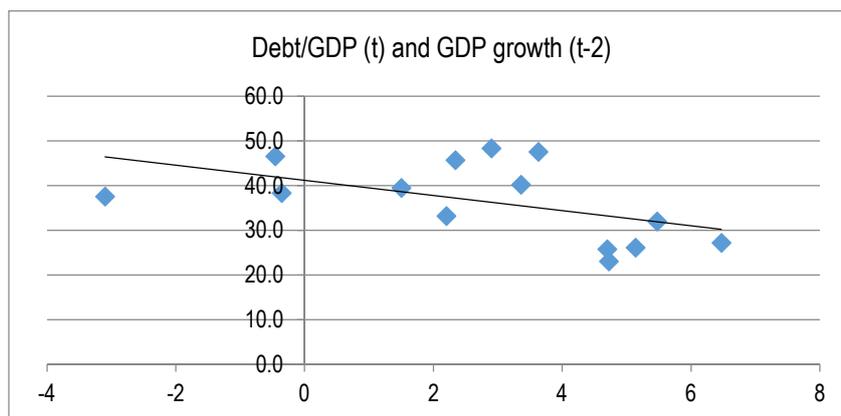
The war of attrition model of public debt focuses on the case of a country that for whatever reason, due to a permanent shock of revenues, is experiencing non-sustainable growth of external government debt (see Figure 8). The longer the country waits to raise tax rates to stop the growth of debt, the more the interest burden accumulates and the more expensive the stabilization, defined as a situation in which the total deficit is zero and the debt stops growing (Alesina and Drazen, 1991). A critical feature of the model is that political polarization leads to an uneven

distribution of the costs of the stabilization, with one group having to pay more than half the taxes needed after stabilization (Alesina and Passalacqua 2015). For example, the representatives of businesses in the government of Macedonia and the leftist forces in the government were recently at odds over abandoning the flat tax and the introduction of progressive income taxation.

The paradigm of trickle-down economics introduced by the previous government more than a decade ago has not resulted in greater economic growth and improved welfare for citizens. Then again, the very concept of trickle-down economics has been shown to be wrong (IMF, 2015). Namely, IMF (2015) demonstrated empirically that if the income share of the top 20% (the rich) increases, then the GDP declines over the medium-term, suggesting that the benefits do not trickle down. In contrast, an increase in the income share of the bottom 20% (the poor) is associated with greater GDP growth. The poor and the middle class matter the most for growth via several interrelated economic, social, and political channels. Thus, the establishment and the political elites in Macedonia should reconsider the economic policies at hand.

Finally, what is important for Macedonia is the quality of the institutions that are discredited with the political elites who established and still nurture the hybrid regime of power¹⁴. The poor quality of institutions and the low level of economic development in Macedonia may explain the jobless debt-driven growth and the possible negative correlation of public debt and economic growth (Figure 10) in line with the theories and empirical evidence explained by Ahmed (2017). **These models of public debt are based mainly on the new political economy** and the North's institutional approach of economic growth and welfare. On the other hand, the debt-growth relationship is found to be trivial for industrial nations (ibid).

Figure 10 Possible correlation between public debt and GDP growth in Macedonia could be negative



Source: Author's calculations using Ministry of Finance data. The time lag of two periods is the assumption for the average transmission of debt into the economy in the country.

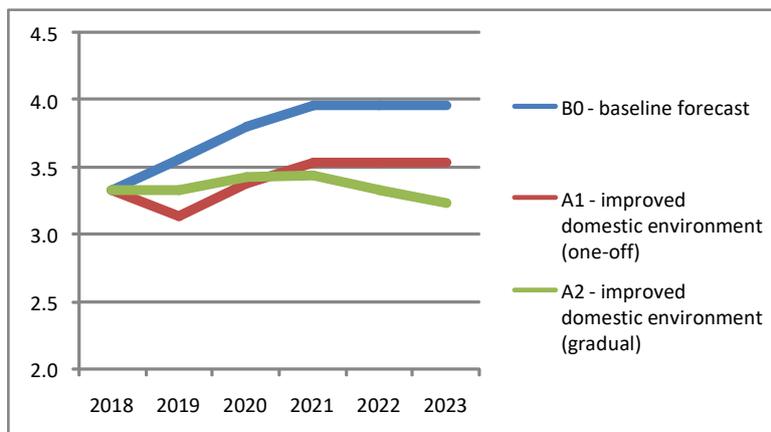
Indeed, focusing on the quality of institutions, better governance, and rule of law might be the trigger for greater and more sustainable FDI and economic growth, in contrast to extractive FDI that is attracted by a cheap labor force, tax breaks, and subsidies and that deepens conflicts in Macedonian society. Better institutions might induce investment and thus lead to sustainable growth. Therefore, Ahmed (2017) demonstrates that in the presence of higher quality institutions, external debt does not seem to influence growth significantly. However, for countries with poor institutional setups, external debt appears to significantly lower GDP growth, e.g., a 1% increase in external debt-to-GNI ratio is associated with a 1.5% decrease in GDP growth.

For the case of Macedonia, our CEA assumptions concerning the interest rate of future Macedonian external debt in an improved political and economic environment, which is based on good governance, the rule of law, enhanced control of corruption, and higher quality of regulatory agencies, might work better on a lower sovereign spread than

¹⁴ See: <https://freedomhouse.org/report/nations-transit/2018/macedonia>.

the zero assumption of no changes (e.g., keeping the policies of price competitiveness with a cheap labor force, tax havens, government subsidies, FDI). This is presented in Figure 11 below.

Figure 11 Different scenarios of interest rate forecast for Macedonia



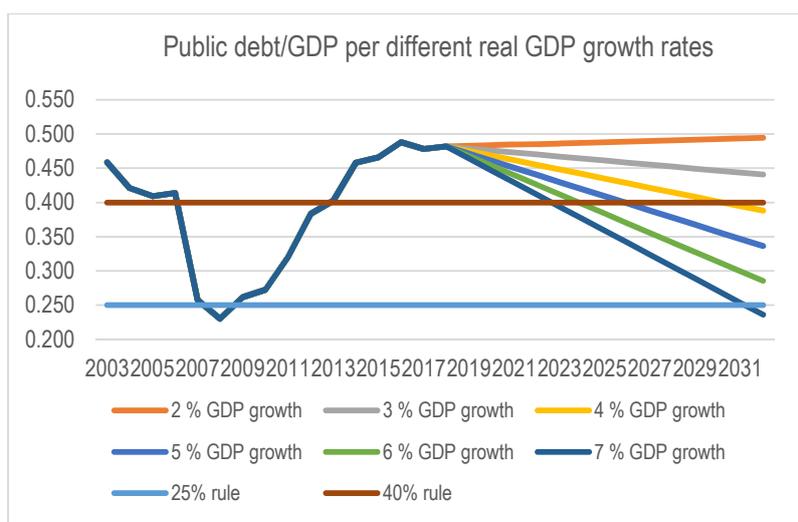
Source: Author's calculations.

As the country is still categorized as a hybrid regime with poor quality rule of law and a low level of governance, it is imperative for the establishment to start to consider prudent fiscal policies that follow strict fiscal rules. The paradigm of the economic policy should be based on an enabling environment and not on government interventions and subsidies.

The debt dynamics approach of debt sustainability illustrates the importance of fiscal discipline as presented in Figure 12 and Figure 13.

From Figure 12, we can see that the public debt over the GDP starts to decline at only around 3% of real GDP growth, ceteris paribus. With an annual real GDP growth rate of 4%, Macedonia can reach the prudent level of 40% of public debt over GDP only in 2030, and with an annual real GDP growth rate of 7%, Macedonia can reach the prudent level of 40% of public debt over GDP in 2023, ceteris paribus.

Figure 12 Impact of the public debt over GDP on the real growth rates

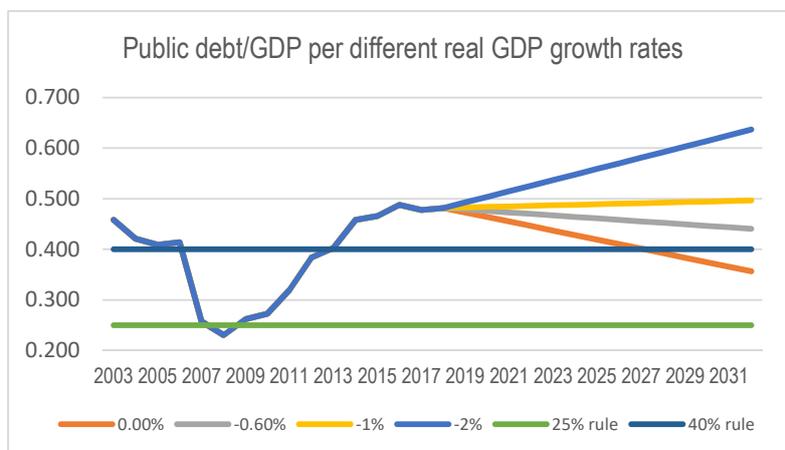


Source: Author's calculations.

From Figure 13, we can see that with an annual real growth rate of 3%, the public debt over GDP starts to decline only at less than 1% primary deficit, ceteris paribus. With a balanced budget (zero primary deficit), Macedonia can

reach the prudent level of 40% of public debt over GDP in 2027, with an annual real growth rate of 3%, ceteris paribus.

Figure 13 Impact of the public debt over GDP on the primary balance



Source: Author's calculations.

3. Debt sustainability analysis

In the following pages, we analyze public government debt in Macedonia and how it stacks up against not only the GDP, but other debt indicators as well. For this analysis, we examine public debt values as they are available through governmental, central bank and other international institutions that collect and publish data and documents on public debt (IMF, WB, etc.).

Debt sustainability analysis

We use the IMF's debt sustainability analysis (DSA)¹⁵ tool for market access countries (MAC)¹⁶. The main objective of the DSA, as the name indicates, is to assess whether a country's position on public debt is sustainable through three aspects:

- (1) the medium-term debt path using the baseline scenario and additional alternative stress tests;
- (2) scenarios exploring whether the debt stabilizing ratios are consistent with growth and the debt rollover; and
- (3) the composition of debt and gross financing needs.

The MAC DSA is a risk-based approach model developed by the IMF and last updated in 2013/2014¹⁷.

The debt sustainability analysis approach identifies Macedonia as a MAC, which is a country that typically has significant access to international capital markets. The IMF conducts the assessments and publishes these as part of Article IV surveillance through a standardized template. The last IMF Article IV report for Macedonia¹⁸ provides a DSA that includes recommendations for stronger fiscal consolidation to stabilize

¹⁵ Debt sustainability analysis – DSA.

¹⁶ Market access countries – MAC.

¹⁷ Public DSA template, available at: <https://www.imf.org/external/pubs/ft/dsa/mac.htm>.

¹⁸ 2017 report as of November 13th, 2017, and 2018 report as of January 29th, 2019.

debt and increase fiscal space (on both the revenue and expenditure side), increase the balance between international and domestic debt, etc.

Per the IMF's "Modernizing the Framework for Fiscal Policy and Public Debt Sustainability" (IMF, 2011), fiscal policy sustainability and public debt sustainability are two interrelated concepts. The paper considers: (i) the trajectory of the debt-to-GDP ratio, both under a baseline scenario and under alternative scenarios exploring key fiscal risks; (ii) whether, at a minimum, the debt ratio stabilizes at a level consistent with an acceptably low rollover risk and with preserving growth; (iii) the realism of underlying assumptions; and (iv) debt composition, which also affects the likelihood of debt distress. The fiscal policy stance can be regarded as unsustainable if, in the absence of adjustment, sooner or later the government would not be able to service its debt. Specifically, two cases should be distinguished:

- The current level of the primary balance might not be sufficient to stabilize the debt-to-GDP ratio (which therefore would be on an explosive path), but sufficient fiscal adjustment would be realistic (both economically and politically) to bring the primary balance to a level that is necessary to service public debt. In this case, while fiscal policy would be currently unsustainable (in the sense that an adjustment in the primary balance is needed), public debt can be regarded as sustainable.
- Alternatively, the primary balance needed to stabilize the debt ratio is politically and/or economically infeasible. In this case, not only would fiscal policy be unsustainable, but also public debt (solvency problem), and debt restructuring would be necessary.

According to the framework, the higher the level of public debt, the more likely it is that fiscal policy and public debt are unsustainable. This is because - other things equal - a higher debt requires a higher primary surplus to sustain it. Moreover, higher debt ratios are usually associated with higher interest rates, thus requiring an even higher primary balance to service it. A proper assessment of fiscal policy and public debt trajectory must be based on certain macroeconomic baseline assumptions, notably economic growth and the interest rate on public debt, as well as the likelihood that fiscal risks might materialize¹⁹.

It is widely believed that the Macedonian debt-to-GDP is on an unsustainable path and that there is a need for a monitoring tool that will not only trivially examine the debt-to-GDP ratio, but also the gross financial needs and the "quality" of debt. This tool would ensure informed and structured recommendations for the public.

As a tool for assessing debt sustainability, we use a model for Macedonia by populating it with historical data and projections based on certain assumptions elaborated below. Furthermore, the model enables the creation of alternative and shock scenarios, as the economy is susceptible to these²⁰. Assumptions and results are provided under baseline, alternative and shock scenarios.

Public debt regulation

Public debt in Macedonia is regulated by the Public Debt Law²¹, covering: "public debt management, purposes of the government debt, procedure and manner of borrowing, procedure of issuance, servicing and termination of sovereign guarantees, as well as information on public debt"²².

¹⁹ Modernizing the Framework for Fiscal Policy and Public Debt Sustainability, IMF, 2011, available at: <https://www.imf.org/external/np/pp/eng/2011/080511.pdf>.

²⁰ The assumptions for the authors' results are provided under baseline, alternative and shock scenarios.

²¹ OG of RM 165/2014, cleared version, originally from 62/2005, amendments 88/2008, 35/2011 and 139/2014, currently proposed alteration on ENER.

²² Ibid., article 1.

The law defines and differentiates state, i.e., “government debt²³”, and “public debt”, with the latter having a wider scope of definition that includes public enterprise and company debt.

The “controversial” narrowing of the scope of public debt by excluding NBRM (central bank of RM) debt and the non-guaranteed sovereign debt of public enterprises and companies established by the state or municipalities, was amended in 2014, distancing itself from the IMF/WB guidelines on a wider scope of defining, calculating and managing debt²⁴.

Public debt and the budget process in Macedonia

The law regulates public debt management (PDM) policy²⁵, defining the objectives and the three-year based planning within the fiscal strategy (FS), which sets: the amount (limit) of public debt in the medium term; the maximum amount of new borrowing in the first year to which the fiscal strategy refers; and the maximum amount of newly issued sovereign guarantees in the first year to which the fiscal strategy refers. Unlike the original law of 2005, the amendments in 2011 omit the article in which the Parliament adopts and enacts the FS along with the next year’s budget of RM²⁶. Under the current legal framework, fiscal strategy is prepared by the MoF and enacted by the GoM.

Within the section on transparency, the MoF prepares an annual report for public debt management and sends it to the Parliament for informational purposes only.

A debt brake of 60% of the GDP, including a budget deficit of 3%, was proposed as a constitutional change to the Parliament in 2014; however, although the initiative was accepted, there were no proceedings toward amendments. In that period there seems to be political consensus that something must be done and the SDSM proposed the Fiscal council as an instrument and the VMRO DPMNE the strict fiscal rule of 60% public debt over the GDP in the Constitution of Macedonia.

Currently (beginning of 2019), there are proposed amendments to the existing debt law that stipulate and envisage the following changes: the inclusion of non-guaranteed debt in the scope of public debt, net expression of debt, as well as “pulling-out” a standalone strategy for public debt management away from the FS, where the maximum amount of net debt for the first year of the mid-term strategy will be set and the deadline for the preparation of the annual public debt report will be defined²⁷.

Current state of debt

Global public debt is continuously rising to new levels, causing debt distress and a high risk of default. Debt sustainability in Macedonia and its context came to increasing attention after public (sovereign) debt more than tripled in the period between 2007 and 2018, from 96,076 mill MKD to 319,906 mill MKD as of the end of 2018, tax revenues over public debt decreased significantly, and the remaining debt burden ratios deteriorated as well.

²³ Government debt shall comprise all financial liabilities created on the basis of borrowing by the Republic of Macedonia, public institutions established by the Republic of Macedonia and municipalities, municipalities within the City of Skopje and the City of Skopje, excluding debt of public enterprises and companies being fully or predominantly owned by the state, by the municipalities and the debt of the National Bank of the Republic of Macedonia; Public debt shall comprise government debt and debt of public enterprises being established by the state or by the municipalities, municipalities within the City of Skopje and the City of Skopje, as well as companies being fully or predominantly owned by the state or by the municipalities, municipalities within the City of Skopje and the City of Skopje, the government having issued sovereign guarantee therefore.

²⁴ What Lies Beneath: The Statistical Definition of Public Sector Debt, IMF staff discussion note, 2012, available at: <https://www.imf.org/external/pubs/ft/sdn/2012/sdn1209.pdf>.

²⁵ OG of RM 165/2014, cleared version, originally from 62/2005, amendments 88/2008, 35/2011 and 139/2014, Article 7.

²⁶ Ibid.

²⁷ The debt brake or fiscal rule as explicit long-lasting constraint on fiscal policy through numerical limits on budgetary aggregates, not intended in these amendments, as neither was the establishment of a fiscal council, amendments and discussions that were formerly announced to be undertaken.

Despite concerns over the rising public debt load, the government intends to pursue new debt instruments, generating additional debt. The increase in public debt is similar to the overall global trends, as the debt-to-GDP ratio has more than doubled in the last decade, from 23% of the GDP in 2008 to 47.8% at the end of 2017²⁸.

This situation calls for new efforts to contain vulnerabilities stemming from increasing levels of debt, although taking on debt is one of the ways in which countries can finance the needed investments in infrastructure, human capital or public works. However, good debt management is critical for these investments to be successful.

The FS 2019-2021²⁹ plans and projects a further increase of public debt to 49.8% of the GDP in 2018, 54.5% of the GDP in 2020, and 53.2% in 2021³⁰. Furthermore, generated arrears pose additional distress and are an important factor (hidden debt) that could potentially affect debt sustainability.

However, it should be noted that the projections, as compared to the realization in the past, show overshooting or underachievement in planning (deficiency in planning) and budget balance (deficit bias), indicating that the fiscal rules set in fiscal strategies are not being followed as we already discussed in the political economy context.

Table 1 Public debt data 2002-2018

Year	Public debt (mill MKD)	Addition to debt (Y-o-Y mill MKD)	Y-o-Y % increase in debt	Real GDP growth rate %	PD as % of GDP
2002	111,754			1.5	43.2
2003	105,288	-6,466	-5.8	2.2	39.2
2004	105,603	314	0.3	4.7	37.6
2005	121,876	16,274	15.4	4.7	39.6
2006	111,232	-10,645	-8.7	5.1	33.2
2007	96,076	-15,156	-13.6	6.5	25.8
2008	95,696	-379	-0.4	5.5	23.0
2009	108,416	12,720	13.3	-0.4	26.2
2010	119,091	10,675	9.8	3.4	27.2
2011	148,526	29,435	24.7	2.3	32.0
2012	178,894	30,367	20.4	-0.5	38.3
2013	201,846	22,952	12.8	2.9	40.3
2014	241,090	39,244	19.4	3.6	45.8
2015	260,374	19,284	8.0	3.8	46.6
2016	289,666	29,292	11.2	2.9	48.8
2017	294,347	4,682	1.6	0.0	47.8
Q3-2018*	316,346	21,999	7.5	2.8	48.2

Source: Author's calculations, based on MoF data.

*Projection/supplementary budget.

The year-on-year debt increase as a percentage reached double digits, especially in the period between 2011 and 2014, but also as a ratio to total budget revenues. Consequently, the interest expenditure has been rising as well. Debt service-to-revenue will reach 19% in 2018 and will reach 6% to GDP. On the other hand, gross financing needs are contained at 7% of the projected GDP, yet reaching 24% of the projected budget revenues in 2018.

²⁸ Q3 2018 public debt-to-GDP measured at 48.2, Q4 2018 48.7

²⁹ Revised Fiscal Strategy 2019-2021, as of January 2019.

³⁰ The revised fiscal strategy for 2019-2021 was enacted for the first time on January 21st, 2019, revising some of the main projections, including debt indicators.

Table 2 Budget revenues, primary balance and interest expenditure 2008-2018

FY	Total revenues (TR) in mill MKD	Addition to debt (Y-o-Y mill MKD)	As % of TR	Primary balance (mill MKD)	As % of TR	Total interest payment	YoY % increase in interest	As % of TR
2008	136,415	-379	-0.3	-1,158	-0.8	2,646		1.9
2009	128,498	12,720	9.9	-8,404	-6.5	2,491	-5.9	1.9
2010	132,149	10,675	8.1	-7,369	-5.6	3,174	27.4	2.4
2011	137,166	29,435	21.5	-8,012	-5.8	3,471	9.4	2.5
2012	138,112	30,367	22.0	-13,510	-9.8	4,215	21.4	3.1
2013	140,248	22,952	16.4	-14,651	-10.4	4,606	9.3	3.3
2014	145,929	39,244	26.9	-17,043	-11.7	5,090	10.5	3.5
2015	161,172	19,284	12.0	-13,002	-8.1	6,458	26.9	4.0
2016	169,336	29,292	17.3	-9,200	-5.4	6,871	6.4	4.1
2017	179,706	4,682	2.6	-8,467	-4.7	8,388	22.1	4.7
2018*	192,484	21,999	11.4	-10,265	-5.3	7,787	-7.2	4.0

Source: Author's calculations, based on MoF data.

*Projection/supplementary budget.

Table 3 Evolution of debt burden indicators

DEBT BURDEN RATIOS		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 ³¹
Total public debt-to-GDP	% of GDP	0.23	0.26	0.27	0.32	0.38	0.40	0.46	0.47	0.48	0.47	0.49
Total public debt-to-revenue	% of revenue	0.70	0.84	0.90	1.08	1.30	1.44	1.65	1.62	1.71	1.64	1.64
Debt service-to-GDP	% of GDP	0.02	0.03	0.02	0.02	0.02	0.04	0.03	0.06	0.05	0.04	0.06
Debt service-to-revenue	% of revenue	0.07	0.08	0.08	0.08	0.07	0.14	0.10	0.22	0.16	0.14	0.19
Gross financing needs-to-GDP	% of GDP	0.03	0.05	0.04	0.04	0.05	0.07	0.06	0.09	0.06	0.06	0.07
Gross financing needs-to-revenue	% of revenue	0.08	0.15	0.14	0.14	0.17	0.25	0.22	0.30	0.22	0.19	0.24
Total net public debt-to-GDP	% of GDP	0.23	0.26	0.27	0.32	0.38	0.40	0.46	0.47	0.48	0.47	0.49
Total net public debt-to-revenue	% of revenue	0.70	0.84	0.90	1.08	1.30	1.44	1.65	1.62	1.71	1.64	1.64
Total gross public debt-to-potential GDP	% of potential GDP	0.16	0.19	0.19	0.23	0.28	0.30	0.35	0.36	0.39	0.39	0.41

Source: Author's calculations, based on MoF data.

Baseline scenario under DSA

Debt rate and growth rate

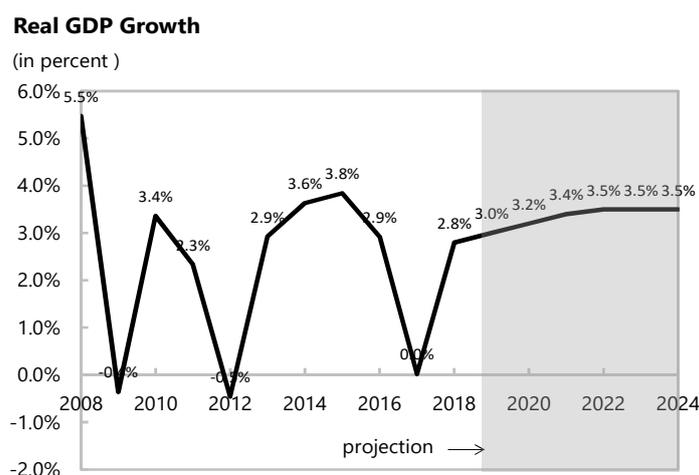
The rapid rise in public debt since 2008 (as seen in Table 3) has largely depleted the fiscal space, which can be considered unsustainable in the absence of an adjustment (current policies aim to increase tax revenues through a change of the personal income tax by adding a new bracket, but there are no policies targeting the expenditure side of public spending); it is expected that eventually the government would not be able to service its debt, which

³¹ 2018 indicators: debt value based on available Q3 public debt, GDP projections based on Macroabc model, 2008-2017 public sector data based on budget execution reports, 2018 enacted budget, 2019 adopted budget, 2020-2021 fiscal strategy projection data, 2022-2024 authors' assumptions, explained throughout.

is evident from the increasing financing need in the medium term. The government must service the external debt of the existing Eurobonds (maturing in 2020, 2021 and 2023) and, at the same time, raise and service the new financing needs with new debt.

The Macedonian economy experienced a significant and prolonged political crisis following its recovery from the global crisis; thus, growth has been slow and inconsistent. According to international institutions, it is expected that recovery after the political crisis in the medium term (three to five years) will be stable with around 3% growth per annum, although the government has been more optimistic in its Fiscal Strategy projection, expecting growth to reach approximately 5% in the medium term. Using projections based on the DSA model, we anticipate a more moderate growth scenario of 3% real growth rate (in 2019) and up to 3.5% between 2022 and 2024.

Figure 14 Real GDP growth trends and projection



Source: Based on MoF data and author projections.

Considering the DSA risk-based approach, for a low/high scrutiny country and in line with the projections for public debt in the following mid-term period, debt is expected to exceed both 50% of the GDP and 10% of gross financing needs (GFN³²) to GDP as benchmarks of emerging markets (EM); therefore, Macedonia can be classified as a high scrutiny country. At this point (end of 2018), the benchmark threshold has not been reached yet by either of the conditions; nevertheless, Macedonia is on the brink of both benchmarks.

Under the baseline scenario and using the IMF MAC DSA model, public debt in Macedonia is expected to increase to approximately 53% of the GDP by 2024. The baseline scenario is based on the current projected government policies and considers the Q3 2018 debt level as the final starting point for debt for 2018³³; 2019 data are based on the 2019 budget, while 2020-21 data are based on the FS 2019-2021³⁴ projections for the budget.

Figure 15 Benchmarks for MAC DSA EA

		2018	2019	2020	2021	2022	2023	2024
Public Gross Debt >	50 percent of GDP?	48.96	48.79	48.77	49.38	50.85	51.92	52.69
Public Gross Financing Needs >	10 percent of GDP?	7.19	5.04	7.43	10.61	9.46	13.89	11.66

Source: Based on author calculations and projections compared to IMF's MAC DSA set benchmarks for high scrutiny countries and the classification of Macedonia as an emerging market (EM).

³² GFN is the sum of budget deficits and funds required to roll over debt that matures in the course of the year (primary deficit – interest receipts + interest payments + amortization payments).

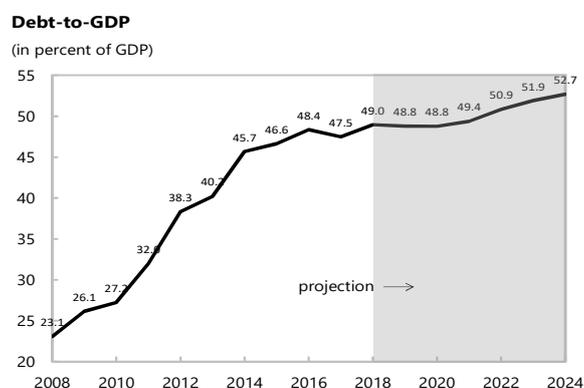
³³ The final debt for 2018 might be higher when the updated data are published.

³⁴ Upon publication of the first revised FS for 2019-2021, the projections are in line with the revised strategy.

Debt dynamics

Debt dynamics show an increase in the debt-to-GDP rate of change in the following five years³⁵, with an increasing trend from 2019 to 2024. Overall, in the period considered (see Figure 16), we anticipate a 3.9 pp. increase of debt-to-GDP.

Figure 16 Debt-to-GDP trend

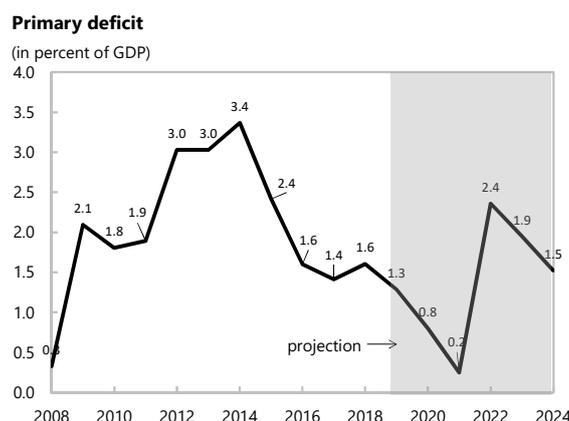


Source: Based on MoF data and author projections.

Decomposition of debt

Macedonia has run, and continues to run, a primary deficit throughout the period as its main contributor to the increased debt. The current level of the primary balance, as well as the projected primary balance, might not be sufficient to stabilize the debt-to-GDP ratio (risk of being on an explosive path), and further fiscal adjustment are required to bring the primary balance to a level that is necessary to service public debt and even reduce debt. Although a drop in the primary balance was projected between 2017 and 2019, the past has shown a deficit bias³⁶ in the sense that the projected compared to the executed deficit has been regularly underestimated, i.e., there has been over-execution. In the medium term, the primary deficit is expected to stabilize during a three-year period; however, financing needs are expected to increase further especially when maturing long-term bonds come to be serviced. This will increase the primary deficit, but not more than 2.5%.

Figure 17 Primary deficit



Source: Based on MoF data and author projections.

³⁵ The projection period is set to the current plus five years as to increasing uncertainty on a longer run under the assumptions.

³⁶ Deficit bias: The tendency of governments to allow deficit and public debt levels to increase.

Within the baseline scenario, debt decomposition changes it to basic measurable debt-creating flows and provides input on the variables that have significant impact on the movement of public debt and on what to expect in the future under the provided assumptions, which are in essence comparable to the assumptions of the policy makers.

The key assumptions for the baseline (and alternative) scenario are provided below³⁷. If the government successfully implements its fiscal plans for keeping the primary balance below 2% in the following period and extends its efforts, the debt-to-GDP ratio is expected to maintain its pace.

Figure 18 Debt, economic and market indicators under baseline scenario

Debt, Economic and Market Indicators ^{1/}											
	Actual			Projections						As of 20 July 2018	
	2008-2016 ^{2/}	2017	2018	2019	2020	2021	2022	2023	2024		
Nominal gross public debt	36.4	47.5	49.0	48.8	48.8	49.4	50.9	51.9	52.7	Sovereign Spreads	
										Bond Spread (bp) ^{3/}	348
Public gross financing needs	5.4	5.6	7.2	5.0	7.4	10.6	9.5	13.9	11.7	5Y CDS (bp)	
Net public debt	36.4	47.5	49.0	48.8	48.8	49.4	50.9	51.9	52.7	n.a.	
Public debt (in percent of potential GDP)	27.2	38.8	40.8	40.8	41.3	42.4	43.9	45.1	46.0		
Real GDP growth (in percent)	2.6	0.0	2.8	3.0	3.2	3.4	3.5	3.5	3.5	Ratings	Foreign
Inflation (GDP deflator, in percent)	2.7	3.5	1.4	1.9	2.0	2.0	2.0	1.9	1.9	Moody's	n.a.
Nominal GDP growth (in percent)	5.5	3.5	4.2	5.0	5.3	5.5	5.5	5.5	5.5	S&Ps	BB-
Effective interest rate (in percent) ^{4/}	2.7	2.9	2.6	2.9	3.1	3.6	3.7	3.8	3.9	Fitch	BB

Contribution to Changes in Public Debt											
	Actual			Projections						cumulative	debt-stabilizing primary balance ^{9/}
	2008-2016	2017	2018	2019	2020	2021	2022	2023	2024		
Change in gross public sector debt	2.5	-0.9	1.5	-0.2	0.0	0.6	1.5	1.1	0.8	3.7	
Identified debt-creating flows	2.4	-3.6	2.7	-0.1	0.0	0.7	1.5	1.1	0.8	4.0	
Primary deficit	2.2	1.4	1.6	1.3	0.8	0.2	2.4	1.9	1.5	8.2	-0.8
Primary (noninterest) revenue and grants	29.5	28.9	29.8	31.1	30.7	30.5	29.7	29.7	29.9	181.6	
Primary (noninterest) expenditure	31.6	30.4	31.4	32.3	31.5	30.8	32.0	31.7	31.4	189.7	
Automatic debt dynamics ^{5/}	0.2	-5.0	1.1	0.2	-1.0	-0.9	-0.9	-0.8	-0.8	-4.1	
Interest rate/growth differential ^{6/}	-0.9	-0.3	-0.7	-1.0	-1.0	-0.9	-0.9	-0.8	-0.8	-5.3	
Of which: real interest rate	0.0	-0.3	0.5	0.4	0.5	0.7	0.8	0.9	1.0	4.2	
Of which: real GDP growth	-0.9	0.0	-1.3	-1.4	-1.5	-1.6	-1.6	-1.7	-1.7	-9.5	
Exchange rate depreciation ^{7/}	1.1	-4.8	1.8	1.2	0.0	0.0	0.0	0.0	0.0	1.2	
Other identified debt-creating flows	0.0	0.0	0.0	-1.6	0.2	1.3	0.0	0.0	0.0	-0.1	
Please specify (1) (e.g., privatization receipts) (+ reduces financing needs)	0.0	0.0	0.0	-1.6	0.0	0.0	0.0	0.0	0.0	-1.6	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Please specify (2) (e.g., other debt flows) (+ increases financing needs)	0.0	0.0	0.0	0.0	0.2	1.3	0.0	0.0	0.0	1.5	
Residual, including asset changes ^{8/}	0.2	2.7	-1.2	-0.1	0.0	-0.1	0.0	-0.1	0.0	-0.2	

1/ Public sector is defined as general government.

2/ Based on available data.

3/ EMBIG (bp). The latest bond spread compared with German bonds considered in the scenarios was published in IMF Article IV of the 2017 report for Macedonia.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of the previous year.

5/ Derived as $[r - \pi(1+g) - g + ae(1+r)] / (1+g+\pi+g\pi)$ times the previous period's debt ratio, with r = effective nominal interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as $r - \pi(1+g)$ and the real growth contribution as $-g$.

7/ The exchange rate contribution is derived from the numerator in footnote 5 as $ae(1+r)$.

8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

Source: IMF MAC DSA model output, author inputs with assumptions, using MAC DSA template.

³⁷ Assumptions: Under the baseline scenario for debt sustainability analysis using the IMF MAC DSA model, the following assumptions are undertaken: GDP real growth rate is set to 3% (2019), 3.2% (2020), 3.4% (2021) and 3.5% (2022-2024) (in line with IMF projections, which are more conservative compared to MoF projections for up to 2021; author projection for 2022-2024 is set at 3.5%); 2018 public debt is set at the level of the Q3 2018 debt based on latest data and considered as 2018 debt; 2019 projections of public expenditure and debt are set as the 2019 enacted budget; 2020-2021 projections on public expenditure and debt are set as FS 2019-2021 (latest fiscal strategy); 2022-2024 projections are based on the Macroabc model projection for the budget (for more details see cea.org.mk); inflation is set at ~2% per annum based on domestic and international projections (IMF); primary balance is set not to exceed -2%.

The automatic debt dynamics tell us what will happen to debt as a result of interest rates and growth when the primary balance is zero. The automatic debt dynamics explain debt changes that happen outside the fiscal sphere, i.e., changes of the real interest rate, real GDP growth, and nominal exchange rate.

$$d_t - d_{t-1} = \frac{i_t^w - \pi_t(1 + g_t)}{(1 + g_t)(1 + \pi_t)} d_{t-1} - \frac{g_t}{(1 + g_t)(1 + \pi_t)} d_{t-1} + \frac{\varepsilon_t \alpha_{t-1} (1 + i_t^f)}{(1 + g_t)(1 + \pi_t)} d_{t-1} - pb_t + ot_t$$

↑

Contribution of the effective real interest rate

↑

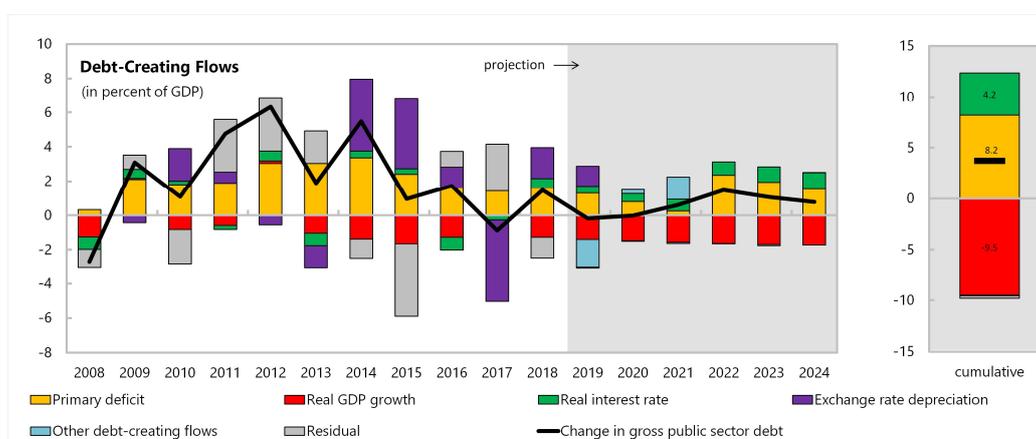
Contribution of real GDP growth

↑

Contribution of exchange rate depreciation

The main indefinable contributor to debt is the primary budget deficit, and it is expected to be the main contributor in the following period as well. On a cumulative basis, within the projected period, its contribution in the change of public debt is 8.2% of the GDP, with an average of 1.4% per annum. As projected, the overall moderate GDP growth is contributing to decreasing debt by -9.6% in the projected period on a cumulative basis. The real interest rate is also a variable that needs to be closely monitored, as it is expected to increase debt by 5.4% on a cumulative basis in the medium term. Exchange rate depreciation is projected to stay the same in this period and is thus not a contributing factor in the projection. Other debt-creating flows are not considered (2022-2024), except for the period between 2019 and 2021, during which the fiscal strategy anticipates the accumulation (in 2019) or usage of deposits (2020-2021). When the change in debt cannot be explained with these variables, there are likely unidentified debt-creating flows that may be statistical errors in the debt and/or debt-creating flow accounts. Residuals arise from below the line operations and should be closely monitored, as in the past, these have contributed to both the increase and reduction of the debt-to-GDP ratio³⁸.

Figure 19 Debt-creating flows



Source: IMF MAC DSA model output, author inputs with assumptions, using MAC DSA template.

³⁸ Other identified flows comprise privatization receipts and recognized implicit and explicit contingent liabilities of the government, which consist of different contingencies, i.e., potential liabilities that contribute to public debt increase upon activation (if a particular event occurs). **Explicit contingent liabilities** comprise different state guarantees recognized by law or contract, such as: guarantees for non-sovereign borrowings and obligations issued to sub-national governments and public and private sector entities; umbrella state guarantees for various types of loans (such as for mortgages, students studying agriculture, and small businesses); state guarantees (for trade and the exchange rate borrowing by a foreign sovereign state, private investments); state insurance schemes (for deposits, minimum returns from private pension funds, crops, floods, war risk), etc. **Implicit contingent liabilities** are a “moral” obligation of the government that mainly reflects public expectations and pressures by some interest groups. These liabilities include: default of a sub-national government and public or private entity on non-guaranteed debt and other liabilities; clean-up of the liabilities of privatized entities; bank failure (beyond state insurance); investment failure of a non-guaranteed pension fund, employment fund, or social security fund (social protection of small investors); default of the central bank on its obligations (foreign exchange contracts, currency defense, balance of payments stability); bailouts following a reversal in private capital flows; residual environmental damage, disaster relief, military financing, etc. (Polackova, 1998).

The debt stabilizing primary balance can be calculated for each year in the projected period and reaches -0.8% of the GDP for 2024 (Figure 19). This indicates that in order to reach a stable debt-to-GDP ratio, the primary balance deficit should be set at 0.8% of the GDP or an average of 0.5% of the GDP. It should be noted that debt dynamics are particularly sensitive to interest and growth rate assumptions; thus, a change in the projected growth rate or the real interest rate may significantly affect debt dynamics and the debt stabilizing primary balance.

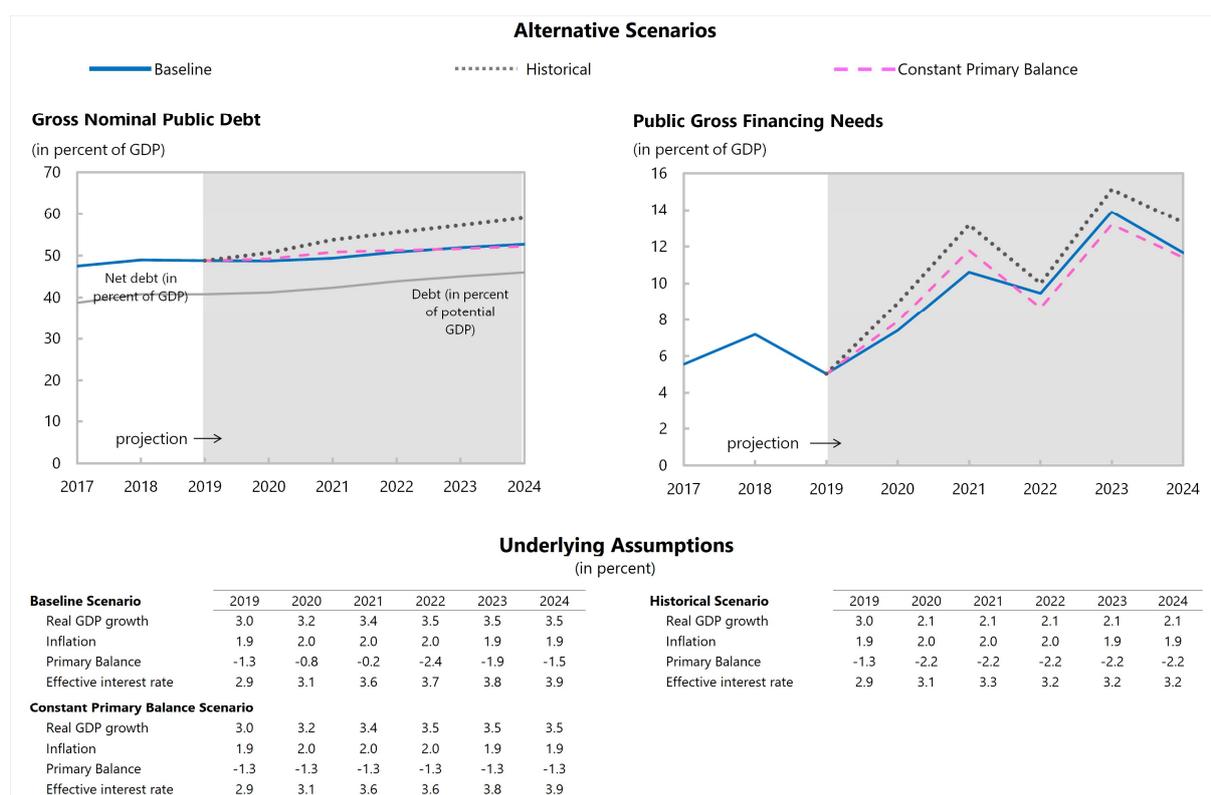
Alternative scenarios under DSA

Under the alternative scenario **Historical**, and taking in to account average historical data, it is projected that the debt-to-GDP will increase more than under the baseline scenario. The historical scenario assumes lower annual real growth of 2.1%, based on average real growth in the past decade, and at the same time a higher primary deficit set at the ten-year average of 2.2%.

Considering the lower growth and higher primary deficit, the result is greater gross financial need that increases significantly under the historical scenario in comparison to the baseline scenario projections.

Under the alternative **Constant primary balance scenario**, the primary balance is set at -1.3% of the GDP throughout the period (equals the primary balance of the first year of projection - in this case, 2019) without any changes to the other variables. In this setting, the debt-to-GDP is close to that of the baseline scenario, while more evident changes are noted in the gross financing needs in the first half of the projected period since in the baseline scenario the primary balance is projected at a lower rate.

Figure 20 Comparison of baseline with historical and constant primary balance scenarios



Source: IMF MAC DSA model output, author inputs with assumptions, using MAC DSA template.

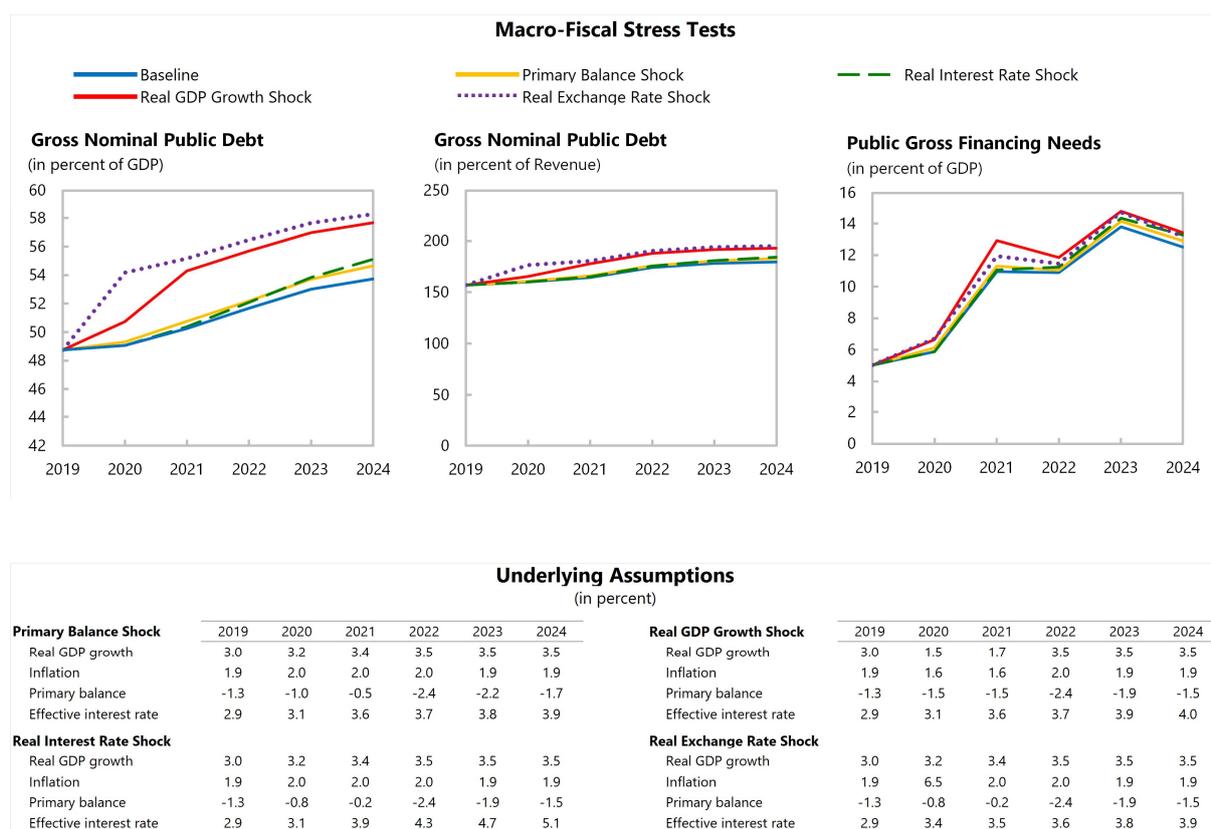
Stress tests and shocks can be applied to the model as a method of assessing risk likely to occur in the economy.

When compared to the baseline scenario, **Macro fiscal stress test** indicate that the debt-to-GDP is highly sensitive and vulnerable to possible GDP growth changes. Using a stress test of 1 (one) standard deviation, based on the last 10 years of -1.7 p.p. to the growth for two consecutive years (2020-2021) and an effect of 25 bps inflation per

reduction of 1 p.p. on growth, the debt-to-GDP increases by 1.6 p.p. in 2019 and by 4 p.p. in the following period. Consequently, this is reflected in the increase of the GFN and most significantly in the years during which the shock is applied.

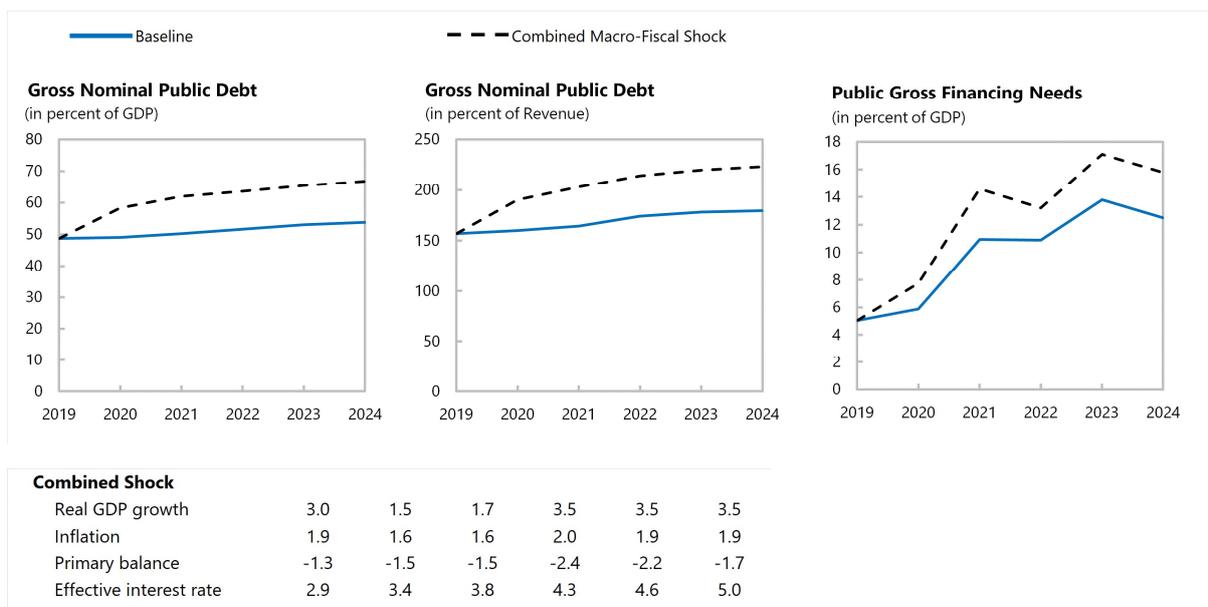
Another significant vulnerability is evident in the **Real exchange rate shock**. If we apply a real exchange rate shock equal to the maximum nominal exchange rate depreciation rate in the past ten-year period (maximum exchange rate depreciation rate to USD is 13% for 2014 and assumes a pass through to inflation with 0.25 elasticity for EM), there is an immediate effect of an increased debt ratio. If instead of the maximum exchange rate depreciation, the rate is set to the average in the last ten years, then the effect on the debt-to-GDP will be much closer to the baseline trend.

Figure 21 Macro-fiscal stress tests



Source: IMF MAC DSA model output, author inputs with assumptions, using MAC DSA template.

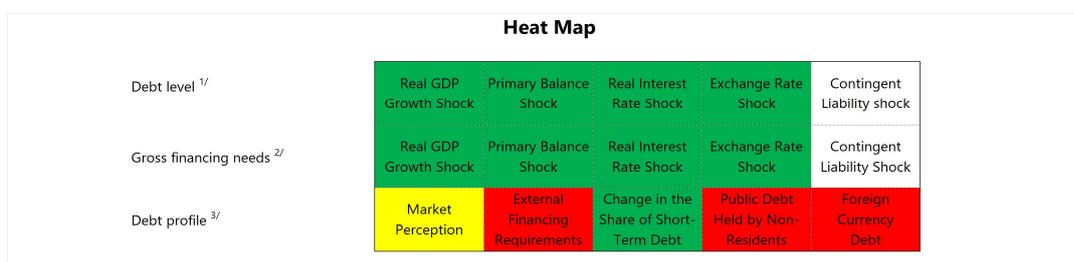
Under the scenario of **Combined macro-fiscal shock**, the changes in the debt-to-GDP, debt-to-revenue, and gross financial needs are much more significant and assume the following variables: growth rate equal to the minimum growth rate under any of the scenario shocks (which in our case is the real GDP shock scenario growth rate); minimum inflation under any of the scenario shocks under the same real GDP shock scenario; primary balance under the baseline scenario; maximum nominal exchange rate under the exchange rate shock and 200 bps interest rate shock. This scenario has a devastating effect, reaching a level of debt of +18 p.p. in a five-year period and immediately showing a significant GFN increase.



Source: IMF MAC DSA model output, author inputs with assumptions, using MAC DSA template.

The heat map identifies additional vulnerabilities on the debt level, gross financing needs and debt profile. Under the baseline scenario, the debt profile highlights several vulnerabilities, mainly to do with debt composition from external debt and held by non-residents and moderately with market perception.

Figure 22 Heat map risk assessment



1/ A cell is highlighted in green if the debt burden benchmark of 70% is not exceeded under the specific shock or baseline, yellow if exceeded under the specific shock, but not baseline, red if the benchmark is exceeded under the baseline, and white if the stress test is not relevant.

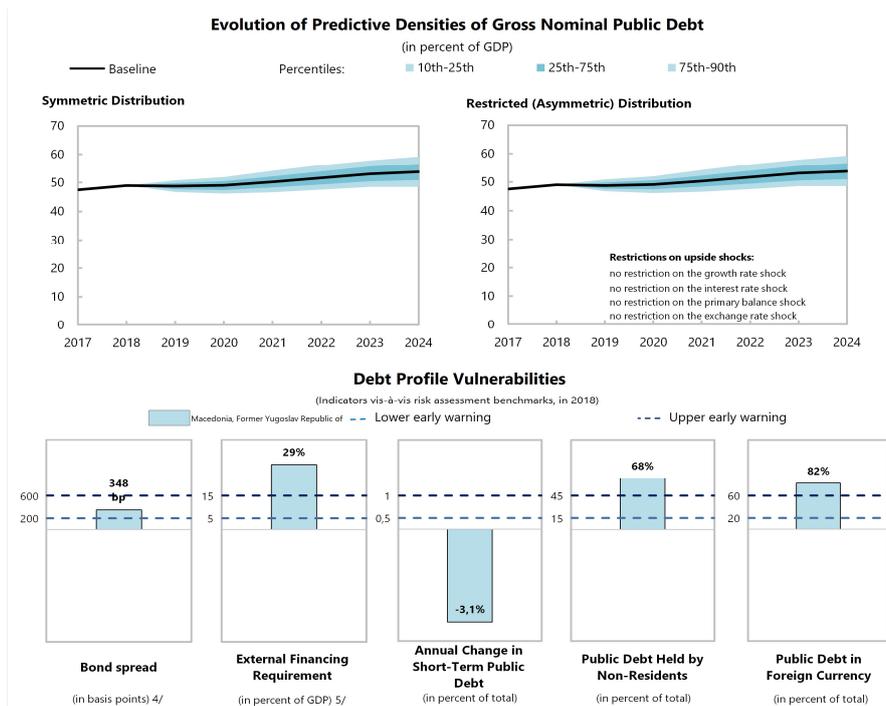
2/ A cell is highlighted in green if the gross financing needs benchmark of 15% is not exceeded under the specific shock or baseline, yellow if it is exceeded under the specific shock, but not baseline, red if the benchmark is exceeded under the baseline, and white if the stress test is not relevant.

3/ A cell is highlighted in green if the country value is less than the lower risk-assessment benchmark, red if the country value exceeds the upper risk-assessment benchmark, yellow if the country value is between the lower and upper risk-assessment benchmarks. If data are unavailable or indicator is not relevant, the cell is white.

Lower and upper risk-assessment benchmarks are:

200 and 600 basis points for bond spreads; 5 and 15 percent of GDP for external financing requirement; 0.5 and 1 percent for change in the share of short-term debt; 15 and 45 percent for the public debt held by non-residents; and 20 and 60 percent for the share of foreign-currency denominated debt.

Source: IMF MAC DSA model output, author inputs with assumptions, using MAC DSA template.



Source: IMF MAC DSA model output, author inputs with assumptions, using MAC DSA template.

4. Results and findings

- In public finance management, the erosion of fiscal transparency and discretionary policies can lead to unexpected increases in debt, with adverse financial and economic consequences for taxpayers and the society as a whole;
- A public finance system is expected to have transparent procedures and rules that will regulate the budget process and that will reflect the culmination of the strategic planning phase of the budget process, in which the executive broadly aligns its policy goals with the resources available under the budget's fiscal framework, e.g., the total amount of expenditure, revenue, and debt;
- The government routinely exceeded its budget: fiscal data show budget expenditures and consequent budget deficits increased considerably prior to the elections. Also, capital expenditures significantly intensified prior to and during each election cycle, followed by stabilization and a slight decrease. Social transfers increased significantly prior to and during the 2011, 2013 and 2014 elections;
- IMF (2010) suggests that Macedonia should take into account a prudent level of 25% of public debt over GDP (also following an IMF Vulnerability study from 2007), as there is no consensus among researchers and academics on what the appropriate debt target for emerging markets would be. IMF suggests a generally-accepted conclusion that emerging markets can sustain lower levels of debt than advanced economies because economic and institutional features limit both the feasibility and the credibility of these countries' debt-servicing abilities. This clearly shows that the rule of law and quality of institutions are directly linked to the sustainable level of public debt in a specific country;
- Episodes of creative accounting support the arguments of the political cycle theory of public debt in Macedonia. Empirical findings demonstrate that the higher the degree of transparency the smaller the political budget cycle. That is why fiscal transparency and the education of taxpayers and citizens on public finances and key budget documents and participation is important in infant democracies;
- For the case of Macedonia, our assumptions on the interest rate of future external debt in a better political and economic environment based on good governance, rule of law, improved control of corruption, and greater

quality of regulatory agencies might work on a lower sovereign spread better than the zero assumption of no changes;

- Given our assumptions concerning the sensitivity of the public debt over GDP to real growth rates, debt starts to decline only at around 3% real GDP growth. With an annual real GDP growth rate of 4%, Macedonia can reach the prudent level of 40% of public debt over GDP only in 2030, while with an annual real GDP growth rate of 7%, Macedonia can reach the prudent level of 40% of public debt over GDP in 2023;
- The public debt-to-GDP ratio doubled in the past decade, reaching almost 49% in 2018, and has been largely driven by the fiscal deficit and increasing negative primary balances. The deficits have been the result of under-execution of both tax and non-tax revenue and increased expenditures mainly from social and state aid;
- Gross financial requirements are also significantly increasing compared to the GDP, which reflects the future increasing roll over needs;
- The short- to long-term maturity structure has improved with increased average time to maturity; however, external debt has also increased in the structure of total public debt, with foreign exchange rates denominated debt having the potential of foreign exchange risk;
- There is a continued policy of fiscal expansion with optimistic growth scenarios, which show significant vulnerabilities for the debt-to-GDP ratio. This is especially evident in the FS projections of expected real growth rates of 4% in 2020 and 5% in 2021;
- Under a baseline scenario projection for a debt path with a mid-term real GDP growth rate of 3% (2019) to 3.5% (2022-2024) and no significant changes in the fiscal policies, public debt will continue to increase in the next five years, reaching almost 53% in 2024 (+3.9 pp.). In this manner, the 50% indicative threshold will be reached, and debt would risk being on an explosive path. At the same time, gross financial needs as a percentage of the GDP would be expected to exceed the 10% indicative IMF threshold, primarily and especially as a result of financing maturing Eurobond debt due in 2020, 2021 and 2023;
- Under a baseline scenario, primary deficit will continue to be the main contributor to debt in the next five years. It is expected to stabilize in the mid term and then decrease in the next three years to 0.2% in 2021; however, due to the financing needs of the maturing long-term external debt, the deficit is expected to rise to 2.4% in 2022. It is essential for primary balance plans to be obeyed and to contain the deficit to below 2%, especially given the historic circumstances of deficit bias;
- Under a baseline scenario, the debt stabilizing primary balance in the projected period will reach -0.8% of the GDP for 2024. The debt stabilizing primary balance for 2019 is calculated at -1.4% of the GDP. This trend indicates that in order to reach a stable debt-to-GDP ratio, the primary balance deficit should be set at 0.8% of the GDP or an average of 0.5% of the GDP. It should be noted that debt dynamics are particularly sensitive to interest and growth rate assumptions; thus, a change in the projected growth rate or real interest rate may significantly affect debt dynamics and the debt stabilizing primary balance;
- Alternative scenarios show that fiscal consolidation would help avoid the explosive path of increasing debt and general gross financing needs. The historical scenario demonstrates that if the decade averages of the main assumptions are to reoccur, debt will increase significantly and easily reach 59% of the GDP in 2024, increasing by 10 pp compared to Q3 2018. Under the historical scenario, gross financial needs are expected to reach above the 10% benchmark, but below the 15% benchmark, with a peak of 13.2% in 2021 and 15.1% in 2023. Again, this trend is associated with the financing needs of maturing debt;
- Alternatively, the constant primary balance scenario of -1.3% throughout the period (2019-2024) gives similar results as the baseline scenario when it comes to debt-to-GDP, with steady, but increasing debt of almost 53%. Under the same scenario and in comparison to the baseline, there are slight differences in the GFN to GDP as a result of the assumed lower/higher primary balances compared to the constant primary balance of the scenario, again peaking in 2021 and 2023;
- Macroeconomic and fiscal shocks can significantly increase both debt and the gross financing needs of the baseline scenario. A macro-fiscal stress test indicates debt-to-GDP sensitivity and vulnerability to possible

GDP growth changes. When applied a stress test of 1 (one) standard deviation based on the last 10 years of 1.7 p.p. of reduced growth in 2 consecutive years 2020-2021, and a decrease of 1 pp in growth with effect of 25 bps inflation reduction, the debt-to-GDP increases by 1.6pp in 2019 and by 4 pp in the following period, reaching its peak of almost 57% of the GDP in 2024. Consequently, this is reflected in the increase of GFN most significantly reflected in the years when the shock is applied;

- Fan charts illustrate the possible evolution of public debt over the medium term based on uncertainties surrounding the baseline scenario, whereby both symmetric distribution and restricted distribution range between 60% of the GDP and 48% of the GDP at the end of 2024.

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