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**SUSTAINABILITY OF PUBLIC DEBT: THE CASE OF  
MONTENEGRO**

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## **LIST OF ABBREVIATIONS**

**IMF** – International Monetary Fund

**GDP** – Gross Domestic Product

**MONSTAT** – Statistical Office of Montenegro

**MGDD** - Manual on Government Deficit and Debt

**ESA** – European System of accounts

**EDP** – Excessive Deficit Procedure

**EU** – European Union

**SFRY** – Socialist Federal Republic of Yugoslavia

**LBFR** - Law on Budget and Fiscal Responsibility

**FRY** – Federal Republic of Yugoslavia

**CPI** – Consumer Price Index

**VAT** – Value Added Tax

**FDI** – Foreign direct investment

**WB** – Western Balkan

**S&P** - Standard & Poor's

**WB** – Western Balkan



## INTRODUCTION

The sustainability of public finances is one of the most widely discussed topics in economics. The development of public debt and budget deficits has become a crucial policy problem in most countries. One of the major fiscal issues that countries have to face is public debt.

According to Rosen (1991) the debt at the given time is the sum of all past budget deficits. That is, the debt is cumulative excess of past spending over past receipts. In other words, a stock variable measured at a point in time is the debt while a flow variable measured during a period of time is the deficit.

Samuelson and Nordhaus (2009) argue that the government debt (sometimes called the public debt) consists of the total or accumulated borrowings by the government; it is the total dollar value of government bonds.

The evolution of public debt can be seen through three main schools of thought – Classical, Keynesian, and Public Choice.

Debt sustainability is a problem that every country must deal with. Although its significance is immediately clear, it escapes simple definition. Debt sustainability seeks to provide a solution to the deceptively straightforward question of when a country's debt will become too large to not be fully serviced (Wyplosz, 2011).

Sustainability of public debt is a crucial component of sound macroeconomic policies. Applications of debt sustainability analysis in practice typically include a baseline scenario for the evolution of the debt ratio that is of particular relevance from the analyst's point of view and sensitivity tests to evaluate how changes in certain assumptions affect the main results (European Central Bank, 2011).

International Monetary Fund (IMF)'s work on member countries includes public debt sustainability analyses, as it is a key element in the IMF lending decisions. Governments should ensure that their public debt is fundamentally sustainable in terms of both level and growth rate.

Global financial crisis and health crisis caused by the Covid-19 outbreak resulted in large increases in government deficits and debts in many countries, including Montenegro, which is in the focus of this research.

Montenegro's debt levels are highly sensitive to shocks related to real Gross Domestic Product (GDP) growth, financing costs, contingent liabilities, primary balance, exchange rate (World Bank, 2016a).

Main objective of the research is to determine the sustainability of Montenegrin public debt. Determining debt sustainability depends on numerous economic and political factors, such as the current level and structure of the debt itself, tax rates, economic growth rates, inflation rate volatility, quality of institutions. That being said, analysis of this research focuses on how these factors affect Montenegro's debt sustainability. This analysis includes big challenges for country – Covid-19 crisis, highway project (“project of the century”), change of government.

In order to obtain a proper debt sustainability analysis level and composition of public debt, factors that determine the dynamics of public debt and debt management strategies will be presented.

This research should answer following research questions:

- 1) Is Montenegro over-indebted country and is its public debt sustainable?
- 2) Could and in which way different scenarios affect Montenegro's debt sustainability?
- 3) What are possible measures and reforms that government can take in order to stop rapid increase of the debt?

In order to get better insight of debt trajectory levels of Montenegro the data is obtained from annual reports from Montenegro Ministry of Finance and Social Welfare, Statistical Office of Montenegro (MONSTAT) and the Central Bank of Montenegro.

Model for Montenegrin public debt sustainability analysis contains both quantitative and qualitative parts and is based on recommendations that IMF proposes. Precisely, used are Escolano's (2010) equations, Cotarelli and Moghadam's (2011) recommendations and lecture slides from Prof. Rant Ph.D (2021).

The first chapter includes theoretical background on public debt - definition and concept of public debt. Precisely, it contains definitions which are in accordance with European standards, as well as main schools of thought views on public debt. Furthermore, this chapter implicates how public debt affects economic growth (as most important macroeconomic indicator of a country) and emphasizes the importance of public debt management for national economy. Lastly, analyzed is concept of public debt sustainability with mechanisms for achieving it.

In the second chapter Montenegrin public debt is discussed. It explains structure, macroeconomic and fiscal indicators and dynamics of debt and compares it with other Western Balkan (WB) countries. Political situation, health crisis, fiscal and structural reforms that lead to significant risks and concerns will also be presented.

The third chapter provides the Montenegrin public debt sustainability analysis. It contains the baseline, optimistic and pessimistic scenarios. These scenarios are based on current



relevant institutions projections and potential changes and risks to public debt. Lastly, based on this analysis recommendations and conclusion will be made.

## **1 THEORETICAL BACKGROUND OF PUBLIC DEBT AND ITS SUSTAINABILITY**

In order to better understand Montenegrin debt and its sustainability, it is important to firstly define concept of public debt (through different definitions and theories), concept of public debt sustainability (with mechanisms for achieving it), public debt management and discover relation between public debt and economic growth.

### **1.1 Concept of public debt**

Public debt is the sum of total liabilities of a country, or the sum of all claims against the country by its creditors at a certain time (Bajo & Pezer, 2012).

Definitions of public debt are usually being related to budget imbalance. Mankiw (2009, p.467) states that governments by borrowing in the bond market pay for budget deficits, and the accumulations of past government borrowing is called the government debt.

Eurostat publishes the Manual on Government Deficit and Debt. The MGDD, or simply implementation of European System of national and regional accounts (ESA) 2010 provides recommendations when dealing with public finance issues (Eurostat, 2019).

The 2012 consolidated Treaty on the Functioning of the European Union (EU) provides a specific definition of government debt for the Excessive Deficit Procedure (EDP).

“The government (EDP) debt is defined as the total consolidated gross debt at face value in the following categories of government liabilities (defined in ESA 2010 (European Commission, 2013): currency and deposits, debt securities and loans.” (Eurostat, 2019, p. 3)

The definition of the government sector and the definition of the liabilities covered is the same in ESA 2010 (European Commission, 2013) while difference is in valuation rules.

Government debt is also referred to as Maastricht debt. “Debt means total gross debt at nominal value outstanding at the end of the year and consolidated between and within the sectors of general government” (Eurostat, 2019, p. 344).

Instead of government debt, ESA 2010 defines total financial liabilities. Total financial liabilities include more financial instruments than government debt, such as monetary gold and special drawing rights, currency and deposits, debt securities, loans, insurance, pensions and standardized guarantee schemes, financial derivatives and other accounts payable (Eurostat, 2019).

Public debt can be displayed in its absolute amount, per capita or as the percent of GDP.

Public debt has two sides. When used properly, it unquestionably increases welfare. However, if it is used recklessly and excessively, the outcome could be disastrous. Overborrowing results in bankruptcy and financial catastrophe for both businesses and countries. Too much debt for a nation makes it difficult for the government to provide inhabitants with basic amenities (Cecchetti, Mohanty & Zampolli, 2011).

Public debt comprises of external and internal debt. External debt comes up when creditors are from abroad, while internal debt emerges from domestic creditors.

## **1.2 Public debt theories**

Among several public debt theories, most cited ones are Classical, Keynesian and Public Choice.

Classical economists David Hume, Adam Smith, David Ricardo held that if there is debt in the country it should be to defend the nation in war, or for productive purposes, not to finance consumption. The state must refrain from accumulating debts because this leads to the economic collapse of the nation. Ricardo even once stated that „public debt should be prohibited by law “(Salsman, 2017, p.79).

Contrary to the classicists, John Maynard Keynes advocated the position that the government can borrow for any reason, both for consumption and for investment, because consumption also leads to an increase in investment. Keynes quotes inflation, in addition to a budget surplus, as a way to reduce public debt. Public debt should not cover up for ordinary current spending or transfers, but only for government capital investment. The funds created in this way provide long term benefits to future generations. Being cautious about constant public borrowing Keynes was considered as a public debt realist (Salsman, 2017).

The public choice school of thought is developed in the works of 1986 Nobel laureate James Buchanan, Richard Wagner, and Geoffrey Brennan. They emphasize the differences between economic and political actors, which promote fiscal profligacy. For that reason, the authority and power of the state should be limited. They focus more on the origin than the consequences of budget deficits and public debt. Buchanan believes that the total cost of government debt burdens next generation (Salsman, 2017).

## **1.3 Public debt and economic growth**

How does public debt affect the economic activity of a country, does high public debt limit economic growth? The theoretical literature shows that there is a negative relationship between public debt and economic growth in advanced and emerging economies.

Sachs (1989) is one of the first to assume that relationship between public debt and economic growth is non-linear. After reaching a certain threshold public debt limits or reduces economic growth. Romer (2001, p.584) states how “there is a widespread perception that large and persistent budget deficits reduce growth, and that they could lead to a crisis of some type if they go on too long or become too large.”

Growing empirical studies show that correlation between public debt and economic growth becomes particularly strong when public debt approaches certain percent of GDP. Pattillo, Poirson and Ricci (2002) analyzed impact of external debt on per-capita GDP growth for 93 developing countries over period 1969-1998. They found that for debt levels above 35-40% of GDP the impact is negative. Reinhart and Rogoff (2010) conclude that high debt-to-GDP level (above 90%) determines negative growth rates in all countries, regardless of whether they are emerging or advanced economies. Mencinger, Aristovnik and Verbic (2014) used a sample of 25 EU member states to examine the limit of public debt measured by the share in GDP. Results of their analysis showed that the threshold is not the same for all member states. In older member states public debt begins to show negative effects on economic growth when exceeds the threshold of 80-94% of GDP. While for the new EU members, the border is significantly lower, 53-54% of GDP. Herrera, Carmen and Sosvilla-Rivero (2017) on a data set of 115 economies, find that countries with the highest economic growth are the ones with the lowest public debt. Gomez-Puig and Sosvilla-Rivero (2017), conducted a survey on a sample of Central and Peripheral Eurozone countries for the period 1961-2013 and showed that public debt always in the long-term leads to the crowding out of private investments, increased uncertainty and country’s vulnerability to external shocks which affects the slowdown of economic growth. On the other hand, short-term effect may be positive and lead to high efficiency in some countries.

In the article “Public Debt and Real GDP: Revisiting the Impact”, De Soyres, Kawai, and Wang (2022) examined the relationship between public debt and GDP, by using a sample of 178 countries for the period of 1995–2020. This, new empirical research, prompted by the Covid-19 crisis, showed that in the countries that have a high initial debt level or a rising debt trajectory over the five preceding years the effect of an unanticipated change in public debt on real GDP is negative.

Public debt affects long term growth through number of channels, which are private saving, public investment, total factor productivity, and sovereign long-term nominal and real interest rates (Checherita & Rother, 2010).

Firstly, in order to service higher public debt governments raise taxes. Tax hikes lead to the reduction in disposable income and savings that result in crowding out of private investment. Second, high public debt leads to the increased borrowing, which can cause an increase in interest rates. High long-term rates crowd out productive public investment which means reduced investment in research and development, that affect growth. Third, countries, especially ones with non-efficient institutions can decide to inflate away debt. Declining

investments, slowdown of economic growth, increased interest rates and inflation prove how high and unsustainable public debt negatively affects economic activity of each country (Égert, 2015).

High public debt and its negative impact on economic growth can be a sign for governments to reduce debt through fiscal consolidation (Checherita & Rother, 2010).

#### **1.4 Public debt management**

IMF (2014, p.5) defines public debt management as “the process of establishing and executing a strategy for managing the government’s debt in order to raise the required amount of funding at the lowest possible cost over the medium to long run, consistent with a prudent degree of risk.”

The main goal of public debt management is to provide funds for countries in order to meet their financial requirements and fulfill their obligations. The public debt management policy aims to reduce country’s vulnerability to risks and mitigate potential consequences of crisis spillovers from international markets.

The institutional framework for debt management must be designed with a focus on transparency, accountability, governance, and clarity of the roles of the various institutions that are involved in debt management (Tran-Nguyen & Tola, 2009).

Decisions in the area of public debt management are based on the public debt management strategy. Strategies differ from country to country and are formulated in line with goals of public debt management. Monetary and fiscal policy coordination is needed for effective public debt management strategy.

After the numerous countries were exposed to debt crisis, public debt management policies have been improved. However, public debt management instruments are still not sufficiently developed.

In 2001, the IMF published the first version of the “Guidelines for public debt management”, which was modified in 2014. The recommendations given in the “Guidelines for public debt management” refer to the objectives of public debt management, transparency and accountability, institutional framework, public debt management strategies, risk management systems, building and developing an efficient securities market (IMF, 2014).

The rules for public debt management cannot be unambiguously applied to all countries because the needs of countries in the field of public debt management differ. They serve as a guide for economic policy makers to formulate and implement adequate public debt management strategies, specific to each country individually.

Countries with good public debt management policy, clearly defined goals and strategies, reduce financial vulnerability to external and internal shocks and enable potential investors

to invest in government debt securities. If goals are vaguely defined it can lead governments to make wrong decisions regarding further borrowing, and in that way negatively affect country's long-term macroeconomic stability.

### **1.5 Public debt sustainability**

The sustainability of fiscal policy and public debt are now at the center of policy discussions as a result of the public debt's rapid development on a worldwide scale. The idea behind fiscal sustainability is that public debt cannot continue to rise in relation to government income since doing so would force governments to continually raise taxes, while reducing spending on goods and services (Akyuz, 2007).

Debt sustainability is important for good macroeconomic policies (Wyplosz, 2007).

Hindriks and Myles (2013) state that when promised payments on the debt can be made, then the debt levels of governments are sustainable.

In general terms, according to IMF (2013, p.4) public debt can be regarded as sustainable when "the primary balance needed to at least stabilize debt under both the baseline and realistic shock scenarios is economically and politically feasible, such that the level of debt is consistent with an acceptably low rollover risk and with preserving potential growth at a satisfactory level."

There are several different methods to determine debt sustainability. They differ in choice of variables and time horizons. Debt sustainability can be short, medium, or long-term concept.

In theory, debt sustainability is often equated with public sector solvency and liquidity. That being said, sustainability of the country can be viewed through two angles, from solvency and from liquidity, depending on country's circumstances. Solvency means that the discounted value of primary fiscal balances should be at least equal to the initial government debt. It can be said that the sustainability is built upon solvency. From solvency angle, to cover for debt-service obligations debtor must be able to produce primary surpluses. In other words, debt sustainability implies that country able to collect sufficient funds in future (without indefinitely accumulating debt) can lower the ratio of debt to GDP. From a liquidity perspective, debtor in each period must be able to find sufficient financing and resources in order to avoid experiencing a debt-service crisis (Finger & Mecagni, 2007).

Determining debt sustainability depends on numerous economic and political factors. Some of them are the current level and structure of the debt itself, tax rates, economic growth rates, volatility of the inflation rate, quality of institutions. However, regardless of the differences, all debt sustainability analyzes should begin with the government's intertemporal budget constraints (Debrun, Ostry, Willems & Wyplosz, 2019).

There are several approaches to measuring public debt sustainability. The approach to measuring the sustainability of public debt is based on the stabilization of its debt-to-GDP ratio. If debt-to-GDP ratio is constant in the medium and long term or has a declining trend the debt is considered sustainable. The main drawback of this approach is that it does not provide a precise definition of debt-to-GDP ratio that is considered sustainable, but only requires it being steady, basically, at any level, ignoring the fact that high levels of debt make the country vulnerable to various crises (Bilan, 2010). Another approach is based on the application of time series methods and considers that for the debt to be sustainable, it is necessary that the present value of future primary surpluses covers the current value of the public debt (Hamilton & Flavin, 1986).

Currently, framework developed by the IMF has been mostly used. Debt Sustainability Assessment, an IMF methodology that focuses on estimates of key fiscal variables and scenario analysis of potential unfavorable shocks, is one of the techniques that is frequently utilized. Analyses of the sustainability of public debt are seen as a crucial component of the IMF's work with its member countries. They are crucial to the IMF's financing decisions and assist in evaluating important issues. Precisely, IMF has to evaluate that the primary balance required for debt stabilization, under both the baseline and realistic shock scenarios, is politically as well as economically attainable (de Soyres, Kawai & Wang, 2022).

It is important to state that the IMF is precluded from providing financing to a country, if it considers its debt unsustainable. A reference framework for the analysis of debt sustainability is applicable to different economies. IMF uses one model for the developing and low-income countries and the second for the emerging economies and industrialized countries. Fundamentals of both models are the same, their goal is to determine whether debt-to-GDP ratio has stable path and is line with projected movements of key macroeconomic variables.

Rating agencies together with official institutions and country authorities are interested in the public debt sustainability and the risks around it. Rating agencies have to provide thorough analysis of public debt sustainability, as they present a country's ability and willingness to service debts. Their opinions have an impact on interest rate spreads, the ratings given to debt issued by domestic enterprises, and investment decisions (especially those of institutional investors, such as pension funds, insurance companies, investment funds) (Debrun, Ostry, Willems & Wyplosz, 2019).

Rising public debts in many advanced and emerging economies, highly variable and uncertain economic environments warn countries that sustainability can never be taken for granted. The determination and credibility of past and future governments to solve fiscal problems have a significant impact on the sustainability of the public debt.

In some countries, challenges to fiscal sustainability have risen to prominence and perhaps grown severe. In particular, a deteriorating interaction between macroeconomic, financial,

and fiscal conditions has exposed many countries in important ways (European Central Bank, 2011).

The market's tolerance for high sovereign debt ratios in the euro area has significantly decreased against a background of increased uncertainty. Governments must first generate and then sustain levels of primary surpluses for an extended period of time, as they are needed in order to stabilize the dynamics of debt and put the debt ratio on a path towards reduction. As a result, the governments with the highest levels of debt have also adopted demanding consolidation programs. Certainly, prompt implementation of such programs would help in lowering risks and regaining market confidence (European Central Bank, 2011).

### **1.6 Mechanisms for achieving debt sustainability**

In their efforts to achieve debt sustainability countries can pursue several different mechanisms.

**Fiscal adjustment** - By reducing government spending or raising tax revenue, fiscal adjustment can lower deficits and debt levels. However, making such changes can be challenging and often unpopular with the people who would be impacted. As sovereign debt crises often occur at a time when the economy is weak, so governments start spending more and reduce taxes in order to boost the economy. These initiatives would encounter resistance from creditors who think the sovereign is already over-indebted. As a result of creditors losing faith in country's ability to pay off its debt, debt expense increases more which would make problem of debt sustainability even more difficult (Hileman, 2012).

**Asset sales** - Many governments possess large domestic and international assets, and historically, assets like land, gold, and even warships have been sold to settle debts. It has been suggested that the sale of state-owned businesses could aid in increasing economic efficiency and growth in addition to helping reduce public debt. However, this mechanism may help boost economic growth, but may only reduce debts by small fraction (Hileman, 2012).

**Inflation surprise** - The real burden of national debt can be dramatically reduced by inflation surprise in a relatively short amount of time. Large-scale capital flight could start if creditors see (or just suspect) significant inflation, which would counteract some of the benefits of inflation for reducing debt. Therefore, surprise is required. It is important to understand that only if debt is issued in the central bank-controlled native currency and with a fixed interest rate, then inflation could reduce the debt burden (Hileman, 2012).

**Financial aid** - Financial aid can, in numerous different ways, help countries. Securing more money for investment and consumption to boost economic growth is one common way governments try to address an issue with sovereign debt. International institutions, such as

the IMF, play a crucial role in coordinating foreign financing for nations in debt trouble (Hileman, 2012).

Financial repression - It can refer to a broad spectrum of complex policies intended to provide the government access to funds at favorable rates of interest. Capital controls are just one example of the financial system regulations that come along with financial repression. The advantages of financial repression in terms of debt reduction, however, only apply to domestic currency-issued debt (Hileman, 2012).

Repudiation or 'default' historically has probably been the most popular method for bringing down large amounts of government debt (Reinhart & Rogoff, 2009). Grossman and Van Huyck (1988, p. 1088) conceptually define default as "the failure to meet contractually agreed upon obligations in full", such as the repudiation of debt or the failure to repay the loan on time. However, there are drawbacks to default that affect both borrowers and lenders. A multitude of difficulties can befall countries that have defaulted, including restricted access to capital markets, abrupt forced fiscal restraint, higher interest rates, and political instability.

While default frequently results in substantial losses, lenders usually have sufficient power to require some level of payback even after a significant amount of time has passed since the occurrence of the default. The alteration of loan terms is a frequent substitution for outright debt repudiation. Such "restructurings", meanwhile, can still be considered technical defaults and frequently lead to future loans for countries being more expensive or even restricted (Hileman, 2012).

However, there is no unique solution that would ensure debt sustainability. Every country, according to its political and economic situation, seeks appropriate combination of these mechanisms. Apart from these mechanisms, every country should incorporate specific set of fiscal rules. It is advisable for these rules to be included in country's legislative frameworks.

## **2 MONTENEGRIN DEBT ANALYSIS**

Montenegro is small country with a population of 624,000. From the end of the World War II until 1992 Montenegro was part of the Socialist Federal Republic of Yugoslavia (SFRY) and after in the State Union with the Republic of Serbia. It is young state that became independent in 2006. In 2008, Montenegro applied for EU membership with goal to join by 2025.

Montenegro is an open economy, that relies strongly on tourism. Apart from the tourism, the country's main economy sectors are energy and hard commodities. It is country that is still undergoing transition with high dependency on external financing, high public sector expenditures and stressed pension system. Global financial crisis occurred soon after Montenegro gained its independence. As an economy vulnerable to external shocks, global



financial crisis reduced capital inflows from abroad and as a consequence slowed down the country's economic growth. After crisis, in following years a tourism boom helped in the recovery of economic activity. However, recovery was delayed due to Covid-19 pandemic. Covid-19 had negative consequences on almost all aspects of real economy. As construction on the enormous Bar-Boljare highway project started in 2016, the public debt increased. Political uncertainty also remains high.

Rising public debt is significant risk that Montenegro has to face.

## **2.1 Legal framework**

Public debt limits are included within Montenegro's legal framework. The Law on Budget and Fiscal Responsibility (LBFR) was adopted in 2014. Montenegro consists of a broad set of fiscal rules. Public debt should not exceed 60 percent of GDP, fiscal deficit should not exceed 3 percent of GDP (the same as Maastricht criteria) and that state guarantees cannot exceed 15 percent of GDP (LBFR, 2014). According to the Article 21 of the LBFR (2014), if 60 percent rule for the public debt is breached, Parliament, with the proposal of the government, establish a set of measures to reduce spending and public debt. In case that public debt exceeds 60 percent for capital investment projects, then the government must propose a recovery program, with maximum of five years for its implementation (LBFR, 2014).

According to the Article 50 of the LBFR (2014), borrowing includes financial obligations based on credit agreements, the issuance of debt securities and issued guarantees. However, the amount needed to refinance the debt is not included in the annual borrowing. In addition, the LBFR (2014) mandates that, with the approval of the Central Bank, the government creates a three-year debt management strategy. Guidelines for managing debt, cash, guarantees, and borrowings, as well as other important debt management-related issues, are all included in the debt management strategy.

Legislation related to the issue of public debt in Montenegro is primarily regulated by the LBFR, the Law on State Aid Control and strategic framework for debt management (Montenegro Ministry of Finance and Social Welfare, 2022). The Law on Budget and Fiscal Responsibility (2014) defines the public debt as the general government debt.

According to Article 2 of the LBFR(2014) the General Government debt Level is defined as the debt of Central Government Level and Local Government Level. The Central Government Level includes the State Authorities and State Administration Authorities, legal persons and companies predominantly providing services of public interest, which are controlled and mostly financed by the State. The Local Government Level are the municipal authorities, legal persons and business organizations predominantly providing services of local interest and which are controlled and mostly financed by a municipality (LBFR, 2014).

“Pursuant to provision of the Law, the Ministry of Finance and Social Welfare manages the Central Government debt and maintains the records of the existing debt of the State, long-term and short-term borrowings and issued guarantees” (Montenegro Ministry of Finance and Social Welfare, 2022, p.3).

The Ministry of Finance keeps the records of the state debt, with municipalities informing it on their debt on a quarterly base. All are obliged to publish quarterly records on their websites. The Ministry of Finance provides a record of domestic and foreign debts and is responsible for the debt management.

## **2.2 Structure of Montenegrin debt**

Central Bank of Montenegro (2012) indicates that “Montenegrin public debt arose:

- By inheriting:
  - Long term liabilities of the old system (SFRY, Federal Republic of Yugoslavia (FRY) and State Union of Serbia and Montenegro)
  - Old foreign currency savings with domestic and foreign banks from and outside of Montenegro
  - Issued guarantees
- Borrowing:
  - By issuing government bonds
  - By taking loans
  - By activating the given guarantees
  - By issuing Eurobonds”

According to the data from the Montenegro Ministry of Finance and Social Welfare (2022), as the Table 1 shows, the gross public debt at the end of 2021 was 4,162.79 million euros, or 84.8% of GDP.

In the structure of public debt, as shown in Table 1, Total Central Government Debt amounts to 4,090.02 million euros (98.25%), while the Local Government debt amounts to 72.77 million euros (1.75%). The Table 1 also shows that Total Central Government Debt includes 3,688.48 million euros or 90.18% foreign debt, while 401.54 million euros or 9.82% represents domestic debt (Montenegro Ministry of Finance and Social Welfare, 2022).

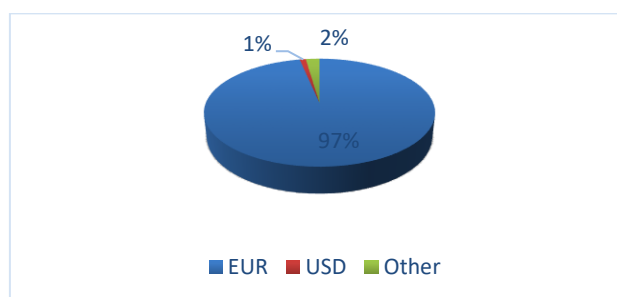
*Table 1: Structure of public debt in million euros and as percent of GDP (2021)*

Total domestic debt	401.54 (8.1%)
Total foreign debt	3,688.48 (75.1%)
Total Central Government Debt	4,090.02 (83.3%)
Local Government Debt	72.77 (1.5%)
Total General Government Debt	4,162.79 (84.8%)

*Source: Montenegro Ministry of Finance and Social Welfare (2022).*

The currency structure of the national debt is relatively favorable. The Figure 1 reveals that the share of euro debt was 96.71%, 1.01% of the debt is in dollars, while 2.28% is in other currencies. The smaller share of dollars in external debt is attributed to the conversion of dollar to euro debt to China's Exim Bank, by hedging arrangement between the Ministry of Finance and Social Welfare and four renowned foreign banks (Montenegro Ministry of Finance and Social Welfare, 2022).

*Figure 1: Currency structure of Central Government debt (2021)*



*Source: Montenegro Ministry of Finance and Social Welfare (2022).*

At the end of 2021, as shown in the Table 1, the domestic debt amounted to 401.54 million EUR (8.17% of GDP). In the structure of domestic debt, as Table 2 provides, at the end of 2021, the largest share accounts for domestic bonds (35.47%), credits from commercial banks (32.56%) as well as restitution which accounts for 19.76% of the internal debt.

*Table 2: Domestic debt structure in % (2021)*

Old currency savings	2.58
Restitution	19.76
Credit from commercial banks	32.56
Pension arrears	0.47
Domestic bonds	35.47
Legal persons and business organizations	9.16

*Source: Montenegro Ministry of Finance and Social Welfare (2022).*

According to the data from the Ministry of Finance and Social Welfare (2022), at the end of the 2021 the external debt was 3,688.48 million euros, which is 75.10% of its GDP. Main creditors from abroad, as the Figure 2 below demonstrates, are Eurobonds holders (47.45%), Chinese Exim bank (18.73%) and International Bank for Reconstruction and Development (5.06%).

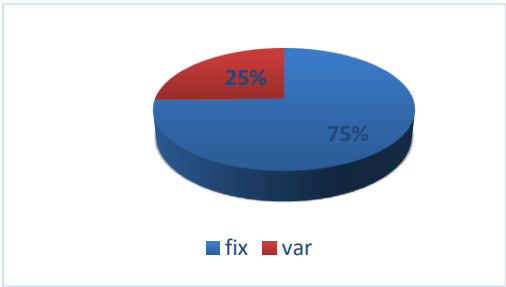
Figure 2: External debt structure by creditors in % (2021)



Source: Montenegro Ministry of Finance and Social Welfare (2022).

Interest rate structure could be evaluated as favorable. The Figure 3 indicates that the majority share of borrowing (loans and bonds) is under fixed interest rate (74.67%) (Montenegro Ministry of finance and Social Welfare, 2022).

Figure 3: Interest rate structure of Central Government debt



Source: Montenegro Ministry of finance and Social Welfare (2022).

**2.3 Montenegrin public debt dynamics**

In Montenegro the trend of increasing public debt has been present.

Due to the inherited long-term obligations of the old system (SFRY and FRY), the government debt in 2002 amounted to over one billion euros (Central Bank of Montenegro, 2012). Also, in addition to inherited foreign debts, some forms of internal debt were also inherited, primarily based on old foreign currency savings. The Montenegrin public debt has been increasing in absolute terms from 2005. Debt dynamics since 2008 are worrying, with the global financial crisis having the biggest impact on that. The crisis period was characterized by a decrease in budget revenues and the creation of a deficit. Furthermore, as some state-owned companies could not service their debt, the state, in order to help, took over their debts. The significant growth of the debt during 2010 and 2011 is the result of two Eurobond issues, in the total amount of 380 million euros (Central Bank of Montenegro, 2012). From 2006, when Montenegro gained independence and its public debt level was sustainable, public debt increased three times until 2017.

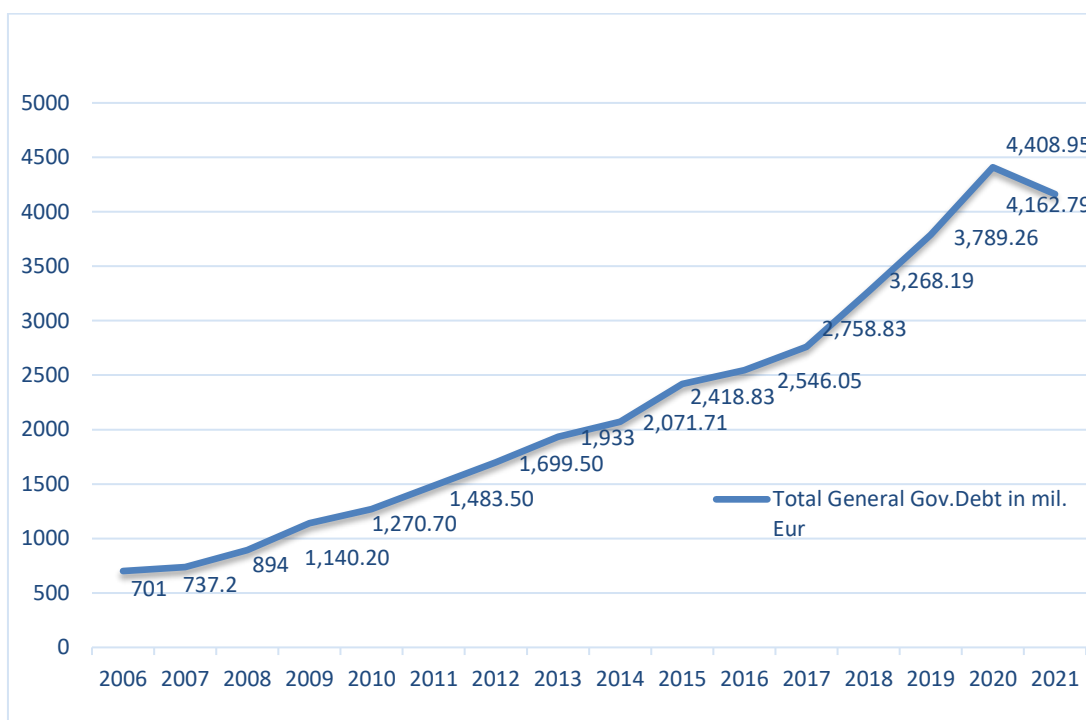
In the period 2014-2017, credit arrangements were concluded for the investments that would increase economic growth. Therefore, the majority of credit funds were used for reconstruction of roads and railway infrastructure, for agricultural projects, water supply, environmental protection, energy efficiency. Additionally, funds covered for healthcare, school systems, social welfare as well as administration needs (tax reform, customs) (Montenegro Ministry of Finance, 2018b).

The causes of debt in 2017 are high levels of public spending, elevated levels of nonperforming loans, and high cost of a 2014 loan made for the Bar-Boljare highway construction. The trend of growing public debt continued in 2018, mainly due to construction of the highway section. According to data from the Montenegro Ministry of Finance (2019), as shown in Figure 4, the gross public debt at the end of 2018 was 3,268.6 million euros. Compared to the end of 2017, it is higher by 18.5%. The main reasons behind this increase were the new issue of Eurobonds in the amount of 500 million euros, the withdrawal of syndicated loan funds with the World Bank guarantee (250 million euros) and withdrawal of funds from the Chinese Exim Bank (Central Bank of Montenegro, 2019). While foreign debt increased during 2018, due to afore mentioned reasons, domestic debt reduced as regular debt based on loans with commercial banks was repaid (Central Bank of Montenegro, 2019).

Public debt reached its peak at the end of 2020, as the consequence of shrinking GDP on the one hand and economic support measures undertaken to mitigate the pandemic on the other. In 2021, debt to GDP ratio reduced to 84.8% and furthermore in the first quarter of 2022 to 76.6% (European Commission, 2022b). That was the result of the recovery of tourism which lead to economic rebound and budget primary surplus.

However, European Commission (2022b, p.65) in its latest report for Montenegro states that “debt-related vulnerabilities still remain high”.

Figure 4: Evolution of General Government level of debt in million euros



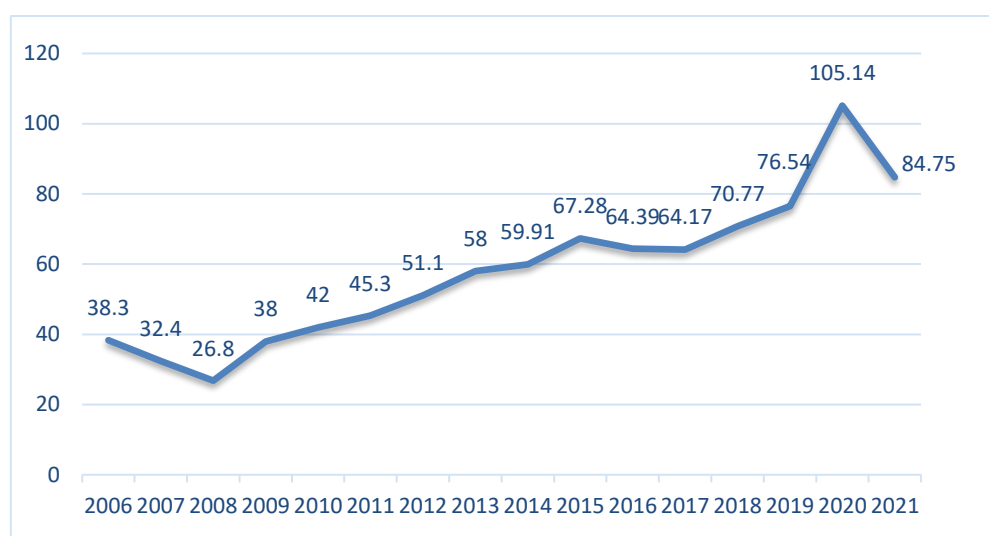
Source: Central Bank of Montenegro (2012); Central Bank of Montenegro (2014); Central Bank of Montenegro (2021); Montenegro Ministry of Finance and Social Welfare (2022).

The public debt expressed in absolute terms is not sufficient. Because its comparison to other countries and throughout time doesn't reveal much. But, by contrasting the absolute level of the public debt with a particular macroeconomic measure, such as GDP, we can determine the true significance and burden of an economy. In this approach, the public debt is comparable and serves as a measure of a country's fiscal situation.

Looking at the debt-to-GDP ratio makes it easier to determine the likelihood of debt distress because a country's GDP is an indicator of its ability to generate resources for servicing its debt (Acosta-Ormaechea & Martinez, 2021).

If we look at the Figure 5 below that shows the evolution of Montenegrin public debt, we can distinguish four periods: period of declining public debt (2006-2008), period of high growth of public debt (2009-2015), period of stabilization of public debt (2015-2017) and period of its high growth again (2017-2021).

Figure 5: Evolution of public debt as percent of GDP



Source: Central Bank of Montenegro (2012); Central Bank of Montenegro (2014); Central Bank of Montenegro (2021); Montenegro Ministry of Finance and Social Welfare (2022).

## 2.4 Macroeconomic and fiscal indicators

Debt dynamics are critically determined by assumptions for key macro variables, mainly including real GDP growth, primary balance, interest rates and inflation (IMF, 2013).

### GDP and growth rates

Montenegro's debt levels are highly sensitive to shocks related to real GDP growth.

Since gaining its independence in 2006, Montenegro faced periods of relatively high growth volatility and boom-bust cycles. Following independence, Montenegro experienced an economic boom, driven by large capital inflows into real estate, tourism and rapid increase in consumption. During that time rate of growth of GDP was constantly increasing and reached its double-digit peak (10.7%) in 2007. Large external capital inflows, that in 2008 were about 46% of GDP, increased domestic demand (World Bank, 2019). Figure 6 confirms that Montenegro at that time, with GDP amounting to 3,103.33 million euros, was considered "among the world's fastest growing non-oil economies" (World Bank, 2016a, p.5). Global financial crisis and Euro area debt crisis led to the economic bust of the country. The rate of growth of GDP in 2009 fell by 5.7 percent. The period between 2009 and 2015 was characterized with sudden fell of the rate of growth of GDP and stop in capital inflows (World Bank, 2016a).

However, in 2014, with the government signing a highway construction contract of 809 million euros, which is 23 percent of 2014 GDP, began a new boom cycle (World Bank, 2021). The rate of growth of GDP was increasing as the result of good tourism seasons, large and demanding investments in tourism projects as well as in energy. Banking sector was stable, with solid lending rate both to households and the private sector.

Good trends were interrupted with Covid-19 health crisis. Measures taken in order to mitigate pandemic, including closing state borders reflected in poor summer tourism season. As the tourism is the main economy sector in Montenegro, it led to the real GDP decline of 15.2 percent in 2020 (MONSTAT, n.d.b).

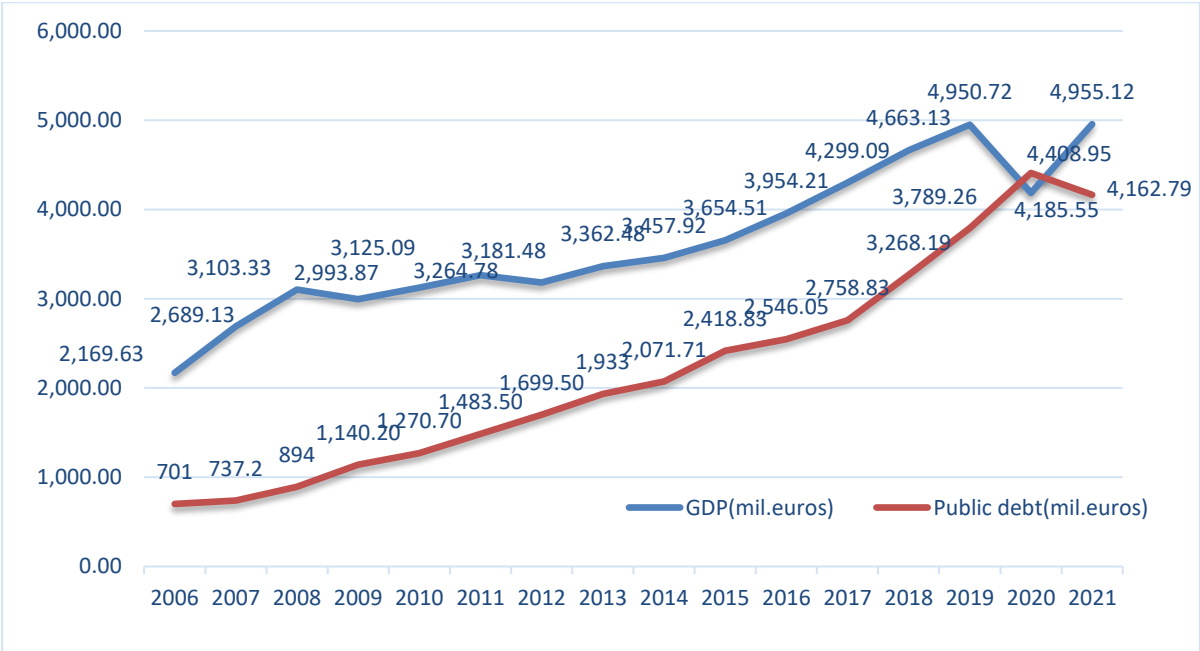
The latest bust cycle was a warning for government to implement new fiscal consolidation measures that would help economy adapt to new challenges and achieve economic growth.

Lifting Covid-19 restrictions and revival of tourism in 2021 helped Montenegrin economy recover. Increasing tourism revenues, net exports and growing economic activity led to the GDP growth of 12.4 percent in 2021, which was better than predicted. However, investment activity still remained weak (European Commission, 2022b).

In the first quarter of 2022 annual GDP growth continued increasing by 7.2% over the year. A large increase in private spending drove up domestic demand, while government consumption and capital formation expanded at a slower rate. However, rising imports costs and robust demand contributed to the widening of the trade deficit. This reflected negatively on the economic growth (European Commission, 2022b).

Contrary to the many European countries, Montenegro is not dependent on Russian gas or oil, so direct economic effects of the outbreak of Russia’s war against Ukraine in February 2022 have been relatively minimal. However, in terms of investments (mainly in real estate) and tourism, Montenegro is vulnerable to Russia and Ukraine.

Figure 6: Evolution of GDP and public debt (in million euros)

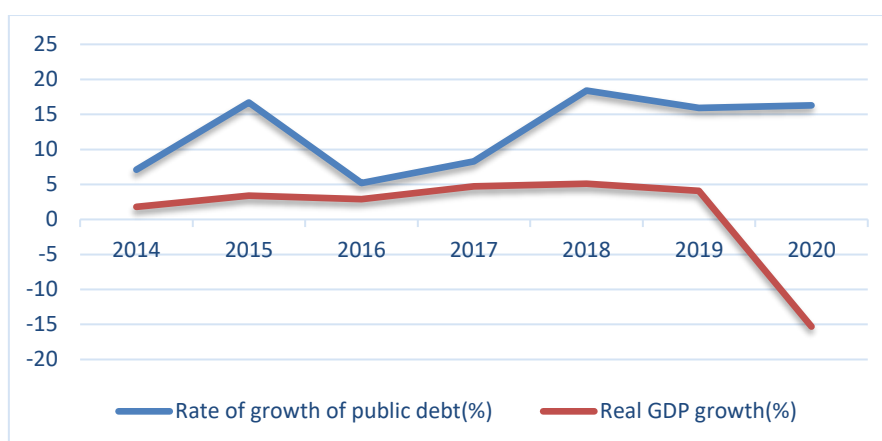


Source: Central Bank of Montenegro (2012); Central Bank of Montenegro (2014); Central Bank of Montenegro (2021); Montenegro Ministry of Finance and Social Welfare (2022); MONSTAT (n.d.b).



It is concerning how quickly the public debt in Montenegro has increased in recent years. As shown in Figure 7 with the exception of 2016 and 2017, when the first section of the highway's construction was the most dynamic and had a substantial impact on GDP growth, the growth rate of the public debt during the previous seven years has generally been higher than the real growth rate of GDP. It can be concluded that borrowed funds were not put to productive use as that borrowing did not accelerate growth in the long term.

*Figure 7: Rate of growth of public debt (%) and real GDP growth (%)*



*Adapted from Central Bank of Montenegro (2021).*

## Inflation

Keeping a stably low inflation (usually around 2%) is one of the prerequisites for the sustainable economic growth, which is the major objective in the most countries.

The effect of inflation on public debt is not a simple concept. Inflation could be an option to reduce the real value of debt. But, this effect is only short-lived. Servicing of the new debt becomes more difficult. Future government borrowing conditions are unfavorable due to increasing interest rates (as a response to inflation). Furthermore, this leads to slowdown in the economic growth, so debt-to-GDP ratio increases.

As an open and highly import-dependent economy, Montenegro is strongly influenced by movements on the international market. The prices of food, oil and oil derivatives on the international market “spill over” to Montenegro and put pressure on price movements.

Montenegro experienced significant inflation rates, which were first noted in the early post-conflict years. The inflation rate dropped from 28% to 2.9% between 2001 and 2006 (MONSTAT, n.d.a). As Figure 8 below shows after 2006, it increased from 2.9% to 4.3%. In 2007, the inflation rate was on the rise in almost all countries, both in developed and transition economies, and in Montenegro in the 2008 reached its peak at 8.8% (MONSTAT, n.d.a). In the period from 2007 to 2010, inflation was decreasing, so in 2010 it was 0.7%. In 2014, the consumer price index (CPI) continuously fell, as inflationary pressures in the euro

area were weak. Additionally, international energy and food prices were low. Inflation was 1.3 percent on average from 2015 to 2020. Although increasing excise and value added tax (VAT) rates in 2017 and 2018 lead to slow growth, during the 2020 crisis it fell to -0.3 percent (World Bank, 2021). In early 2021, inflation became positive due to early signs of economic recovery and surge in global commodity prices (European Commission, 2021). The data is presented in the Figure 8 below.

Global inflationary pressures increased domestic inflation. Inflation in 2021 was 2.4 percent on average, reaching 4.6 percent at end of the year. The cost of food, beverages, and transportation increased most rapidly throughout the inflationary period (World Bank, 2022a).

Leading central banks expansive monetary policies in response to the Covid-19 pandemic and the war in Ukraine led to increasing prices. Therefore, inflation in 2022 has become a global phenomenon. Central Bank of Montenegro does not have its own monetary policy and Montenegro is dependent on the European Central Bank, so Montenegro “take over” prices from the global market. Forecasts are that in 2022 Montenegro will have the highest rate of inflation since independence (Central Bank of Montenegro, 2022).

In order to avoid further deepening of the crisis and growth of inflation, Montenegro must adopt recovery measures in the near future. If the current trend of rising food and energy prices continues, an inflationary spiral with bad consequences would be triggered.

Figure 8: Trend of Annual inflation rate



Source: MONSTAT (n.d.a).

Budget balance

Since Montenegro does not have independent monetary policy, in response to growing debt levels Montenegro has to implement fiscal policy reforms.

Tax reform was the main focus of fiscal policy reform. As a result, multiple laws were introduced in 2001 with the intention of promoting the effective and transparent collection of budgetary revenues (Law on Excise Taxes, Law on Personal Income Tax, Law on Real Estate Tax, Law on Value Added Tax, Law on corporate income tax) (Montenegro Ministry of finance, 2006).

The budget of Montenegro is defined by the majority of non-discretionary spending, specifically pensions and public sector salaries (World Bank, 2016a).

In 2006, after the long time, a budget surplus was achieved. It was largely the result of higher volume of activities, increased level of public revenue collection and certain internal realizations (Central Bank of Montenegro, 2007).

Since 2008, Montenegro mostly has followed pro-cyclical fiscal policy.

The country was extremely vulnerable to a change in the capital account because of its pre-crisis significant reliance on foreign capital inflows. Between 2009 and 2014, foreign capital inflows decreased by almost 30 percent of GDP, which resulted in an increase in the fiscal deficit (as a result of a drop in government revenues, but not a corresponding decline in non-discretionary spending); During the previous ten years, Montenegro has consistently had a budget deficit which lead to a sharp rise in public debt. The government failed to meet its fiscal targets and took too long to execute measures planned within the budget (World Bank, 2021).

The Fiscal Strategy for Montenegro for the years 2017–2020 focused on implementing a thorough program of fiscal consolidation in order to ensure fiscal sustainability. The measures for increasing government revenues were higher VAT (from 19% to 21%) and excise tax rates (on cigarettes, carbonated water with added sugar or other sweeteners or aromatization agents, on coal and on ethyl alcohol) as well as a temporary increase in the ordinarily flat personal income tax rate from 9% to 15% for incomes over the national average (Montenegro Ministry of Finance, 2017a). As Figure 9 presents, the effect of these measures reflected in fiscal deficit decreasing from 5.7% of GDP in 2017 to 2% of GDP in 2019.

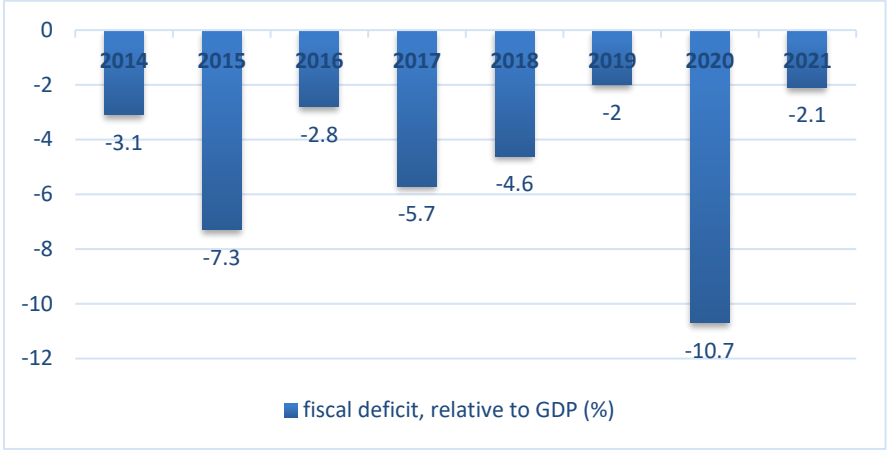
Average amount of deficit in the period from 2015 to 2019 was 4.6% of GDP, as Bar-Boljare highway construction began. Highway, together with other large infrastructure projects harmed the country's fiscal situation (European Commission, 2021).

After the outbreak of the pandemic, in the spring of 2020, all countries in the world faced a significant drop in budget revenues, primarily due to a decreased economic activity and the governments discretionary support measures. This was also the case with Montenegro. Budget revenues decreased due to the loss of the tourism season, while on the other hand expenditures rose, due to high healthcare spending. A recording budget deficit, as shown in

Figure 9, of almost 11% of GDP, was generated in 2020. This was the twelfth year in a row that budget deficit was recorded, with the average deficit from 2009 to 2020 amounting to 5.3% of GDP (European Commission, 2021).

Due to the delay in passing the state budget, the Ministry of Finance and Social Welfare granted interim financing for the first half of 2021. The budget deficit was significantly reduced during the course of the year because to the improvement in economic activity and the implementation of electronic cash registers in January 2021, which increased tax revenues. The central government deficit was 2.6% of the anticipated GDP in the first half of 2021 as opposed to 6.5% during the same period in 2020 (European Commission, 2021). Government measures, including wage subsidies for tourism workers for keeping their jobs, was among the reasons for the tourism recovery in 2021. The Authorities easily reached their year-end fiscal deficit target of 3.8 percent of GDP, thanks to increasing revenues from tourism and better epidemiological situation that allowed reduced public expenditures (IMF, 2022b).

Figure 9: Trend of fiscal deficit, as a percent of GDP



Source: Central Bank of Montenegro (2019); Central Bank of Montenegro (2021); Montenegro Ministry of Finance (2022).

However, for further reducing of the deficit additional tax reforms are needed. The World Bank (June 2021, p.20) in its latest report for Montenegro list the possible options for increasing revenues: “reintroducing the progressive personal income tax that was phased out in 2020 (possibly in conjunction with tax financing of social security contributions to reduce the cost of formal hiring); first identifying (as to date, no comprehensive overview of all tax expenditures nor an analysis of their economic and social impact has been prepared) and then reducing tax expenditures; prompt implementation of e-fiscalization; considering implementing a wealth tax on the wealthiest individuals; and working on environmental taxation to reduce carbon emissions.” Additionally, for decreasing expenditures public spending must be adjusted to country’s real possibilities.

### Current account balance

For many years, Montenegro has been recording high levels of current account deficits.

Although 2009 was characterized by global recession and negative economic trends the Montenegrin current account deficit declined to 29.9% of GDP, after being close to 50% of GDP in 2008 (Central Bank of Montenegro, 2010). The decline in current account deficit was primarily due to the reduced foreign trade deficit. Additionally, surpluses on the sub-accounts of services and record net FDI inflow were recorded (Central Bank of Montenegro, 2010).

In 2012, with sovereign debt crisis in Europe, the declining trend was interrupted. The current account deficit increased due to high level of dependence on imports and on the other hand, decreased visible exports. Increased levels of foreign direct investments (FDI) in tourism and real estate was the reason why current account deficit lowered in 2015, amounting to 11% of GDP (Central Bank of Montenegro, 2016).

In 2020, the current account deficit widened considerably. Due to the sharp fall in exports of services (mostly tourism) in 2020, the deficit rose to 26% of GDP (European Bank for Research and Development, 2021).

Covid-19 crisis, as it was expected, led a to an increase in the current account deficit (by 46.4% from previous year). A significant drop in services exports, in particular tourism together with a decrease in domestic and external demand were among the reasons for high amount of current account deficit (26% of GDP) (Central Bank of Montenegro, 2021).

In 2021, the current account balance was better than the pre-pandemic average, but still in deficit. The financial account showed that FDI inflows were doing well. An improvement of tourism in 2021 aided in the current account's recovery.

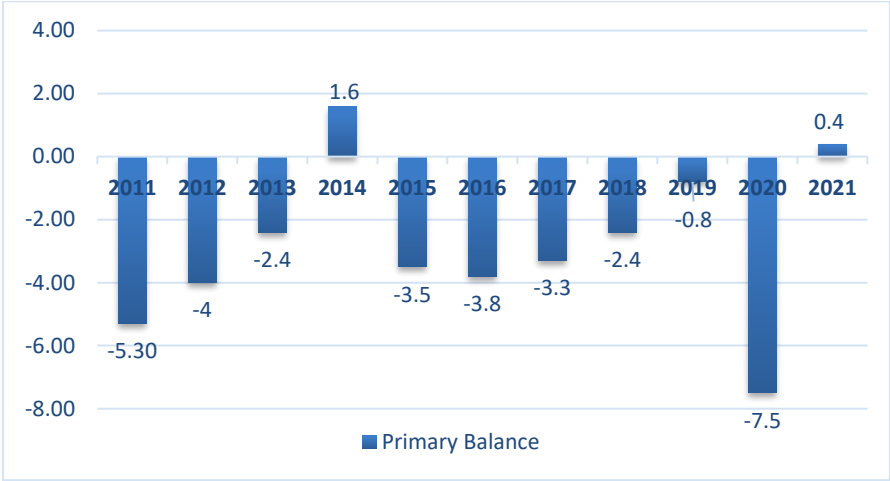
### Primary balance

The primary balance, or “the fiscal balance excluding net interest payments on general government liabilities (i.e. interest payments minus interest receipts)”, is an important indicator of country's short-run sustainability (OECD iLibrary, n.d.). Higher debt requires higher value of future primary balance.

Since interest payments are based on the extent of previous deficits, it can be said that primary balance represents a measure of government current fiscal effort, since government has control over its expenditures and revenues. A primary surplus is typically regarded as important for governments with significant public debt relative to GDP as it is necessary (although not enough) for a decrease in the debt-to-GDP ratio. A primary surplus will

suggest that the share of government debt in GDP will decrease if nominal interest rates on government debt are not higher than nominal GDP growth (IMF, n.d.).

Figure 10: Trend of primary balance, as a percent of GDP



Source: IMF(2015);IMF(2019b);Central Bank of Montenegro (2021); Montenegro Ministry of Finance and Social Welfare (2022).

As shown in Figure 10, from 2011, with exception of 2014 and 2021, Montenegro has been recording primary deficits. More specifically, from the value of 3.3% of GDP in 2017, primary deficit reached its peak in 2020 and it amounted to 7.5% of GDP (Central Bank of Montenegro, 2021).

In Montenegro, as a country that has been recording negative primary balances over the years, government fiscal measures have to lead towards improving primary fiscal balances and achieving primary fiscal surpluses in the following years. In that way, country could reduce its debt levels.

Foreign Direct Investments

Foreign direct investments (FDI) are important for development, particularly for economies in transition, like Montenegro. There are various significant advantages that FDI offers for the country. They increase modernization, growth in production, exports, employment and trade.

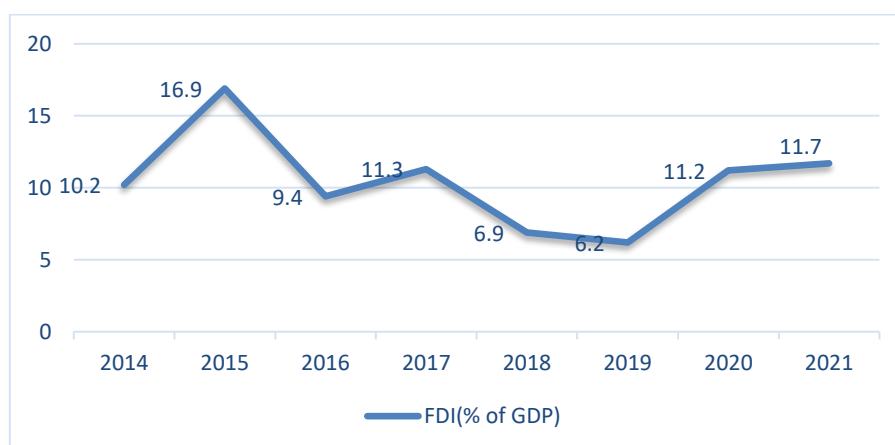
Public debt appears to be significantly impacted by foreign direct investments. Most studies indicated that FDI were a factor in lowering the amount of public debt because, if a region is appealing to foreign investors and they are willing to use their own funds to expand the economy, their financial effort will take the place of the government’s. As a result, government avoids borrowing to cover for big public expenses.

There are different kind of relationships between public debt and FDI. Namely, foreign investors largely assess the country’s risk through the size of the state public debt. Difficulties and uncertainties grow with the size of the debt servicing. That obviously deters foreign investors from making investments in a country because a portion of their earnings would go toward servicing the debt through high taxes. It acts as a factor in slowing down the growth of FDI, as well as reducing it. Increasing public debt as a potential for starting or accelerating the economic growth, the economic policy produces, therefore, the opposite effect through the disincentive of FDI (Madžar, 2019).

Since regaining its independence in 2006, Montenegro has implemented an investment framework that, in theory, promotes investments and growth. However, Montenegro is still working to create a business environment that is open to foreign investment. Investments in agriculture and food production, were Montenegro has a potential, would decrease country’s dependence on imports from neighboring countries. In that way, Montenegro could reduce its expenditures. Even though the government mostly realizes the need to remove obstacles in order to maintain competitiveness, improve the economic climate, open the economy to international investors and attract more FDI, the ongoing political transformation has not yet completely removed all structural barriers. Montenegro has made significant progress in both modernizing its investment-related laws and establishing the institutions needed to attract investors, but implementation like in other transition countries remains weak (U.S. Department of State, 2022).

In Montenegro, most of the current account deficit is financed by FDI inflows. Energy, hotels, and real estate comprise the majority of Montenegro’s high share of FDI.

*Figure 11: Trend of FDI (as a percent of GDP)*



*Source: Central Bank of Montenegro (2019); IMF (2019b); IMF (2022b).*

Figure 11 shows that FDI inflows were 11.7% of GDP in 2021, after being on average 9% for previous five years. According to the European Commission (2022b), FDI would stay largely steady between 2022 and 2024, averaging around 10% of GDP and fully offsetting

the predicted current account deficit. However, this outlook could be affected negatively by political instability and change in global financing conditions (European Commission, 2022a).

### Interest rates

The consequences of government debt on the economy can manifest through interest rates. Higher debt is usually associated with lower growth and higher interest rates. One of the mostly discussed topics in macroeconomics has been the connection between long-term interest rates and public debt. While some economists think that government debt has a large impact on interest rates, others believe that there is no evidence to support such a claim. The Ricardian equivalence theorem indicates that the amount and path of public debt shouldn't influence the interest rates. This theorem has been the subject of many discussions, so there have been many empirical studies that investigated this link using a different statistical and econometric methods (Kinoshita, 2006).

Elmendorf (1996) discovered that larger anticipated federal deficits and government expenditure tended to raise interest rates. However, his technique does not show how much of an influence there would be.

For highly indebted countries, reversing debt is especially difficult because of slow growth and high interest rates. Higher interest rates for a debt stock mean that a bigger portion of public resources must be allocated to paying interest, leaving less money available to reduce the debt. Projections of the public debt are highly dependent on interest rate assumptions. Rising interest rates reduce the probability of debt being sustainable. On the other hand, low interest rates could lead to growth of GDP, as investors and consumers would be more willing to spend. In this way, debt-to-GDP ratio decreases (Abbas et al., 2013).

Monetary policy can be impacted by government debt. Possibility that the government will need to raise the money supply, to cover its expenditures, could rise as ratio of debt-to-GDP rises. This could lead to rising inflation, which would make principle and interest payments to current bondholders less valuable. Investors will demand a higher inflation risk premium and interest rates may rise much more sharply in response to an increase in the debt-to-GDP ratio than it is predicted (Gamber & Selisk, 2019).

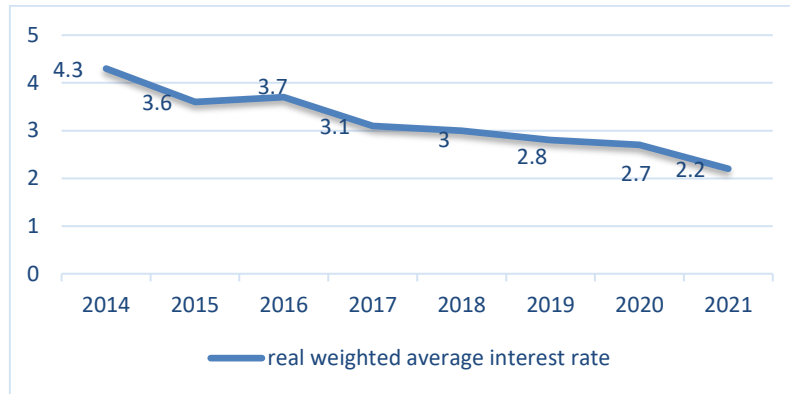
Engen and Hubbard (2004) when determining how government debt affects real interest rates, using standard set of data and a basic economic model, concluded that a rise in government debt equal to 1% of GDP would most likely result in an increase in real interest rates of two to three basis points.

Figure 12 demonstrates that average weighted interest rates in Montenegro have been decreasing. Real weighted average interest rate on the structure of the Central Government debt at the end of 2021 was 2.2%, which means that the cost of borrowing has fallen by 0.5



percentage points from the end of 2020. The fact that Montenegro has repaid expensive debts from previous years as well as the realization of the hedging arrangement, which resulted in a significant decrease in the interest rate for the hedged portion of the debt to Exim China Bank (from 2% to 0.88%) both had an impact on the interest rate reduction (Montenegro Ministry of Finance, 2022).

*Figure 12: Trend of Real weighted average interest rate*



*Source: Montenegro Ministry of Finance (2018b); Central Bank of Montenegro (2021); Montenegro Ministry of Finance and Social Welfare (2022).*

Current market conditions and possible growth of Euro Interbank Offered Rates (EURIBOR) are likely to increase average weighted interest rates in the future period (Government of Montenegro, 2023).

## **2.5 Political analysis**

The main strategic goal of Montenegro is EU integration. Reforms process are being created with ambition to advance in the accession negotiations (European Commission, 2022b).

According to the 2015 EU Progress Report for Montenegro, the country made some progress toward having a functioning market economy. Political stability and accountability have gradually improved since 2015, but regulatory quality and corruption control have regressed. And even though Montenegro is generally performing better in terms of governance than the other Western Balkan nations, it still lags well behind the EU and the EU small states (World Bank, 2021).

Corruption has been identified as one of the most significant problems that Montenegrin society faces on its European journey. The concrete effects of the institutional fight against corruption in all segments of social life are not visible, so the political authorities must approach it much more seriously. The World Bank (2021, p.39) in its latest country report for Montenegro stated that “the effective response to high-level corruption is missing”.

Reform progress in Montenegro is limited by problem of transparency. The public has timely access to Montenegro's most important government documents, but additional specific information is frequently lacking. There is increasing number of documents labeled as confidential. Even some significant facts and information related to the creation of the largest public investment – highway, have been labeled as confidential, which have drawn criticism from the civil society. One of the ways for government to increase transparency is to strengthen digitalization of its services (World Bank, 2021).

For some time now, the political environment in Montenegro is complicated and unstable. Period from 2015 was marked by political tensions, a series of opposition party protests, a boycott of parliament and lack of political dialogue. Some attempts to improve cooperation between political actors were interrupted when the government presented the draft Law on religious freedoms or belief for adoption. It resulted in opposition parties boycotting most of parliamentary work and large-scale religious protests at the end of 2019. The most significant political change took place in 2020, when the opposition won power in the elections held in August (for the first time in 30 years). In December 2020 Montenegro has formed a new Government, the first consisting mostly of non-politically affiliated experts.

To help the post-pandemic recovery, new government adopted the “Europe Now” program. It is fiscal reform program which aims to increase employment, increase the living standards of all citizens, improve the business and investment environment and reduce the grey economy in the labor market (Vlada Crne Gore, 2021). The scheme implemented a progressive income taxation structure as of January 2022. This represents a significant shift in fiscal policy, ending the previous 9% corporate and personal income flat tax rates. Additionally, the cost of mandatory health insurance is eliminated, reducing the tax burden on labor. The purpose of this labor cost reduction is to encourage job creation and investment. The minimum wage was also raised significantly in the budget. The elimination of health contributions and the increase in the minimum salary are anticipated to significantly increase Montenegro's net average wage (European Commission, 2022a).

Although IMF (2022b) staff welcomes “Europe Now” package, they indicate on potential significant economic risks. IMF states that the program should have been gradually implemented in such a way as to additionally consider measures to increase revenues, while the elimination of health contributions and the increase of the minimum wage should have been implemented in phases. A problem in the implementation of the program may also arise due to the impossibility of measuring the total size of the gray economy (IMF, 2022b).

Political situation in Montenegro in the post-election period was still characterized by government instability, tensions and lack of political dialogue. Political differences led government to fall on votes of no-confidence and formation of the new one in less than a year. High polarization in the political environment makes it more challenging to come to agreements, increases already high levels of uncertainty and shifts attention away from upcoming economic problems. The Worldwide Governance Indicators of the World Bank

continue to demonstrate a stall in governance improvements, showing the rule of law problems as a significant barrier to political, social and economic progress (World Bank, 2021).

The European Commission (2022b, p.4) in their latest report summarizes that in Montenegro “the governments and the Parliament failed to demonstrate in practice their engagement as regards the EU-related reform agenda”.

In accordance with their approach towards the candidate countries for membership the European Commission (2022b) expects concrete and measurable results from Montenegro when it comes to the rule of law and the fight against organized crime and corruption. In this sense, Montenegro has serious work ahead of it in order to fulfill the political criteria for membership, primarily through the continuation of political and legislative reforms.

The World Bank’s Country Manager for Bosnia and Herzegovina and Montenegro, Christopher Sheldon, emphasizes that resolving the institutional and political crisis and implementing prudent fiscal policies should be a key priority of Montenegro. The Government of Montenegro must demonstrate its commitment to debt reduction. Continuous efforts are needed to expand the tax base, improve tax discipline and to introduce tax for products and activities that harm the environment and human health. The government should ensure full financing of all budget obligations, by implementing measures necessary to collect sufficient revenue. Additionally, it should avoid any spending that is inconsistent with deficit and debt reduction needs, which would instead lead to a vicious cycle of inflation (Vijesti, 2023).

Montenegro has changed three governments in the last two years, as a result of political instability, and that is why it needs a stable government, which could implement the necessary measures and ensure fiscal stability.

## **2.6 Credit rating**

Fiscal challenges for servicing debt are much higher in countries with debt levels, as they are usually connected with lower creditworthiness that results in lower credit ratings (Hadzi-Vaskov & Ricci, 2019).

Country’s credit rating is given by international rating agencies (Standard & Poor’s and Moody’s). Those ratings are important because they are used by creditors and shareholders when deciding on borrowing and investing their capital in other countries. A drop in the country’s credit rating leads to negative consequences, such as higher interest rates and more difficult borrowing conditions on the international capital market, a decrease in investment, an increase in unemployment.

In the performed ordered probit analysis, presented in Hadzi-Vaskov and Ricci (2019) paper, results showed that having higher public debt reduces the likelihood of being assigned to a better credit rating category. Additionally, it depends on the credit rating grade itself. Therefore, the countries in the middle range of rating grades are most sensitive to increase in debt.

Montenegro has been rated by the credit ratings agencies Standard & Poor's (S&P) and Moody's. The BB+/stable rating given to Montenegro in March 2007 was the country's highest grade since 2004 when S&P began rating it (S&P, 2007). The growing debt distress of the country is reflected in worsening credit ratings. In 2008, the credit rating agencies S&P and Moody's both classified the Montenegrin credit rating as non-investment grade speculative. After several years of growing government debt, the S&P lowered the rating by three levels from BB+ in 2008 to B as of today (Government of Montenegro, 2023). The likelihood of borrowing in the future will undoubtedly be impacted by the credit rating downgrade. The lowered credit rating, in light of the current circumstances, results in more unfavorable borrowing conditions, which will have an impact on the growth of interest rates. This is important not just for government borrowing, but also for borrowing by individuals and businesses.

A downgrade from the "BB" to the "B" rating is given when an obligation becomes more vulnerable to nonpayment but the obligor still has the capacity to service his financial commitments (S&P, 2021). Moody's lowered its credit rating for Montenegro in the same time frame by two levels from Ba2 to B1, meaning that risk for long-term obligations increased from a substantial credit risk with some speculative elements to a high credit risk (Moody's, 2022). The only positive development of Montenegro's credit ratings in the last decades is the decision of the credit rating agency S&P to change the credit rating outlook from "negative" in 2020 to "stable" in the last year. The stable outlook is because the debt burden is expected to decrease in 2022 and stabilize thereafter.

Key rating factors why Montenegro is assigned B1 by Moody's rating agency are:

- “(1) Montenegro's high-income level relative to peers which is balanced by its narrow economic base exposed to an increasingly challenging external environment;
- (2) An elevated public debt burden that limits fiscal space, balanced against favorable debt affordability metrics;
- (3) Montenegro's moderate susceptibility to event risk, mainly driven by liquidity and external vulnerability risks as well as banking sector risk, although political volatility is rising due to frequent changes in government, constraining more effective policymaking” (Moody's, 2022).

If the administration is determined to start with well-defined fiscal consolidation and kept the fiscal risks contained the rating might be raised. Additionally, making significant advancements toward EU membership would be credit-positive. But, current political instability and actual threat to even stop the process of negotiations on Montenegro's accession to the EU could downgrade the ratings of Montenegro further.

## **2.7 Public debt dynamics in Western Balkan countries**

Albania, Montenegro, North Macedonia, and Serbia are official candidates to join the EU while Bosnia and Herzegovina and Kosovo are “potential candidates.”

After the politically and economically turbulent nineties, marked by wars and hyperinflation, the beginning of the millennium brought stability for the Western Balkan countries. Many economic and institutional reforms were implemented that led to the relatively rapid economic growth. Debt to GDP ratio declined in most Western Balkan states as the result of good fiscal and macroeconomic measures. In period between 2002 and 2008 income per capita almost tripled, the average GDP growth went above 4 percent annually and poverty declined (World Bank, 2016b). Despite undergoing economic and institutional reforms, global economic crisis strongly affected Western Balkan countries. By late 2008, current account deficits reached alarming levels above 10 percent of respective GDPs in all countries due to reduced inflows of foreign capital and declined export (Uvalić & Cvijanović, 2018). The economy has been recovering in the post-crisis period, but its growth has not reached the level of the pre-crisis period. The share of public debt in GDP started to increase and the average public debt in the Western Balkans was 31.6% of GDP for the period 2009-2019 (Kisin, Mašović & Ignjatović, 2021).

Each country has unique characteristics regarding its public debt portfolio and dynamics of Western Balkan countries public debt is shown in Figure 13. However, former SFRY countries domestic debt portfolio mostly consist of old foreign currency savings, restitution and unpaid pensions. Additionally, each country has loans from multilateral and bilateral creditors as well as loans from private sector creditors, government securities, and euro-bonds in its portfolio (Lukšić, Bošković, Novikova & Vrbensky, 2022).

Fiscal rules have been important subject of political and academic debate in the Western Balkans, as all of these countries aspire to join the EU. North Macedonia is the only country of this region that that has not established fiscal rules on debt and deficit limits. Although all countries have a rule limiting debt, they differ in the size and nature of the limit. From 40% in Kosovo to 45% in Albania and Serbia to 60% in Montenegro and Bosnia and Herzegovina, the size of the limit varies (Lukšić, Bošković, Novikova & Vrbensky, 2022).

Between 2010 and 2013, in Albania the public debt increased rapidly by about 13 percent of GDP due to high deficits and slow economic growth (IMF, 2019a). Fiscal adjustment since 2014, the issuance of a five-year Eurobond in 2015 and the increase in donor financing made

public debt decline in 2016, for the first time in six years. However, public debt at the 73.3 percent of GDP in 2016 was still considered high (IMF, 2017). Although in 2017, Albania managed to reduce the level of public debt to GDP, the public debt structure was not favorable considering the maturity of the debt as well as insufficient diversification of creditors (IMF, 2019a). In 2019, Albania was severely affected by the aftermath of the earthquake and the outbreak of the Covid-19 pandemic. These events led to the increase of public debt, to almost 80 percent of GDP in 2020. The strong economic recovery and better-than-expected fiscal outcome for 2021 decreased the level of public debt and it is expected to remain on a downward path in the following years (IMF, 2021b).

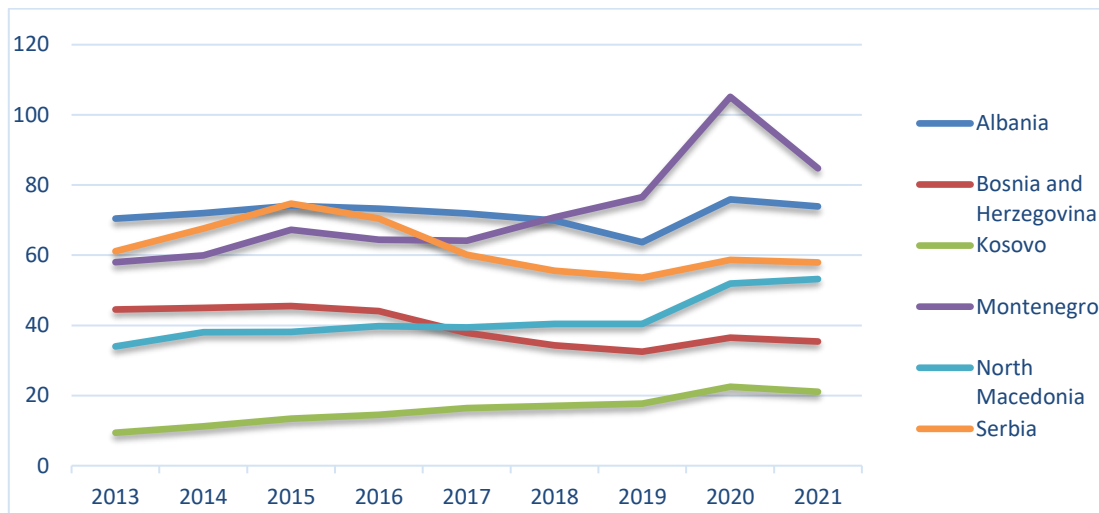
In Bosnia and Herzegovina, the trend of increasing public debt has been present until 2016. In 2018 the level of public debt reduced thanks to output growth and primary fiscal surplus. The structure of the debt is dominated by external debt, where concessional loans are obtained for the most part from the World Bank, the International Bank for Reconstruction and Development, the IMF. Also, there is a difference between old and new debt. The old debt has a downward trend, and it refers to the debt that was inherited from the period of the SFRY. The new debt comes from multilateral creditors and is intended to finance infrastructure projects, the public sector and support economic activities. However, there is the difference between the two entities in country as Republika Srpska faces debt growing at a fast rate. Debt dynamics has worsened due to the pandemic, but country's strong fiscal position helped to mitigate the impact of the pandemic. The level of public debt to GDP is expected to decline (IMF, 2022c).

Public debt of Kosovo consists of general government debt and explicit government guarantees. The trend of increasing public debt has been present since 2013. External public debt is largely owed to multilaterals while domestic debt in 2020 comprised 2/3 of its total debt. Its public debt reached record high in 2020, but is expected to remain steady after the strong rebound in fiscal revenues in 2021 (IMF, 2022a).

In North Macedonia the level of public debt, which includes debt of state-owned enterprises, increased significantly since 2008. But its structure became more favorable. Average maturity of outstanding government securities increased from less than 12 months in 2011 to close to 8 years in 2019. Most of the public debt is external and its levels increased significantly due to public sector borrowing and FDI-related intercompany borrowing. Even though the level of public debt is not alarmingly high, caution is advised given how quickly debt has been accumulating since the financial crisis (IMF, 2020).

Weak institutions and large fiscal imbalances led to rapid growth of public debt in Serbia in 2014. Public debt peaked in 2015. In 2017 public finances improved significantly under the economic program supported by Stand-By Arrangement with the IMF. After ambitious fiscal consolidation general government debt has been on a downward path for four consecutive years. In 2020, due to the large financing needs imposed by Covid-19 pandemic, public debt increased (IMF, 2021a).

Figure 13: Public debt dynamics in Western Balkan countries (as percent of GDP)

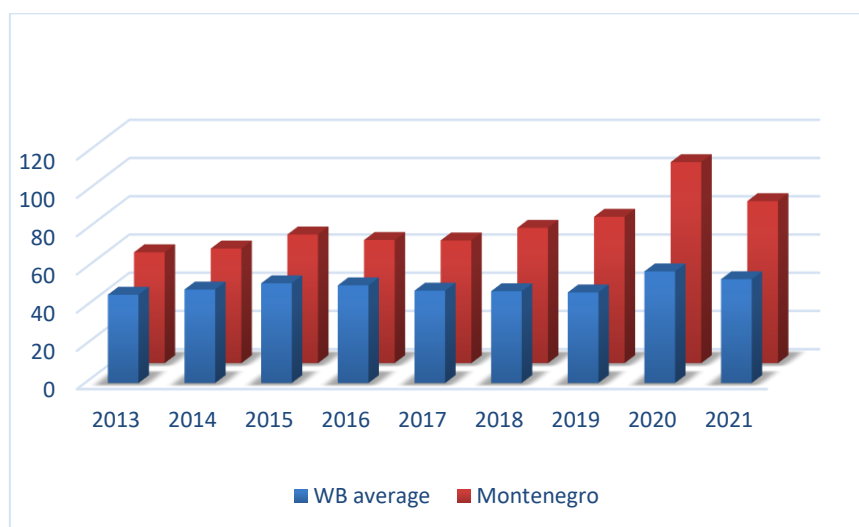


Source: IMF(2017); IMF(2019a); IMF(2020); IMF(2021a); IMF(2021b); World Bank(2022b); Central Bank of Montenegro (2021); Montenegro Ministry of Finance and Social Welfare (2022).

All Western Balkan countries, after post pandemic recovery, have to face new difficulties. The war in Ukraine, along with the resulting high rise in energy prices and slowdown in global development, is having a negative impact on the economies of all six countries. Inflation has reached levels not seen in many years.

As indicated in latest Western Balkans Regular Economic Report after post-Covid-19 recovery of 2021 and return to normalized economic growth „Western Balkans are facing renewed fiscal pressures and risks”. Fiscal deficits levels remained high (World Bank, 2022b).

Figure 14: Montenegrin vs WB average public debt levels



Source: OECD. Stat (n.d.).

As Figure 14 reveals, Montenegro has been having public debt ratio above the average of Western Balkan region since 2013. Montenegro is the country where debt grew at the faster pace than the average rate for Western Balkans. The highest level of public debt recorded in Western Balkan countries was in Montenegro, in 2020. The average EU member countries public debt ratios, at the end of 2021, was 88% of GDP, while the average of Western Balkan countries was 54.3% (OECD.stat, n.d.).

### **3 MONTENEGRO'S PUBLIC DEBT SUSTAINABILITY ANALYSIS**

Although it has been discussed for more than a century, the sustainability of public finances is still not precisely defined. While it may appear intuitively obvious that a sustainable policy must be one that ultimately avoids bankruptcy, the exact concept of what defines a sustainable debt position is not commonly accepted (Chalk & Hemming, 2000).

Blanchard states that undoubtedly, if followed, the Maastricht criteria or so-called Black Zero (balanced budget) rules will ensure sustainability. Fiscal policy, instigated by these rules, after global financial crisis, in the countries of the EU was constrained when it was not necessary. Therefore, most observers stated how it was too strong and even led to slower recovery of these countries (Blanchard, 2022).

However, “fiscal policy sustainability and public debt sustainability are two inter-related concepts whose analysis is a complex and multifaceted exercise” (Cottarelli & Moghadam, 2011, p.6).

A framework for public debt sustainability consists of complex analysis. It describes a country's fiscal and monetary stance under specific assumptions and conditions and offers an impartial assessment of debt sustainability in a given macroeconomic situation. This analysis considers movement of debt-to-GDP ratio over time under baseline scenario and alternative scenarios, including possible fiscal risks and assumptions related to analysis that must be realistic.

The stated basic three scenarios - optimistic, baseline, and pessimistic - relate to the movement of important model variables. In other words, the optimistic scenario assumes favourable movements of Montenegro's key macroeconomic variables, the baseline scenario assumes expected changes and the pessimistic scenario relies on the macroeconomic projections made as the country is exposed to wide set of vulnerabilities which lead to slow down in the economic growth.

#### **3.1 Methodology**

Model for Montenegrin public debt sustainability analysis contains both quantitative and qualitative parts and is based on recommendations that IMF proposes. Precisely, used are “A Practical Guide to Public Debt Dynamics, Fiscal Sustainability, and Cyclical Adjustment



of Budgetary Aggregates” (Escolano, 2010), “Modernizing the Framework for Fiscal Policy and Public Debt Sustainability Analysis” (Cotarelli & Moghadam, 2011) and lecture slides from Prof. Rant Ph.D (2021).

Furthermore, the analysis consists of country-specific information and it involves projections of macroeconomic variables over the period of ten years. The European Commission (2014) in a guide for “Assessing Public Debt Sustainability in EU Member States” a ten-year time horizon regards as a good compromise since this time period is neither too short (so it can provide thorough analysis), nor it is too long (in that way is still applicable and useful). The Montenegro’s public debt sustainability analysis starts with the year 2021 and its projections end with the year 2031.

The Montenegro’s public debt sustainability analysis consist of input projections and resulting three output projections. For input projections used variables are nominal interest rates, inflation rates, real interest rates (which are calculated according to Fischer formula), growth rates, primary balance, GDP and average maturity of debt. Precisely, movement of these variables from 2021-2031 in the baseline, optimistic and pessimistic scenario is being projected.

Escolano (2010) in its “A Practical Guide to Public Debt Dynamics, Fiscal Sustainability, and Cyclical Adjustment of Budgetary Aggregates” provides equations that are being used for output projections. Due to complexity of these equations, Prof. Rant Ph.D in his lectures simplified them and made them more accessible. However, even simplified debt dynamics still provides significant insights into issues related to debt.

First output projections provide the level of public debt and its dynamics for the observed period of ten years. It is done by calculating the change in the public debt to GDP ratio. Escolano’s (2010) equation (1) shows that change in the public debt to GDP ratio depends on interest rates, growth rates and primary balance of the economy:

$$\Delta d_t = d_{t-1} * \left( \frac{r_t - g_t}{1 + g_t} \right) - pb_t \quad (1)$$

$\Delta d_t$ - change in debt to GDP ratio

$d_{t-1}$ - debt ratio in the previous year

$r_t$ - real interest rate

$g_t$ - growth rate

$pb_t$ - primary balance; Primary deficits increase debt levels, while primary surpluses decrease them.

This equation is important because according to Cotarelli and Moghadam (2011) the level of debt to GDP is main indicator in the debt sustainability analysis. It is difficult to define when the debt ratio is considered low or high, as these thresholds are specific to each country. While some nations have in fact experienced debt crisis at very low levels of debt, others have been able to maintain high levels of debt for extended periods of time. Many countries have incorporated debt thresholds in their fiscal related laws, because a high debt levels raise number of challenges for a country. First, in order to service a high level of debt large primary fiscal surpluses are required, which can be challenging from both an economic and political standpoint. Second, such countries are more exposed to changes in interest rates and economic growth. Thirdly, high level of debt is often linked to higher borrowing requirements. This is a burden for countries, as some are not able to borrow from private sources or it can be possible only with high interest rates. Fourth, as indicated by many studies, high debt levels negatively affect economic growth. It directly affects the debt sustainability in the long run (Cotarelli & Moghadam, 2011).

The debt threshold differs among countries. Precisely, they are different in emerging markets and advanced economies. For advanced economies the level over which a debt distress event is likely going to happen is in range from 80 to 192 percent of GDP, while for the emerging markets this range is from 35 to 77 percent of GDP (Cotarelli & Moghadam, 2011). It is important to point out that often is difficult to define generally applicable debt thresholds. However, the threshold mostly used by countries is 60 percent of GDP. In case of public debt level exceeding 60 percent of GDP in the baseline scenario, from countries it can be expected to prepare analysis of potential risks to sustainability (Cotarelli & Moghadam, 2011).

In this analysis, the threshold used for Montenegrin public debt sustainability is 60%. This threshold is used because it is limit set within Montenegro’s legal framework.

The second output projections determine debt stabilizing primary balance, which is crucial indicator of debt sustainability. While for the previous output projections, the level of primary balance was assumed, here it is being calculated.

Escolano’s (2010) equation (2) shows debt stabilizing primary balance

$$pb_t = d_{t-1} \times \frac{(r_t - g_t)}{(1 + g_t)} \quad (2)$$

$pb_t$ - debt stabilizing primary balance in year t

$d_{t-1}$ - debt ratio in the previous year

$r_t$  - real interest rate

$g_t$ - growth rate

Debt stabilizing primary balance is primary balance where the change in public debt ratio ( $\Delta d_t$ ) is equal to zero.

In order to calculate debt stabilizing primary balance used are real growth rates, real interest rates and current debt to GDP level, that remains constant over years. For Montenegrin debt sustainability analysis, the current debt to GDP level, of 84.8%, is being used.

The third output projections also calculate debt stabilizing primary balance, but for desired debt level. The calculations are done using “Goal Seek” function in the Excel.

It is possible that the primary balance at its current level won't be enough to stabilize debt to GDP ratio and in that case, country is currently unsustainable. That situation can also put debt to GDP ratio on the explosive path. However, fiscal adjustment, that is both economically and politically achievable, can bring the primary balance to a debt stabilizing level. Contrary, in case that primary balance is both politically and economically impossible then debt restructuring would be required (Cotarelli & Moghadam, 2011).

Fiscal policies and public debt are more likely to be unsustainable when the level of public debt is higher. That is because higher debt is usually connected with higher interest rates. And when the interest rate exceeds the growth rate, then primary surplus would be necessary to stabilize debt (Cotarelli & Moghadam, 2011). When the real interest and growth rates are near, even minor shocks can have a significant impact on the trajectory of the debt (Wyplosz, 2011).

### **3.2 Baseline scenario**

The projections for debt sustainability analysis of Montenegrin public debt begin with baseline scenario. A baseline scenario illustrates how debt accumulation develops based on the primary balance, inflation, interest, and growth rates that are currently anticipated.

It is the most likely scenario given present information and it is important for credible assessment of debt sustainability. That being said, it requires information on the existing debt level. However, uncertainty regarding economic and political situation makes coming up with accurate projections and assumptions for fundamental variables more difficult.

In the baseline scenario, the projections of key macroeconomic variables, that affect debt dynamics, are assumed mainly using “Fiscal strategy for the period 2021-2024” and the latest country report for Montenegro by IMF (2022).

The “Fiscal strategy for the period 2021-2024” was created with the aim of ensuring Montenegro's macroeconomic stability in the post pandemic period and long-term sustainability of its public finances. The main goals of the strategy for the period 2022-2024 were average growth rate above 5%, inflation rate above 2%, decline of public debt to

reaching 67,6% of GDP in 2024 (Government of Montenegro, 2021). When making these projections, the existing macroeconomic conditions in the country, the debt structure, as well as investment opportunities are considered. These projections were based on strong tourism recovery, increased demand and more intensive private consumption. For achieving these, above mentioned, goals fiscal policy has to create conditions for continuous growth of budget revenues and reduce current budget expenditures to free up funds for financing development initiatives that improve country’s economy and support long term economic growth (Government of Montenegro, 2021).

On the other hand, in the latest country report for Montenegro IMF (2022b) indicates that the strong growth is expected to continue in 2022 and because of that the debt is projected to fall in 2022. But, in the period 2023-2026 it is expected to increase slightly as the result of government reform program “Europe Now”, which they believe would result in permanently lower revenues in the long run.

*Table 3: Baseline scenario’s assumptions*

- |   |
|---|
| <ul style="list-style-type: none"> <li>- strong tourism recovery</li> <li>- long term macroeconomic and financial stability with comprehensive reform of country’s tax system, which would create conditions for generating new sources of revenue</li> <li>- increased funding for capital and investment projects which would stimulate economic growth</li> <li>- the modification of legal, institutional and regulatory framework in order to improve Montenegrin economy’s competitiveness</li> <li>- price stabilization and reduced inefficient spending that would help country achieve and maintain fiscal surpluses</li> </ul> |
|---|

*Source: Own work.*

Realizing macro-fiscal projections, shown in Table 3, would reflect in the recovery of Montenegro’s public finances and sustainable and dynamic economic growth.

Input projections start with inflation, as Montenegro is vulnerable in terms of inflation because of high dependence on external factors. Inflation projections are influenced by the growth of aggregate demand, limitations in global supply chains as well as movements of prices on the world market. Also, IMF (2022b) warns that effects of government program “Europe Now” on inflation are uncertain and negative. Given the continuation of the trend of price increases (mainly food, oil and international transportation) inflation in the baseline scenario is projected to increase to 4.7 in 2022 (IMF, 2022b). Additionally, changes of the country’s excise policy also lead to the rise of inflation. During 2011-2021 inflation, measured as GDP deflator, was on average 2.5, while for the period 2021-2031, in the

baseline scenario, it will amount to 2.7. The goal of “Fiscal strategy for the period 2021-2024” to have inflation above 2% on average per year is achieved after 2024. From 2024 onwards, the moderate price growth rates and easing of inflationary pressures are expected so until 2031 inflation is moderately stable.

One of the main goals of Montenegro’s “Fiscal strategy for the period 2021-2024” is to boost economic growth. Precisely, to have average growth rate above 5% in the period from 2022-2024. In 2021, the real growth rates reached its peak of 12.4% as the result of Montenegro’s economic recovery being mainly driven by tourism and increased private consumption (as a consequence of “Europe Now”). On the other side, IMF (2022b) indicates that the reforms associated with “Europe Now” are likely to accelerate growth only in the short term. The projections for growth rates in “Fiscal strategy for the period 2021-2024” are more optimistic than the ones in the IMF’s latest country report. However, in both documents real growth rates are gradually declining and in the medium-term projections are that the growth rates will ease around 3%. All things considered, the real growth rates in the baseline scenario projections are made by calculating the average between the IMF and Montenegro’s fiscal strategy projections. As their projections only cover for period until 2026, in the remaining years real growth rates are relatively stable, with small fluctuations. Still, knowing how real growth rates were in their highest levels before global economic crisis they did not reach that pre-crisis trend in this period of projections.

The analysis consists of projections for both real and nominal(effective) interest rates. Projections for real interest rates are calculated using Fisher formula, when adjusting nominal interest rates projections with inflation projections.

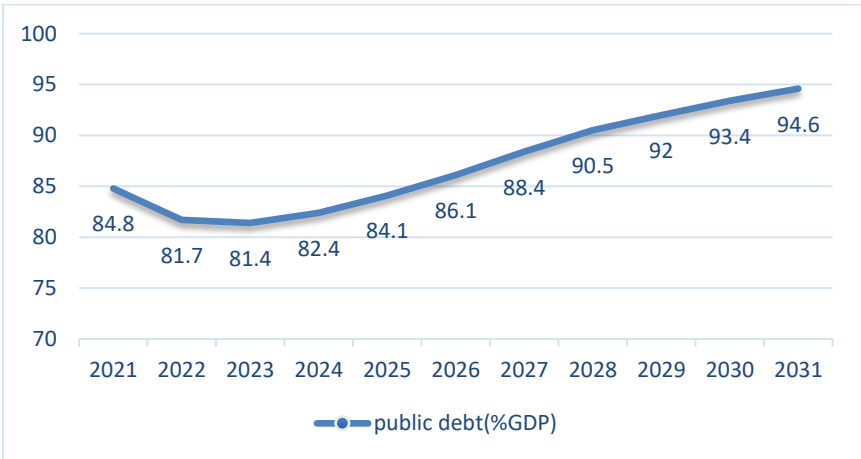
Montenegro’s ability to secure advantageous terms on private financing even during difficult times helped country to keep interest rates relatively low before observed period. Effective interest rates are projected to gradually increase due to the global monetary conditions and the growing amount of external debt, as Montenegro will have to refinance liabilities. The movement of nominal effective interest rates in the medium term is projected using IMF’s latest country report. From 2.2, which was their value in 2021, they increase up to their highest value, 3.6 in 2027.

For primary balance projections both Ministry of Finance of Montenegro and IMF predict primary deficit in 2022. Yet, from year 2023 onward “Fiscal strategy for the period 2021-2024” predicts primary surplus. This is not surprising, as one of the goals for economic growth was achieving primary surplus in 2023. Knowing how often Montenegro has not generally complied with its fiscal rules and hasn’t reached target primary surplus values predicted before, these projections are considered a bit optimistic. Although reaching a primary surplus of 1% of GDP by 2026 could be sufficient for debt reduction, this is not achievable in baseline scenario. Primary balance is projected to stay negative, but mostly constant and not increasing throughout the observed period of ten years.

Average maturity of debt for the period from 2016 till 2021 was 5.6 years. The reason why average debt maturity was extended from 5.9 years at the end of 2019 to 6.9 years at the end of 2020 was new credit arrangements were made, because obligations based on Eurobonds issued during 2014-2016 and obligations for bonds issued on the domestic market came due. However, average maturity of debt shortened to 5.6 years at the end of 2021 because no new credit arrangements were made. It is projected that it will decrease until 2026. These medium term projections are in line with projections made in “Medium term debt management strategy 2018-2020”, issued by Montenegrin Ministry of Finance (2018b).

The public debt in the baseline scenario, as shown in Figure 16, indicates that debt reduction lasts until 2023, when it starts gradually increasing. "Europe Now" has caused the budget deficit to permanently expand over the medium term, leading to the primary deficit at about 3.6 percent of GDP, which is highly above debt stabilizing primary balance. Furthermore, among the reasons for increasing public debt could be the removal of healthcare contributions (as one of “Europe Now” measures) that lead to the reductions in revenue and an increase in long-term spending commitments.

Figure 15: Public debt dynamics in the baseline scenario (% of GDP)



Source: Own work.

Bearing in mind how Montenegro in its Law on Budget and Fiscal Responsibility adopted fiscal rule that public debt should not exceed 60% of GDP, these projections for public debt in the baseline scenario could be interpreted as unsustainable. Additionally, what concerns is that the average public debt ratio for the period 2011-2021 was 67.9% of GDP, while in the baseline scenario the average for the period 2021-2031 is 87% of GDP. This scenario confirms IMF’s (2022b) recommendations for fiscal structural reforms (the pension system, public administration, the healthcare system reforms) that would keep the public debt levels stable.

The second output projections show which levels of primary balance are required to keep debt stabilized. Since Montenegrin public debt in the 2021, the first year of projections, amounted to 84.8% of GDP that value is being used as a reference value. The debt stabilizing primary balance for the baseline scenario constantly decreases, from -7.3% of GDP in 2022

to -1.7% of GDP in 2031. In 2022, its value is high but it doesn't come unexpected since growth rate in 2022 was exceptionally high. However, the values for debt stabilizing primary balance are above the projected values for primary balance. As previously noted, this is one of the reasons for increasing public debt over the years.

In the baseline scenario gross borrowing requirements from the value of 651 million euros they reach 1,652 million euros in 2031. These projections confirm IMF's latest report (2022b) warnings for the Montenegrin authorities to implement specific and concrete fiscal measures that would reduce fiscal deficits. High borrowing requirements in the medium term could put Montenegrin finances in dangerous situation due to strained environment and high political uncertainty in the country.

### 3.3 Optimistic scenario

The optimistic scenario assumes improvements of the main macroeconomic variables, that would result in reduced public debt ratios.

The assumption for movements of variables observed in optimistic scenario for Montenegro are mainly based on predictions made in "Montenegro Economic Reform Programme 2023-2025". It is the most important economic document of the country, structured in line with guidelines and methodology of the European Commission, and it provides framework for the country's discussions on macroeconomic, fiscal, and structural reforms with EU member states and institutions (Government of Montenegro, 2023).

*Table 4: Optimistic scenario's assumptions*

<ul style="list-style-type: none"><li>- political stability</li><li>- transparent and appropriate legislation</li><li>- progress on implementation of concrete fiscal consolidation measures and reforms</li><li>- improved debt management</li><li>- the adoption of the planned revenue-increasing measures</li><li>- increased FDI inflows</li><li>- reduced rate of unemployment</li><li>- sustained and strong economic growth</li></ul>
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*Source: Own work.*

With optimistic scenario projections, based on assumptions shown in Table 4, the goal of economic growth being above the pre-crisis level is achieved.

Inflation rates are relatively stable in this ten-year period. Although "Europe Now" is expected to increase the minimum wage in Montenegro, which leads to increased consumer spending and potentially higher inflation, in the "Montenegro Economic Reform Programme

2023-2025” it is not presented as potential risk. Inflation rate is high in 2022, but then slowdown in demand, in the following year, leads to its stabilization. The slowdown in inflation is expected in the “Montenegro Economic Reform Programme 2023-2025”, as the result of European Central Bank most recent projections that indicate stabilization of global market prices. However, these projections cannot be too optimistic as interrupted supply chains, geopolitical and global difficulties, and problems with the availability of food and energy affect Montenegrin economy. Average inflation for the period of projections is stable.

Real growth rates in the long run will follow a positive path. In 2022, the real growth rate is projected at 7.7. Although it is less than in 2021, it is still high as tourism is predicted to recover to pre-pandemic levels helped by extension of the season and diversification of the structure of international visitors. Strong domestic demand will positively contribute to the movement of real growth and as a result average real growth rate of slightly below 4 percent is projected in the next three-year period. Increased private consumption, as one of the key drivers of growth, together with high tourism revenues and increased investment all lead to high real growth rates in the long term. The real growth rates values are higher than in the baseline scenario, but still not overly optimistic as political uncertainty of country could limit investment and innovation activities and reforms.

Bearing in mind current market conditions, the nominal interest rates, as it is case with baseline scenario, in the following year increase. But, contrary to the projections made in baseline scenario, they remain stable in medium term. In 2023, the nominal interest rates in the optimistic scenario decline. This comes as a result of implementation of concrete consolidation measures, as it was proposed by European Commission in the “Montenegro Economic Reform Programme 2023-2025”. Furthermore, strong debt management with no new debt issuance contribute to the nominal interest rates being low in this period. However, assumptions in this scenario are highly unlikely to happen since Montenegro will certainly face new debt as building further phases of the Bar-Boljare highway is planned. The average value of nominal interest rates in the optimistic scenario is 2.5.

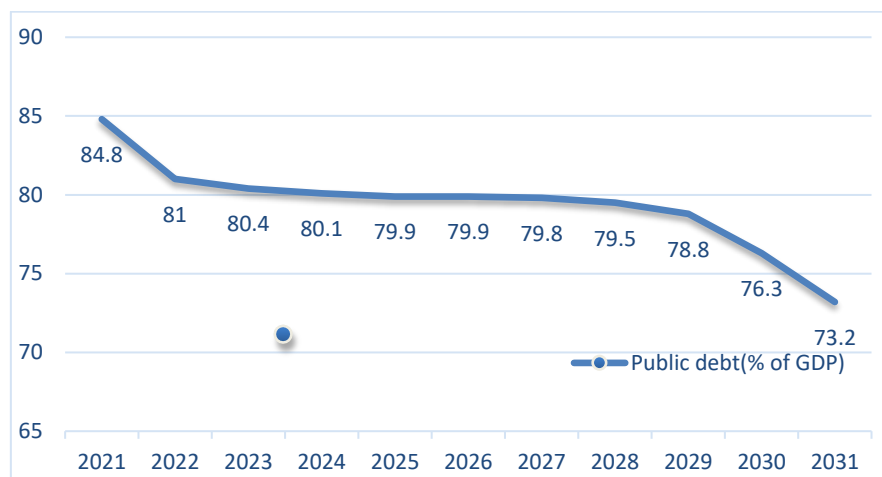
In the optimistic scenario, it is predicted for primary balance to reach a surplus in the long term. This result came from strengthened fiscal sustainability and carefully planned budget revenue measures. However, the predictions start with primary deficit in 2022 of -4.2% of GDP. From 2023 onwards, primary balance starts to recover. Achieving a primary surplus as of 2024 already would be in line with “Montenegro Economic Reform Programme 2023-2025” reform measures. These measures recommend that the new medium-term fiscal strategy with the 2023 budget should be adopted. On the other hand, IMF (2022b) in its latest visit to Montenegro, is being more realistic and advises that focus should be on fiscal adjustment that would be zero primary balance in 2025, and reaching 1% primary surplus by 2026. Therefore, these projections are combination of these two statements. For the period 2011-2021 average primary balance was in deficit and it was -3.2% of GDP, while for the period 2021-2031 the average primary deficit projected is -1.8% of GDP.



Average maturity of debt projections are the same as in the baseline scenario.

Figure 18 shows how public debt in the optimistic scenario declines in the long term.

*Figure 16: Public debt dynamics in the optimistic scenario (% of GDP)*



*Source: Own work.*

The goal of decreasing public debt level to 67.6% of GDP in 2024, set up in the “Fiscal strategy for the period 2021-2024”, even in the optimistic scenario could not be achieved. However, the declining trend in the debt ratio could be positive signal in term of sustainability even if the debt level is still high.

Although public debt continuously declines in all observed years, to 73% of GDP in 2031, the rule to constrain public debt up to 60% is still not fulfilled. The average public debt ratio for the period 2011-2021 was 67.9% of GDP. However, we have to bear in mind Montenegro, as country dependent on external financing, should develop the domestic bond market.

Primary balance values needed to stabilize public debt in the optimistic scenario range from -8% of GDP in 2022 to -1.7% of GDP in 2031. When comparing these values with the baseline scenario, the optimistic scenario allows for even wider primary deficit. Contrary to the baseline scenario, by looking at the difference between projected primary balance values and debt stabilizing primary balance values, these levels for primary balance seem achievable. However, it is important to point out that debt value used is high, 84.8%, as it was recorded in 2021.

At first, gross borrowing requirements start increasing and reach 1,159 million euros in 2029. But, then in the last two years of projections gross borrowing requirements decline and amount to 943 million euros.

### 3.4 Pessimistic scenario

Under the pessimistic scenario projections of observed macroeconomic variables weakened in the period of ten years. These assumptions are made using low-growth macroeconomic scenario from the “Montenegro Economic Reform Programme 2023-2025” and IMF’s (2022b) latest country report for Montenegro. It relies on the macroeconomic projections made as the country is exposed to wide set of vulnerabilities which lead to slow down in the economic growth.

*Table 5: Pessimistic scenario’s assumptions*

<ul style="list-style-type: none"><li>- negative global trends that restrict the growth of the largest economies and possibly lead the European economy to recession, that would be transferred to the Montenegrin economy</li><li>- when the level of instability increases, investor confidence would be much lower, which would lead to a reduction in foreign direct investment</li><li>- political situation in Montenegro is complicated and unstable, which increases already high levels of uncertainty, slows down the reforms and shifts attention away from approaching economic problems</li></ul>
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*Source: Own work.*

These negative effects summarized in Table 5 above will reflect in movements of inflation rates, real growth rates, effective interest rates and primary balance in the pessimistic scenario.

Inflation in Montenegro is primarily affected by trends in the global market. That being said, high inflation in 2023 is a result of negative global trends as well as, to a lesser extent, the expansion of private final consumption that was stimulated by a significant fiscal stimulus. Furthermore, ambiguity around reforms in “Europe Now”, as indicated by the IMF (2022b), could also affect inflation. Although inflation rates increase compared to baseline scenario, they remain moderate in the long term.

Real growth rates are declining in the pessimistic scenario. Although private consumption, a further recovery in tourism and strong credit growth contributed to strong growth in 2021, this effect will fade. The real growth rate in 2022 will be 6%, which means it reduced more than half. Weak global growth, caused by geopolitical risks, that negatively affects tourism revenues, prolonged political instability, reduced FDI inflows, low labor productivity and employment levels are among the reasons why real growth rates decline and remain low in this ten-year period. The effects in the medium term would include significantly slower growth compared to the baseline scenario. Furthermore, the "Europe Now" program includes revenue measures that might not produce the gains and durability anticipated. Average real

growth rates from 2021-2031 amount to 3.0, which is below their average value the baseline scenario.

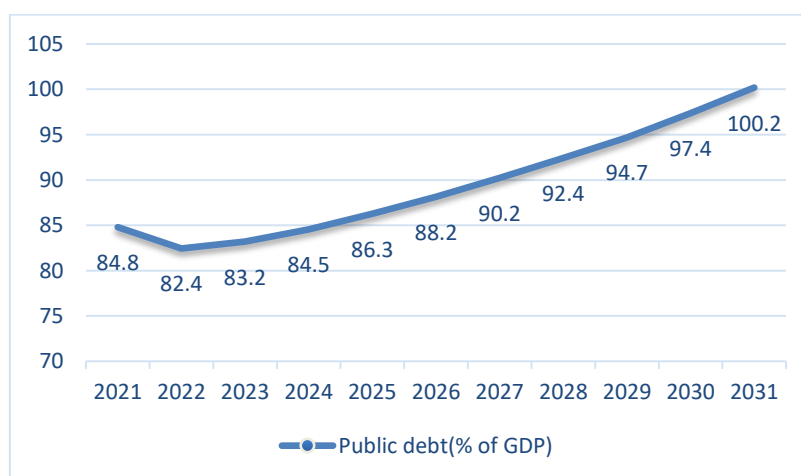
Effective interest rates are projected to increase and reach their highest level in pessimistic scenario. Tightening of the global financial conditions, slow implementation of key fiscal measures that undermine growth prospects, new credit arrangements for the realization of started development projects affect the movement of effective interest rates.

As future of the economic recovery is highly uncertain, primary deficit increases further in the pessimistic scenario. Slow implementation of revenue raising measures as well as stall of fiscal consolidation measures in the budget lead to constant level of primary deficit of around 4% of GDP in medium term. As pessimistic scenario indicates low growth, it leads to primary balance being negative throughout the whole observed period. Knowing how average primary deficit for the period of previous ten years was around 3%, the primary deficit in the pessimistic scenario from 2028 decreases and remains -3.6% for the following years.

The limited fiscal capacity for future reactions to market instability could result in higher borrowing costs. Furthermore, stagnation in investment growth will require further borrowing. This could lead to new credit arrangements that would extend the average time of maturity. In the pessimistic scenario, projections for average maturity of debt increases in the long run.

Public debt in the pessimistic scenario deteriorates even further in the long run and reaches 100% of GDP in 2031, as shown in Figure 19. Since we know how only during pandemic, in the unexpected and unpredictable conditions, public debt was above 100% of GDP, this could be viewed as worrying. Although in both baseline and pessimistic scenario public debt continues to increase, in the pessimistic scenario increases faster and reaches higher levels.

Figure 17: Public debt dynamics in the pessimistic scenario (% of GDP)



Source: Own work.

If we consider threshold of 60% of GDP, set up by Montenegrin fiscal rules, and continuously rising debt path in the pessimistic scenario, these levels could be interpreted as a sign of unsustainability. This scenario implies how carrying out fiscal consolidation measures, that would optimise spending and increase revenues, is necessary. Government in this scenario would have to act quickly and decisively.

In the pessimistic scenario, debt stabilizing primary balance from primary deficit of 6.6% of GDP in 2022 declines to primary deficit of 0.7% of GDP. These projections are in line with growth rates decreasing in this scenario.

In the pessimistic scenario gross borrowing requirements increase more than in the baseline scenario, and reach the peak at 1,863 million euros in 2031. As projections in this scenario relate to decline in revenues, low investments, prolonged political instability that affects country's decisions and actions regarding fiscal issues, these high levels of gross borrowing requirements are expected.

### 3.5 Comparison of scenarios

When comparing, it is important to firstly distinguish between assumptions made for baseline, optimistic and pessimistic scenario. These assumptions, presented in Table 6, were helpful for making input projections.

*Table 6: Baseline, optimistic and pessimistic scenario's assumptions*

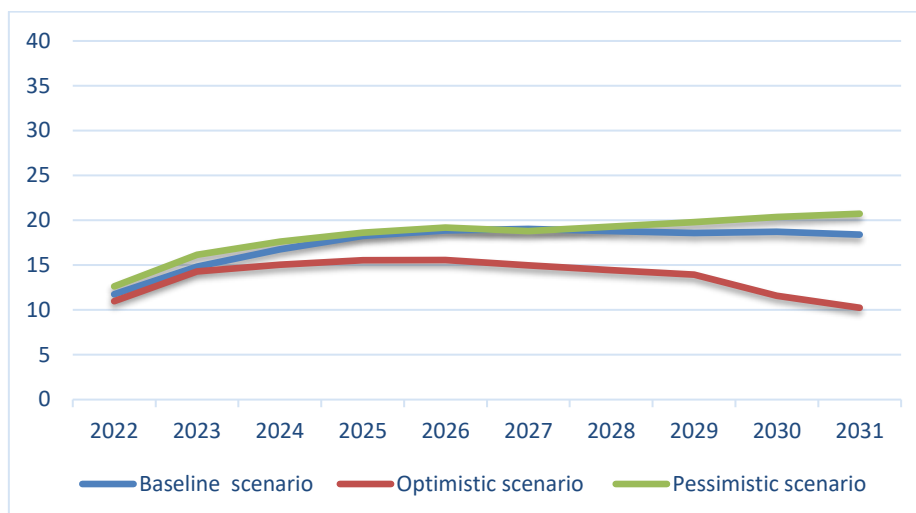
Baseline scenario	Optimistic scenario	Pessimistic scenario
- macroeconomic and fiscal stability	- progress on implementation of concrete fiscal consolidation	- slowdown in reform process
- the modification of legal, institutional and regulatory framework	- transparent and appropriate legislation	- gradual implementation of legislative measures
- uncertain political situation	- political stability	- complicated and unstable political situation
- increased funding for capital and investment projects	- increased FDI inflows	- negative global trends that would reduce foreign direct investment
- recovery of one of the country's main economy sector - tourism	- extended tourism season and diversification of the structure of international visitors lead to higher tourism revenues and strong economic growth	- prolonged geopolitical crisis would negatively affect tourism and economic growth

*Source: Own work.*

Public debt in baseline and pessimistic scenario increases, while in the optimistic scenario declines and gross borrowing requirements follow the similar path. Precisely, as shown in Figure 20, gross borrowing requirements in baseline scenario from 11.7% of GDP reach

18.4% of GDP in 2031. Under the optimistic scenario, gross borrowing requirements are the lowest compared to other two scenarios and in 2031 they amount to 10.2% of GDP. Pessimistic scenario, as it was expected, leads to highest gross borrowing requirements (even 20.7% in 2031).

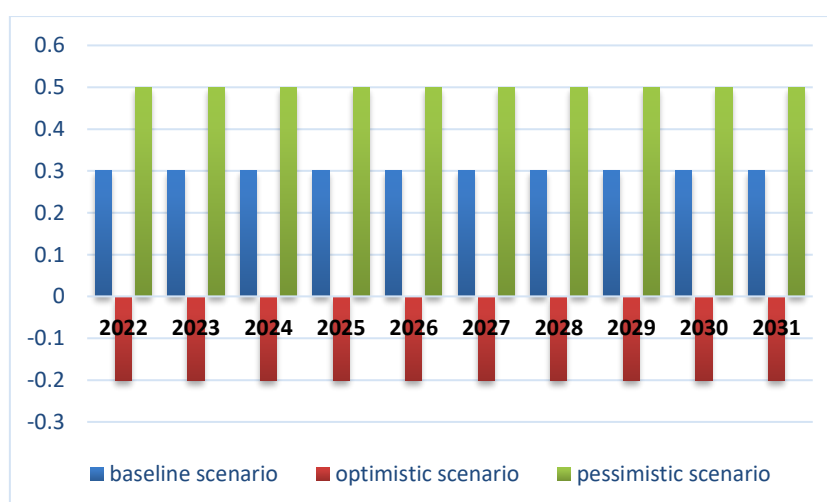
Figure 18: Gross borrowing requirements (as percent of GDP)



Source: Own work.

The third output projections and Figure 21 show what is the level of primary balance required to bring down the level of debt to GDP to target level in the baseline, optimistic and pessimistic scenario. The target level for Montenegro of 60% of GDP is chosen.

Figure 19: Required permanent primary balance to reach debt ratio of 60% of GDP



Source: Own work.

Under the projections and assumptions made in baseline scenario, in order to achieve public debt level of 60% of GDP in 2031 Montenegro would need primary surplus of 0.3% of GDP. Montenegro, country that has been recording primary deficit from 2011 until 2021 (only

exception were years 2014 and 2021), would not be able to obtain and even keep constant this level of primary surplus.

In the optimistic scenario, Montenegro with the permanent primary deficit of 0.2% of GDP would achieve desired 60% debt to GDP ratio. In order to reach these levels, Montenegro would have to implement and strongly commit to fiscal reform measures, since we know how Montenegro so far has not generally complied with its fiscal rules. However, we have to keep in mind how these reforms require stable political environment that focus its attention to important fiscal goals.

Under the pessimistic scenario, Montenegro would need the higher primary balance compared to baseline and optimistic scenario. Precisely, the primary surplus of 0.5% of GDP would be required. As interest rates are projected to grow in the following period, Montenegro would be forced to borrow under less favorable conditions than before, so achieving required primary surplus could not be expected.

## **CONCLUSION**

This master thesis provides insight into Montenegrin public debt. In the beginning, the theoretical part presents the basic characteristics of debt, the most commonly used definitions of debt, the public debt management, as well as the concept of debt sustainability. Furthermore, the structure of Montenegrin debt is examined, as well as the relationship between macroeconomic indicators and debt. Debt dynamics were monitored during the time period marked by turbulent economic events (financial crisis, Covid-19 crisis, political crisis in the country). For the purpose of this analysis, Montenegrin public debt is compared with Western Balkan countries, because they all are transition economies with the same geopolitical and economic background. In the empirical part of the thesis, the debt sustainability analysis that includes baseline, optimistic and pessimistic scenario provides answers to research questions defined at the beginning.

Under the all three scenarios the Montenegrin public debt is above the 60% of GDP, which is the desired threshold. In the baseline scenario, with the most realistic assumptions for the macroeconomic variables, debt-to-GDP ratio, after decline in the first two years, keeps increasing. Additionally, the level of permanent primary balance, required to reach target level of 60% of GDP is not feasible. The baseline scenario indicates that Montenegrin public debt is unsustainable. Under the optimistic scenario, which is based on the strong economic growth, fiscal reforms, active debt management, the debt-to-GDP ratio decreases to the level close to the sustainability threshold. The required level of permanent primary balance is achievable with strong commitment to clearly defined fiscal goals. On the other hand, the pessimistic scenario where negative global trends reflect on Montenegro, as the country vulnerable to exogenous shocks, unfavourable borrowing conditions and infeasible required permanent primary balance classifies Montenegrin public debt as unsustainable.

The results of this research prove that Montenegrin public debt is unsustainable. Montenegro must assess the risks that come with new borrowings, implement clearly defined debt management strategy, and improve and increase the quality of investments in order to keep debt levels sustainable.

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## **APPENDICES**



## **Appendix A: Povzetek (Summary in Slovene language)**

Eden glavnih fiskalnih problemov, s katerimi se morajo soočiti države, je javni dolg. Definicije dolga so največkrat povezane s proračunskim neravnovesjem. Mankiw (2009, p.467) pravi, da vlade plačujejo proračunske primanjkljaje z zadolževanjem na trgu obveznic in da kopičenje teh proračunskih primanjkljajev predstavlja javni dolg države. Hindriks in Myles (2013) navajata, da je raven državnega dolga vzdržna, ko je mogoče obljubljeni odplačilo dolga. Vzdržnost fiskalne politike in javni dolg sta zdaj v središču političnih razprav zaradi hitrega razvoja javnega dolga v svetovnem merilu.

Glavni cilj moje raziskave je ugotoviti vzdržnost javnega dolga Črne gore. Ta analiza vključuje obdobje velikih izizov za državo – krizo Covid-19, avtocestni projekt (“projekt stoletja”), menjavo oblasti, politično nestabilnost.

Glavna raziskovalna vprašanja so:

- 1) Ali je Črna gora prezadolžena država in ali je njen javni dolg vzdržen?
- 2) Ali lahko in na kakšen način različni scenariji vplivajo na vzdržnost dolga Črne gore?
- 3) Kakšni so možni ukrepi in reforme, ki jih lahko sprejme vlada, da bi zaustavila nenadno povečanje dolga?

V prvem delu so predstavljena teoretična izhodišča javnega dolga - definicija in pojem javnega dolga. Natančneje, vsebuje definicije, ki so v skladu z evropskimi standardi. Preverjena je bila tudi struktura črnogorskega dolga ter razmerje med makroekonomskimi kazalniki in dolgom. Vzdržnost dolga je odvisna od številnih ekonomskih in političnih dejavnikov, kot so trenutna raven in struktura samega dolga, davčnih stopnji, stopnje gospodarske rasti, volatilitnost stopnje inflacije in kakovost institucij. Zato so bili ti dejavniki upoštevani pri analizi vzdržnosti javnega dolga Črne gore. Analiza vzdržnosti javnega dolga Črne gore je sestavljena iz vhodnih projekcij in treh iz njih izhajajočih izhodnih projekcij. Analiza je sestavljena iz informacij za posamezne države in vključuje projekcije makroekonomskih spremenljivk za obdobje desetih let v osnovnem, optimističnem in pesimističnem scenariju. Ti scenariji temeljijo na trenutnih projekcijah ustreznih institucij ter morebitnih spremembah in tveganjih za javni dolg.

Osnovni scenarij je glede na trenutne informacije najverjetnejši scenarij in je pomemben za verodostojno oceno vzdržnosti dolga. Optimistični scenarij predvideva ugodna gibanja ključnih makroekonomskih spremenljivk Črne gore, pesimistični scenarij pa temelji na narejenih makroekonomskih projekcijah, ker je država izpostavljena širokemu spektru ranljivosti, ki vodijo v upočasnitev gospodarske rasti.

Rezultati analize poleg prikaza, kako različni scenariji vplivajo na vzdržnost dolga Črne gore, vodijo do novih priporočil in možnih ukrepov za vlado Črne gore.

## Appendix B: Debt sustainability analysis

### Input projections

<b><math>i_t</math>, nominal interest rate (%)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	2.2	2.3	2.5	2.8	2.8	3.1	3.6	3.4	3.2	3.2	3.1
Optimistic scenario		2.3	2.2	2.7	2.5	2.6	2.6	2.6	2.5	2.4	2.4
Pessimistic scenario		2.5	2.7	2.9	3.0	3.0	3.3	3.5	3.5	4.0	4.0

<b><math>\pi_t</math>, inflation rate (%)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	4.4	4.7	3.4	3.0	2.0	2.0	2.0	2.0	2.1	2.2	2.2
Optimistic scenario		4.7	3.4	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pessimistic scenario		4.7	3.4	3.3	3.1	3.0	2.8	2.6	2.5	2.5	2.5

<b><math>r_t</math>, real interest rate (%)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	-2.2	-2.4	-0.9	-0.2	0.8	1.1	1.6	1.4	1.1	1.0	0.9
Optimistic scenario		-2.4	-1.2	-0.3	0.5	0.6	0.6	0.6	0.5	0.4	0.4
Pessimistic scenario		-2.2	-0.7	-0.4	-0.1	0.0	0.5	0.9	1.0	1.5	1.5

<b><math>g_t</math>, growth rate (%)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	12.4	6.8	3.6	3.2	3.1	3.1	3.1	3.0	3.0	3.0	3.0
Optimistic scenario		7.7	3.8	3.5	3.4	3.3	3.3	3.3	3.3	3.2	3.2
Pessimistic scenario		6.0	3.5	3.0	2.8	2.5	2.5	2.5	2.5	2.5	2.3

<b>pb<sub>t</sub>, primary balance (% GDP)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	0.4	-4.2	-3.3	-3.6	-3.6	-3.6	-3.6	-3.4	-3.2	-3.2	-3.1
Optimistic scenario		-4.2	-3.3	-2.6	-2.1	-2.0	-2.0	-1.8	-1.5	0.4	1.0
Pessimistic scenario		-4.2	-4.1	-4.0	-4.0	-4.0	-3.8	-3.6	-3.6	-3.6	-3.6

<b>GDP, Gross domestic product (mio EUR, current prices) <math>GDP_t</math> <math>= GDP_{t-1}</math> <math>* (1</math> <math>+ g_t)(1</math> <math>+ \pi_t)</math></b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	4,955	5,541	5,935	6,309	6,635	6,977	7,337	7,709	8,107	8,534	8,983
Optimistic scenario	4,955	5,587	5,997	6,393	6,743	7,104	7,486	7,887	8,311	8,748	9,209
Pessimistic scenario	4,955	5,499	5,885	6,262	6,637	7,007	7,383	7,764	8,157	8,570	8,987

<b>AM<sub>t</sub>, average maturity of debt (years)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline projection	5.6	5.5	5.4	5.2	5.1	5.1	5.3	5.4	5.4	5.4	5.5
Optimistic scenario		5.5	5.4	5.2	5.1	5.1	5.3	5.4	5.4	5.4	5.5
Pessimistic scenario		5.5	5.4	5.2	5.1	5.1	5.4	5.4	5.4	5.5	5.6

## Output projections

$\Delta d_t$ , <b>Change in public debt</b> (% of GDP)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
$\Delta d_t = d_{t-1} * \left( \frac{r_t - g_t}{1 - g_t} \right) - pb_t$											
Baseline scenario		-3.1	-0.2	0.9	1.8	2.0	2.3	2.0	1.5	1.4	1.2
Optimistic scenario		-3.8	-0.6	-0.4	-0.1	-0.1	-0.1	-0.3	-0.7	-2.5	-3.1
Pessimistic scenario		-2.4	0.8	1.4	1.7	1.9	2.1	2.2	2.2	2.7	2.8

$d_t$ , <b>public debt</b> (% of GDP)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
$d_t = d_{t-1} + \Delta d_t$											
Baseline scenario	84.8	81.7	81.4	82.4	84.1	86.1	88.4	90.5	92.0	93.4	94.6
Optimistic scenario	84.8	81.0	80.4	80.1	79.9	79.9	79.8	79.5	78.8	76.3	73.2
Pessimistic scenario	84.8	82.4	83.2	84.5	86.3	88.2	90.2	92.4	94.7	97.4	100.2

$GBR_t$ , <b>gross borrowing requirements</b> (mio EUR)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
$GBR_t = \Delta d_t * GDP_t + \frac{d_t * GDP_t}{AM_t}$											
Baseline scenario	750.3	650.9	880.5	1,057.1	1,211.4	1,315.2	1,396.6	1,447.6	1,505.3	1,596.9	1,652.6
Optimistic scenario		613.7	857.1	962.1	1,047.1	1,106.0	1,120.1	1,138.5	1,158.8	1,013.9	943.2

Pessimistic scenario		694.5	951.1	1,102.9	1236.4	1344.0	1387.3	1499.2	1,613.6	1,746.4	1,862.9
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<b>pb<sub>t</sub>, Primary balance (% GDP)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	0.4	-4.2	-3.3	-3.6	-3.6	-3.6	-3.6	-3.4	-3.2	-3.2	-3.1
Optimistic scenario	0.4	-4.2	-3.3	-2.6	-2.1	-2.0	-2.0	-1.8	-1.5	0.4	1.0
Pessimistic scenario	0.4	-4.2	-4.1	-4.1	-4.1	-4.0	-3.8	-3.6	-3.6	-3.6	-3.6

## Output projections 2

<b>Δd<sub>t</sub>, Change in public debt (% of GDP)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Optimistic scenario		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pessimistic scenario		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<b>d<sub>t</sub>, public debt (% of GDP)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8
Optimistic scenario	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8
Pessimistic scenario	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8

<b>GBR<sub>t</sub>, gross borrowing requirement (mio EUR)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031

$GBR_t$ $= \Delta d_t$ $* GDP_t$ $+ \frac{d_t * GDP_t}{AM_t}$											
Baseline scenario	750.35	854.3	932.1	1,028.9	1,103.2	1,160.1	1,174.0	1,210.6	1,273.1	1,340.1	1,385.0
Optimistic scenario		861.5	941.8	1,042.6	1,121.1	1,181.3	1,197.7	1,238.6	1,305.1	1,373.8	1,419.8
Pessimistic scenario		847.9	924.2	1,021.2	1,103.5	1,165.0	1,159.4	1,219.3	1,281.0	1,321.4	1,360.8

<b>pb*<sub>t</sub>, Debt stabilizing primary balance</b> $\Delta d_t = 0$ (% GDP) $pb_t =$ $\frac{d_{t-1} * r_{t-1} - g_t}{1 + g_t}$	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario		-7.3	-3.7	-2.8	-1.9	-1.6	-1.2	-1.3	-1.6	-1.6	-1.7
Optimistic scenario		-8.0	-4.1	-3.1	-2.4	-2.2	-2.2	-2.2	-2.3	-2.3	-2.3
Pessimistic scenario		-6.6	-3.4	-2.8	-2.4	-2.1	-1.7	-1.3	-1.2	-0.8	-0.7

### Output projections 3

$\Delta d_t$ , <b>Change in public debt</b> (% of GDP)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario		-7.6	-3.7	-2.7	-1.9	-1.6	-1.3	-1.3	-1.5	-1.5	-1.6
Optimistic scenario		-7.8	-3.5	-2.5	-1.8	-1.6	-1.6	-1.5	-1.6	-1.5	-1.5
Pessimistic scenario		-7.0	-3.6	-2.9	-2.5	-2.1	-1.8	-1.5	-1.4	-1.1	-0.9

$d_t$ , public debt (% of GDP)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
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<b>GDP),</b> using 'Goal Seek' Excel function											
Baseline scenario	84.8	77.2	73.5	70.8	68.9	67.2	65.9	64.6	63.1	61.6	60.0
Optimistic scenario	84.8	77.0	73.5	71.0	69.2	67.6	66.1	64.5	63.0	61.5	60.0
Pessimistic scenario	84.8	77.8	74.2	71.2	68.8	66.6	64.9	63.4	62.0	60.9	60.0

<b>GBR, gross borrowing requirement (mio EUR)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	750.3	400.9	677.7	826.7	968.9	1,062.8	1,129.7	1,188.4	1,259.1	1,344.9	1,404.3
Optimistic scenario		390.1	682.7	824.7	935.9	997.9	1009.2	1040.4	1084.3	1,103.8	1,090.6
Pessimistic scenario		438.1	693.7	835.9	958.5	1,061.2	1,103.6	1,214.5	1,316.8	1,425.5	1,523.5

<b>pb**, required permanent primary balance to reach target debt ratio (% GDP)</b>	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Baseline scenario	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Optimistic scenario	0.4	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Pessimistic scenario	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

*Adapted from IMF (2022b); Government of Montenegro (2021); Government of Montenegro (2023).*