III. PUBLIC DEBT MANAGEMENT STRATEGY FOR THE PERIOD 2021 TO 2023

According to the Public Debt Law, the legal basis for the borrowing of the Republic of Serbia, the public debt shall include all the direct liabilities of the Republic, based on borrowings, as well as the guarantees issued by the Republic of Serbia for public enterprises', local governments' and other legal persons` borrowings. The Republic may borrow in domestic or foreign currency, in order to finance budget deficit, current liquidity ratio deficit, to refinance an outstanding debt, to finance investment projects, and to assume liabilities based on the issued guarantees. The provisions of the Public Debt Law indicate that the public debt shall be an unconditional and и irrevocable liability of the Republic of Serbia with regard to the repayment of the principal, the interest and the remaining costs.

For the purpose of formulation of the Public Debt Management Strategy a quantitative approach was used, by identifying possible restrictions through macroeconomic indicators, analysis of costs and risks and market conditions which affect the management of public debt. The analysis involved the use of financing instruments available in the domestic and international financial markets. The Public Debt Management Strategy is based on the principles that define the need for transparent and predictable process of borrowing with the permanent development of the government securities market and acceptable level of exposure to financial risks.

By analysing possible borrowing strategies, the World Bank model MTDS indicates that the borrowing structure based on dinar-denominated and euro-denominated securities issue represents the best option in terms of costs (risks). The borrowing strategy of the Republic of Serbia, applied in the last five years and based on the combination of financing from current resources and funds, mostly or partially from concessionary financing sources, showed that in situations when concessionary financing sources may be ensured, these funds should be used, because in this way, financing costs are reduced with an acceptable risk, thus achieving the primary objective of public debt management. The situation on domestic and international financial market, successful implementation of fiscal consolidation measures, along with good coordination between fiscal and monetary policy in the last few years led to the significant decline in the borrowing in dinar-denominated and euro-denominated securities, as well as to the reduction of the risk premium for Serbian securities to the historical minimum. New framework of the analysis of possible borrowing strategies is based on the comparison between the strategy applied during the last five years and the strategies exclusively based on the market financial instruments denominated in dinars and in euros.

The fiscal strategy envisages the reduction of public debt of the general government level by the end of 2023at the level of 56.% of GDP, in which case, in accordance with the Public Debt Management Guidelines defined by the World Bank and IMF, within the Public Debt Management Strategy, the stress-scenario analysis of the effects of the foreign currency exchange rate of the domestic currency (RSD) against the currencies in which the public debt of the Republic of Serbia is denominated, was conducted.

Significant progress has been made in the last seven years in terms of increase in the average maturity of dinar-denominated securities and reduction of the costs of financing on the basis of this form of borrowing, which reduced the exposure to the refinancing risk. It is important to emphasize that the Public Debt Management Strategy in the mentioned period the average coupon rate of dinar-denominated securities was reduced from 12.4% at the end of September 2012, to 4.8% at the end of September 2020.

Public Debt Management Strategy defines basic measures for further development of dinar-denominated securities market. The development of this market will lead to the growth of the internal debt and its share in the overall debt, as well as the exposure of the public debt to the foreign exchange risk, which will have a positive effect on the credit rating increase of the Republic of Serbia.

In 2019, after a few years of absence, the Republic of Serbia appeared as the issuer on the international financial market, with the desire to take advantage of favourable circumstances and a great interest of investors, as well as with the intention of replacing the more expensive dollar-denominated debt with the cheaper, euro-denominated one. A ten-year Eurobond in EUR Serbia 2029 worth EUR 1 billion was issued, with the coupon rate of 1.5% and the yield rate of 1.619%, and the funds were used for early redemption of a dollar-denominated Serbian Eurobonds 2020 and 2021, in the total value of USD 1.1 billion, with coupon rates 4.875% and 7.25%. At the reopening of this issue of Eurobonds, in November 2019, the Republic of Serbia sold an additional 550 million euros of bonds with a yield of 1.25%, which is lower by as much as 37 basis points compared to the initial rate of return on bonds issued in June this year, and at the same time the lowest yield ever achieved on bonds of the Republic of Serbia issued on the international financial market; the funds were used for additional early redemption of the Serbian dollar-denominated Eurobond 2020. On May 7 2020, in order to finance the measures aimed at supporting economy and population in the fight against corona virus, the Republic of Serbia courageously stepped into the international financial market, among the first in the group of countries whose rating is just below the investment, attracted a lot of attention from investors and successfully sold its government bond denominated in euros in the total amount of EUR 2.0 billion with a coupon rate 3.125%, maturing in 2027 and listed on the London Stock Exchange.

At the end of September 2020 the total public debt at the general level of the state was RSD 3,175.5 billion, i.e. 57.6% of GDP. Of this, the direct liabilities amounted to RSD 2,962. billion, and the indirect ones RSD 165.7 billion, whereas RSD 37.3 billion referred to the non-guaranteed debt of local self-government units, and RSD 10.0 billion to unsecured debt of PE „Roads of Serbia“ and „Koridori Srbije“ d.o.o.

General government public debt share in GDP, %

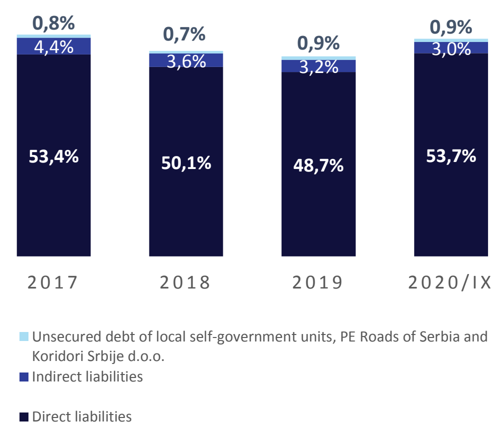


Table 22. General government public debt of the Republic of Serbia in the period from the end of 2017 to 30 September 2020

	2017	2018	2019	2020/IX
Public debt (in billion RSD)	2,790.5	2,757.3	2,864.0	3,175.5
Public debt (in million EUR)	23,554.0	23,328.4	24,354.9	27,007.3
Public debt (in million USD)	28,154.0	26,669.1	27,296.9	31,701.2

In the first nine months of 2020, due to the necessity to finance the measures to support economy and citizens to fight the pandemic caused by corona virus COVID-19, there is a noticeable increase in general government public debt in the currencies with the largest share in public debt, i.e. in euros and dinars. Due to borrowing on the domestic security market, which in 2020 was predominantly performed in RSD, there was an increase of the public debt in dinars of RSD 138.3 billion. In euros, there was the increase of EUR 1,961.7 million, due to the issuance of Serbian Eurobond 2027. In February 2020, the remaining amount of USD 210.3 million of the Serbian Eurobond 2020 was repaid. This transaction led to the further decline in USD-denominated debt in the first nine months of 2020 for USD 210.5 million.

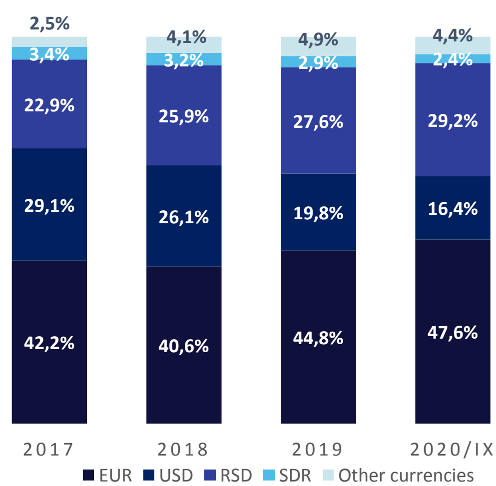
Table 23. Central government debt balance per original currencies in the period the end of 2017 - 30 September, 2020, in millions

	2017	2018	2019	2020/IX
EUR	9,656,4	9,216.7	10,582.5	12,544.2
USD	8,181,3	6,963.9	5,397.3	5,186.8
RSD	632,485,6	708,389.1	781,250.4	919,504.9
CHF	129.6	120.7	110.5	92.0
Special drawing rights	665.8	618.1	570.4	530.7
Other currencies (in RSD)	56,843.9	100,910.4	128,958.8	129,347.9

In accordance with the tendency to drop the exposure to currency risk, to expand maturity and continue development of new borrowing instruments in the domestic financial market, the basic source of financing in the period 2017 - 2020 is issues of dinar-denominated securities, which affected the increase of public debt share in dinars from 23.0 % at the end of 2017 to 29.4% of public debt of the Republic of Serbia at the end of September 2020, i.e. from RSD 632.5 billion, which was the amount of public debt at the end of 2017, to RSD 919.5 billion at the end of September 2020.

According to data from 30 September, 2020, the largest part of the public debt of the Republic of Serbia is still euro-denominated debt and it amounts to 47.6%. It is followed by dinar-denominated debt in the amount of 29.2% and dollar-denominated debt in the amount of 16.4%. The remaining debt is denominated in special drawing rights (2.4%) and other currencies (4.4%). During 2020 there was a further reduce of dollar-denominated public debt share due to the issuance of new Serbian Eurobond 2027 in euros, in the international financial market for financing the measures of support to the economy and citizens to fight the consequences of the pandemic caused by the corona virus COVID-19, and due to the regular maturity of the remaining amount of Serbian Eurobond 2020. During 2019, the Serbian Eurobond 2029 was issued, and there was an early redemption of the dollar-denominated Serbian Eurobond 2020 in the amount of USD 1.3 billion, and 2021 in the amount of USD 400 million. These transactions led to a significant growth of public debt share in euros in the last two years, and on the other side they also led to the reduction of dollar-denominated debt and the risk of exposure to dollar exchange rate, which is one of the goals defined by this strategy. The mentioned transactions also cause the reduction of borrowing costs due to the replacement of more expensive debt with the cheaper one, considering that the coupon of the new Serbian Eurobond 2029, issued in euros, amounted 1.5%, whereas the coupons of early redeemed dollar Eurobonds amount to 4.875% and 7.25%. The coupon for issued Serbian Eurobond 2027 is 3.125%. Also, due to the operations on the domestic security market, there was a growth of dinar-denominated public debt share, so additional shift was made in the process of dinarization. Year after year, the share of dinar-denominated government securities has been increasing, in compliance with the strategically defined objectives. Hence, their share in the realization of government bonds issued in the domestic market during the first nine months of 2020 amounted even to 85.0%.

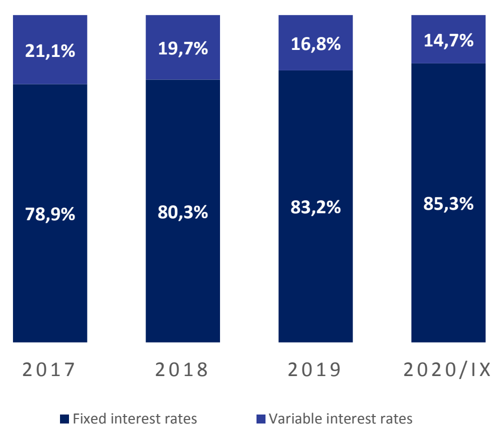
Currency structure of the general government public debt in the period 2017 – 30 September 2020



On 30 September 2020, the majority of the general level public debt of the Republic of Serbia was with the fixed interest rate - 85.3%, whereas the public debt with the floating interest rate made 14.7% of the total public debt. Among the floating interest rates, the highest share hold EURIBOR and LIBOR interest rates in EUR which in total make 82.8%, then floating interest rate for special drawing rights 11.7% and

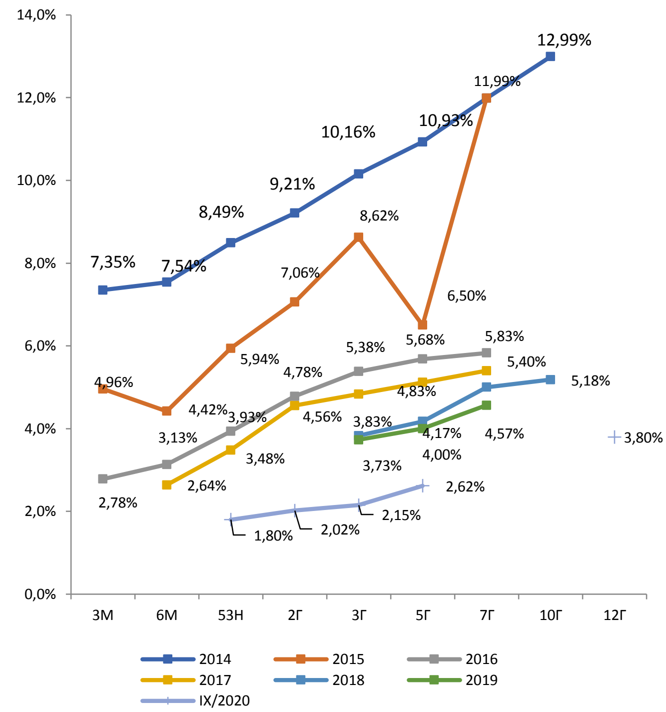
LIBOR interest rates in USD which made 3.3%, whereas the share of liabilities with other interest rates was 2.1%.

Interest rate structure of the government public debt in the period 2017 - 30 September 2020, %

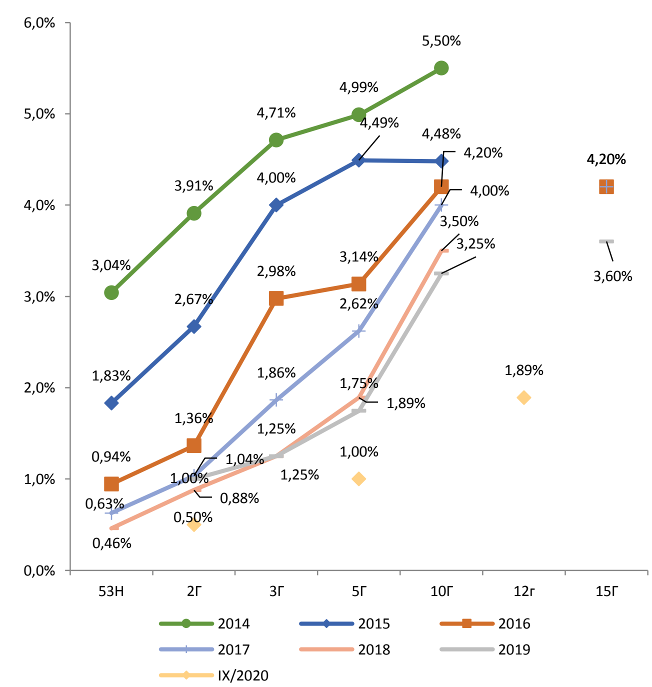


In the last couple of years, there was the drop of borrowing costs, mostly in case of government securities issued in the domestic market. During 2019 and 2020 the further drop of borrowing costs of the Republic of Serbia in terms of dinar- and euro-denominated securities occurred due to the credit rating growth of the country, i.e. reduced risk premium, low inflation rate and the drop of the reference interest rate of the NBS, which is currently 1.25%, thus continuing the trend that began in the last quarter in 2012. During 2020, thanks to the achieved results among which the most significant one was public debt management, and despite the pandemic caused by corona virus COVID-19, all rating agencies confirmed the credit rating of the Republic of Serbia, with the stable outlook for further increase.

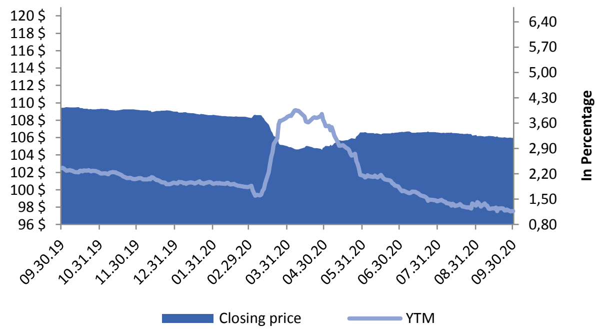
Overview of the trend of average effective interest rates in dinar-denominated securities in the period 2014 - 30 September 2020



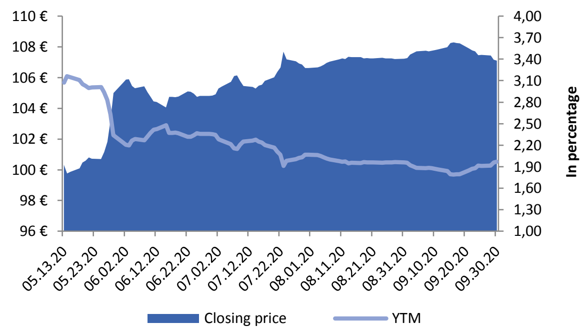
Overview of the trend of average effective interest rates in euro-denominated securities in the period 2014 - 30 September 2020



Overview of price trend and yield rates trend for Serbian Eurobond 2021



Overview of price trend and yield rates trend for Serbian Eurobond 2027



Overview of price trend and yield rates trend for Serbian Eurobond 2029

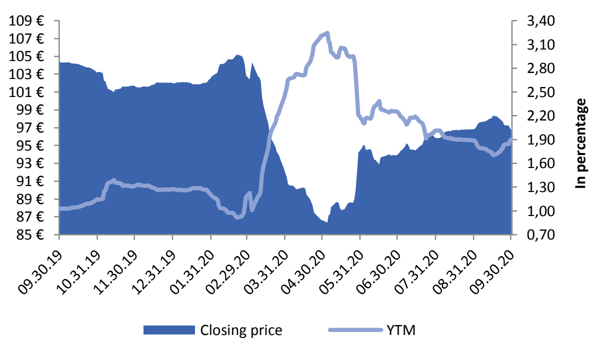


Table 24. Interests and principals repayment projections by 2023, in RSD billion

	2020 p	2021 p	2022 p	2023 p
Principal	400.2	471.5	430.2	458.8
Interest	108.9	110.8	109.5	108.8
Total	509.1	582.3	539.7	567.6
Share in the public debt on 30 September 2020	16.3%	18.6%	17.3%	18.1%

* With planned *buy-back* operations

Table 25. Interests and principals repayment projections by 2023 (% GDP)

	2020 p	2021 p	2022 p	2023 p
Principal	7.3%	7.9%	6.7%	6.7%
Interest	2.0%	1.9%	1.7%	1.6%
Total	9.2%	9.7%	8.4%	8.3%

Planned amounts for interests and principals repayment in 2020, at the central government level, also include the funds for *buy-back* operations, i.e. early debt redemption, so that more expensive debt could be exchanged for the cheaper one.

Projection of General Government public debt balance in the period 2020 - 2023

Considering the projected primary budget deficit of the Republic of Serbia for the period 2020 - 2023, including the withdrawal of loan instruments for project financing of budget beneficiaries, the effects of foreign currency exchange rate of RSD against EUR and USD in the basic macroeconomic scenario, the central government debt balance at the end of 2023 should amount to 55.0% of GDP.

Table 26. Basic projection of general government public debt balance by 2023

	2020 p	2021 p	2022 p	2023 p
Public debt (central government level), in RSD billion	3,193.8	3,447.8	3,639.0	3,781.1
Central government debt, as % of GDP	57.9%	57.5%	56.8%	55.0%
Non-guaranteed local self-government debt, as % of GDP	1.1%	1.2%	1.1%	1.0%
General government debt, as % of GDP	59.0%	58.7%	57.9%	56.0%

In 2020, the growth of ratio is expected, which shows the share of public debt of the general government level in GDP to 59.0% due to the need to finance measures to support the economy and citizens affected by the pandemic caused by the coronavirus COVID-19. After that, in the upcoming years, the stabilization of the situation is expected, as well as the return of the ratio to the downward trajectory, so at the end of 2021 it is expected to be 58.7%, at the end of 2022 57.9%, and at the end of 2023 56.0 %. In the given period, the realization of large infrastructure projects is expected, which will be financed mainly from project loans, as well as their more intensive realization compared to the previous period. If it were not for that, the drop in raids would be more pronounced. However, this is exactly one of the points where a clear coordination of fiscal and development goals can be observed. Account is taken of the sustainability of public debt and the gradual slight decline in its share of GDP, with simultaneous use of new borrowing to improve infrastructural conditions leading to the growth of GDP, living standards and new investments. The non-guaranteed debt of the local self-government units is envisaged to remain at the relatively stable level of about 1.0% to 1.2% of GDP in the period from 2021 to 2023.

Public debt management principles

According to the Public Debt Law, the primary goal of Serbia's borrowing and public debt management is to ensure the funds necessary to finance budget expenditures regularly, under the most favourable conditions, with medium-term and long-term minimal financial costs and acceptable risk level. Reduction of financing costs, with the acceptable risk level. With this in mind, the Public Debt Management Strategy of the Republic of Serbia defines the following general objectives and principles:

1) It is necessary to ensure the financing of the fiscal deficit and regular financing of liabilities based on the public debt of the Republic of Serbia;

2) It is necessary to define an acceptable risk level that should be defined in terms of a targeted debt portfolio structure, including debt currency structure, interest rate structure, maturity structure and debt structure by the types of instruments;

3) It is necessary to uphold the development of the market of government securities issued both in the domestic and international market, so as to help the reducing of the medium-term and long-term borrowing costs;

4) The borrowing process should be transparent and predictable

Public Debt Management Strategy must be consistent with the general medium-term macroeconomic and fiscal framework.

The Public Debt Management Strategy shall in the following medium-term period be based on the financing of the deficit and the principal of budget debt of the Republic of Serbia, mainly through the issue of government securities in the international and domestic capital market. The government securities market is still developing and one of the principles of public debt management is the flexibility in order to secure the regular financing of liabilities. Flexibility shall be reflected in the choice of the market for borrowings, borrowing currency and financing instruments. The choice of the financing structure will be made considering the domestic and international financial market current balance and development (interest rate level, risk premiums, yield curve, reference foreign currency exchange rates) and an acceptable level of financial risks exposure.

The objective is financing through the issue of mainly dinar-denominated securities in the domestic market in the following long-term period. However, the current situation indicates that, despite the firm decision to develop domestic securities market, in the following medium-term period, one part of the financing must be carried out in the international financial market, through the establishment of *GMTN* program.

Borrowing in a foreign currency, such as, e.g. in US dollars, includes the foreign currency risk, due to the changes of the exchange rate EUR-USD, so for that reason the possibility of hedging shall be used.

The public debt management policy must take into account the long-term perspective, and still make a decision about financing budget expenditures annually. Decision on annual borrowing is made within the Budget Law for a certain fiscal year. Depending on the basic fiscal aggregate changes, the correction of the borrowing plan is possible during a fiscal year.

Financial risks and financial risk management measures

Financial and fiscal risks can cause a greater public debt growth than predicted by the baseline scenario. The risks that are present and may cause the debt and public debt servicing costs increase are: refinancing risks, foreign currency exchange risks, market risk (interest rates risk, inflation risk), liquidity risk, credit and operative risks, and risks related to the servicing costs distribution (debt structure, liabilities concentration).

In order to reduce the exposure to financial risks, the following measures should be taken:

1. Refinancing risks

- Greater share of medium-term and long-term dinar-denominated financial instruments on the domestic financial market;
- Equal liabilities distribution based on public debt on an annual level in the following long-term period;
- Extension of average debt maturity issued in securities;

2. Foreign currency risk

- Tendency to reduce the foreign currency-denominated debt share regarding the new debt costs (cost of debt dinarization);
- Utilization of financial derivatives to limit the effects of the reference currencies exchange rates changes;
- Tendency to have external debt in EUR mainly and to use the US dollar-denominated debt only if financing in dollars in the international market is less expensive, with the additional use of financial derivatives for limiting the risk;

3. Market risk (interest rate risk, inflation risk)

- Tendency to extend the duration of the internal dinar-denominated debt;
- Tendency to ensure that the risk based on external debt interest rate does not jeopardize the long-term objective of minimizing public debt costs;

4. Liquidity risk

- Permanent sustainability of cash on Serbia's accounts at the level that enables smooth liabilities financing for at least four months, as well as the amortization of possible minor inflows based on borrowing according to the plan;
- Adequate management of free cash assets available on the accounts of the Republic of Serbia, in compliance with the asset-liability management principles, as well as in compliance with the possibilities;

• Upgrade and improve the existing information system that monitors the public debt and the operations related to it;

5. Credit and operative risks

- Financial derivatives transactions can only be carried out with the financial institution of high credit rating;
- The use of financial instruments that limit the credit risk;
- Granting guarantees and new loans to local self-government only if there has been an adequate analysis of a relatively low possibility of realizing the guaranty in the medium-term period or the local self-government becoming insolvent in the medium-term period;
- Introduction of adequate control in all the business activities in the Public Debt Administration and expanding the employees' knowledge;

6. Risks tied to the servicing costs distribution

- Adequately planned annual borrowing and equal distribution for the following years and during the fiscal year in order to avoid the risk of high concentration of refinancing liabilities;
- Avoiding the obligations concentration based on the public debt on a monthly level, which could not be amortized by free cash assets on the accounts of the Republic of Serbia.

Due to the implementation of the defined measures, in the previous few years there was a significant improvement of the public debt structure in almost all segments - currency structure and interest rates structure, significantly increased maturity, reduced borrowing costs, reduced guaranteed public debt, even distribution of liabilities along with permanent maintenance of adequate level of liquidity. For example, at the central level of government the share of public debt in RSD increased from 20.9%, at the end of 2016, to 29.4% at the end of September 2020. In the same time period, the share of public debt in USD decreased from 33.9% to 16.6%. The share of the debt with the fixed interest rate in the period from 2013 to September 2020 increased from 73.2% to 86.1%. In the same period, there was a decrease of the guaranteed debt from EUR 2.8 billion to EUR 1.4 billion, as well as the decrease of the weighted average interest rate to public debt from 5.64% to 3.10%.

Analyses used to create the Public Debt Management Strategy

Public Debt Administration used the quantitative approach to formulate the Public Debt Management Strategy, identifying the possible restrictions through the macroeconomic indicators, and the analysis of costs, risks and market conditions which affect the public debt management. During the analysis of costs and risks, all the feasible financing alternatives are considered. The share of each instrument in the overall financing needs in the given year is determined according to the objectives of the Strategy.

For the purpose of analysis, the following instruments described below, available in the domestic and international financial market, were used.

Financing sources denominated in foreign currency

Eurobond denominated in EUR and USD issued in the international financial market.

- Foreign governments and international financial institutions loans are shown as concessionary instruments denominated in EUR and USD, with fixed and floating interest rate;
- Internal, euro-denominated debt is presented through two instruments – government bills and government bonds issued in the domestic financial market;
- Eurobond denominated in EUR and USD issued in the international financial market.

Financing sources denominated in domestic currency

All of the dinar-denominated government securities are categorized into several groups: short-term government bills (with maturity dates up to 53 weeks), and long-term government bills. (with maturity dates from 2 to 15 years).

Future market interest rates and analysis scenario

In the process of creating the medium-term public debt management strategy for the period 2021- 2023, quantitative costs and risks analyses based on various scenarios and projections were used.

The first step is the baseline scenario based on the most likely market conditions. Then three groups of market variables are identified: foreign currency exchange rates, interest rates in the international market and interest rates in the domestic market. The trend of RSD depreciation against EUR and USD is assumed, according to the macroeconomic framework in the period observed, and the relatively stable constant relation between EUR and USD remains, in order to provide a clear picture of the effect of the shock applied. The shocks test the effects of the market interest rates changes. The approach to dinar- and euro-denominated interest rates is based on the current yield rates realized during the previous and the current year.

Having defined the basic scenario, additional types of scenarios – shocks were chosen to conduct the stress test:

- Depreciation of dinar against all the currencies by 15% in 2022. In this scenario, the EUR-USD ratio would remain stable, whereas dinar would be depreciated against both currencies;

- The increase of interest rates in both international and domestic market for about 2 p.p.;

- The increase of interest rates in the international market up to 3 p.p., and in the domestic market up to 4 p.p.;

- Combined shock concerning the depreciation of dinar against the USD of 15% in 2022, and the increase of interest rates for about 2 p.p.;

- Each of the above mentioned stress tests or risk scenarios were used to outline the effects of the costs of the strategies examined.

Alternative borrowing strategies for the period 2021-2023

The optimal choice between costs and risks, on the basis of the World Bank model *Medium Term Debt Strategy Model* - MTDS, defined the basic borrowing strategy choice for the next medium-term period. The analysed alternative borrowing strategies are the following:

Basic Strategy (S1): it is the strategy that covers the financing needs mostly (about 60%) by using foreign currency financing sources (issue of securities in both the domestic and international market, as well as credit borrowing from foreign creditors), and to the lesser extent (about 40%) by using financing sources in domestic currency (issue of securities in the domestic market).

Strategy (S2): compared to S1 strategy, the needs for financing are met through issuing the state securities in the domestic market, in the domestic currency (50%) and in the foreign currency (50%).

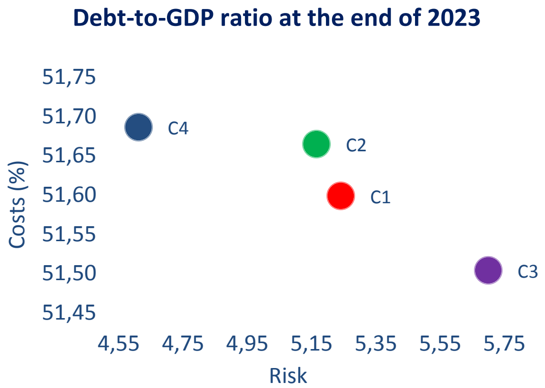
Eurobonds Issue-Based Strategy (S3): S3 strategy, as compared to S1 strategy, is the strategy in which the total financing is based on the issue of euro-denominated Eurobonds with seven and fifteen-year maturity.

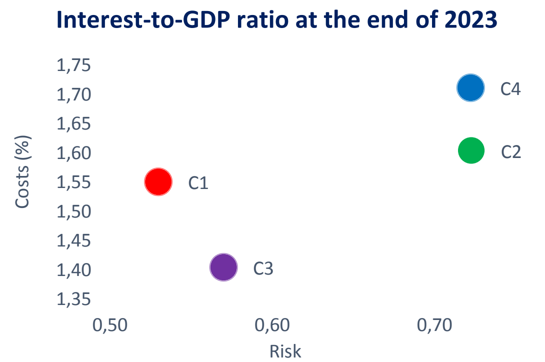
Additional Dinarization Strategy (S4): this is a strategy in which the total financing is based on dinar-denominated securities issues.

Financing Serbia's budget expenditures following these strategies will be executed mainly through the issue of government securities in the international and domestic capital market.

Comparing the alternative strategies

Quantitative analysis represents the performance of each of the four alternative borrowing strategies. The vertical axis represents the debt share in GDP, i.e. interest in GDP costs in the basic macroeconomic framework whereas the horizontal axis represents the potential cost of a certain borrowing strategy (stress test result). Two cost ratios are implemented: public debt to GDP and nominal interest as % in GDP. The former is the balance indicator, and the latter the course indicator. For the purpose of comparison, the attention is focused on the results of the strategies examined, at the end of 2023.





The Graphs clearly show the costs brought by each of the considered strategies - strategy S3 has relatively highest foreign currency exchange rate risk exposure. Strategies S4 and S2 have the highest exposure to possible oscillations of dinar-denominated interest rates, due to issuance of dinar-denominated securities. Strategies S1 and S3 in the basic macroeconomic framework will have the lowest debt in GDP ratio at the end of 2023. Strategy S1 has the lowest risk in terms of interest rates out of the four strategies examined, due to low fixed costs of euro-denominated Eurobonds; however, it turns out to be rather risky in terms of debt-GDP ratio. Strategy S4 appears to be relatively expensive from the aspect of foreign currency interest share in GDP, but at the same time the least risky from the aspect of foreign currency risk, considering that the budget financing on this ground is performed by issuance of dinar-denominated securities.

The analysis of public debt-to-GDP ratio concluded that strategies S1 and S2 have approximately similar debt-to-GDP ratio within the baseline scenario, with the risk of increasing the ratio lower than S3 and higher than S4. Strategy S4 has the highest interest costs due to the significant share of dinar-denominated securities, as well as the risk caused by possible increase of domestic interest rates. Based on these analyses, it is evident that in the following medium-term period basic borrowing operations will be based on strategy S1.

Table 27. Public debt-to-GDP ratio at the end of 2023

Scenarios	C1	C2	C3	C4
Basic scenario	51.6	51.7	51.5	51.7
Foreign currency exchange rate shock (15% of all the currencies)	56.8	56.8	57.2	56.3
Interest shock (Scenario 1)	52.1	52.3	52.1	52.3
Interest shock (Scenario 2)	52.5	52.8	52.4	52.8
Combined shock (15% of USD and interest shock 1)	53.4	53.5	53.3	53.5
Maximum risk	5.2	5.2	5.7	4.6

Table 28. Payment ratio based on interest and GDP at the end of 2023

Scenarios	C1	C2	C3	C4
Basic scenario	1.6	1.6	1.4	1.7
Foreign currency exchange rate shock (15% of all the currencies)	1.7	1.7	1.5	1.8
Interest shock (Scenario 1)	1.9	2.0	1.8	2.1
Interest shock (Scenario 2)	2.1	2.3	2.0	2.4
Combined shock (15% of USD and interest shock 1)	1.9	2.0	1.8	2.1
Maximum risk	0.5	0.7	0.6	0.7

The following table shows the basic public debt parameters trends in each of the four strategies considered, which outlines the abovementioned characteristics of each strategy:

Table 29. Alternative strategies risk indicators at the end of 2023

		C1	C2	C3	C4
Nominal debt (% of GDP)		51.6	51.7	51.5	51.7
Applied interest rate (%)		3.1	3.2	2.8	3.4
Refinancing risk	ATM[15] external portfolio (in years)	8.3	8.6	8.2	6.7
	ATM domestic portfolio (in years)	5.9	5.4	4.1	6.7
	ATM total portfolio (in years)	7.7	7.6	7.7	6.7
Interest rate risk	ATR[16] (in years)	7.3	7.2	7.3	6.3
	Refixing (% of total debt)	15.4	15.5	14.2	16.8
	Fixed rates debt (% of total debt)	92.8	92.8	92.8	92.8
Foreign currency exchange rate risk	Foreign currency debt (% of total debt)	72.9	68.4	88.3	48.1

Stress test analysis

Fiscal rule, defined by the Law on Budget System, imposes that the General Government public debt must not exceed 45% of GDP. Should the debt exceed that level, the Government's duty is to implement a program to reduce the debt share in GDP, i.e. to have the debt within the legal framework again.

At the end of 2019 the central government debt reached 52% of GDP, and the general government debt reached 52.9% of GDP. The public debt-GDP ratio of Central Government was 56.7% of GDP at the end of September 2020, and the general government 57.6%. By the end of 2020 the slight increase of the ratio is expected at the level of about 57.9% of GDP at central government level, i.e. 59.0% of GDP at general government level, due to the necessity of further financing of measures for preventing the effects of the pandemic caused by corona virus (COVID-19). Due to high share of foreign currency-denominated debt (about 70.6%), it is clear that the foreign currency risk will determine the behaviour of public debt-GDP ratio in the following period, and it will significantly influence the success of the fiscal policy measures designed to consolidate public finances and reduce the debt share in GDP.

Based on the planned macroeconomic framework, providing that there is no possible risk, central government public debt should be at the level of 55.0% of GDP, until 2023.

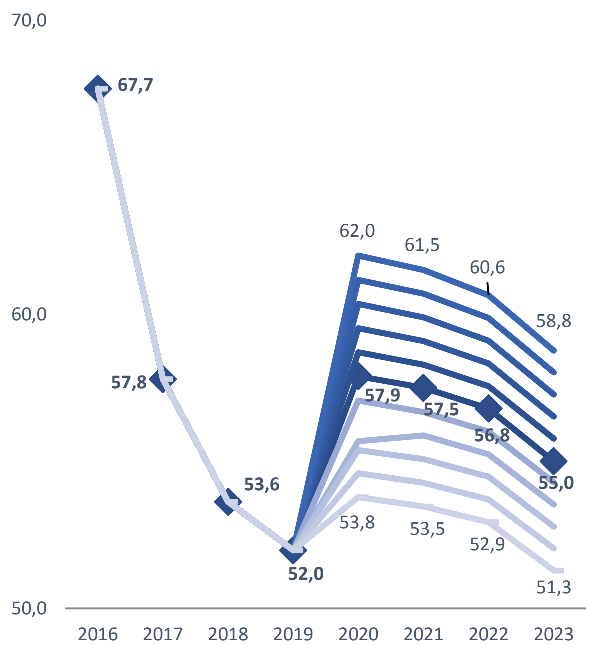
The key factors that influence the stabilization of public debt-GDP ratio include GDP growth, primary deficit, dinar exchange rate against foreign currency rates, and interest level.

[15] ATM (*Average Time to Maturity*) – abbreviation for average maturity time.
[16] ATR (*Average Time to Refixing*) – abbreviation for average interest rates change time.

Table 30. Contributions from the key macroeconomic variables to the change in the central government public debt-to-GDP ratio, in %

	2018	2019	2020 p	2021 p	2022 p	2023
Central government debt/GDP	53.6	52.0	57.9	57.5	56.8	55.0
Changes compared to the last year. in % of GDP	-4.2	-1.7	5.9	-0.4	-0.7	-1.8
Contribution of primary fiscal deficit	-2.7	-2.2	6.6	1.1	-0.2	-0.5
Contribution of interests	2.1	2.0	2.0	1.9	1.7	1.6
Contribution of nominal GDP growth	-3.6	-3.4	-0.9	-4.6	-3.7	-3.8
Contribution of other factors	0.0	2.0	-1.7	1.3	1.5	1.0

Impact of changes in the RSD exchange rate against the basket of currencies from the central government public debt portfolio on the change in public debt-to-GDP ratio



Graph represents the public debt-to-GDP ratio trends depending on the dinar exchange rate against a certain currency basket. It shows the basic projection with alternative scenarios depending on the appreciation or depreciation of dinar exchange rate, in the range of 10% appreciation to 10% depreciation of dinar against a currency basket. Implementation of the scenarios in question shows that in 2023 the ratio would range from 51.3% to 58.8%, whereas in the basic scenario it would be at 55.0%.

Major risks to the Strategy implementation, apart from the abovementioned quantified factors, include the following: stability of macroeconomic situation in the Republic of Serbia, the need for additional borrowing in order to regulate debts at other government levels, the public sector and the financial sector of the Republic of Serbia and the activation of provided guarantees.

It is important to mention that the reduction of the public debt in relation to GDP will be enhanced by the more adequate control of guarantees issuance and the improvement of the process of investments projects prioritization, financed from the loan lines of multilateral and bilateral creditors. Starting from 2015, the guarantees shall be issued only for the project (investment) loans, i.e. no more guarantees for current liquidity loans to public enterprises, which already significantly influenced the reduction of the guaranteed public debt balance in the last five years.

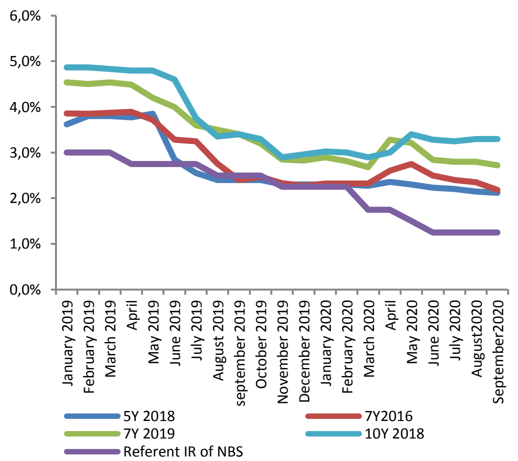
Long-term strategic framework of public debt management

The basic strategic objectives which are to be acquired in the following long-term period, in order to minimize the risk of increased debt and public debt servicing costs are the following:

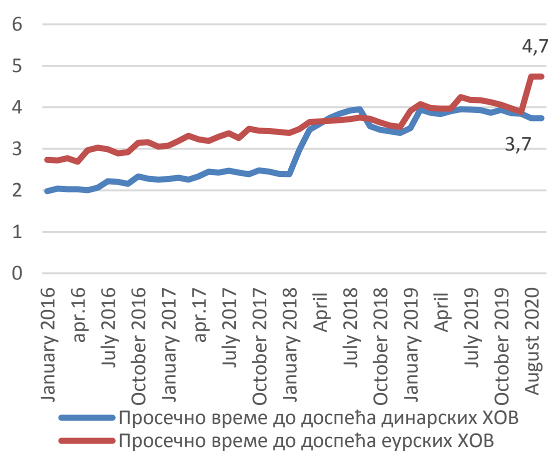
- The share of dinar-denominated debt should be above 30% of the overall public debt in the medium-term period;
- The share of euro-denominated debt in the public debt should be at least 65% of the foreign currency debt, including future borrowings and transactions;
- The share of floating interest rate should drop to below 15% in the mid-term period;
- Average time to refixing (ATR) should remain at a level of at least 5.0 years, in accordance with the abovementioned measure of gradual decrease of floating interest rate debt share;
- Weighted average interest rate (WAIR) for public debt in domestic currency shall not exceed 5.00%;

- The share of the short-term debt (whose maturity is up to a year) shall be up to 15% of the overall public debt;
- The average maturity time (ATM) of internal debt shall be at a level of at least 5.0 years in mid-term;
- The average maturity time (ATM) of external debt shall remain at a level of from 7.0 ± 0.5 years in the same time framework.

Yield to maturity trends of three-year and seven-year dinar benchmark issues on the secondary market trading



Average time to maturity (ATM) of securities issued in the domestic financial market in the period from 1 January 2016 – 30 September 2020



Average time of maturity of dinar-denom. securities
Average time of maturity for euro-denom. securities

Improvement measures for dinar-denominated securities market in the period 2021–2023

In the period of 2012– September 2020, the securities market achieved the set strategic objectives, primarily regarding the financing instruments, but also when it comes to the development and maintaining the stability of diversified investor base. Transferring from short-term financing resources, which were used in the period up to 2010, to the mid-term and long-term financing instruments, and the constant drop in borrowing costs, have influenced the reduction of refinancing risk, as one of the primary risks in the public debt management process. At the end of 2013, the share of long-term dinar-denominated instruments in initial maturity of three or more years amounted to 38.3% in dinar-denominated securities balance, whereas at the end of September 2020, the amount was 91.1%.

Transparent work and reports, as well as the presence on the international capital market, help the non-residents to be informed and therefore interested to invest their capital into borrowing instruments, primarily into long-term government securities, which enhances the development of a stable investor base. Due to successful realization of benchmark issues during 2014 and 2015, the same practice continued during 2016. In February and July 2016 there was an issue of a three-year and seven-year benchmark bond in the amount of RSD 110 billion each. In April 2017 there was an issue of a three-year benchmark bond in the amount of RSD 110 billion. In January and February 2018 there was an issue of a five-year and ten-year benchmark bond in the amount of RSD 110 billion each. This issue considerably extended the scope of secondary trading in these instruments which considerably contributed to the drop in effective yield rates in the re-opening of the stated issues. In January 2019 there was an issue of a three-year and seven-year benchmark bond in the amount of RSD 100.0 and 150.0 billion. In January and February 2020 for the first time there was an issue of a five-and-a-half-year, i.e. twelve-and-a-half-year bond with a six-month coupon.

These issues considerably extended the scope of secondary trading in these instruments, which considerably contributed to the drop in effective yield rates in the re-opening of the stated issues. "Benchmark" issues also increased the share of foreign investors in dinar-denominated securities, which at the end of September 2020 amounted to 24.9%. A seven-year bond, whose development and realization were followed by *J.P. Morgan* in 2019, was put in the Index

Watch Positive list, with the positive chances for inclusion in *J.P. Morgan GBI-EM* index.

Starting from November 12, 2015, trading in long-term government securities was enabled at Belgrade stock exchange to ensure further development of the secondary market of government securities. The period to which this strategy applies is expected to improve the efficiency of the primary market through the concept of primary dealers, as a mechanism of selling government securities which can, in the long run, directly contribute to the reduction of borrowing costs and refinancing risk. The introduction of the selling system for the government securities in the domestic financial market through primary dealers is a solid base for the improvement of the market efficiency of the secondary market of government securities. In time, the development of the secondary market will establish the concept of market efficiency in the process of government securities evaluation. The introduction of the "benchmark" issue of bonds will have a positive effect on the amount and continuity of secondary trading, as well as on the improvement of market efficiency in the process of selling government securities in the primary market.

The fiscal result, expected inflation rate and foreign currency exchange rate should be highlighted as the key factors that influence the yield curve of government securities. It is important to emphasize a special group of factors consisting of the macroeconomic trends and expectations, as well as changes in the international financial market, reflecting the premium risk of the country.

At the end of 2012 the average maturity of dinar-denominated securities was 394 days (1.1 year), at the end of 2013 it was 469 days (1.3 years), at the end of 2014 it was 645 days (1.8 years), at the end of 2015, it was 749 days (2.1 years), at the end of 2016 it was 789 days (2.2 years), at the end of 2017 it was 864 days (2.4 years), at the end of 2018 it was 1,188 days (3.3 years), at the end of 2019 it was 1,403 days (3.8 years) and at the end of September 2020 it was 1,365 days (3.7 years). The development of the domestic securities market will be supported by the Republic of Serbia with the following measures:

- Including Serbia's bonds in the *Index Watch Positive* list, with the positive chances for the inclusion in a global index considerably increased the database of investors and supported secondary trading, which contributed to further reduction of borrowing costs by issues of dinar-denominated securities;
- In order to create a base of investors as large as possible and to develop the secondary market for securities issued in domestic market, the Government created an equal tax treatment for the domestic and foreign investors at the end of 2011, and in the following period, efforts will be made to remove all the obstacles to a free capital flow. The preparations of legal and technical frameworks for enabling the clearing system and the offsetting of the domestic securities transactions through the international clearing system are ongoing;
- The possibility of introducing the primary dealers will be considered in the following period. Namely, the Law on Amendments to the Public Debt Law from December 2018 envisages the introduction of primary dealers to the domestic capital market as the incentive for the liquidity of the secondary securities market and the reduction of the debt refinancing risk. The mentioned amendments to the Law also envisage the operation with financial derivates, which would be used for performing the transactions for the purpose of the risk management, including the reduction or elimination of the exchange rate change, interest rate change, as well as other risks.
- Activities have been undertaken to enable the settlement of government securities in the foreign market. Amendments to the Public Debt Law from December 2019 enable that the clearing and settlement of government securities issued in the domestic market, in addition to the Central Register, shall be performed by another foreign legal entity in charge of performing clearing and settlement operations.