



**NATIONAL BANK OF SERBIA**

**ANALYSIS OF PROFITABILITY OF DINAR  
AND FX SAVINGS**

Belgrade, January 2020

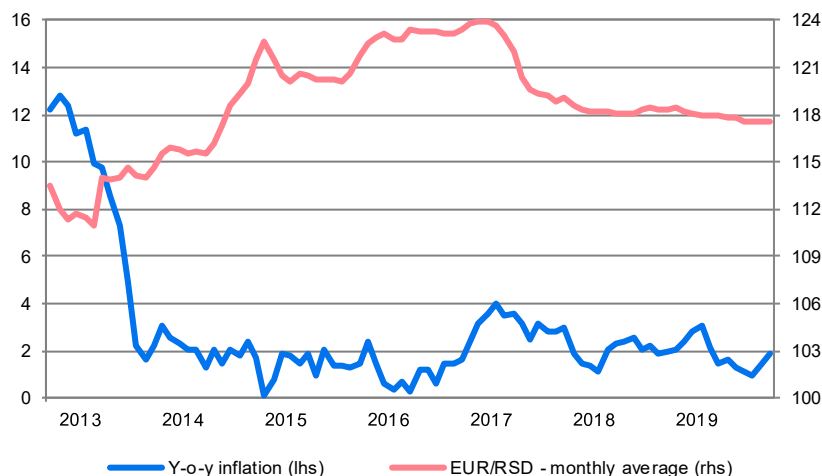
## I. INTRODUCTION

Promotion and support of savings in the domestic currency, and pointing to greater profitability of this type of savings relative to foreign currency savings is a part of the strategy of dinarisation of the Serbian financial system, which is one of the priorities of the Serbian Government and the NBS. A higher degree of dinarisation of the financial system strengthens resilience to the exchange rate effect and enables more efficient monetary and fiscal policy, which is a precondition for sustainable economic growth based on domestic sources.

Measures and activities undertaken by the NBS, in coordination with the Serbian Government, contributed to low and stable inflation, relative stability of the RSD/EUR exchange rate, NPL reduction, Serbia's improved credit rating and a fall in the risk premium.

From end-2012 until October 2013, y-o-y inflation was reduced from 12.2% to 2.2%. Since then, it has moved at a low and stable level of below 2.0% on average (1.9%). At end-2019, inflation stood within the target tolerance band ( $3\% \pm 1.5$  pp) at 1.9%. Short- and medium-term inflation expectations of the financial and corporate sectors continued to move within the target tolerance band.

Chart 1 Y-o-y inflation and average dinar exchange rate  
(lhs, in %, s-a, EUR/RSD)



Source: NBS.

Relative stability of the RSD/EUR exchange rate was achieved and sustained over the past seven years. At end-December 2019, the exchange rate was at a similar level as at the start of August 2012, with much lower volatility of the RSD/EUR exchange rate from 2018 onwards.

In the past three years, appreciation pressures prevailed in the FX market as a result of stronger FX supply, boosted mainly by FDI, rising exports and investments of international investors in dinar government bonds. The NBS responded to appreciation

pressures adequately and in a timely manner by buying foreign currency in the FX market, thus contributing to a considerable increase in FX reserves. In 2019 alone, the dinar gained 0.5% against the euro in nominal terms. The NBS net purchased EUR 2,695.0 mn in the FX market (buying EUR 3,100.0 mn and selling EUR 405.0 mn), which led to a significant increase in FX reserves. In the past seven-year period, when necessary, the NBS has intervened impartially in both directions, in order to prevent excessive short-term volatility of the RSD/EUR exchange rate, with no intention of targeting a certain level of the exchange rate or influencing its trend.

In 2019, gross FX reserves increased by EUR 2.1 bn to EUR 13.4 bn, which is their highest end-year level since 2000. FX reserves increased despite the net government deleveraging under FX loans and securities (for over EUR 900.0 mn). The share of gold in the structure of FX reserves was increased from 7% to 10%, as a result of the NBS's October first-ever purchase of gold in the international market.

Owing to the implementation of the NPL Resolution Strategy since 2015, the share of NPLs in total loans was cut by more than 80%, to 4.1% in December 2019.

Our country has had a fiscal surplus for the third year in a row, and the share of public debt in GDP in 2019 was additionally cut to 52.4%<sup>1</sup> in November 2019.

In November, Serbia re-issued the ten-year eurobond in the international financial market in the amount of EUR 550 mn, at an interest rate of 1.250%, which is even lower than the initial issue in June, when the interest amounted to 1.619%, and represents the lowest yield on RS bonds issued in the international financial market. As in June, the funds raised were used for the early repayment of a more costly debt – a part of eurobonds issued in dollars in 2013, at a coupon rate of 4.875% due in February 2020. In addition to replacing expensive debt by a cheaper one, this move helped reduce exposure to FX risk, i.e. EUR/USD exchange rate effect.

All of the above led to a country's credit rating upgrade and a fall in the risk premium. In an environment of improved macroeconomic indicators, adequate monetary policy and solid fiscal discipline, strengthened resilience to external shocks and investment-led growth, S&P improved Serbia's credit rating from BB to BB+, with a positive outlook for its further increase and the possibility of reaching investment grade (BBB-) until end-2020. Measured by EMBI, in 2019 Serbia's risk premium declined by 140 bp to 19 bp, hitting its record low of 5 bp in the course of the year (23 December).

Positive macroeconomic developments and outlook – successful implementation of the economic programme, with good growth factors at home, low inflation, sound and liquid financial system, implementation of structural reforms and further reduction of public-to-GDP debt ratio – are also confirmed by the December decision of the IMF on the successful completion of the third review of Serbia's performance without a formal Board meeting.

Macroeconomic and financial stability achieved in the past seven years enabled greater use of the dinar in the financial system, as confirmed by higher dinar savings.

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<sup>1</sup> The latest available data at the time of the Report.

In the period from end-2012 until end-2019, dinar savings<sup>2</sup> rose more than four times (by RSD 61.6 bn). They reached RSD 79.5 bn at end-2019, and for the first time exceeded RSD 80 bn at the start of 2020. This increase was particularly prominent in the past two years (RSD 29.3 bn, which is almost half of the total growth recorded in the last seven years). The rise in dinar savings in 2019 is the highest annual growth on record – RSD 18.4 bn or 30%.

Dynamic growth in dinar savings confirms citizens' confidence in the NBS monetary policy and domestic banking system.

Though rising in the past seven years, household<sup>3</sup> FX savings recorded a somewhat moderate increase relative to dinar savings – from EUR 8.3 bn in December 2012 to EUR 10.8 bn in December 2019.

Growth in dinar and FX savings is recorded against the background of lower interest rates on term household savings, indicating citizens' greater confidence in the domestic banking system. NBS's monetary policy easing and interest rate movement in the international money market brought down the interest rates. Relative to May 2013, when the cycle of monetary policy easing by the NBS began, the key policy rate was lowered by 9.50 pp and in 2019 alone, by 0.75 pp, to 2.25%.

The weighted average interest rate on dinar household savings in the period from December 2012 until December 2019 was reduced by 6.91 pp, to 3.01%. The similar thing also occurred in the case of interest rates on household savings in euros<sup>4</sup>, which dropped by 3.02 pp, to 1.13% in the past seven-year period.

The share of dinar in total savings increased by 4.2 pp, from 1.87% at end-2012 to 5.89% at end-2019.

However, given the modest share of dinar savings in total savings, as well as the effort to continuously increase the dinarisation of Serbia's financial system in order to strengthen the efficiency of monetary and fiscal policies, as well as the resilience of the domestic economy to currency risks, the NBS, together with the Government, continues its activities related to stimulating and promoting saving in dinars, as an important component of growth based on a sound financial footing.

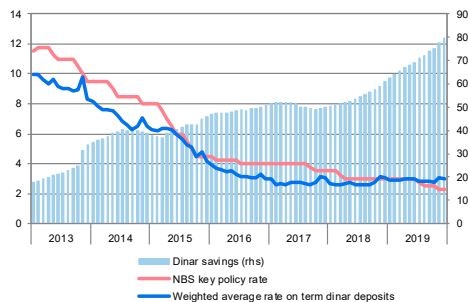
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<sup>2</sup> Residents and non-residents

<sup>3</sup> Residents and non-residents

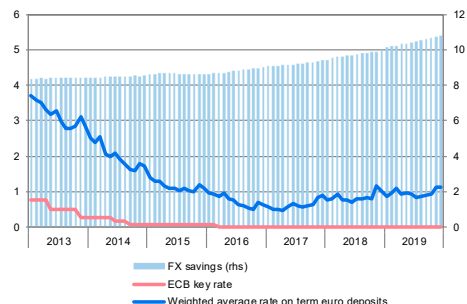
<sup>4</sup> Since savings in euros account for the largest portion of FX savings (91%), the weighted average interest rate on term deposits in euros was used.

Chart 2 Interest rates and dinar savings  
(lhs, in %, p.a, s-a, RSD bn)



Source: NBS.

Chart 3 Interest rates and FX savings  
(lhs, in %, p.a, s-a, EUR bn)



Source: NBS.

## II. PAST ANALYSES

The NBS did several analyses of profitability of dinar and FX savings in the period from 2010 to 2019<sup>5</sup>. Besides, the NBS regularly published press releases on profitability of dinar and FX savings, ahead of every World Savings Day. As it continues to promote dinar savings, the NBS has been regularly publishing its semi-annual analyses of profitability of dinar and FX savings since June 2018. The last Analysis of Profitability, published in July 2019, covered the period June 2013 – June 2019<sup>6</sup>. That analysis showed, as did all the previous ones, that it was more profitable to save in dinars both in the short and long run.

## III. PRESENT ANALYSIS

The latest semi-annual Analysis of Profitability of Dinar and FX Savings, covering the period December 2012 – December 2019, confirms again that it is more profitable to save in the domestic currency both in the short- and long-term.

### 1. Analysis

As in the previous semi-annual analysis, two analyses of profitability of savings were carried out – deposit rollover and profitability of savings by subperiods (termed for three months, one year and two years).

The analyses used weighted average interest rates on new deposits termed for up to one year, i.e. one to two years. Yield at the end of the maturity period for savings in euros was reduced by interest income tax, which equalled 10% up to October 2012 and 15% thereafter<sup>7</sup>.

<sup>5</sup> For more details see: <http://www.nbs.rs/internet/english/90/index.html>.

<sup>6</sup> For more details see: <http://www.nbs.rs/internet/english/90/index.html>.

<sup>7</sup> Interest income tax for savings in dinars is not payable since 2005.

### 1.1. Profitability of savings - rollover

This analysis started from the assumption that the amounts of RSD 100,000 and RSD 100,000 in the euro equivalent (calculated at the average exchange rate in the month of depositing) were deposited in December 2012 with one year maturity, and that savings (increased by interest) were rolled over upon the expiry of the maturity for one additional year at interest rates at the time when the deposits were made up until 2019 (the last rollover in December 2018). The profitability of savings in dinar and euros was assessed for the total seven-year period.

### 1.2. Profitability of savings – by subperiods without rollover

The other analysis considered the profitability of dinar savings relative to euro savings with different maturities – three months, one year and two years. The assumption was that in the period from December 2012 the amount of RSD 100,000 and RSD 100,000 in the euro equivalent (calculated at the average exchange rate in the month of depositing) was termed each month at the then current interest rates with all three maturities (three different subperiods). Each maturity period setting was considered separately and presents one maturity subperiod<sup>8</sup> (total of 82 subperiods in case of savings with three-month maturity, 73 subperiods in case of savings with one-year maturity and 61 subperiods in case of savings with two-year maturity). The profitability of savings was assessed for each maturity subperiod separately.

## 2. Results of the analysis

### 2.1. Profitability of savings - rollover

This analysis showed that after seven years, a person who deposited dinar funds in December 2012 would receive over RSD 30,000 (over EUR 260) more compared to a depositor who would save in euros over the same period and under the same assumptions.

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<sup>8</sup> In case of savings with three-month maturity, the first observed subperiod is December 2012 – March 2013, the second observed subperiod is January 2013 – April 2013, etc. The last observed subperiod is September 2019 – December 2019.

In case of savings with one-year maturity, the first observed subperiod is December 2012 – December 2013, the second observed subperiod is January 2013 – January 2014, etc. The last observed subperiod is December 2018 – December 2019.

In case of savings with two-year maturity, the first observed subperiod is December 2012 – December 2014, the second observed subperiod is January 2013 – January 2015, etc. The last observed subperiod is December 2017 – December 2019.

Table 1 Profitability of savings - rollover

Type of savings	Termed	Initial deposit	Dinar exchange rate*	Maturing	Dinar exchange rate*	Deposit at the end of term period	
						in RSD	in EUR**
Savings in RSD	Dec 2012	100,000	113.5413	Dec 2019	117.5383	143,863	1,224
Savings in EUR	Dec 2012	881	113.5413	Dec 2019	117.5383	113,241	963
Difference in favour of dinar savings RSD (EUR)						30,622	261

\* Average monthly middle exchange rate of the dinar against the euro

\*\* For euro savings, amount after deduction by interest income tax.

Table 1a Profitability of savings by year - rollover

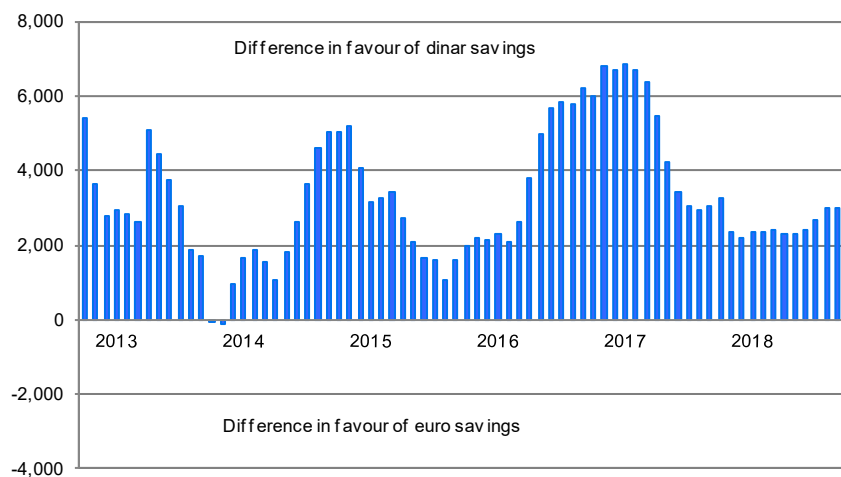
	1 year	2 years	3 years	4 years	5 years	6 years	7 years
Savings in RSD	109.890	118.967	126.616	131.744	135.605	139.673	143.863
Savings in EUR	911	931	942	949	953	957	963
Difference in favour of dinar savings RSD (EUR)	5,426 (47)	5,819 (48)	11,902 (98)	14,659 (119)	22,108 (186)	26,490 (224)	30,622 (261)

## 2.2. Profitability of savings – by subperiods without rollover

Better profitability of dinar savings is also indicated by the results of the analysis of profitability of savings termed for three months, one and two years without rollover.

For deposits with one-year maturity, the analysis shows that dinar savings were more lucrative than savings in euros in as many as 71 of the 73 observed subperiods (Chart 4). Thus, a person who would deposit RSD 100,000 with one year maturity in December 2018 would receive almost RSD 3,000 more in December 2019 compared to a depositor placing RSD 100,000 in the euro equivalent in the same period.

Chart 4 Profitability of one-year savings  
(in RSD)



Source: NBS.

The same conclusion holds in case of savings deposited for three months and two years. Namely, in case of savings with three-month maturity, it was more profitable to save in dinars in 85% of the observed subperiods, while in case of savings with two-year maturity, dinar savings were more lucrative than savings in euros in all observed subperiods (total of 61).

Table 2 Profitability of savings - without rollover

Type of savings	Termed	Initial deposit	Dinar exchange rate*	Interest rate (in %, p.a.)**	Maturing	Dinar exchange rate*	Deposit at the end of term period	
							in RSD	in EUR**
Savings in RSD	Dec 2018	100,000	118.2772	3.00	Dec 2019	117.5383	103,000	876
Savings in EUR	Dec 2018	845	118.2772	0.80	Dec 2019	117.5383	100.051	851
Difference in favour of dinar savings - one year							102899.949	25
Difference in favour of dinar savings - three months							584	5
Difference in favour of dinar savings - two years							6.212	53

\* Average monthly middle exchange rate of the dinar against the euro.

\*\* Weighted average rate on dinar and euro deposits terms up to one year - new business.

\*\*\* For euro savings, amount after deduction by interest income tax.

#### IV. CONCLUSION

The latest analysis of profitability of savings, as all the previous ones, shows that it was more lucrative to save in dinars in the past seven years, i.e. in the period December 2012 – December 2019. The analysis confirmed:

- **dinar savings with one-year maturity (and rolled over) were more lucrative than savings in euros in the past seven years;**



- that **dinar savings with one-year maturity** were **more lucrative** than savings in euros **in almost all observed subperiods**;
- that **dinar savings with three-month maturity** were more lucrative than savings in euros **in most observed subperiods**;
- that **dinar savings with two-year maturity** were **more lucrative** than savings in euros **in all observed subperiods**.

Hence, **dinar savings were more lucrative than savings in euros both in the short and long run.**

Higher profitability of dinar savings is supported by:

1. stable macroeconomic environment – low and stable inflation and a relatively stable dinar exchange rate against the euro;
2. significantly higher interest rates on dinar savings than on euro savings;
3. more favourable tax treatment of dinar savings – dinar savings are not subject to tax, while interest on euro savings is subject to a 15% tax rate.

As so far, in cooperation with the Government, the NBS will continue to contribute to the process of dinarisation with its measures, activities and communication with the public, with a special focus on greater profitability of dinar savings compared to euro savings. In the coming period the NBS will continue to regularly publish the semi-annual Analyses of Profitability of Dinar and FX Savings, the quarterly Report on Dinarisation of the Serbian Financial System, and the relevant press releases ahead of the World Savings Day.