NATIONAL BANK OF SERBIA

REPORT ON DINARISATION OF THE SERBIAN FINANCIAL SYSTEM

Second Quarter 2023

November 2023

Introductory note

A more extensive use of the dinar in the Serbian financial system and better currency matching of income and expenses of the non-bank sector would improve the country's financial stability, lessen the risk of exchange rate volatility in the most vulnerable sectors of the economy, and further enhance the effectiveness of monetary policy. To support the process of dinarisation, in April 2012 the National Bank of Serbia (NBS) and the Government of the Republic of Serbia signed the Memorandum on the Strategy of Dinarisation of the Serbian Financial System. Bearing in mind that in the period after the conclusion of the Memorandum in 2012 macroeconomic stability had been ensured and financial stability strengthened further, in December 2018 the NBS and the Serbian Government signed the new Memorandum on the Strategy of Dinarisation, confirming their commitment to additionally support dinarisation and contribute to financial stability. In the new Memorandum on the Dinarisation Strategy these institutions reflected on the results of the measures and activities undertaken thus far and, based on them, defined additional measures and activities that will ensure further dinarisation and reduce FX risk in the system.

Pursuant to the Memorandum, the NBS and the Government have committed to monitoring and analysing the degree of dinarisation and to regularly informing the public about the measures and activities undertaken, as well as about the progress achieved in the process of dinarisation. For that purpose, the NBS prepares and publishes the quarterly Report on Dinarisation of the Serbian Financial System as one of its supporting communication tools. The Report provides information about developments in the dinar market and highlights measures and activities taken or planned by market players and regulatory authorities with a view to supporting the process of dinarisation. Making this information accessible to the public will help raise awareness of the need to hedge against the exchange rate risk, as well as understanding of the measures and activities to be taken by the NBS and the Government in order to further encourage the process of dinarisation of the Serbian financial system.

Reports on Dinarisation of the Serbian Financial System are available on the NBS website (www.nbs.rs)

Dinarisation strategy

The dinarisation strategy rests on three inter-connected pillars.

The first pillar is the most general, but also the most important one. It envisages monetary and fiscal policy measures to maintain macroeconomic stability and ensure conditions for sustainable economic growth.

The second pillar consists of measures to promote further development of the dinar securities market and introduce new dinar products in the domestic financial market.

The third pillar aims to promote hedging against the risks associated with exchange rate exposure in the non-bank sector and to discourage further build-up of those risks. The NBS will lead the efforts in this field, working together with the banking sector on introducing and developing FX risk hedging instruments.

ABBREVIATIONS

bn – billion
lhs – left-hand scale
mn – million
NPL – non-performing loan
pp – percentage point
q – quarter
rhs – right-hand scale
SDR – special drawing rights
y – year

Other generally accepted abbreviations are not cited.

Contents

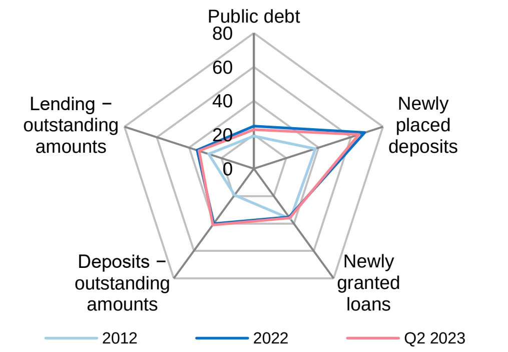
I. Dinarisation of the Serbian financial system

In terms of outstanding business, the degree of dinarisation of corporate and household receivables has been on a gradual decline since Q4 2021, primarily on account of the maturing of dinar loans approved earlier under the guarantee schemes of the Republic of Serbia to support the corporates during the COVID pandemic. The dinarisation of new loans[1] also subsided in Q2 in both q-o-q and in y-o-y terms.

The share of dinar deposits in total corporate and household deposits climbed to a record-high level in Q2. Increase is also recorded if new deposits made in Q2 2023 alone are observed.

The degree of dinarisation of Serbia's public debt increased marginally in late Q2 2023 relative to end-Q1 2023 (to 23.0%).

Chart I.1 **Dinarisation indicators***
(%)



*Apart from public debt, all categories indlude the household and corporate sector component. Within each category - the share of dinar component in total of the category.

Sources: NBS, Ministry of Finance.

1. Dinarisation of receivables

In Q2 2023, the dinarisation of corporate and household receivables declined relative to a quarter earlier, both in terms of outstanding and new business.

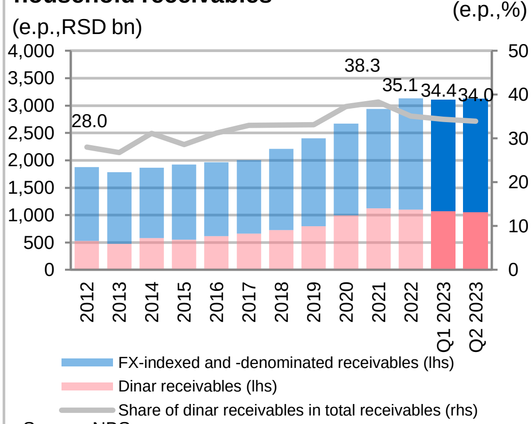
Corporate and household receivables

The share of dinar in total corporate and household receivables stood at 34.0% at end-Q2 2023. In q-o-q terms, this indicator went down by 0.4 pp, and the decrease is more pronounced if compared with Q2 2022 (3.2 pp).

Excluding the exchange rate effect, the degree of dinarisation of receivables at end-Q2 stood at 33.9%, down by 0.4 pp q-o-q, and by 3.3 pp y-o-y.[2]

The decline in the dinarisation of receivables in Q2 **was driven by a rise in FX-indexed and FX receivables** (by RSD 21.8 bn), recorded by both **corporates and households**, as well as by **a decline in dinar receivables** (by RSD 7.5 bn), recorded for the fourth consecutive quarter under the impact of reduced corporate receivables.

Chart I.1.1 **Share of dinar receivables in total corporate and household receivables**



Source: NBS.

The dinarisation of corporate receivables continued down for the sixth consecutive quarter. In Q2, this indicator dropped by 1.1 pp (5.5 pp y-o-y) to 17.0%.

The decline in the dinarisation of corporate receivables in Q2 resulted from the following:

– **The stock of dinar corporate receivables decreased** (by RSD 18.1 bn), mostly due to the

[1] New loans (and/or new deposits) include all new loan contracts (and/or new deposit contracts) for which conditions were contracted for the first time in the reporting month, and all existing contracts for which new conditions were contracted, with active client participation.

[2] Calculated at the exchange rate of the dinar against the euro, USD, Swiss franc, pound sterling and Japanese yen as at 31 October 2022, if taking into account the currency composition of loan receivables.

repayment of dinar loans approved to support corporates amid the COVID pandemic **in line with regulations on the guarantee schemes of the Republic of Serbia** until July 2022. These loans were approved predominantly in dinars and were intended for liquidity and working capital of small and medium-sized enterprises. The reduction in receivables was the most pronounced in wholesale and retail trade, mining, manufacturing and water supply;

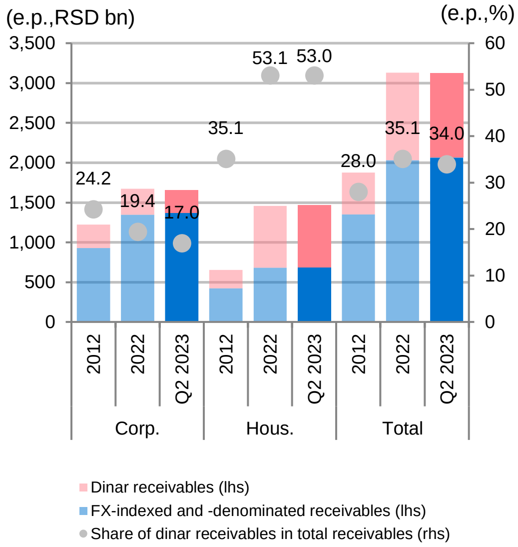
– **The stock of FX-indexed and FX corporate receivables went up** (by RSD 17.4 bn), mostly on account of higher liquidity and working capital loans and investment loans approved mostly to medium- and micro-sized enterprises in wholesale and retail trade and construction.

For the first time since Q3 2020, <u>the dinarisation of household receivables</u> increased in Q2 2023. At end-June, this indicator measured 53.0%, which is 0.2 pp more than a quarter earlier (1.3 pp y-o-y). This increase reflects:

– **the recovery of dinar receivables** (increase by RSD 10.6 bn) – mostly owing to increased approval of cash loans which are, as a rule, approved in dinars;

– **more moderate growth in FX-indexed receivables** (by RSD 4.4 bn) – mostly on account of disbursement of liquidity and working capital loans approved to agricultural estates and entrepreneurs,[3] and the approval of housing loans.

Chart I.1.2 **Receivables by sector**



Source: NBS.

New corporate and household loans

Indicators of dinarisation of new loans

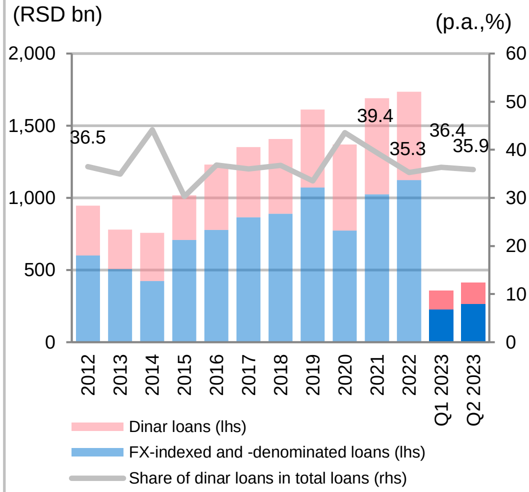
The degree of dinarisation of <u>total</u> new <u>corporate and household</u> loans in Q2 stood at 35.9%, down by 0.5 pp from a quarter earlier (a 3.3 pp drop y-o-y).

New corporate and household lending went up, in both dinars and foreign currency. As the rise in dinar loans was half of the increase in FX-indexed and FX loans, the dinarisation of new loans declined.

By sector, the dinarisation of new <u>corporate</u> loans decreased more (by 2.8 pp to 16.4%), reflecting:

– **a higher amount of new FX corporate loans in Q2 relative to Q1** (by RSD 39.4 bn); increase was recorded for loans of all types, but it was particularly pronounced for working capital loans (by RSD 29.9 bn), which are the dominant category of new corporate loans (63.8%);

Chart I.1.3 **Share of dinar loans in new corporate and household loans**



Source: NBS.

[3] By sector classification, registered agricultural producers and entrepreneurs belong to the household sector.

– **a somewhat lower amount of new dinar corporate loans relative to Q1** (by RSD 0.4 bn), intended for financing working capital (by RSD 2.1 bn).

The dinarisation of new <u>household</u> loans increased (by 4.7 pp to 75.2%), as a reflection of:

– **a higher amount of new dinar household loans** (by RSD 19.2 bn), which is almost entirely the result of growth in **cash loans** (by RSD 16.9 bn); these loans make up over four-fifths (85.9%) of total dinar loans and are, as a rule, approved in dinars (99.4%);

– **a lower amount of new FX-indexed household loans** (by RSD 1.2 bn) relative to a quarter earlier, pertaining largely to **other non-categorised loans** and, for the second quarter in a row, **to housing loans.**

Interest rates on new loans

Reflecting monetary policy tightening by the NBS and leading central banks (primarily the ECB), **the weighted average interest rates on corporate and household loans went up in Q2**. Rates went up on both **dinar loans** (by 0.3 pp on average, to 11.9%) **and FX loans** (by 0.5 pp to 6.6%).

The rise in <u>interest rates on corporate loans</u> was more dynamic for FX-indexed and FX loans than for dinar loans:

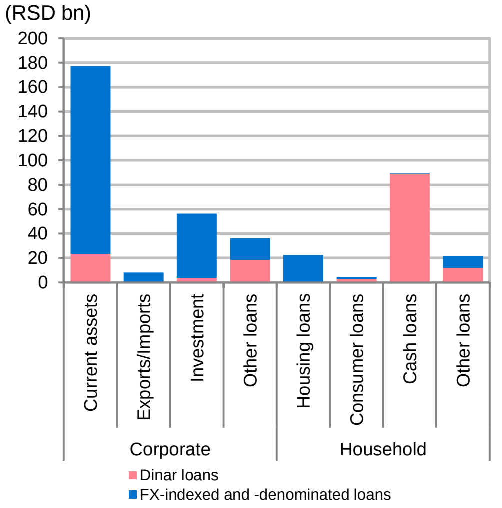
– **The rates on FX-indexed and FX corporate loans rose by 0.6 pp on average, to 6.5%.** Growth was particularly pronounced for export-import (by 1.1 pp to 7.2%) and investment loans (by 1.0 pp to 6.7%), while rates on non-categorised and working capital loans increased more moderately (by 0.6 pp to 6.1% and by 0.4 pp to 6.5%, respectively).

– Interest rates **on dinar corporate loans increased more moderately** (by 0.3 pp on average, to 8.5%). Interest rates on **all loan categories** went up – more modestly on working capital and investment loans (by 0.2 pp each to 8.5% and 8.6%, respectively), and slightly more for other non-categorised loans (by 0.4 pp to 8.4%).

<u>Interest rates on</u> dinar and FX <u>household loans</u> also increased:

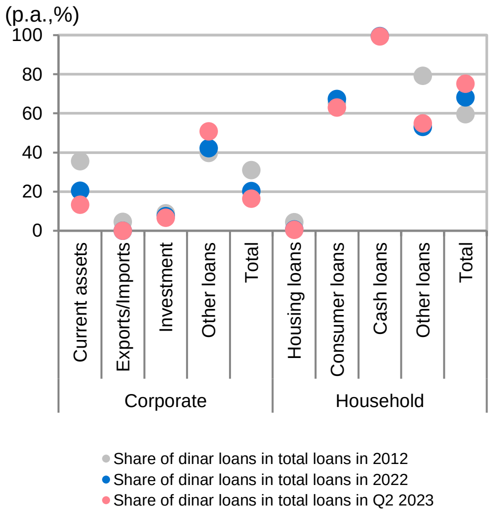
– **The weighted average interest rate on FX household loans** gained 0.4 pp in Q2, rising to 7.2%. Interest rates **on housing loans** increased in

Chart I.1.4 **New corporate and household loans in Q2 2023 - by purpose**



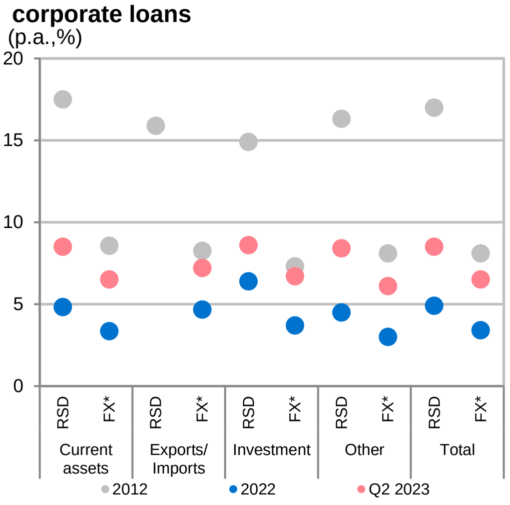
Source: NBS.

Chart I.1.5 **Dinarisation of new corporate and household loans - by purpose**



Source: NBS.

Chart I.1.6 **Interest rates on new corporate loans**

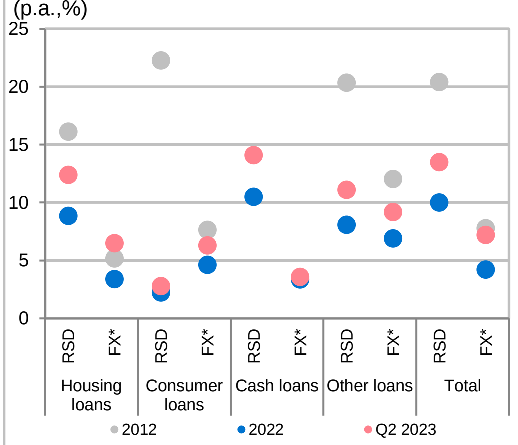


*FX-indexed and -denominated loans.
Source: NBS.

particular (by 0.7 pp to 6.5%), with these loans accounting for 65.4% of FX household loans, as did the rates on other non-categorised loans (by 0.3 pp to 9.2%). Interest rates on FX-indexed cash and consumer loans subsided (by 0.7 pp to 3.6% and by 0.1 pp to 6.3%, respectively).

– **The weighted average interest rate on dinar loans rose marginally** compared to Q1 (by 0.1 pp to 13.5%). Interest rates on cash, housing and consumer loans stayed flat on average (14.1%, 12.4% and 2.8%, respectively), whereas rates on loans of other non-categorised purposes dipped slightly (by 0.1 pp to 11.1%).

Chart I.1.7 **Interest rates on new household loans**

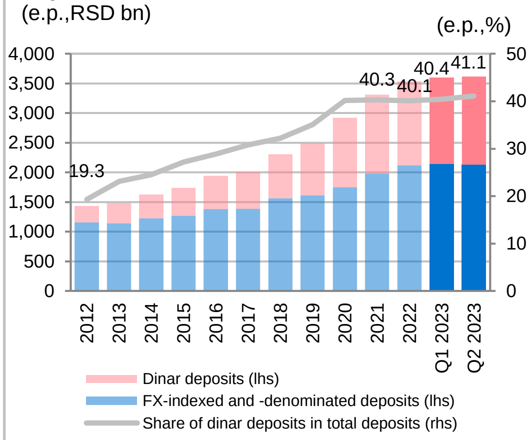


*FX-indexed and -denominated loans.
Source: NBS.

2. Deposit dinarisation

The degree of dinarisation of corporate and household deposits, in case of outstanding business, increased in Q2 relative to Q1 2023 to the highest level on record. Observed by new deposits, this indicator also went up in the same period.

Chart I.2.1 **Share of dinar deposits in total corporate and household deposits**



Source: NBS.

Corporate and household deposits

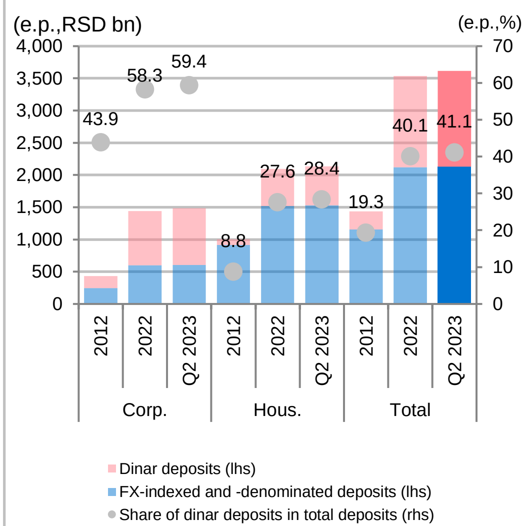
The share of dinar in __total corporate and household__ deposits in Q2 2023 increased by 0.7 pp to 41.1%, the highest level on record. Y-o-y, this indicator increased by 4.6 pp.

Excluding the exchange rate effect, at end-Q2 2023 this indicator stood at 41.0%, up by 0.8 pp from end-Q1 2023. Growth was more pronounced in y-o-y terms (4.6 pp).[4]

The increase in dinarisation of total corporate and household deposits in Q2 2023 was driven by the continued upward trend of dinar deposits, in place since mid-2022. Namely, as of June 2022 these deposits increased steadily from month to month, except in January 2023 (largely on account of seasonal factors). In Q2, their growth equalled RSD 33.4 bn. On the other hand, **FX deposits** decreased in Q2 2023 for the first time since Q2 2019 (by RSD 16.2 bn).

The dinarisation of deposits in Q2 2023 increased both for corporates (by 0.9 pp to 59.4%) and for households (by 0.8 pp to 28.4%). Even more substantial growth was posted in y-o-y terms (4.2 pp and 3.4 pp, respectively).

Chart I.2.2 **Deposits by sector**



Source: NBS.

The increase in this indicator **for corporates** in Q2 resulted from:

- higher dinar deposits (by RSD 6.8 bn), particularly of electricity supply companies;
- lower FX deposits (by RSD 19.8 bn), primarily of companies in mining, manufacturing and water supply.

Within household deposits, **dinar deposits posted much higher nominal growth** (by RSD 26.6 bn) **than FX deposits** (by RSD 3.6 bn), which resulted in higher dinarisation.

The rise in dinar household deposits mostly refers to transaction deposits (by RSD 21.2 bn), which make up 80.7% of dinar household deposits. Dynamic growth in dinar savings also continued (by RSD 5.3 bn). The rise in FX household deposits was accompanied by an improvement in their maturity

[4] Calculated at the dinar exchange rate against the euro, US dollar, Swiss franc, pound sterling and the Japanese jen as at 31 October 2022, taking into account the currency structure of deposits.

structure, which is in part ascribed to the effect of leap year 2024. Thus, second-quarter growth refers entirely to deposits maturing in over a year (by RSD 24.3 bn), while deposits maturing in under a year decreased (by RSD 20.7 bn), though they remain dominant in the composition of FX deposits (86.0%).

Dinar and FX savings

Both dinar and FX savings went up in Q2 2023.[5] **Dinar savings continued to post robust growth in Q2 2023, which was much more dynamic than the rise in FX savings** (by 5.1% and 0.6%, respectively). The **share of dinar in total savings climbed by 0.2 pp to 6.2% at end-June 2023.** Growth was more pronounced in y-o-y terms (by 0.9 pp).

Dinar savings increased by RSD 5.3 bn in Q2, to RSD 108.7 bn at end-June 2023.

By component of dinar savings, growth relates to savings deposits maturing within one to two years (by RSD 2.9 bn) and six to 12 months (by RSD 2.3 bn). A sharper decrease was recorded for savings termed for up to three months (by RSD 1.1 bn). Savings of other maturities recorded a modest increase.

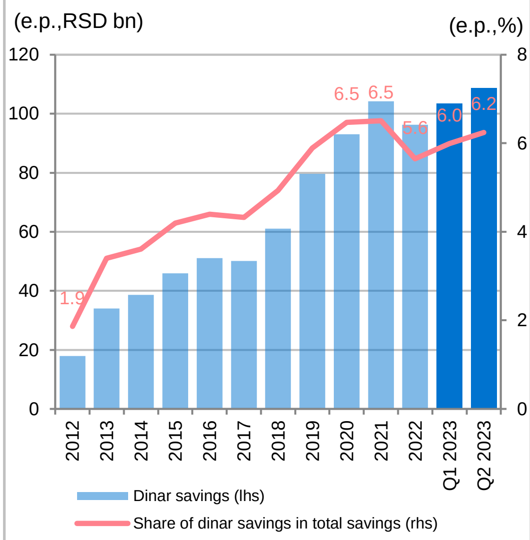
Within dinars savings, deposits maturing within six to 12 months remained dominant (46.3%), while the share of demand savings (22.9) and savings maturing in over two years (14.1%) was somewhat lower.

End-Q2 FX savings measured EUR 13,920.4 mn, up by EUR 86.1 mn relative to end-Q1. The second-quarter increase in FX savings resulted almost entirely from higher FX deposits maturing in over one year (by EUR 213.1 mn). Savings deposits of shorter maturities decreased (by a total of EUR 127.0 mn) as savings deposits maturing between six months and one year went down (by EUR 78.4 mn), which can partly be ascribed to the effect of leap year 2024, as did demand savings (by EUR 37.3 mn) and savings maturing in under three months (by EUR 19.5 mn).

The maturity structure of both dinar and FX savings improved – the share of time savings increased relative to that of demand savings.

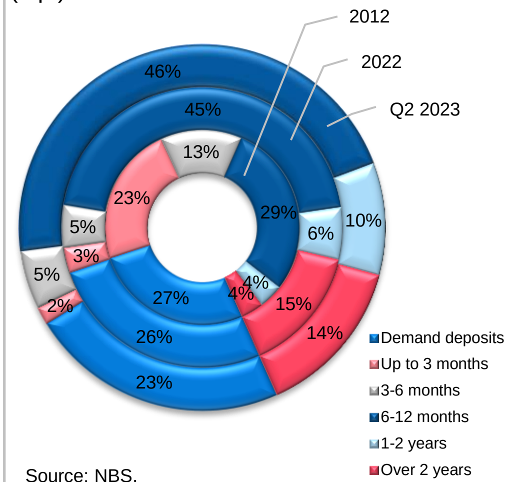
The rise in dinar and FX savings in Q2 2023 was largely supported by the general increase in interest rates, primarily as a **result of monetary policy tightening by the NBS and the ECB. Interest rates on dinar savings are still higher than the rates on FX savings, which is one of the factors behind greater profitability of dinar compared to FX savings.**[6] Savings growth continues to be propped up by the **preserved macroeconomic and financial**

Chart I.2.3 **Dinar savings**



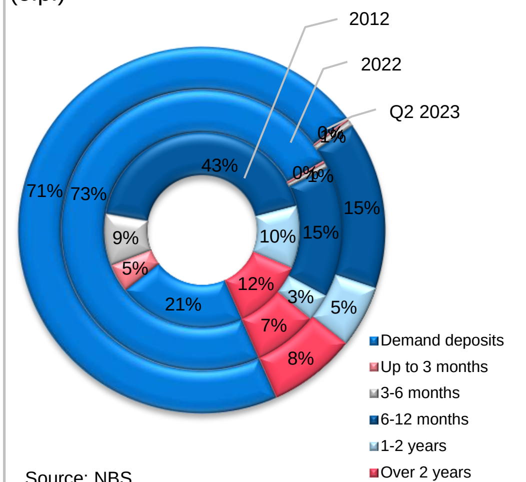
Source: NBS.

Chart I.2.4 **Maturity structure of dinar savings** (e.p.)



Source: NBS.

Chart I.2.5 **Maturity structure of FX savings** (e.p.)



Source: NBS.

[5] Dinar and FX savings include both residents' and non-residents' savings.

[6] For more details, see: *Interest rates on new deposits*, page 8, and Text box, page 10.

stability, while faster growth in dinar savings is also supported by the **relative stability of the dinar exchange rate against the euro and the more favourable tax treatment of interest.**

New corporate and household deposits

Indicators of dinarisation of new deposits

The degree of dinarisation of total new corporate and household deposits in Q2 equalled 65.0%, up by 0.3 pp from a quarter earlier and down by 12.9 pp y-o-y.

Higher dinarisation of new deposits in Q2 was driven by the rising dinarisation of household deposits (by 2.2 pp to 24.0%), which is associated with:

- **a lower amount of FX household deposits** compared to the previous quarter (RSD 70.5 bn vs. RSD 91.0 bn, respectively);
- **a relatively more moderate decrease in new dinar household deposits** (by RSD 3.1 bn).

The degree of dinarisation of new corporate deposits edged down in the same period (by 3.3 pp to 73.3%), due to a sharper increase in the amount of new FX (by RSD 23.8 bn) than dinar deposits (by RSD 13.2 bn) compared to a quarter earlier.

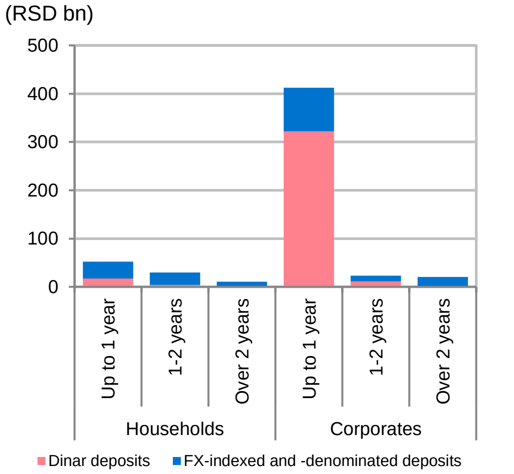
Interest rates on new deposits

In Q2 2023, the weighted average interest rates on dinar time deposits of corporates and households stayed unchanged from a quarter before (5.8%), while having gone slightly up in case of FX deposits (by 0.2 pp to 2.5%).

Interest rates on household deposits edged up in Q2, somewhat more pronouncedly on dinar than on FX deposits, which is favourable from the aspect of dinarisation.

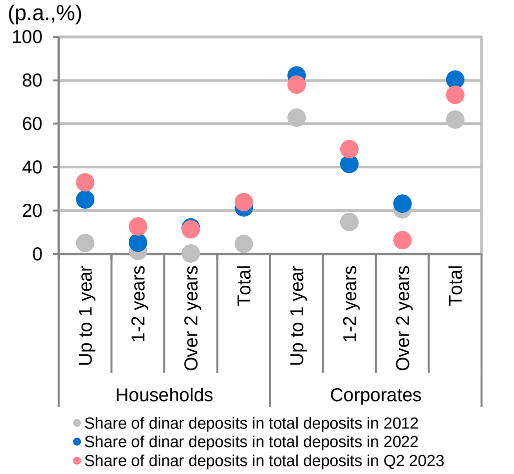
- **Interest rates on dinar household deposits rose by 0.3 pp to 5.0%,** with increase recorded across all maturities – the sharpest in one-to-two-year deposits (by 0.5 pp to 5.3%), and more moderate for over-two-year deposits (by 0.3 pp to 5.3%), and up-to-one-year deposits (by 0.3 pp to 4.9%).
- **Interest rates on FX household deposits rose on average by 0.2 pp to 2.9%**. The rise was even across all deposit categories (by 0.1 pp in each) – in **up-to-one-year maturity (to 2.6%), one-to-**

Chart I.2.6 **New corporate and household deposits in Q2 2023 - by maturity**



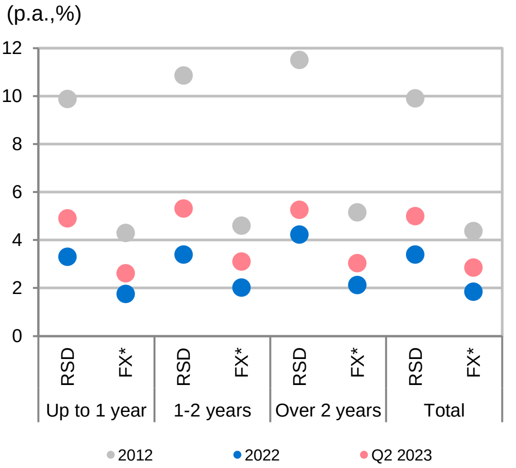
Source: NBS.

Chart I.2.7 **Dinarisation of new corporate and household deposits - by maturity**



Source: NBS.

Chart I.2.8 **Interest rates on new term deposits of households**



*FX-indexed and -denominated deposits.
Source: NBS.

to-year maturity (to 3.1%) and over two years (to 3.0%).

The interest rates on time corporate deposits were unchanged for dinar deposits, while having gone up for FX deposits.

– **Interest rates on dinar corporate deposits stayed on average at the last month's level (5.9%).** In terms of individual maturity, the interest rate on under-one-year deposits (the most prevalent deposit category, and hence with the greatest influence on the average interest rate), stayed unchanged relative to Q1 (5.9%), while the interest rate on one-to-two-year deposits increased by 0.4 pp to 6.9%, and the rate on longer-term deposits by 1.4 pp to 1.5%.

– **The interest rate on FX corporate deposits gained 0.3 pp on average, reaching 2.3%.** Among these, interest rates on one-to-two-year deposits rose more sharply (by 2.0 pp to 3.6%), rates on up-to-one-year deposits more moderately (by 0.5 pp to 2.6%), while interest rates on over-two-year deposits edged down slightly (by 0.1 pp to 0.1%).

Savings in the domestic currency remain more profitable than euro savings

The NBS monitors and analyses the profitability of savings in the domestic currency as part of the strategy of dinarisation of the domestic financial system. Despite the long-time persisting global uncertainties, savings extended their growth into Q2 2023, thanks to the preserved macroeconomic and financial stability in our country.

Savings in the domestic currency rose by RSD 5.3 bn in Q2, peaking in June (RSD 108.7 bn). In the past eleven years dinar savings increased more than sixfold. FX savings also went up in the same period – from EUR 7.9 bn to EUR 13.9 bn.

The analysis of savings profitability for the past 11 years (from June 2012 until June 2023) has demonstrated once again that it is more profitable to save in the domestic currency both in the short and long run. In the observed long-term period, savings in the domestic currency termed for one year that were not rolled over turned out more profitable than euro savings in as many as 98% of the observed annual sub-periods (Chart I.2.9). In the case of savings termed for three months, dinar savings were more lucrative in 90% of subperiods, while in the case of savings termed for two years, dinar savings were more lucrative in all of the subperiods observed. A person who deposited RSD 100,000 for one year, at the interest rate of 2.89%, would receive in June 2023 almost RSD 1,900 more than a depositor saving in euros the equivalent of RSD 100,000, at the interest rate of 1.35% (Table I.2.1).

Table I.2.1. **Profitability of savings placed on deposit for a year**

Type of savings	Date of deposit placement	Initial deposit	EURRSD exchange rate*	Interest rate (%, p.a.)**	Maturity date	EURRSD exchange rate	Amount of deposit at the end of term in RSD	Amount of deposit at the end of term in EUR***
Savings in RSD	June 2022	100,000	117.4297	2.89	June 2023	117.2731	102,890	877
Savings in EUR	June 2022	852	117.4297	1.35	June 2023	117.2731	101,013	861
Difference in favour of savings in RSD - deposit placed for a year							1,877	16
Difference in favour of savings in RSD - deposit placed for a 3M period							721	6
Difference in favour of savings in RSD - deposit placed for a 2Y period							3,892	33
Difference in favour of savings in RSD - deposit placed for a 11Y period, annual rollover							47,791	408

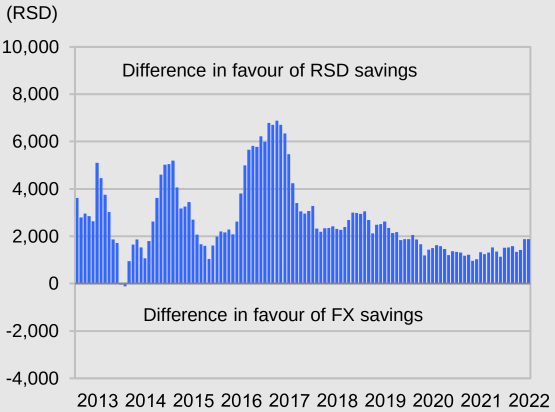
*monthly average exchange rate of the dinar against the euro.
**weighted average interest rate on RSD and EUR savings placed on deposit for a year - new business.
***for savings in euros, after tax on interest income.

A person who deposited RSD 100,000 for one year and rolled it over in the period of eleven years, would earn at the end of maturity (June 2023) close to RSD 48,000 (over EUR 400) more than a depositor who saved in euros the equivalent of RSD 100,000 over the same period.

Greater profitability of dinar savings has been underpinned by macroeconomic and financial stability, higher interest rates on dinar compared to euro savings and non-taxation of interest on dinar savings, as well as monetary and fiscal policy measures which helped preserve macroeconomic stability even in the face of a years-long global crisis (coronavirus pandemic, energy crisis, geopolitical factors, inflation).

In order to sustain dinarisation of the financial system, the NBS will continue to support savings in the domestic currency going forward.

Chart I.2.9. **Profitability of savings placed on deposit for a year**



Note: The time axis refers to the date of placement of deposits.

Source: NBS.

3. Dinarisation of public debt

The degree of public debt dinarisation slightly increased in Q2, in conditions of government reliance on both dinar and FX sources of funding.

The dinar component of public debt increased on account of issuance of dinar securities in the domestic market and borrowing from commercial banks for the purpose of financing infrastructure projects. The rise in the FX component was mostly prompted by two tranches disbursed under the IMF stand-by arrangement and borrowing from the Export–Import Bank of China, also for the purpose of financing infrastructure projects.

Public debt and its composition

Public debt[7] increased by RSD 55.5 bn in Q2, to RSD 4,190.4 bn at end-June 2023 (51.7% of estimated GDP).

The FX component of public debt increased (by RSD 38.3 bn), mainly on account of disbursement of a portion of funds approved under the standby arrangement with the IMF and borrowing with the Export–Import Bank of China for the construction of the Hungarian-Serbian railway, E-763 highway and other infrastructure projects.

The dinar component of public debt also went up (by RSD 17.2 bn), due to the government's net borrowing in the domestic securities market and from Banca Intesa and NLB Komercijalna banka for the purpose of reconstructing the railway with Hungary and constructing the Danube highway.

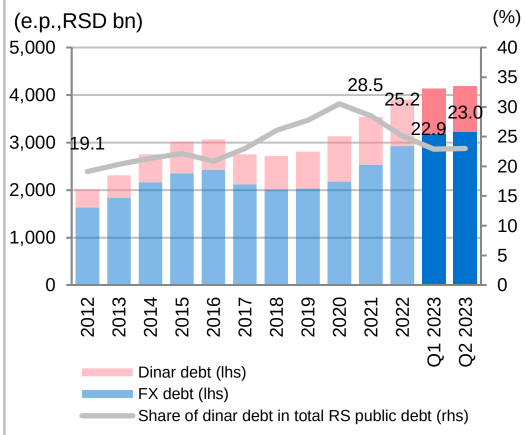
Public debt dinarisation edged up slightly compared to Q1. At end-June this indicator equalled 23.0%, up by 0.1 pp from end-Q1, and down by 1.9 pp from the same quarter last year.

Given that Q2 was to a large extent marked with the borrowing from the IMF realised in SDR, the share of debt in that currency in total public debt increased by 0.5 pp to 6.9%. On the other hand, the share of public debt in euros contracted– by 0.4 pp to 56.3%, as well as the share in dollars – by 0.1 p to 13.2%. The share of debt in other currencies is modest (0.6%).

Primary market of government securities

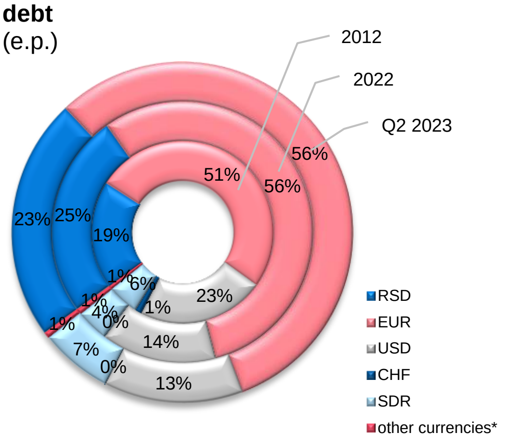
In the currency composition of the portfolio of government securities issued in the domestic financial market,[8] the share of dinar securities increased by 0.5 pp in Q2,[9] reaching a record-high level by the end of the quarter (79.3%). Such movements reflect the increase in the portfolio of dinar securities issued in the domestic market in Q2, by RSD 12.7 bn to RSD 913.1 bn. In terms of

Chart I.3.1 **Share of dinar debt in total public debt**



Source: Ministry of Finance.

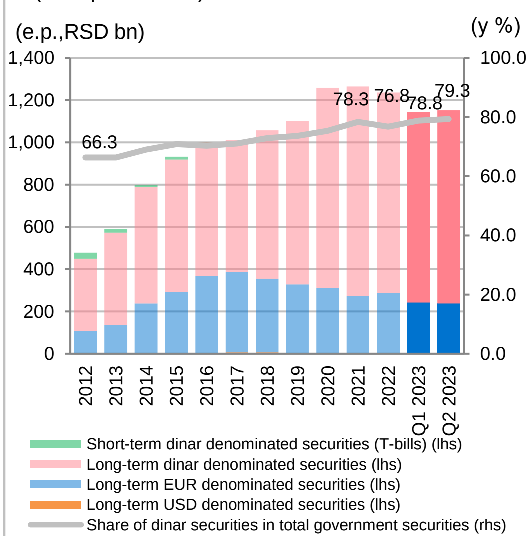
Chart I.3.2 **Currency structure of RS public debt**
(e.p.)



* GBP, JPY, DKK, SEK, NOK, CNY, KWD, AED.

Source: Ministry of Finance.

Chart I.3.3 **Maturity and currency structure of government securities issued in the domestic fin. market**
(end-quarter data)



Source: Ministry of Finance.

[7] Central government public debt.

[8] Including savings bonds and restitution bonds.

[9] Y-o-y, this indicator increased by 4.6 pp.

individual maturity, securities sold included those with original maturity of two years (in total nominal amount of RSD 41.5 bn), ten years (in nominal amount of RSD 14.2 bn) and twelve years (in total nominal amount of RSD 11.2 bn), while a three-year bond fell due (in the amount of RSD 54.2 bn).

The stock of public debt on account of government securities in foreign currency issued in the domestic financial market decreased to EUR 2.0 bn. A decrease in the amount of FX debt on this account was prompted by the maturing of five-year bonds (EUR 39.3 mn), while there were no new issues of securities in foreign currency.

Secondary market of dinar government securities

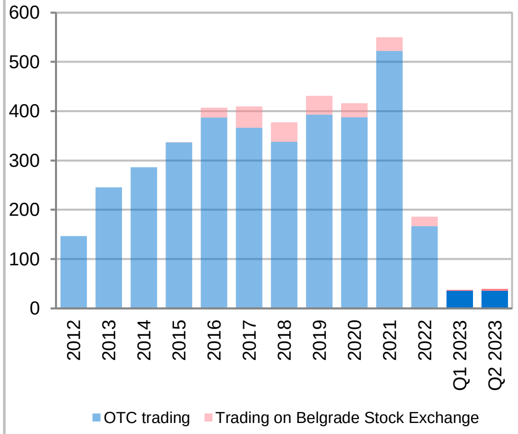
In Q2, secondary trading in dinar government securities amounted to RSD 39.6 bn, up by RSD 2.4 bn q-o-q.

The increase related primarily to seven-year securities (by RSD 11.8 bn). Trading in bonds with original maturity of five and ten years edged up much more moderately (by RSD 1.3 bn and RSD 0.8 bn, respectively), while trading in bonds with original maturity of two and twelve years contracted (by RSD 6.5 bn and RSD 3.1 bn, respectively), as well as trading in securities with original maturity of three years, which matured in Q2 (by RSD 1.8 bn).

In Q2, secondary trading in dinar government securities increased by RSD 2.2 bn relative to Q1, amounting to RSD 3.9 bn and accounting for 9.9% of total trading in these securities in the secondary market.

Chart I.3.4 **Secondary trading in dinar government securities**

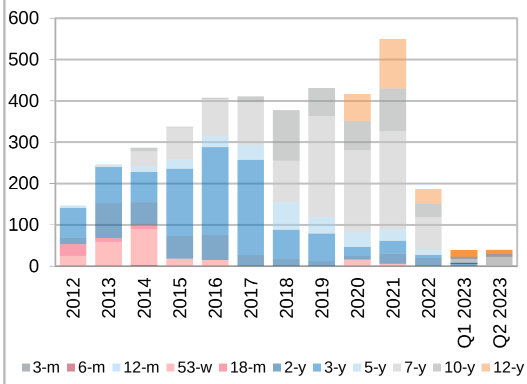
(RSD bn)



Sources: Ministry of Finance, CSD and BSE.

Chart I.3.5 **Secondary trading in dinar government securities, by maturity of securities**

(RSD bn)



Sources: Ministry of Finance and CSD.

II. FX hedging instruments

In Q2 2023, the NBS proceeded with concluding bilateral foreign exchange swap purchase/sale transactions with banks, which were introduced in early 2022 and proved to be an efficient tool for helping banks manage their dinar and FX liquidity.

In Q2 2023, residents concluded forward FX purchases with banks worth EUR 66 mn, down by EUR 17.1 mn q-o-q and forward FX sales worth EUR 4.4 mn, down by EUR 7.1 mn q-o-q.

1. FX swap transactions between the NBS and banks

In Q2 2023, the NBS continued to conclude bilateral FX swap purchase/sale auctions with banks introduced in early 2022. In comparison with regular swap auctions, these bilateral transactions proved as a more efficient tool for helping banks manage their dinar and FX liquidity, given the greater flexibility regarding the moment of conclusion of transactions and their maturity.[10]

In Q2, the NBS swap purchased/sold EUR 88 mn each in bilateral swap transactions with banks.

Table II.1.1. **NBS swap transactions, quarterly data** (EUR mln)

Period	Swap FX sale	Swap FX purchase
2012	171.0	188.0
2013	124.0	124.0
2014	180.0	180.0
2015	550.5	550.5
2016	440.0	440.0
2017	546.5	546.5
2018	324.0	324.0
2019	513.5	513.5
2020	800.5	956.0
2021	353.0	518.0
2022	680.6	993.6
2023	**127.0**	**127.0**
Q1	39.0	39.0
Q2	88.0	88.0

Note: Until the end of 2021, the data refer to swap auctions, and from the beginning of 2022 the data refer to swap auctions and bilateral swap transactions. From 2023, the data refer only to bilateral swap transactions.

Source: NBS.

Table II.1.2. NBS bilateral swap transactions in 2023, monthly data
(EUR mln)

Month	Swap FX sale	Swap FX purchase
January	10.0	10.0
February	19.0	19.0
March	10.0	10.0
Q1 2023	**39.0**	**39.0**
April	13.0	13.0
May	40.0	40.0
June	35.0	35.0
Q2 2023	**88.0**	**88.0**
Total in 2023	**127.0**	**127.0**

Source: NBS.

[10] On 1 August 2022 the NBS stopped organising regular two-week and three-month FX swap auctions, but did not exclude the possibility of their reintroduction in case of need.

2. FX hedging instruments

In Q2, the share of forward FX purchases in total FX purchases by residents from banks equalled 1.1% (vs. 1.4% in a quarter before), having peaked in June – 1.4%. In Q2, seven domestic companies used the possibility of FX hedging by concluding this type of transactions with banks, totalling EUR 66 mn (EUR 83.1 mn in the previous quarter). The weighted average maturity of forward FX purchases was 42 days, with the longest maturity of an individual forward FX transaction recorded in June – 133 days. The average value of forward FX purchase contracts of residents equalled EUR 0.6 mn.

Q2 saw forward FX sales by two residents in the total amount of EUR 4.4 mn (compared to EUR 11.5 mn in the quarter before), and the weighted average maturity of transactions of 147 days. The longest maturity of an individual forward transaction was recorded in June – 183 days. The average value of forward FX sale contracts of residents equalled EUR 0.7 mn.

In terms of the currency structure of forward FX purchases between residents and banks, the euro accounted for 94% and the US dollar for 6%.

As for the currency structure of forward FX sales, the euro accounted for 69% and the US dollar for 31%.

Table II.2.1. **FX forward transactions between residents and banks, quarterly data**

Period	Forward purchase by residents			Forward sale by residents		
	Amount in EUR mln	Weighted average maturity in days	% share in total purchase	Amount in EUR mln	Weighted average maturity in days	% share in total sale
2012	754.7	38	6.7	1.3	18	0.0
2013	533.8	24	5.0	1.4	39	0.0
2014	430.0	24	5.0	0.8	49	0.0
2015	531.0	16	4.8	1.5	77	0.0
2016	450.5	22	3.9	12.9	263	0.1
2017	388.8	37	3.0	17.1	349	0.2
2018	212.7	55	1.5	49.9	450	0.4
2019	108.9	72	0.7	63.4	349	0.4
2020	178.7	118	1.2	69.4	217	0.5
2021	146.8	116	0.8	40.6	246	0.2
2022	185.3	67	0.7	33.9	146	0.1
2023	149.1	54	1.3	15.8	115	0.1
Q1	83.1	63	1.4	11.5	103	0.2
Q2	66.0	42	1.1	4.4	147	0.1

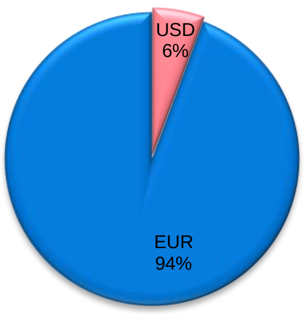
Source: NBS.

Table II.2.2. **FX forward transactions between residents and banks in 2023, monthly data**

Month	Forward purchase by residents			Forward sale by residents		
	Amount in EUR mln	Weighted average maturity in days	% share in total purchase	Amount in EUR mln	Weighted average maturity in days	% share in total sale
January	30.2	93	1.6	4.9	50	0.3
February	18.5	46	1.1	1.0	182	0.1
March	34.4	47	1.5	5.6	136	0.3
Total in Q1	**83.1**	**63**	**1.4**	**11.5**	**103**	**0.2**
April	9.0	44	0.5	1.0	182	0.0
May	26.8	34	1.3	1.0	182	0.0
June	30.2	49	1.4	2.4	117	0.1
Total in Q2	**66.0**	**42**	**1.1**	**4.4**	**147**	**0.1**
Total in 2023	**149.1**	**54**	**1.3**	**15.8**	**115**	**0.1**

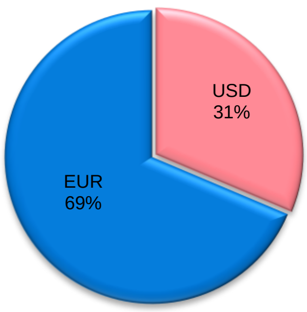
Source: NBS.

Chart II.2.1. **Currency structure of FX forward purchase of residents from banks in Q2 2023**



Source: NBS.

Chart II.2.2. **Currency structure of FX forward sales of residents to banks in Q2 2023**



Source: NBS.

Table A indicators of dinarisation of receivables, loans and deposits
(in %)

Period	Share of dinar in total receivables, outstanding amounts, e.p.			Share of dinar in total loans, new business, p.a.*			Share of dinar in total deposits, outstanding amounts, e.p.			Share of dinar in total deposits, new business, p.a.*		
	Corporates	Households	Total	Corporates	Households	Total	Corporates	Households	Total	Corporates	Households	Total
2008	33.8	22.2	29.2				50.3	12.5	27.6			
2009	26.2	22.1	24.7				52.5	10.9	25.6			
2010	32.2	27.6	30.5	41.8	51.1	43.5	45.0	8.5	19.8	51.4	2.7	25.0
2011	27.3	32.6	29.2	33.3	44.0	35.9	44.9	10.1	21.5	51.3	3.8	32.8
2012	24.2	35.1	28.0	31.0	59.6	36.5	43.9	8.8	19.3	62.0	4.6	38.1
2013	20.0	37.9	26.8	24.6	63.6	35.0	52.4	11.5	23.1	65.2	8.2	44.1
2014	25.0	41.0	31.2	33.2	71.7	44.2	53.6	12.3	24.5	67.6	12.3	46.5
2015	19.4	42.8	28.6	16.8	67.8	30.3	55.6	13.9	27.2	69.1	16.0	52.8
2016	19.4	47.0	31.2	21.5	74.1	36.8	54.0	15.8	28.8	69.3	20.1	56.6
2017	17.5	51.8	33.0	19.3	71.0	36.0	56.5	16.9	30.8	75.6	22.7	64.3
2018	15.4	53.6	33.0	18.3	73.1	36.8	53.1	19.2	32.2	81.1	20.3	66.7
2019	14.0	55.4	33.1	16.9	66.9	33.5	58.3	22.1	35.1	74.9	25.0	63.9
2020	21.0	55.9	37.3	31.5	69.8	43.6	61.3	26.8	40.1	81.3	26.6	70.1
2021	24.0	54.6	38.3	25.5	67.9	39.4	59.4	28.3	40.3	81.1	30.4	71.0
2022	19.4	53.1	35.1	20.3	68.2	35.3	58.3	27.6	40.1	80.3	21.4	68.6
Q1 2023	18.1	52.8	34.4	19.2	70.4	36.4	58.5	27.6	40.4	76.6	21.8	64.7
Q2 2023	17.0	53.0	34.0	16.4	75.2	35.9	59.4	28.4	41.1	73.3	24.0	65.0

* Indicators are calculated based on data on the amount of new loans and deposits during the period.
For the year 2010, indicators relate to the period September-December.

Source: NBS.

Table B Currency structure of household savings and public debt

Period*	Household savings				Public debt (central government)			
	Dinar savings (RSD mn)	FX savings (EUR mn)	Total savings (RSD mn)	Share of dinar savings in total savings (%)	Public debt in RSD (RSD bn)	Public debt in foreign currency (RSD bn)	Total public debt (RSD bn)	Share of RSD public debt in total public debt (%)
2008	10,575.0	4,679.1	425,145.0	2.5	19.9	758.1	778.0	2.6
2009	12,400.0	5,904.5	578,577.0	2.1	120.6	823.8	944.4	12.8
2010	13,848.7	7,105.8	763,495.8	1.8	187.1	1,095.4	1,282.5	14.6
2011	19,664.1	7,611.2	816,110.9	2.4	248.9	1,298.6	1,547.5	16.1
2012	17,882.9	8,272.3	958,597.0	1.9	385.4	1,629.3	2,014.8	19.1
2013	34,015.4	8,418.5	999,125.2	3.4	469.1	1,840.0	2,309.0	20.3
2014	38,615.1	8,524.6	1,069,732.9	3.6	588.6	2,164.6	2,753.2	21.4
2015	45,968.2	8,628.6	1,095,435.6	4.2	668.9	2,349.7	3,018.6	22.2
2016	51,063.9	8,987.3	1,160,744.3	4.4	639.8	2,424.8	3,064.6	20.9
2017	50,152.0	9,373.2	1,160,614.5	4.3	632.5	2,117.2	2,749.7	23.0
2018	61,079.9	9,955.1	1,237,720.8	4.9	708.4	2,011.8	2,720.2	26.0
2019	79,573.6	10,804.3	1,350,075.9	5.9	781.3	2,034.4	2,815.6	27.7
2020	93,057.4	11,435.8	1,437,685.6	6.5	958.0	2,177.8	3,135.8	30.5
2021	104,184.7	12,736.2	1,601,732.8	6.5	1,010.2	2,533.1	3,543.2	28.5
2022	96,287.6	13,715.0	1,705,363.3	5.6	983.5	2,926.4	3,909.9	25.2
Q1 2023	103,398.7	13,834.3	1,726,071.2	6.0	945.9	3,188.9	4,134.9	22.9
Q2 2023	108,695.2	13,920.4	1,740,582.3	6.2	963.1	3,227.2	4,190.4	23.0

* Indicators show data at end-period.

Sources: NBS, Ministry of Finance.

Table C Overview of measures and activities contributing to dinarisation of the Serbian financial system (1/2)

Period of adoption of measure/implementation of activity	Description of measure/activity	Expected effects
June 2005	RR differentiation rate on dinar and FX sources of bank financing.	Stimulating banks to use dinar sources of financing more
May 2011	LTV limit for FX-indexed mortgage loans of 80%, with no such limit prescribed for dinar loans. In December 2017 this limit was loosened to 90% in cases when the loan is approved as a measure of government support to certain categories of natural persons, and in June	Ensuring preferential treatment of dinar lending to households
	Prescribed minimum mandatory downpayment/deposit for FX and FX-indexed loans to natural persons (except mortgage loans) of 30%.	Ensuring preferential treatment of dinar lending to households
Since May 2011	Limiting the ratio of net open FX position to capital at 20%, as of 2011 (increased from 10%, with a view to encouraging credit activity).	Limiting the amount of FX and FX-indexed loans relative to FX sources of funding
June 2011	First-degree liquid receivables include also 90% of fair value of dinar RS securities with minimum maturity of 3 months. This does not apply to FX securities.	Capital market development, incentivising banks to rely more on dinar sources of financing
December 2011	Prescribed requirement for banks to inform clients in writing, prior to signing an agreement, of the risks they assume if they opt for an FX-denominated or FX-indexed service. Also, the offered agreement must contain the information on the currency in which the service is	Promoting hedging against FX risk for financial service consumers
	Prescribed requirement for advertising of credit and deposit services and leasing operations: when the advertising message contains numerical data, the currency in which the service is denominated must be stated in a representative example.	
	Prescribed requirement for banks and lessors to offer financial services in dinars, unless the consumer requires otherwise.	
April 2012	The NBS and the Republic of Serbia Government signed the Memorandum on the Strategy of Dinarisation of the Serbian Financial System.	Defining objectives, measures and activities that the NBS and the Republic of Serbia will implement in order to strengthen confidence in the national currency and its use in the financial system
May 2012	Societe Generale Banka Srbija a.d. Beograd issued the first dinar bond in the domestic market, without a currency clause, with three year maturity.	Capital market development
September 2012	By the adoption of the Law Amending the Law on Personal Income Tax, the tax on i.nterest on FX savings was increased from 10% to 15%.	Given that interest income on dinar savings is exempted from the personal income tax, this measure is an incentive to households to give preference to saving in domestic currency over FX saving
April 2013	The NBS included dinar securities without an FX-clause issued by IFOs with the top credit rating in the portfolio of securities used by the NBS in open market operations and on the list of eligible collateral in approval of NBS's daily liquidity facilities and short-term loans against the pledge of securities.	Capital market development, through incentive to banks to hold in their portfolios dinar securities issued by the IFOs for the purpose of loan financing
November 2013	The NBS adopted the Decision on Terms and Conditions of Performing Foreign Credit Transactions in Dinars, which provides for more favourable conditions under which international financial institutions and development banks or financial institutions founded by a foreign state (IFO) may approve dinar loans to domestic banks, legal persons and entrepreneurs, as well as conditions and manner in which domestic banks may approve dinar loans to non-residents.	Increasing credit activity of domestic banks in dinars
May 2014	The Republic of Serbia Government adopted the programme for subsidising dinar loans to corporates.	Increasing loan dinarisation - of a temporary nature
October 2014	A first-time issue of a 10-year dinar bond by the government.	Financial market development and building a yield curve for longer maturities – enabling banks to price long-term dinar loans
November 2015	Long-term government securities admitted to the prime listing of the Belgrade Stock Exchange.	Boosting liquidity and developing secondary market of government securities
January 2016	RR rate on the portion of FX base comprised of dinar liabilities indexed to an FX-clause was increased to 100% from 50% which had been applied since June 2012.	Disincentive for use of FX-indexed dinar deposits
February 2016	A first-time larger-size issue of benchmark dinar bond by the government, with a view to reopening the issue and selling the bond several times a year.	Boosting liquidity and developing secondary market of dinar government securities
October 2016	Domestic banks started to offer non-FX indexed housing loans in dinars, at relatively favourable terms (rates below 5%) and with a long repayment term (up to 30 years).	Rise in long-term household lending in dinars
December 2016	The domestic financial market saw the first issuance of a dinar bond by an international financial institution – EBRD. The nominal size of the issue was RSD 2.5 bn.	Financial market development

Table C Overview of measures and activities contributing to dinarisation of the Serbian financial system (2/2)

Period of adoption of measure/implementation of activity	Description of measure/activity	Expected effects
June 2017	The first trading in EBRD-issued dinar bonds in the Belgrade Stock Exchange (in the amount of RSD 60 mn).	Secondary financial market development
	A part of EBRD proceeds from the issue of dinar bonds in the domestic market was onlent to corporates through domestic banks. The loans were mainly used for financing of agriculture and refinancing.	Increasing the dinarisation of corporate loans
	The NBS set the systemic risk buffer rate at 3% of total FX and FX-indexed receivables of a bank approved to corporates and households in the Republic of Serbia, for banks whose share of FX and FX-indexed in total corporate and household receivables exceeds 10%.	Limiting the risk of euroisation, one of the key structural non-cyclical systemic risks to the stability of the financial system of the Republic of Serbia.
December 2017	The Government issued a new type of bond in the domestic financial market – saving bond .	Development of the financial market by promoting alternative form of savings and facilitating access to the government securities market for the general public
Since April 2018 (the last change), as well as before	Differentiated RR remuneration rate: 1.25% on dinar RR, no remuneration on FX RR.	Stimulating banks to rely more on dinar sources of funding
June 2018	The Law on Financial Collateral was adopted.	Achievement and improvement of the legal certainty and efficiency relating to the performance of obligations in the financial market (regulating financial collateral arrangements as well as procedures for enforcement of the collateral), as preconditions for further development of the financial market.
December 2018	The NBS and the Republic of Serbia Government signed the new Memorandum on the Strategy of Dinarisation of the Serbian Financial System.	Reviewed the results of measures and activities taken so far and, starting from them, agreed on additional measures and activities aimed at further increase in dinarisation and curbing of the FX risk in the system
	Amendments to the Law on Public Debt introduced the institute of primary dealer and envisaged the possibility of using financial derivatives for the purposes of public debt management.	Increasing liquidity and developing the domestic financial market.
December 2019	Amendments to the Decision on Capital Adequacy of Banks envisage lower capital requirements for banks to cover risks arising from dinar receivables to micro enterprises, small and medium-sized enterprises, entrepreneurs and farmers. Also, capital reduction is envisaged for banks whose share of new FX and FX-indexed loans approved to corporates, enterpreneurs and farmers for specific purposes has exceeded the defined level.	Incentivising banks to increase dinar lending.
	Amendments to the Law on Public Debt enable foreign legal persons (e.g. Euroclear) to clear and settle transactions related to the purchase and sale of government securities in the domestic capital market.	Facilitating foreign investor access to the domestic market of government securities, increasing efficiency and broadening the financial investor base on that market.
February 2020	Amendments to the Law on the Capital Market harmonise the provisions of that Law with the Law on Public Debt, in terms of the possibility for foreign legal persons (e.g. Euroclear) to clear and settle transactions related to the purchase and sale of financial instruments in the domestic capital market.	Facilitating foreign investor access to the domestic capital market, increasing efficiency of the domestic financial market and broadening the financial investor base.
	On 18 February 2020, Serbia issued its first 12Y government bond, at a coupon rate of 4.50%. Thus, the yield curve of longer maturities was extended, enabling banks to form the price of long-term dinar loans.	Development of the financial market.
May 2020	The NBS introduced bonds issued by the domestic companies with a certain credit rating (determined by the Business Registers Agency) in the portfolio of securities traded in the NBS open market, and in the list of acceptable collateral when approving NBS loans for daily liquidity and short'term loans based on the securities pledge.	Capital market development, through incentive to banks to hold in their portfolios dinar corporate bonds.
July 2020	Amendments to the decision on interest rates, which the NBS applies in its monetary policy conduct, envisage that banks which approve dinar loans to clients under the guarantee scheme at rates at least 50 bp lower than the maximum (one-month BELIBOR + 2.5 pp) are entitled to the remuneration rate for dinar reserve requirements from the NBS (which currently stands at 10 bp) increased by 50 bp, on the amount equal to the amount of those loans approved under more favourable terms, and which do not exceed the amount of calculated dinar reserve requirements.	Encouraging dinar lending.
June 2021	Dinar bonds of the Republic of Serbia are included in renowned indices of J.P. Morgan investment bank.	Boosting liquidity and development of the domestic capital market.
October 2021	Clearstream included Serbian capital market in its global network.	Direct settlement of securities issued in RSD is enabled for foreign investors, which should have a positive effect on the domestic capital market liquidity and development of this market in the coming period.

Methodological notes

- Dinarisation indicators, for each category, represent the share of dinar component in the total amount of that category.
- Receivables include dinar and FX loans (including FX-indexed ones), advances, securities, corporate shares and receivables from interest and fees. Dinar receivables are receivables extended in dinars without an FX-clause. An FX-clause is a currency clause as defined by the Law on Foreign Exchange Operations and any other clause stipulating hedge against the risk of dinar exchange rate volatility.
- The corporate sector (enterprises) comprises public enterprises and companies. Public enterprises are enterprises founded by the state, performing activities in the general (public) interest. Companies also include bank clients in the area of health and education not financed from the budget (private clinics, hospitals, schools and other institutions charging fees for their services based on production costs).
- The household sector comprises domestic natural persons, foreign natural persons – residents, private households with employed persons, registered farmers and entrepreneurs, and non-profit institutions serving households (NPISH).
- Receivables are expressed by the gross principle, i.e. not reduced by allowances for impairment. When excluding the exchange rate effects, the exchange rate of the dinar against the euro, the US dollar, Swiss franc, UK pound sterling and Japanese yen is taken into account.
- The new loans category does not include refinancing loans at interest rates significantly below the market rates, nor revolving loans, current account overdrafts and credit card loans.
- The new deposits category includes time deposits and notice deposits while it does not include overnight deposits.
- Deposits include dinar and FX (including FX-indexed) deposits.
- Household savings include savings of residents and savings of non-residents.
- Public debt of the Republic of Serbia refers to the debt of the central level of government.

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