



NATIONAL BANK OF SERBIA

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

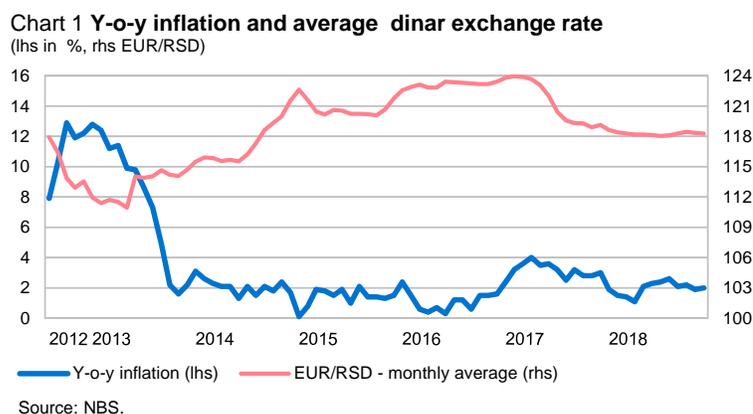
Belgrade, January 2019

I. INTRODUCTION

Household deposits are a significant source of finance and contribute to the stability of the financial system. In citizens' opinion, savings are the most secure way to preserve the value of money and to ensure future consumption. Hence, it is of paramount importance to create an environment which will stimulate the accumulation and continued growth of savings. The NBS helps create this favourable environment by achieving and preserving low inflation and relatively stable exchange rate, as well as by strengthening the stability of the financial system.

Over the past six years the NBS, in cooperation with the Government, achieved significant results in terms of establishing and preserving macroeconomic stability, reducing fiscal and external imbalances, delivering low and stable inflation, strengthening financial stability and maintaining relative stability of the exchange rate.

The y-o-y inflation rate was reduced by more than six times (from 12.9% in October 2012 to 2.0% in December 2018) and has been moving at a low and stable level for five years now.



The relative stability of the exchange rate has also been achieved and preserved in the past six years. Today, the dinar is at almost the same level as it used to be in August 2012. When faced with the pressures towards excessive strengthening or weakening of the domestic currency, the NBS made it clear that nothing would jeopardise smooth functioning of the domestic FX market and the relative stability of the RSD/EUR exchange rate. Against the backdrop of depreciation pressures caused primarily by global turbulences, FX reserves were invested efficiently in the preservation of FX market stability, while in conditions of stronger appreciation pressures they were increased as a guarantee of security for the period ahead.

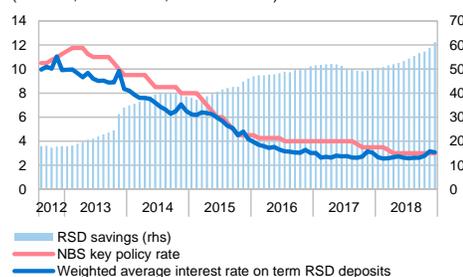
Owing to NBS measures and achieved macroeconomic stability, citizens' trust in the domestic currency has been rising each year. In the period from 2012, dinar savings* increased by almost three and a half times – from around RSD 18 bn (August 2012) to over RSD 61 bn (December 2018), while FX savings* rose from almost EUR

* Including also the deposits of natural persons - non-residents.

8 bn (around RSD 935 bn) to around EUR 10 bn (around RSD 1,175 bn), amid reduced interest rates on term household deposits. Namely, in the past couple of years the majority of central banks significantly lowered their policy rates in order to mitigate the repercussions of the global financial crisis. Monetary policy relaxation pushed the interest rates in the financial markets down. As a result of the global market developments and improvement of the domestic macroeconomic conditions, in the period since August 2012 until December 2018 the weighted average interest rate on term dinar household deposits went down by 6.88 pp to 3.07%, following the movements of the NBS key policy rate. The comparable rate on household deposits in euros¹ dropped down by 3.28 pp, to 1.00% in that period. This fall in interest rates did not greatly reflect on household savings as they picked up in this period as a demonstration of citizens' trust in the domestic financial system. However, though on the rise, the share of dinar savings in total savings is still modest at 4.9%. For that reason, the NBS, in cooperation with the Government, implements measures, activities and communication with the public aimed at encouraging further savings growth as an important aspect of the dinarisation of the Serbian financial system and at pointing out the advantages of dinar savings:

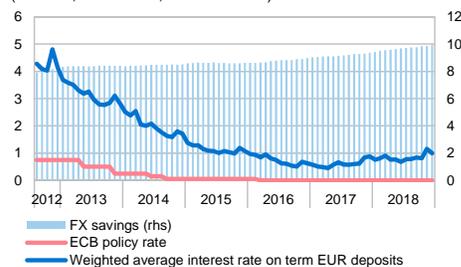
- 1) interest rates on dinar savings are relatively higher than those on FX savings,
- 2) income from interest on dinar savings is not taxable, unlike income from interest on FX savings taxed at the rate of 15%,
- 3) low inflation rate and relative RSD/EUR exchange rate stability have been sustained over a longer period (five years).

Chart 2 **Interest rates and dinar savings**
(lhs in %, annualised ; rhs in RSD bn)



Source: NBS.

Chart 3 **Interest rates and FX savings**
(lhs in %, annualised; rhs in EUR bn)



Source: NBS.

II. PAST ANALYSES

The NBS did several analyses of profitability of dinar and FX savings in the past. The first analysis was produced in October 2010 and then in 2011 and 2013². The NBS also regularly published press releases on the profitability of dinar and FX savings ahead of the World Savings Day. In addition, the Analysis of Profitability of Dinar and FX Savings for the period from August 2012 until July 2018 was produced in August

¹ 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.

² For more details see: <http://www.nbs.rs/internet/english/90/index.html>.

2018. The results of all the past analyses have shown that it was more lucrative to save in dinars than in foreign currency in the observed periods, both in the long and short run.

III. PRESENT ANALYSIS

According to the new Memorandum on the Strategy of Dinarisation of the Serbian Financial System, concluded between the Government and the NBS in December 2018, one of the communication means with the public is the publication of the Analysis of Profitability of Dinar and FX Savings twice a year. The latest semi-annual analysis covering the period August 2012 – December 2018, and the analyses carried out so far, suggest greater profitability of domestic currency savings.

1. Data used in the Analysis

For the calculation of interest rates on savings in dinars and savings in euros the Analysis used NBS statistical data on interest rates on new term dinar deposits and deposits in euros with the maturity of up to one year and one to two years for the period August 2012 – December 2018.

Yield at the end of the maturity period for savings in euros was reduced by interest income tax, which amounted to 10% up to October 2012 and after that to 15%. Tax on income from interest on savings in dinars has not been paid since 2005.

2. Analysis

Two comparative analyses of the profitability of dinar savings and savings in euros were produced – deposit rollover and profitability of savings by subperiods.

2.1. Profitability of savings - rollover

The assumption was that a person placed RSD 100,000 on a dinar deposit in December 2012 and RSD 100,000 on a euro deposit (calculated at the average exchange rate in the month of deposit placement). Upon the expiration of the maturity period, savings, increased by interest were rolled over each year for another year, last time in December 2017 (six years) with interest rates as at the time of deposit placement. Profitability of savings was assessed at the end of the observed period.

2.2. Profitability of savings - by subperiods without rollover

Analysis by subperiods without rollover covers the analysis of the profitability of dinar savings with maturities of three months, one year and two years, in the period from August 2012 until December 2018, compared to savings in euros termed in the same period and for the same duration. It was assumed that a person placed RSD 100,000 on dinar deposit and RSD 100,000 on euro deposit (calculated at the average monthly exchange rate) each month in the observed period. For the deposits with maturity of three months and one year, the weighted average interest rates on new deposits of up to one year were used, while for deposits placed at two years the

weighted average interest rates on new deposits of one to two years were used. Profitability of savings was observed for each maturity subperiod separately

3. Results of the analysis

3.1. Profitability of savings - rollover

A person who placed RSD 100,000 on a dinar deposit in December 2012 and renewed the contract each year would receive almost RSD 26,500 (around EUR 225) more in December 2018 compared to a depositor who placed RSD 100,000 in the euro equivalent on an FX deposit in the same period, under the same assumptions. Dinar savings have been more profitable in the last six years.

Table 1 Profitability of savings - rollover

| Type of savings | Deposit placement | Initial deposit | RSD exchange rate* | Maturity | RSD exchange rate* | Deposit at end of term | |
|-------------------------------------|-------------------|-----------------|--------------------|----------|--------------------|------------------------|----------|
| | | | | | | in RSD | in EUR** |
| RSD savings | Dec 2012 | 100,000 | 113.5413 | Dec 2018 | 118.2772 | 139,673 | 1,181 |
| EUR savings | Dec 2012 | 881 | 113.5413 | Dec 2018 | 118.2772 | 113,183 | 957 |
| Difference in favour of RSD savings | | | | | | 26,490 | 224 |

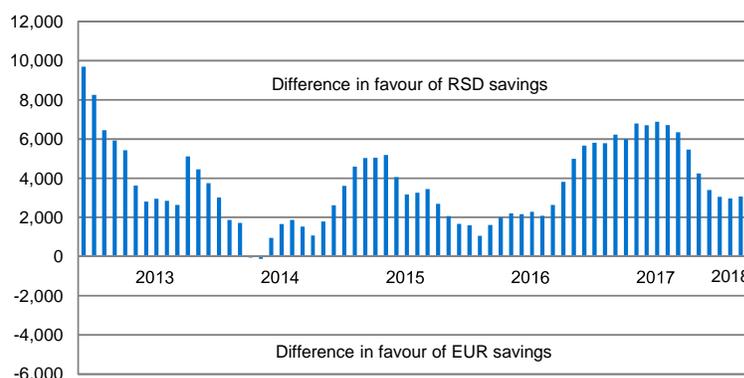
* Average monthly EUR/RSD exchange rate.

** For EUR savings, the amount after deduction of interest income tax.

3.2. Profitability of savings - by subperiods without rollover

When analysing the profitability of one-year savings, without the rollover, it turns out that dinar savings were more profitable than euro savings in almost all observed sub-periods (Chart 4).

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



Source: NBS.

December 2018 would receive, at the end of the term period, more than the depositor who termed RSD 100,000 in the euro equivalent in the same period (in as

many as 63 subperiods of the total of 65 observed subperiods³ - Chart 4). A person who placed RSD 100,000 in December 2017 for one year, at the interest rate of 3.00%, would receive one year later almost RSD 3,300 more than the person who saved in euros in the same period, at the rate of 0.53%.

Table 2 Profitability of savings - no rollover

| Type of savings | Date of deposit placement | Initial deposit | RSD exchange rate* | Interest rate (in %, p.a.)** | Maturity | RSD exchange rate* | Deposit at end of term | |
|--|---------------------------|-----------------|--------------------|------------------------------|----------|--------------------|------------------------|-----------|
| | | | | | | | in RSD | in EUR*** |
| RSD savings | Dec-17 | 100,000 | 119.1394 | 3.00 | Dec-18 | 118.2772 | 103,000 | 871 |
| EUR savings | Dec-17 | 839 | 119.1394 | 0.53 | Dec-18 | 118.2772 | 99,724 | 843 |
| Difference in favour of RSD savings – one-year maturity | | | | | | | 3,276 | 28 |
| Difference in favour of RSD savings – three-month maturity | | | | | | | 523 | 4 |
| Difference in favour of RSD savings – two-year maturity | | | | | | | 9,798 | 83 |

* Average monthly EUR/RSD exchange rate.

** Weighted average interest rate on RSD and EUR deposits with up to one year maturity - new deposits.

*** For EUR savings, the amount after deduction of interest income tax.

In addition, the analysis shows that it was more profitable to save in dinars than in euros over terms longer than one year, and over shorter terms in the period from August 2012 until December 2018. For deposits with two-year maturity, dinar savings were more lucrative than savings in euros in all observed subperiods⁴ (total of 53 subperiods), while in case of savings with three-month maturity, savings in dinars were more profitable than savings in euros in 61 of the total of 74 observed subperiods⁵.

IV. CONCLUSION

The analysis of profitability of dinar vs. euro savings in the period from August 2012 until December 2018 shows that:

- in the **past six years rollover of dinar savings with one-year maturity was more lucrative than the rollover of savings in euros;**
- savings in dinars with **one-year maturity** were more lucrative than savings in euros **in almost all observed periods;**
- savings in dinars with **two-year maturity were more lucrative** than savings in euros **in all observed periods;**

³ The first observed subperiod is August 2012 – August 2013, the second subperiod is September 2012 – September 2013, etc. – the last observed subperiod is December 2017 – December 2018.

⁴ The first observed subperiod is August 2012 – August 2014, the second observed subperiod is September 2012 – September 2014, ... the last observed subperiod is December 2016 – December 2018.

⁵ The first observed subperiod is August 2012 – November 2012, the second observed subperiod is September 2012 – December 2012, ... the last observed subperiod is September 2018 – December 2018.

- savings in dinars with **three-month maturity** were more lucrative than savings in euros **in most observed periods;**

Both short- and long-term dinar savings were more profitable than savings in euros.

We repeat that higher profitability of dinar savings resulted from:

1. almost six times higher interest rates on dinar savings relative to interest rates on FX savings,
2. zero taxation of capital gains from interest on dinar savings (tax on interest from FX savings is 15%).
3. low and stable inflation and a relatively stable dinar exchange rate against the euro.

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.