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Monetary Policy Analysis in Serbia[1]

Abstract: The paper focuses on analysing monetary policy in Serbia. The National Bank of Serbia chose inflation targeting, which sets price stability as the main objective of monetary policy. To achieve this goal, the central bank uses different monetary policy instruments which analysis can provide us with the understanding of the main directions of their actions but also of the limitations of its application. Only through improvement of both instruments and monetary policy the central bank will create a better foundation for achieving monetary stability. In addition, the implementation of exchange rate policy is entrusted to the National Bank of Serbia, as the main regulator of the financial system. A mere use of managed floating exchange rate, as the chosen exchange rate regime, is an appropriate solution in the current economic circumstances and in accordance with the desired objective of monetary policy.

Key words: monetary policy and its instruments, price stability, dinarisation, foreign exchange market, the exchange rate policy

JEL Classification: E43, E52, E58, E61, E63 and E65.

1. Introduction

Monetary policy is only one of the partial economic policies within a single macro-economic policy and the defining of its objectives must take into account the

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The views expressed in the paper are those of the author and do not necessarily represent the official view of the National Bank of Serbia

impact it has on other partial macroeconomic policies governing the balance of payments, attracting foreign direct investment, strengthening national competitiveness, fiscal policy, and all other policies that influence their individual contributions to the overall economic growth and development. It just points to the complexity of the impact of monetary policy, which is even more pronounced during the global financial crisis, which has been present in Serbia since 2008. Each central bank needs to choose an appropriate set of monetary policy instruments that will ensure price stability as the ultimate goal toward achieving the overall banking and financial stability.

Also, the selection appropriate exchange rate regime is an important question, which is not an easy decision bearing in mind that properly selected regime is a necessary but not sufficient precondition for the efficient development of the national economy. When a foreign exchange regime is appropriately chosen it will contribute to economic stability of the country, but cannot be the solution for deep structural problems that are currently present in the Republic of Serbia. The National Bank of Serbia is implementing a managed floating exchange rate regime in the presence of inflation targeting model, which aim is price stability. The implementation of such exchange rate regime implies that the exchange rate is formed under the influence of supply and demand and that the central bank, as the regulator of the financial system, performs the monitoring and intervenes in the domestic foreign exchange market in order to prevent excessive daily exchange rate volatility. Also, Serbia is a country that is heavily exposed to external and internal shocks, which have their own impact on the movement of the exchange rate of the dinar against the euro. In addition, the effect is even more pronounced in view of the platitude of the exchange rate market in Serbia, which is visible in respect of the number of participants, volume of daily turnover, and available instruments.

2. Monetary policy in Serbia

The core purpose of the National Bank of Serbia is to ensure monetary and financial stability. Monetary stability means a low, stable and predictable inflation and confidence in the currency. Financial stability implied a sound financial system in which banks and other financial organisations function well and responsibly safeguard their clients' money. In pursuit of both purposes, the National Bank of Serbia implements appropriate monetary policy.

The primary objective of monetary policy of the National Bank of Serbia is to achieve and maintain price stability. In December 2008, the Monetary Policy

Committee of the National Bank of Serbia adopted a Memorandum on Inflation Targeting as Monetary Strategy, which defines formal implementation of the inflation targeting regime as of 1 January 2009. The principles of this monetary policy regime have been gradually introduced into practice by the National Bank of Serbia pursuant to the Memorandum on the New Monetary Policy Framework, adopted in August 2006. The Memorandum on Inflation Targeting as Monetary Strategy has been prepared in compliance with the Agreement between the National Bank of Serbia and the Government of the Republic of Serbia on Inflation Targeting, adopted in the session of the Government of the Republic of Serbia on 19 December 2008.

The inflation target, defined in terms of the annual percentage change in the consumer price index, is the only numerical guideline for the monetary policy implemented by the National Bank of Serbia[2]. The National Bank of Serbia will achieve the inflation target by changing the interest rate applied in the conduct of its main monetary policy operations[3]. This interest rate will be its main monetary policy instrument. Other monetary policy instruments will have supporting roles, as they should contribute to a smooth transmission of the key policy rate to the market and balanced development of financial markets without threatening the stability of the financial system. Inflation targeting is implemented by four operational guidelines, which are:

1. Setting inflation targets

Inflation targets are set by the National Bank of Serbia, in cooperation with the Government, on the basis of an analysis of current and expected macroeconomic movements and the medium-term plan of changes in prices under direct or indirect regulation of the Government. Inflation targets will be set for several years ahead as point targets with a tolerance band (*Charts 1 and 2*), and defined in terms of the annual percentage change in the consumer price index[4]. The Memorandum of the National Bank of Serbia on the inflation target by 2016 indicates that the National Bank of Serbia establishes targets for inflation in 2014, 2015, and 2016 at the level of 4%, with a tolerance of ± 1.5 percentage points.

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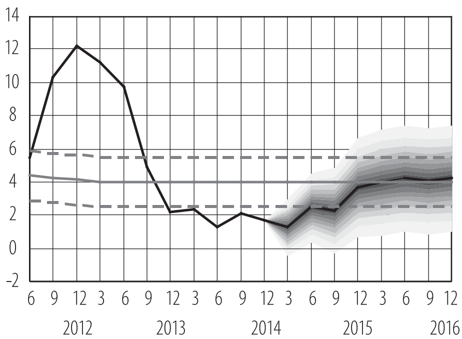
2 The National Bank of Serbia also supports the implementation of economic policy of the Government of Serbia if this does not threaten the achievement of the inflation target or the stability of the financial system.

3 Currently, the interest rate on one-week repo operations

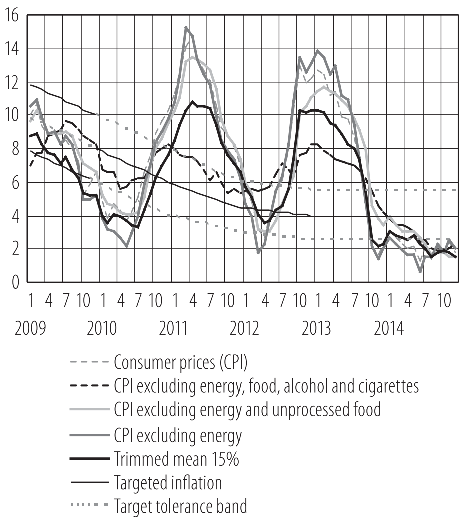
4 National Bank of Serbia's Memorandum on Inflation Targets until 2016, adopted at the NBS Executive Board meeting of 18 October 2013.

Chart 1: Inflation projection (y-o-y, in %)



Source: National Bank of Serbia

Chart 2: Price movements (y-o-y rates, in %)



Source: Statistical Office of the Republic of Serbia and National Bank of Serbia

2. Achieving inflation targets

The National Bank of Serbia will achieve inflation targets by selecting monetary policy instruments in a sustainable, consistent and predictable manner in order to avoid any unnecessary macroeconomic fluctuations. The key policy rate is the main monetary policy instrument in the inflation targeting regime. Other monetary instruments, including interventions in the foreign exchange market, will only have a supporting role. Adjustments in the key policy rate will be based on the analysis of the current economic situation, assessment of future developments, and the medium-term inflation projections.

3. Communicating the Achievement of Inflation Targets: Monetary Policy Transparency and Accountability

The National Bank of Serbia will be transparent and accountable to the public, and will:

- publish press releases from the meetings of the Executive Board on the same day when the meeting is held;

- organize the Governor's press conferences to elaborate on the rationale behind the Executive Board's decisions and answer any questions the public, and
- publish quarterly Inflation Report, as the main tool of communication with the general public regarding economic developments behind the Executive Board's decisions and activities of the central bank.

4. Coordination of monetary, fiscal and wage policies

In an inflation targeting regime, the coordination between monetary and fiscal policies is of key importance. Pursuant to the Agreement on Inflation Targeting, the Government has committed to conducting a sustainable and predictable fiscal policy consistent with inflation targets.

2.1. Monetary Policy Instruments

The main monetary policy instrument of the National Bank of Serbia is the key policy rate – interest rate applied in its main open market operations[5]. Other monetary policy instruments have a supporting role, facilitating unhindered transmission of the key policy rate effects to the market, as well as the development of the financial market. These instruments include:

- open market operations,
- required reserves,
- lending and deposit facilities (standing facilities) and
- intervention in the foreign exchange market.

Monetary policy instruments do not have a direct impact on monetary policy objectives. As there can be a several months' lag in the effect of monetary policy, the National Bank of Serbia focuses on the achievement of operating and intermediate targets (*Figure 1*). Operating targets are easy to control, but are remote from the ultimate objective, while intermediate targets are hard to control, but closer to the ultimate objective.

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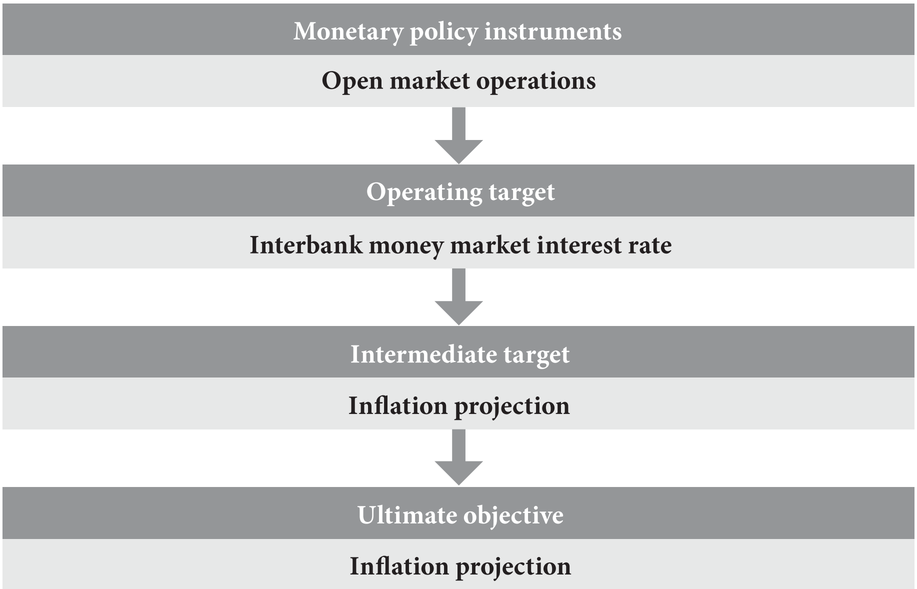
[5] Currently, reverse repo transactions – repo sale of securities, with one-week transaction maturity.

Figure 1: The order of the objectives of the National Bank of Serbia



Source: National Bank of Serbia

As in the case of more developed market economies, and particularly those pursuing inflation targeting regime, the National Bank of Serbia's operating target are interest rates in the interbank money market, and its intermediate target is the inflation projection.

2.2.1. Open market operation

The National Bank of Serbia conducts open market operations in order to regulate the banking sector liquidity, influence short-term interest rate movements and signal its monetary policy stance. Depending on their objectives, dynamics and implementation, these operations are categorized as:

- main operations,
- longer-term operations and
- fine-tuning operations.

The National Bank of Serbia implements open market operations through repo or outright purchase and sale of securities.

Main operations play the most important role in terms of achieving the objectives of open market operations. They are currently reverse repo transactions – repo sale of securities, with the maturity of one-week. The National Bank of Serbia implements the main operations with a regular frequency, at standard auctions held according to a pre-determined calendar. These operations are conducted at the National Bank of Serbia`s key policy rate. *Longer-term operations* aim to provide liquidity to the banking sector and/or absorb excess liquidity in the longer run. They are implemented at standard auctions. *Fine-tuning operations* are implemented on as needed basis, to prevent or ease swings in banking sector liquidity, and particularly their effect on short-term interest rates. As a rule, they are conducted at quick auctions, i.e. on the day a decision is made to hold an auction.

Main characteristics of open market operations are:

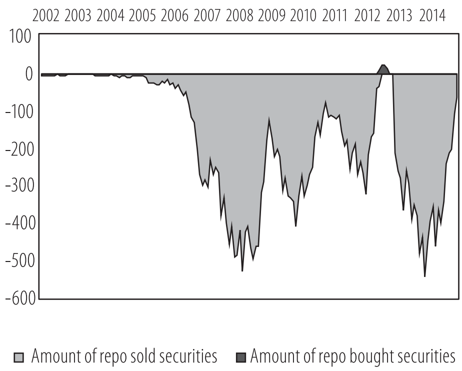
- Auction trading in securities between the National Bank of Serbia and banks is performed via the web platform NBS Monetary Operations;
- Auctions may be fixed rate auctions (where securities are purchased/sold at a fixed interest rate predefined and announced by the National Bank of Serbia) and variable rate auctions (where securities are purchased/sold at the interest rate set based on supply and demand in trade transactions);
- All banks meeting the prescribed requirements may take part in the purchase/sale transactions with the National Bank of Serbia according to the Decision on conditions and manner of implementing open market operations[6], and
- Clearing and settlement of liabilities and claims in securities and cash on the grounds of concluded purchase/sale transactions are performed by the Central Securities Depository and Clearing House by the delivery versus payment model.

The National Bank of Serbia performs monetary operations against the collateral of dinar securities (not indexed to a foreign currency) issued by:

- the National Bank of Serbia;

[6] To participate in open market operations a bank must: 1) be a member of the Central Securities Depository and Clearing House; 2) have a master repo agreement with the National Bank of Serbia, in case of repo transactions, or a master outright agreement, in case of outright transactions; 3) must not have been prohibited to engage in certain securities purchase/sale transactions with the National Bank of Serbia. If a bank fails to perform its obligations in accordance with the master and/or separate agreement on the purchase/sale of securities, the National Bank of Serbia may impose restrictions on the bank's transactions of purchase/sale of securities with the National Bank of Serbia.

Chart 3: Repo and reverse repo transactions of the National Bank of Serbia, 2002-2014, in billion RSD



* Until 28 January 2005, the National Bank of Serbia issued and performed outright sale of the National Bank of Serbia bills. Since 31 January 2005, the National Bank of Serbia has started with repo sale of long-term Republic of Serbia`s securities, and since 26 September 2005 it has launched repo sale of the National Bank of Serbia`s bills. Since 12 August 2005, the National Bank of Serbia has started with outright sale of long-term Republic of Serbia`s bonds.

Source: National Bank of Serbia

- the Republic of Serbia and
- an international financial organization and development bank or a financial institution founded by a foreign government, with the credit rating of "AAA" by Standard & Poor's or Fitch, or "Aaa" by Moody's.

To ensure the collection of its receivables, the National Bank of Serbia may apply in its monetary operations an upward/downward haircut to the nominal value of securities subject to a repo transaction, and/or a downward haircut to the nominal value of securities against which banks are approved daily liquidity loans and/or short-term dinar loans according to the Decision on Determining Upward/Downward Haircut to the Nominal Value of Securities. According to the National Bank of Serbia Memorandum of inflation targeting as a monetary strategy, the benchmark interest rate is the rate that is applied to implement the basic monetary policy operations[7].

Also it is necessary to make a distinction between different types of auctions in performing repo transactions:

- In the period 2002 – 30 March 2004, the National Bank of Serbia applied the model at a fixed rate with permanent sale of securities. Maturities of those transactions were between 7 and 180 days[8];

[7] From 1 September 2006 to 18 July 2012 the benchmark interest rate was applied to the transaction 2W repo sale of securities. From 18 July 2012 to 19 December 2012 the benchmark interest rate was applied to 1W repo transactions of purchase of securities. From 19 December 2012 the benchmark interest rate has been applied to the transaction 1W repo sale of securities.

[8] For auctions held in 2002, maturities of transactions were between 10 and 180 days, for 2003 between 7 and 60 days, and for the period January - 30 March 2004, maturities of transactions were between 7 and 60 days.

- In the period 2 April -11 June 2004, the National Bank of Serbia conducted variable auctions at multiple rates with permanent sale of securities, where maturities were between 6 and 60 days;
- In the period 15 June - 24 December 2004, the National Bank of Serbia applied the model at a fixed rate with permanent sale of securities, where maturities were between 3 and 60 days;
- In the period 30 December 2004 - 28 January 2005, the National Bank of Serbia conducted variable auctions at multiple rates with permanent sale of securities, where maturities were between 7 and 60 days;
- In the period 31 January 2005[9] – 30 August 2006[10], the National Bank of Serbia applied reverse repo transactions (repo sale of securities) with variable multiple interest rate auctions. Maturities of those transactions were between 7 and 62 days[11].
- In the period 1 September – 29 December 2006, the National Bank of Serbia uses a combination of reverse repo transaction (repo sale of securities) with variable multiple interest rate auctions and reverse repo transaction with fixed rate auction;
- In the period 3 January 2007 - 29 December 2010, the National Bank of Serbia applied reverse repo transaction (repo sale of securities) with fixed rate auction, where maturity was two weeks (12-16 days). Also, in the specified period, the central bank conducted outright sale of securities using variable auction at multiple rates, where maturities of those transactions were 182 days;
- In the period 5 January 2011[12] – 11 July 2012, the National Bank of Serbia conducted reverse repo transaction (repo sale of securities) with fixed rate auction, where maturity was two weeks (13-15 days);

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[9] Ten times during 31 January - 31 December 2005, the National Bank of Serbia applied outright sale of securities using variable auction at multiple rates (12 and 26 August; 9 and 23 September; 7 and 21 October; 4 and 18 November, and 9 and 23 December). An outright transaction means the purchase and sale of securities which do not involve the obligation of reselling or repurchasing securities.

[10] During 2006, the National Bank of Serbia performed outright sale of securities for seven times, using variable auction at multiple rates (13 and 27 January; 10 and 24 February; 10 March; 13 November, and 18 December).

[11] Maturities for outright sales during 31 January -31 December 2006 which were between 182 and 506 days were not included here.

[12] Type of operation was formally defined on 1 July 2011 and since then there have been a clear distinction between main operations (MO), longer term operations (LTO), and fine tuning operations (FTO).

- In the period 18 July - 12 December 2012, the National Bank of Serbia applied repo transaction (repo buy of securities) with variable auction at multiple rates, where maturity was one week (7 days). That is the only period in which the central bank provided liquidity to the banking system, i.e. conducted a repo purchase of securities (*Table 1*), and
- 19 December 2012 – present,[13] the National Bank of Serbia has been using reverse repo transaction (repo sale of securities) with variable auction at multiple rates, where maturity is one week (6-8 days).

Also, by assessing the total amount of the withdrawal and the release of liquidity through repo transactions, as shown in *Table 1*, it can be seen that from the onset of the global financial crisis the National Bank of Serbia has been withdrawing significant excess liquidity from the banking system. That is a direct consequence of reduced credit activities and an increase in non-performing loans (NPLs). The banks then have had a lot of free funds but not good customers who would qualify for these funds. For this reason, commercial banks are increasingly moving away from traditional lending activities and place their funds with the National Bank of Serbia through reverse repo transactions or deposit facility.

[13] Last auction which should have been held on 25 February 2015 was not held because of a low level of excess liquidity in the banking system. In calendar for March 2015, the National Bank of Serbia stated that it may, in view of the developments on the financial markets, and especially the liquidity needs of banks, change the calendar auction, including the type of repo auction and the maturity of the transaction, no later than one working day before the planned date of the organization of the next auctions and that it shall immediately notify the commercial banks thereof.

Table 1: The total amount of withdrawals and the release of liquidity through repo and reverse transactions in the period 2002-February 2015, in billion RSD

Year	Amount of repo sold securities	Average weighted interest rate for repo sold securities (p.a.)	Amount of repo bought securities	Average weighted interest rate (p.a.) for repo bought securities
2002	47	12.10%		
2003	33	10.83%		
2004	77	14.35%		
2005	217	16.13%		
2006	1,084	19.63%		
2007	3,874	10.49%		
2008	5,239	14.88%		
2009	3,122	13.36%		
2010	2,510	9.07%		
2011	2,136	11.59%		
2012	1,203[1)]	9.66%[1)]	68[2)]	10.96%[2)]
2013	4,247	9.00%		
2014	3,586	6.79%		
2015	59[3)]	5.9%[3)]		

1) Refers to the period January-June 2012 when the National Bank of Serbia withdrew excess liquidity from the banking system
2) Refers to the period from July to December 2012 when the National Bank of Serbia secured liquidity to the banking system
3) Information as of 27 February 2015.

Source: National Bank of Serbia

2.2.2. Required reserves

Required reserves are the amount of funds that banks are required to keep as deposit in accounts designated for such purpose by a central bank. It constitutes a monetary policy instrument which the central bank uses to varying degrees depending on the conditions of the financial system. The degree of monetary policy tightening using this instrument is determined by the required reserve ratio, which may be uniform or differentiated, and by the reserving base to which the ratio is applied. To this effect, reserve requirement may be applied to either total or fraction of deposits, or liabilities may include other categories, such as liabilities in respect of loans and proceeds derived from securities issued according to the Decision on Banks' Required Reserves With the National Bank of Serbia[14].

By changing the reserve ratio, the central bank induces a reduction or expansion of commercial banks' lending potential, and withdrawal and/or creation of liquidity. In market economies, required reserve ratio is used as an instrument for regulating bank credit potential rather than bank liquidity[15]. Decisions on the level of reserve ratios and the reserving base are taken by the National Bank of Serbia's Executive Board and current required reserve ratios are shown in *Table 2*.

Table 2. Current required reserve ratios

Current required reserve ratios	Up to 2 years	Over 2 years
In dinars	5%	0%
In foreign currency	26%	19%
In foreign currency – foreign currency-indexed liabilities in dinars	50%	50%

Source: National Bank of Serbia

It can be concluded from Table 2 that the required reserve rate is the effort of the central bank to lower the reserve requirement rate, both in dinars and foreign currency, for assets with maturity over two years. That directly influences that banks have a greater share of long-term sources, which consequently affects the stability of the banking system and their long-term presence in the financial system of Serbia. Also, the central bank has the same reserve requirement ratio applied to dinar liabilities indexed to foreign currency clause (e.g. dinar deposit or loan with foreign currency clause), which aims to reduce their presence due to the existence of currency risk.

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[14] The base for calculation of required reserves shall be the daily average of booking liabilities in the prior calendar month:

- liabilities in respect of dinar deposits, credits, securities, as well as other dinar liabilities, excluding foreign currency clause-indexed ones, but including liabilities in respect of a portion of dinar deposits received under transactions performed on behalf and for the account of third parties that are in excess of the amount of the investment made from such deposits and
- liabilities in respect of foreign currency deposits, credits and securities and other foreign currency liabilities, as well as liabilities in respect of deposits, credits and other foreign currency funds received from abroad under transactions performed on behalf and for the account of third parties, and foreign currency clause-indexed dinar liabilities.

[15] The National Bank of Serbia uses reserve requirements only as a supportive instrument when the effects of all other market-based measures for monetary regulation are exhausted.

Distinction should be made between dinar reserves and foreign currency reserves. The calculated *dinar required reserves* are a broader category than the calculated required reserves in dinars and represent the sum of:

- calculated required reserves in dinars;
- 38% of the dinar equivalent of required reserves in euros calculated on the portion of the foreign currency reserving base made up of liabilities with maturity up to two years and
- 0% of the dinar equivalent of required reserves in euros calculated on the portion of the foreign currency reserving base made up of liabilities with maturity over two years.

The calculated dinar required reserves are allocated in dinars.

The calculated *foreign currency required reserves* are a narrower category than the calculated required reserves in dinars and comprise:

- 62% of required reserves in euros calculated on the portion of the foreign currency reserving base made up of liabilities with maturity up to two years and
- 70% of required reserves in euros calculated on the portion of the foreign currency reserving base made up of liabilities with maturity over two years.

The calculated foreign currency required reserves are allocated in euros. However, if the allocation of foreign currency required reserves causes a deviation of the bank's indicator of foreign exchange risk[16] from the prescribed ratio, a bank may allocate such reserves in US dollars. The indicator of foreign exchange risk is defined in Decision on capital adequacy of banks.

The maintenance period lasts from the 18th day in the current month to the 17th day in the following month[17]. During the maintenance period, banks must maintain the average daily balance of allocated dinar and/or foreign currency required reserves in the amount of the calculated dinar and/or foreign currency required

[16] The indicator of foreign exchange risk is the ratio between the total net open foreign exchange position (including the absolute value of the net open position in gold) and the bank's capital. The bank shall maintain the foreign currency risk indicator at no more than 20% at the end of each business day. If foreign currency risk indicator on two consecutive business days exceeds 20%, the bank shall notify the National Bank of Serbia the next business day, at the latest.

[17] Until May 2008, the maintenance period lasted from the 11th day in the current month until the 10th day in the following month. Since the end of the maintenance period coincided with the VAT collection dates, another interval was chosen for the required reserve allocation to be in effect as of May 2008.

reserves. The daily balance of allocated dinar and/or foreign currency required reserves may be lower or higher than the calculated required reserves. All days of the maintenance period are taken into account when calculating the average daily balance of allocated dinar and/or foreign currency required reserves.

The National Bank of Serbia pays interest to banks on the average daily balance of dinar required reserves allocated in the maintenance period, in the amount not exceeding the calculated dinar required reserves. The interest is calculated and paid at the rate of 2.5% p.a., on the second business day following the expiry of the maintenance period. The National Bank of Serbia charges interest to banks by applying interest equal to:

- 150% of the key policy rate – on the difference between the calculated and actual average daily balance of allocated dinar required reserves and on the difference between the prescribed and calculated amount of dinar required reserves;
- three-month EURIBOR, valid on the day of interest calculation, plus 10 percentage points – on the difference between the calculated and actual average daily balance of allocated foreign currency required reserves and on the difference between the prescribed and calculated amount of foreign currency required reserves;
- three-month EURIBOR, valid on the day of interest calculation, plus 5 percentage points – on the positive difference between the actual average daily balance of allocated foreign currency required reserves and calculated amount of foreign currency required reserves.

The National Bank of Serbia calculates interest until the end of the month for the previous maintenance period and collects it by the 8th day in the following month. Interest is calculated and paid and/or collected in the currency in which the required reserves are allocated, i.e. either in dinars or euros.

The latest modification of the required reserves ratio was at the Executive Board meeting held on 15 January 2015 whereat they adopted the Decision Amending the Decision on Banks' Required Reserves with the National Bank of Serbia, which will enable banks to increase their credit support to the corporate sector in order to facilitate economic activity, as well as to lower the cost of borrowing for the corporates[18]. The amendments envisage additional reduction of the FX reserve requirement ratios by 1 percentage point, from 27% to 26% on liabilities with maturity up to two years and from 20% to 19% on liabilities with maturity over two years. At the same time, the structure of FX required reserves has been changed, with increased share of dinar allocations – from 36% to 38% and from 28% to 30%, depending on the maturity of the sources of funding. By adopting these amendments, the National Bank of Serbia has released an additional part of banks' credit potential and will continue to use the reserve requirement tool as an incentive for banks to boost their lending activity, lower the costs of borrowing and rely more on long-term and dinar sources of funding.

2.2.3. Lending and deposit facilities (standing facilities)

As provided by the Law on the National Bank of Serbia, the Executive Board sets the level of key policy rate and main interest rates applied by the National Bank of Serbia in money market operations. The key policy rate, which is defined according to the Decision on the Key Policy Rate of the National Bank of Serbia, has the role of signalling the monetary policy stance, as well as the role of benchmark interest rate because the level of money market interest rates i.e. interest rate corridor, is set with reference to this rate. The key policy rate is the highest and/or lowest interest rate applied by the National Bank of Serbia in the conduct of repo transactions of sale and/or purchase of securities. Interest rate corridor, i.e. the highest and lowest interest rate used by the National Bank of Serbia in the conduct of money market operations, is established based on the level of key policy rate. The highest interest rate is the rate on lending facility (O/N daily liquidity loan), while the lowest interest rate used by the National Bank of Serbia in the above transactions is the rate on deposit facility (overnight deposits with the National Bank of Serbia).

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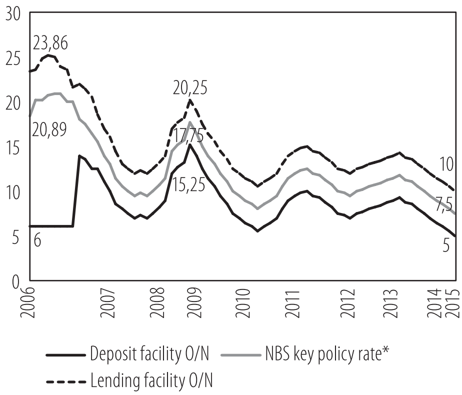
[18] The same aim of changing structure of the required reserves ratio (i.e. enable banks to increase their credit support to the corporate sector in order to facilitate economic activity) were made on 13 November 2014 (the Executive Board of the National Bank of Serbia lowered FX reserve requirement ratios by 1 percentage point across different maturities (from 29% and 22% to 28% and 21%, respectively) and raise the dinar share of FX required reserve allocations by 2 percentage points (from 32% and 24% to 34% and 26%, respectively)) and on 11 December 2014 (Executive Board of National Bank of Serbia amendments envisage additional reduction of the FX reserve requirement ratios by 1 percentage point, from 28% to 27% on the sources of funding with maturity up to two years and from 21% to 20% on the sources of funding with maturity over two years and increased the dinar share of FX required reserve allocations by 2 percentage points – to 36% for the sources of funding with maturity up to two years and to 28% for the sources of funding with maturity over two years).

Chart 4: Review on the National Bank of Serbia Money Market Interest Rates in period 2008-2014, in%



* From 1 September 2006 to 18 July 2012, the key policy rate was applied in the repo sale of securities (two-week transactions). From 18 July 2012 to 19 December 2012, the key policy rate was applied in the repo purchase of securities (one - week transaction). From 19 December 2012, the key policy rate has been applied in the repo sale of securities (one - week transactions). Interest rates on deposit and lending facilities are set with reference to the key policy rate. Data as of 12th March 2015.

Source: National Bank of Serbia

The central bank's standing facilities include lending and deposit facilities available to banks on an ongoing basis. Overnight in maturity, these operations are initiated by commercial banks. *Lending facilities* include loans for maintaining daily liquidity, collateralized by eligible securities. *Deposit facilities* include excess liquidity deposits with the National Bank of Serbia.

Interest rates on standing facilities constitute the ceiling and floor of the corridor of interest rates in the interbank market. As an important control factor in managing banking sector liquidity, they ease the fluctuations of short-term interest rates in the interbank market which would be more pronounced without such facilities. Interest rates on standing overnight facilities, i.e. the corridor for overnight interest rate in the interbank money market is determined with reference to the key policy rate (*Chart 4*):[19]

- rate on lending facilities: key policy rate + 2.5 p.p.
- rate on deposit facilities: key policy rate –2.5 p.p.

[19] Symmetric corridor of interest rates in the National Bank of Serbia began to apply from 1 September 2006. In the period from 1 September until 8 December 2006, the rate on lending facilities was calculated as follows: key policy rate + 4 p.p. and rate on deposit facilities: key policy rate – 4 p.p. In period from 8 December 2006 to 30 March 2007, the rate on lending facilities was calculated as the key policy rate + 3 p.p. and the rate on deposit facilities as: the key policy rate –3 pp. In the period after 30 March 2007 and presently, the rate on lending facilities is calculated: the key policy rate + 2.5 p.p. and the rate on deposit facilities: the key policy rate –2.5 p.p.

Apart from using deposit and credit facility, banks can also utilize daily liquidity loans against the collateral[20] of eligible dinar securities (not indexed to a foreign currency), based on a concluded liquidity loan agreement and the bank's loan request. Banks may use:

- daylight liquidity loans (intraday loans), i.e. loans repaid to the National Bank of Serbia on the same business day. Banks pay no interest on the amount of used and repaid daylight loan; and
- overnight liquidity loans (overnight loans), i.e. loans that are not repaid to the National Bank of Serbia on the same business day. On this type of loans, the National Bank of Serbia charges interest equal to the key policy rate plus 2.5 percentage points. Banks are required to repay overnight liquidity loans and the appertaining interest by 11 a.m. on the following business day.

If the bank fails to settle its liabilities within the envisaged timeframe, the National Bank of Serbia will collect the outstanding amount of liquidity loan and the default interest by selling the securities placed as collateral. By way of exception, the National Bank of Serbia may also collect due but uncollected regular interest from the amount obtained through the sale of collateral securities, if it fails to collect such interest on the promissory notes.

Pursuant to the Decision on Terms and Conditions of Depositing Banks' Excess Liquidity with the National Bank of Serbia, a bank may place its excess liquid funds on overnight deposit with the National Bank of Serbia[21]. The National Bank of Serbia shall transfer such deposits back to banks' gyro accounts at the latest by 10 a.m. on the business day following the day the deposits were placed. Also, the National Bank of Serbia shall calculate and pay interest on excess liquidity deposits placed by banks during the previous business day by applying the rate equal to key policy rate reduced by 2.5%. Average use of deposit and credit facility, as well as liquidity loans is shown in *Table 3*. *Table 3* shows that in addition to the use of reverse repo operations, banks may deposit their excess liquidity with the

[20] Collateral is the same as in the case of repo transaction (i.e. dinar securities issued by: (1) the National Bank of Serbia; (2) the Republic of Serbia and (3) an international financial organization and development bank or a financial institution founded by a foreign government, with the credit rating of "AAA" by Standard & Poor's or Fitch, or "Aaa" by Moody's.)

[21] Banks are given the option to transfer excess liquidity to a special account of the National Bank of Serbia earmarked for excess liquidity deposits in the RTGS system – Account No. 908-88103-91, several times during each business day, but not after the expiration of time envisaged for the exchange of payment messages, in accordance with the operative rules on real time gross settlement.

National Bank of Serbia. Also, banks have the possibility to use intraday credit that banks, which they are using to a lesser extent, according to the data, because any use of that credit points to problems with liquidity and poor leadership position of the bank, which is detrimental to reputational risk.

If a bank experiences a lack of liquidity under the Decision on Terms and Conditions of Granting Short-Term Liquidity Loans Against Collateral of Securities, the National Bank of Serbia may approve dinar liquidity loans with the maturity of up to one year. The loans are extended at auctions against collateral of dinar-denominated securities, with no foreign currency clause and of minimum 90-day maturity. The securities may be issued by the National Bank of Serbia, the Republic of Serbia, international financial organizations, and developments banks or financial institutions founded by foreign states, and their credit rating must be "AAA" by Standard&Poor's or Fitch and/or "Aaa" assigned by Moody's. Due to the fact that banks are using liquidity loans against collateral of securities to a lesser extent,[22] the National Bank of Serbia decided, starting from June 2014, not to organize regular auctions for the purposes of granting short-term dinar liquidity loans to banks against collateral of securities. The Decision on Terms and Conditions of Granting Short-Term Liquidity Loans against Collateral of Securities will stay in force and the National Bank of Serbia may decide to reinstitute these auctions should the need arise.

Table 3: Average use of deposit facilities, intraday loan and liquidity loans per year, in million RSD

Year	Average use of deposit facility	Average use of Intraday loan	Average use of liquidity loan
2008	3.490	2.267	11
2009	1.348	29	55
2010	1.778	1.288	100
2011	2.706	1.459	15
2012	13.386	532	201
2013	34.721	110	1
2014	21.300	134	0
2015*	12.451	17	55

* Information as of 27 February 2015
Source: National Bank of Serbia

[22] In 2011, the National Bank of Serbia organized eleven auctions, twelve in 2012 and 2013 each, and five auctions in 2014. The amount offered by the National Bank of Serbia at each auction was 2 billion RSD. Only at three auctions (22 March and 19 April 2011, and 19 June 2012) banks applied for this loan in the total amount of 2.2 billion RSD and the approved amount was 2 billion RSD at the auction held on 19 June 2012.

2.2.4. Interventions in the foreign exchange market

In inflation targeting regime, foreign exchange interventions are infrequently used secondary instrument which contributes to the achievement of the targeted inflation rate after the effective impact of the key policy rate has been exhausted. The National Bank of Serbia applies foreign exchange interventions in exceptional circumstances, seeking to:

1. mitigate excessive daily oscillations of the dinar exchange rate,
2. ensure financial stability and
3. maintain adequate level of foreign exchange reserves.

According to the Decision on the dinar exchange rate regime National Bank of Serbia is implemented managed floating exchange rate regime. Trading in the foreign exchange market include swap[23], spot[24] and forward purchase/sale of foreign exchange[25], as well as purchase/sale deals with the execution date earlier than the spot currency date.

When it comes to the manner of implementation of interventions in the foreign exchange market the National Bank of Serbia may engage in direct spot foreign exchange transactions with banks in the Interbank Foreign Exchange Market, which is regulated under Decision on terms and conditions of foreign exchange spot trading between the National Bank of Serbia and banks. For the purposes of performing spot transactions, the National Bank of Serbia shall conclude with a bank a master agreement on spot purchase/sale of foreign exchange, regulating in detail the relations between the National Bank of Serbia and a bank in respect of conclusion of individual spot transactions and settlement of obligations by the contracting parties. National Bank of Serbia may perform spot purchase/sale of foreign exchange:

1) *at auctions* – where banks submit bids for the purchase/sale of foreign exchange in line with defined rules and within the established deadline and

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[23] Swap purchase/sale of foreign exchange means entering into two simultaneous transactions – purchase of foreign exchange for dinars and sale of foreign exchange for dinars, but with different contract execution dates.

[24] Spot sale/purchase means purchase/sale of foreign exchange for dinars that takes place two business days from the day of conclusion of such purchase/sale contract, and/or trading date (spot currency date).

[25] Forward purchase/sale means such purchase/sale of foreign exchange for dinars that take place on a specified date which is later than the spot currency date.

2) *on a bilateral basis* – based on single bank's bid for purchase/sale of foreign exchange, as well as based on the National Bank of Serbia offer.

The National Bank of Serbia may perform spot purchase/sale of foreign exchange (euros for dinars):

1) *at fixed rate auctions* – at the exchange rate predefined and announced by the National Bank of Serbia and
2) *at variable rate auctions* – at the exchange rate not predefined and announced by the National Bank of Serbia.

Variable rate auctions may be:

1) *multiple rate* – auctions at the multiple RSD/EUR exchange rate with the National Bank of Serbia purchasing/selling foreign exchange at the exchange rates offered by the banks whose bids were accepted at the auction and
2) *single rate* – auctions at the single RSD/EUR exchange rate with the National Bank of Serbia purchasing/selling foreign exchange at the same exchange rate from each bank whose bid was accepted at the auction.

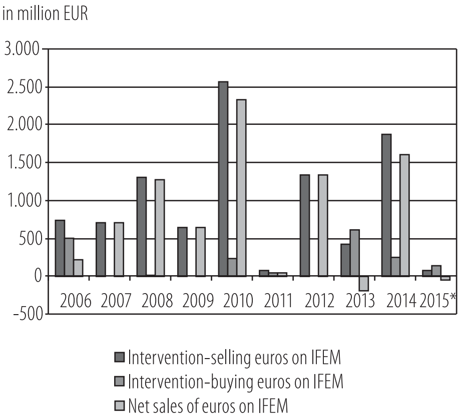
Also, the National Bank of Serbia can perform bilateral spot purchase/sale of foreign exchange with banks by:

1) inviting banks to submit their bids for spot purchase/sale of foreign exchange;
2) quoting its offer in response to a single bank's request for spot purchase/sale of foreign exchange and
3) accepting the bank's bid for spot purchase/sale of foreign exchange.

The National Bank of Serbia intervenes in the foreign exchange market in order to prevent short-term daily fluctuations of the exchange rate and in that way does not want to influence the exchange rate trending but to diminish daily volatility of the rate.

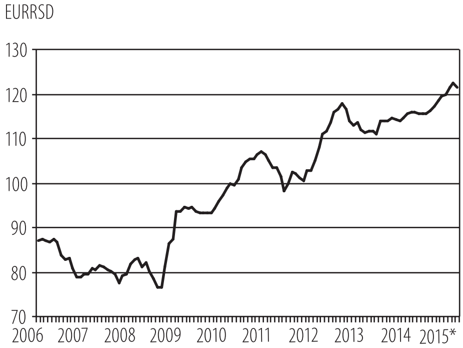
Chart 5 can lead to the conclusion that there have been more interventions since 2008. In 2008, the National Bank of Serbia intervened on the interbank foreign exchange market by selling euros in the amount of 1.3 billion euros, of which 880 million euros were sold in Q4 that year. Significant interventions occurred during 2009 (National Bank of Serbia sold 656.9 million euros), 2010 (National Bank of Serbia sold 2.569,7 million euros and bought 236,5 million euros) and in 2012 (National Bank of Serbia sold 1.348,3 million euros and bought 5 million euros).

Chart 5: Size of intervention of the National Bank of Serbia in the interbank foreign exchange market (IFEM)



* Data as of 27th February 2015
Source: National Bank of Serbia

Chart 6: Average middle EURRSD rate in period 2006 – February 2015*



* Data as of 27th February 2015
Source: National Bank of Serbia

In 2011, the EURRSD rate was stable (*Chart 6*) and the amount of intervention was significantly lower (National Bank of Serbia sold 90 million euros and bought 45 million euros). During 2013, the National Bank of Serbia was a net buyer of foreign currency in the interbank foreign exchange market, which indicates that the rate of the dinar mostly strengthened against the euro. In 2014 again there was a significant level of intervention (National Bank of Serbia sold 1.880 million euros and bought 260 million euros), while in two months of 2015, the national bank was a net buyer in the amount of 50 million euros (90 million euros sold and 140 million euros bought).

3. Proposals for the improvement of monetary policy instruments in Serbia

After the analysis of monetary policy instruments of the National Bank of Serbia elaborated above, we will now present proposals for their improvement.

Narrowing corridor of interest rates

Monetary policy of the National Bank of Serbia applies deposit and credit facilities rates, which are established as follows:

- rate on credit facilities = reference interest rate + 2.5 percentage points
- rate on deposit facility = reference interest rate - 2.5 percentage points

indicating that the monetary policy in Serbia has quite a wide corridor of interest rates of 500 b.p. The proposal is to narrow the corridor as a way to minimize fluctuations in interest rates and thus allow lower volatility of interest rates in the interbank money market. In case of the central bank in Serbia, there is an interest rate corridor around the policy rate bounded by standing facilities for overnight credit and overnight deposits. In case of the National Bank of Serbia, the deposit standing facility and the credit standing facility are at the same margin below/above the reference rate and that means that there is a symmetrical corridor of interest rates. *Table 4* shows the results of the corridor of interest rates for selected central banks.

Table 4: Interest rates corridor for selected central banks

Central bank	Reference rate	Deposit facility rate	Credit facility rate	Width of the corridor of interest rates (in b.p.)	Is the corridor symmetric in comparison with reference rate?
European central bank	0,05%	-0,20%	0,30%	50	Yes
Central bank of Poland	1,50%	0,50%	2,50%	200	Yes
Central bank of Romania	2,25%	0,25%	4,25%	400	Yes
Central bank of Czech Republic	0,05%	0,05%	0,25%	20	No
Central bank of Turkey	7,50%	7,25%	10,75%	350	No
Central bank of Croatia	7,00%	0,00%	5,00%	500	No
Central bank of FYR Macedonia	3,25%	0,75%	3,75%	300	No

*Note: Presented data showing an interest rate of the central bank as of as of 27th February 2015.

Source: Web sites of the stated central banks

Also, it is important to note that if the central bank could manage liquidity perfectly so that the market always expects to transact only at the policy rate and never at the standing facility rates, it would not matter how wide is the corridor since the standing facility rates would effectively be irrelevant.

Introduce mandatory minimum daily maintenance of the required reserves

According to the existing regulations on mandatory reserves, which is defined in the Decision on Banks Required Reserves with the National Bank of Serbia, the National Bank of Serbia has stipulated that in the maintenance period commercial banks on average allocate the calculated reserve requirements. This indicates that allocated reserve may be below, at or above calculated reserve requirements on a daily basis. In order to prevent commercial banks to set aside a lower level of required reserves than calculated over the long term, the proposal is to introduce a mandatory minimum daily level of required reserves and that this percentage is 70-80% of the calculated reserve requirement in the maintenance period. In that way, if it happened that lower level of required reserves is set aside by a bank on daily basis (both for dinar and foreign currency reserve) to be below 70-80% of calculated reserve requirements, that could point to poor liquidity management in the commercial bank and would enable timely action of the central bank, primarily its Supervision Department[26].

Introduce interbank repo

Since banks are currently allowed enter into interbank spot (transactions with maturities of two working days) and swap operations (purchase/sale of foreign exchange entering into two simultaneous transactions – purchase of foreign exchange for dinars and sale of foreign exchange for dinars, but with different contract execution dates), the proposal is to introduce interbank repo transactions (both direct and reverse repo transaction depending on liquidity in banking system). This would reduce the pressure on the use of deposit and credit facilities to banks because their surpluses (deficits) resources can be placed (borrow) by using repo. What should be done before the establishment of the interbank repo market is to set a system of limits between banks and define the list of eligible securities that will be the basis for concluding repo transactions.

4. Proposals for the improvement of monetary policy in Serbia

Since we presented the objectives and instruments of monetary policy in Serbia, with proposed measures to improve these instruments, the next part of the work

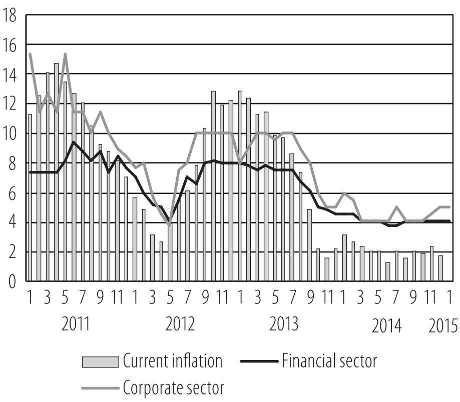
[26] Lower reserve requirement calculated may indicate initial problems in the work of the specific business of the bank. This was, inter alia, the grounds for the Executive Board of the National Bank of Serbia to decide to revoke licenses from Privredna banka Beograd (26.10.2010), Agrobanka (25.5.2012 - the bank was renamed to Nova Agrobanka license had been revoked on 26.10.2013), Razvojna banka Vojvodine (04.06.2013) and Univerzal banka (31.01.2014).

will be devoted to presentation of proposals for the improvement of monetary policy in Serbia.

Changes or amendments of the monetary policy target

The National Bank of Serbia implements the policy of inflation targeting. A mere application of the inflation targeting policy was introduced to achieve a low and stable inflation rate in comparison with inflation expectations, so that interest rates could be relatively low in recession and stagnation and that the exchange rate is freely determined on the interbank market. Also, this regime of monetary targeting was chosen to create the ability of the economy to be resistant to potential external shocks. However, the results of the application of this monetary regime in Serbia have not given expected results. The inflation rate on the year-on-year basis (according to *Charts 1 and 2*) was above the inflation target over the majority of the reporting period, while only in the period from October 2013 it was within or below the inflation target[27].

Chart 7: Current inflation and one-year ahead inflation expectations*
(y-o-y rates, in %)



* Ninamedia agency since December 2014, and Ipsos and Gallup in the prior period. The survey was not conducted in November 2014.

Sources: Gallup, Ipsos, Ninamedia and the National Bank of Serbia

Despite the low inflation rate, current inflation expectations are encouraging (*Chart 7*). An extended period of low inflation and subdued expected inflationary pressures fed back into the stabilization of short- and medium-term inflation expectations. For more than a year now, both the financial and corporate sectors have expected one year ahead that inflation will move within the target band. Medium-term, i.e. two-year inflation expectations of the financial sector moved around the midpoint and returned from 3.9% in October to 4.0% in December 2014, where they remained in January 2015.

[27] Inflation rates only in January (3.1% y-o-y) and February 2014 (2.6% y-o-y) were within tolerance band of inflation target which was set at 4% +/- 1.5 p.p. For the rest of the period (October-December 2013 and March 2014-February 2015), the y-o-y inflation rate was below the lower band of inflation target (i.e. below 2.5%).

In October 2014, the corporate sector expected two-year inflation at 4.0%, but raised its expectations to 5.0% in December 2014, where it kept them in January 2015. Short-term inflation expectations treaded the same path.

Results of inflation targeting are indicative of the need for changes or addition use of monetary policy target in Serbia. Instead of using inflation targeting, the National Bank of Serbia may apply targeting monetary aggregates or targeting the EURRSD exchange rate. Of course, another solution is to have a dual objective in monetary policy and at the same time to target inflation rate and exchange rate or inflation rate and monetary aggregates.

Lower levels of euroisation /increase the level dinarisation

In April 2012, the National Bank of Serbia and the Government of the Republic of Serbia signed a Memorandum on the strategy of dinarisation of the Serbian financial system, which is published on quarterly basis[28]. The aim of this strategy is to increase the use of the dinar in the financial system in order to strengthen the country's financial stability, lower the risk of currency changes to the most vulnerable sectors of the economy, reinforce the efficiency of monetary policy, and create preconditions for strong and durable economic growth.

Pursuant to the Memorandum, the National Bank of Serbia and the Government have committed to monitoring and analysing the degree of dinarisation and to regularly informing the public about the use of the dinar in the domestic financial system. For that purpose, the National Bank of Serbia prepares and publishes quarterly Report on Dinarisation of the Serbian Financial System as one of its supporting communication tools. The Report provides key 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.

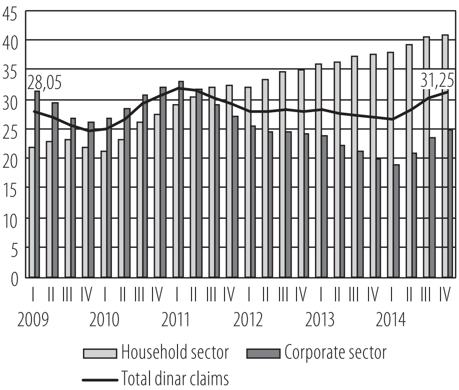
[28] The dinarisation strategy is based on three inter-connected pillars. *The first pillar* is the most general, but also the most important one. It envisages measures to strengthen the macroeconomic environment by delivering low and stable inflation, a stable financial system and sustainable economic growth. *The second pillar* consists of measures to promote dinar-denominated instruments and markets, with a particular emphasis on the development of the dinar bond market. The development of the dinar yield curve is an important cornerstone of this pillar. *The third pillar* aims to promote hedging against the risks associated with foreign exchange rate exposure in the non-bank sector and to discourage further build-up of those risks. The National Bank of Serbia will lead the efforts in this field, working together with the banking sector on introducing and developing basic hedging instruments both for the interbank market and for clients.

The National Bank and the Government agree that dinar deposits, dinar loans and dinar securities mean only pure dinar categories, i.e. deposits, loans and securities without any form of currency clause enabling their indexation to inflation. Also the agreement implies to measure the degree of dinarisation of the financial system by the share of dinar in total loans. As supplementary criteria for the measurement of the degree of dinarisation, the National Bank and the Government may use in particular: the share of dinar household and corporate deposits in total deposits, the maturity structure of dinar loans and deposits, the currency structure of public debt, liquidity in primary and secondary markets of pure dinar securities and the maturity structure of dinar securities.

The degree of dinarisation of the Serbian financial system, measured by the participation of household and corporate sector in total dinar claims equalled 31.25% at end-Q4 2014. Relative to end-Q3, this indicator rose by 0.89 p.p. (*Chart 8*)

Looking at the other indicators, we can see that the level of dinarisation has been increasing. The degree of dinarisation, as measured by the share of dinar loans in total corporate and household lending equalled 30.4% at end-Q3 2014. Relative to end-Q2, this indicator rose 2.0 p.p. The degree of dinarisation, as measured by the share of dinar deposits in total corporate and household deposits, equalled 23.8% at end Q3 2014, rising 0.5 p.p. quarter-on-quarter.

Chart 8: Share of dinar in total bank receivables on corporate and household sectors (in %)



Source: the National Bank of Serbia

The Government and the National Bank of Serbia use different instruments to increase the level of dinarisation. The Government is supporting dinarisation particularly by investing further efforts in raising the share of pure dinar debt in total public debt[29]. Also, the Government engages in subsidized loan financing provided these loans are dinar denominated, according to the Regulation on conditions for subsidized interest rates for loans for maintenance of liquidity and fi-

[29] According to data of the Public Debt Agency, the Ministry of Finance, the dinar portion in the public debt was 20.31% in January 2015 (21.60% in December 2014)

nancing of working capital in 2014[30]. Through stimulating tax policy, the Government is to continue to support savings in dinars pursuant to Article 65 of the Law on Personal Income Tax[31].

On the other side, the National Bank of Serbia continues to support the process of dinarisation through reserve requirements (5% for dinars required reserve up to two years and 0% for over two years). Also, the central bank is actively promoting FX hedging instruments in conducting following transactions:

- *FX swap auction* EURRSD with two maturities: three months (each Tuesday) and two weeks (each Friday). At all auctions, the National Bank of Serbia bought and sold the same amounts with a positive difference in swap points. This only reaffirms the need for developing interbank swap trading, i.e. local interbank swap market.
- *FX hedging instruments* where residents can conclude forward and FX swap with domestic banks. The share of forward FX purchases by residents from banks in total FX purchases equalled 3.5% in Q3 2014, and was the highest in July – 4.3%. The currency structure of forward deals was dominated by the US dollar – 83.4%, followed by the euro – 12.2%, and the Swiss franc – 4.4%. At the same time, there were ten FX swap transactions that residents entered into with domestic banks in order to hedge future FX payments and collections. The weighted average maturity of these transactions was 43 days and the contract value totalled 1.5 million euros, on average.

Solution for non-performing loans – NPLs

Monitoring the level and trending of non-performing loans (NPLs) is vital for identifying potential problems in the collection of receivables and monitoring

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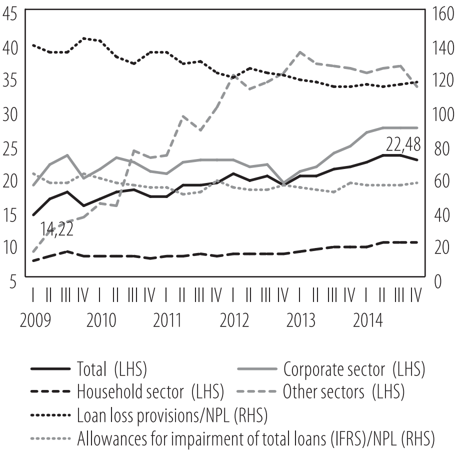
[30] Regulation specifies that subsidized amount of interest on dinars loans is 5% per annum. Subsidizing interest rates shall be approved for loans with the repayment period up to 18 months, of which the grace period is up to six months. The loan is repayable at the end of the grace period, and the highest in 18 monthly instalments loans are approved in dinars for the purpose of maintaining liquidity, financing permanent working capital and refinancing the loan.

[31] Article 65 (tax exemptions) specifies that there is no tax on capital gains on interest: 1) savings in dinars deposits (term or sight) and 2) on debt securities issued by the Republic, autonomous province, local government unit or the National Bank of Serbia. Tax on capital gain on interest on foreign currency savings is 15% from 25 September 2012 (before that the tax rate was 10%). Only in the period from 1 January 1999 until 1 July 2001, the interest on foreign currency savings converted, without the consent of the investors, to time deposits with licensed banks, which represents public debt, in accordance with the law governing the settlement of obligations on foreign currency savings, and it is not subject to capital income tax.

credit risk as it may signal deterioration in the quality of the loan portfolio. An additional analysis of the level of NPLs in relation to allowances for impairment, regulatory reserves and capital provides insight into the banking sector's capacity to absorb losses arising from NPLs. According to the Decision on the classification of bank balance sheet assets and off-balance sheet non-performing loans (NPLs) include receivables from debtors whose repayment is more than 90 days overdue, i.e. that belong to the category D[32] and E[33] claims. What is disturbing is the steady increase non-performing-loans in total loans, as shown in *Chart 9.*

Chart 9: NPLs share in total loans, gross principle (in %)



Source: the National Bank of Serbia

Although the trend overall lending activity has been on a decrease, as shown in *Table 5*, the level of non-performing loans is on an increase, which suggests that the existing approved loans are in repayment difficulties as well, which points to structural problems which are present in the Serbian economy (illiquidity, reduced volume of business etc.). Net loans of the banking sector in Serbia at the end of Q3 2014 amounted to 1.641,3 billion dinars, as compared to the end of 2013, representing a decrease of 44.7 billion dinars, or 2.7% (only in Q3 2014 the decrease was 13.6 billion dinars or 0.8%).

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32 The following claims fall under the category D: (1) receivables from a borrower whose financial position and/or creditworthiness indicate likelihood of significant collection-related problems – primarily receivables from a borrower that is illiquid, insolvent or failing to implement the financial consolidation plan, or a natural person borrower (other than farmer or entrepreneur) who had gone further into debt after the restructuring of its liabilities and (2) 91 to 180 days past due receivables.

33 The following claims fall under the category E: (1) doubtful or disputable receivables; (2) receivables from a borrower in liquidation or bankruptcy; (3) receivables from a borrower failing to act on the adopted reorganization plan as defined by the law governing bankruptcy; (4) receivables from a borrower – a newly founded company to which the bank has assigned its receivables; (5) over 180 days past due receivables; (6) receivables ineligible for classification in other categories and (7) receivables from a borrower from which the bank had due receivables but had assigned them in the prior three years.

Table 5: Change in the level of net loans

(RSD mln)	Amount 30.9.2014	Change relative to prior periods: Nominal 31.12.2013	Nominal 30.9.2014	Relative 31.12.2013	Relative 30.9.2014
Finance and insurance	67.655	-74.986	-57.251	-52,6%	-45,8%
Public sector	37.253	-5.334	-10.517	-12,5%	-22,0%
Public enterprises	81.012	-13.038	-17.078	-13,9%	-17,4%
Household	579.940	31.264	28.343	5,7%	5,1%
Companies	749.978	-6.906	-45.738	-0,9%	-5,7%
Foreign persons and foreign banks	36.700	16.904	-2.381	85,4%	-6,1%
Others sectors	88.783	7.358	-138	9,0%	-0,2%
Total loans	**1.641.331**	**-44.738**	**-104.760**	**-2,7%**	**-6,0%**

Source: National Bank of Serbia, Banking sector in Serbia, Third Quarter Report 2014, page 18

The high share of rapidly growing non-performing loans is also a particular risk to individual institutions as it reduces their resilience to future shocks, the possibility of generating new loans in the future, liquidity and profitability, but at the same time creates a macro or systemic risk that threatens economic growth and financial stability. The macroeconomic consequences of accumulation of NPLs are (Dragutinović & Živković 2014, p. 168-169):

- increasing risk aversion of banks;
- additional investment in the banking sector;
- reduction in profits of banks;
- reduction of aggregate efficiency of the banking sector by decreasing the interest margin;
- reducing liquidity and increasing the cost of funding for banks and companies;
- increased spending and human resources; and
- doubtful receivables affect the supply of credit.

5. Conclusion

In this paper we presented an analysis of monetary policy in Serbia. The National Bank of Serbia decided to apply inflation targeting and set price stability as the main objective of monetary policy. To attain this aim, the central bank uses various monetary policy instruments to achieve the targeted rate of inflation. Also in terms of the exchange rate, the National Bank of Serbia opted for managed floating exchange rate which is freely formed in the domestic interbank foreign exchange market and central bank apply intervention to neutralize excessive short-term volatility of the dinar rate against the euro.

In purely theoretical aspect, there is coherence between the monetary policy target and the selected currency regime, but in practice, there are a lot of limitations which downsize effects of transmission mechanism of monetary policy. In Serbia, there is a high degree of euroisation (low level of dinarisation), which consequently reduces the credibility of monetary policy. Due to a significant level of currency-indexed deposits and loans, greater attention is put on stability of the exchange rate although the official aim is stability of inflation rate. In that way indexed asset or liability generates exchange rate risks which lead to higher level of provision which banks need to put aside for protection of potential default.

Consequently, a higher share of the currency indexed loans, associated with a decrease in economic activity, has created a high level of non-performing loans. The NPL problem is present both in retail and corporate sector. Inability of borrowers to regularly service their credit obligations causes banks to allocate higher levels of provisions to cover potential losses on such loans, but also tighten credit standards for new customers. This reduces the level of lending activity which, in addition to collecting deposits, is one of the traditional bank functions.

Analysis of monetary policy should not be conducted in isolation from the effects of fiscal policy because the synergistic effects of these two policies could lead to macroeconomic stability. Bearing in mind that Serbia is a small open economy that responds to internal and external shocks, the impact of global factors in decision-making in the field of monetary policy should be considered. All previously listed current limitations of monetary policy should be seen as an incentive for the necessary changes in the future and possible directions for monetary policy actions.

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