

NATIONAL BANK OF THE REPUBLIC OF MACEDONIA



Report on Banking System of the Republic of Macedonia in 2012

April, 2013



CONTENTS

| | |
|---|-----------|
| SUMMARY | 7 |
| I. Structure of the banking system..... | 9 |
| 1. Access to bank services | 9 |
| 2. Employment in the banking system..... | 11 |
| 3. Ownership structure of the banking system..... | 12 |
| 4. Market share and concentration of the banking system..... | 15 |
| II. Bank activities | 17 |
| 1. Balance sheet of the banking system | 17 |
| 2. Loans to nonfinancial entities..... | 22 |
| 3. Deposits of nonfinancial entities | 34 |
| III. Bank risks..... | 38 |
| 1. Credit risk | 38 |
| 1.1. Loan portfolio quality of the banking system | 38 |
| 1.2. Stress-test simulation of the sensitivity of the banking system to increased credit risk | 46 |
| 2. Liquidity risk..... | 47 |
| 3. Currency risk | 57 |
| 4. Interest rate risk in banking book | 61 |
| 4.1. Structure of interest-sensitive assets and liabilities, by type of interest rate | 61 |
| 4.2. Weighted value of the banking book | 64 |
| 5. Insolvency risk | 65 |
| 5.1. Solvency and capitalization ratios of the banking system..... | 65 |
| 5.2. Developments and quality of own funds of the banking system | 67 |
| 5.3. Movements and structure of capital requirements and available capital of the banking system..... | 68 |
| 5.4. Stress testing the resilience of the banking system to hypothetical shocks..... | 71 |
| 6. Profitability..... | 74 |
| 6.1. Movements and structure of income and expenses of the banking system..... | 74 |
| 6.2. Interest rates and interest spread | 77 |
| 6.3. Banks' profitability and efficiency indicators | 79 |

FIGURES

| | |
|---|----|
| Figure 1 Bank branches* by region in the Republic of Macedonia..... | 9 |
| Figure 2 Number of employees in the banking system | 11 |
| Figure 3 Assets per employee* | 11 |
| Figure 4 Ownership structure of common (up) and preference (down) shares of the banking system..... | 12 |
| Figure 5 Market share of banks in dominant foreign ownership and trend of share of foreign capital in the total capital | 13 |
| Figure 6 Structure of major banks' balance sheet positions, by banks' majority ownership | 13 |
| Figure 7 Dynamics of foreign bank subsidiaries' share of assets..... | 14 |
| Figure 8 Banks' equity structure, by country | 14 |
| Figure 9 Banks' market share (assets), by country of origin of majority shareholder | 14 |
| Figure 10 Herfindahl index | 15 |
| Figure 11 Market share of banks to total asset of the banking system | 15 |
| Figure 12 Annual growth of assets of the banking system | 17 |
| Figure 13 Annual dynamics of securities portfolio | 18 |
| Figure 14 Structure of securities portfolio | 19 |
| Figure 15 Placements with banks and other financial institutions, annual growth in %..... | 19 |
| Figure 16 Credit liabilities, annual growth in %..... | 20 |
| Figure 17 Dynamics of liabilities (up) to and claims (down) on nonresidents | 21 |
| Figure 18 Nonresident liabilities-claims ratio..... | 21 |
| Figure 19 Loans to nonfinancial entities | 22 |
| Figure 20 Annual growth rate of total credits and credit growth/GDP, by country | 23 |
| Figure 21 Dynamics of credit growth/GDP..... | 23 |
| Figure 22 Annual dynamics of corporate loans | 23 |
| Figure 23 Annual dynamics of household loans | 24 |
| Figure 24 Annual dynamics of loans to other clients..... | 24 |
| Figure 25 Loan structure, by sector | 24 |
| Figure 26 Annual dynamics of loans by currency, for all sectors (up) and by individual sector (down) | 25 |
| Figure 27 Currency structure of total loans (up) and loans, by sector (down)..... | 26 |
| Figure 28 Resident foreign currency and Denar loans with FX clause, by category of borrowers | 26 |
| Figure 29 Annual dynamics of loans, by maturity..... | 27 |
| Figure 30 Loan structure, by maturity..... | 27 |
| Figure 31 Loan structure, by type of interest rate | 28 |
| Figure 32 Structure of loans to corporations and other clients, by currency and type of interest rate..... | 28 |
| Figure 33 Structure of household loans, by currency and type of interest rate..... | 29 |
| Figure 34 Average interest rate on loans to corporations and other clients (up) and households (down) | 30 |
| Figure 35 Average period to maturity of loans to corporations and other clients (up) and households (down), by year | 31 |
| Figure 36 Average weighted interest rate and maturity of newly approved loans to companies (up) and households (down) | 32 |
| Figure 37 Received, approved and rejected loan applications of companies (up) and households (down) | 33 |



| | |
|---|----|
| Figure 38 Annual growth of deposits of nonfinancial entities..... | 34 |
| Figure 39 Annual deposit growth, by sector | 35 |
| Figure 40 Sector structure of deposits | 35 |
| Figure 41 Annual deposit growth, by currency..... | 35 |
| Figure 42 Deposit currency structure..... | 36 |
| Figure 43 Annual deposit growth, by maturity | 36 |
| Figure 44 Deposit maturity structure | 37 |
| Figure 45 Total credit exposure, amount (up) and contribution of components to its annual growth (down) | 38 |
| Figure 46 Annual growth rate of nonperforming loans..... | 39 |
| Figure 47 Written off claims..... | 39 |
| Figure 48 Share of nonperforming loans in total loans of nonfinancial entities and of individual sectors | 40 |
| Figure 49 Loans that received nonperforming status in the year of approval, in % of total loans approved that year | 40 |
| Figure 50 Nonperforming loan coverage and nonperforming loan to own assets ratio | 41 |
| Figure 51 Share of nonperforming loans (net of their impairment) in own funds, by country | 41 |
| Figure 52 Average risk level for the total credit exposure and for regular loans | 42 |
| Figure 53 Credit exposure by risk category (left) and transfer of credit exposure from regular to nonperforming status (right) | 42 |
| Figure 54 Structure of credit exposure to nonfinancial entities as of 31 December, 2012, by maturity of principal..... | 43 |
| Figure 55 Share of loans with onetime repayment of principal in total loans to nonfinancial entities | 43 |
| Figure 56 Share of high exposures in banks' own funds | 44 |
| Figure 57 Uncollateralized exposure to total credit exposure to nonfinancial entities..... | 44 |
| Figure 58 Credit exposure structure by monthly income of borrowers (natural persons)..... | 45 |
| Figure 59 Banks' liquid assets, by constituting financial instrument | 47 |
| Figure 60 Growth of liquid assets, by currency | 48 |
| Figure 61 Quarterly absolute growth (up) and annual relative growth (down) of financial instruments that constitute the liquid assets | 48 |
| Figure 62 Movement of policy rates, in Denar and in Euro..... | 49 |
| Figure 63 Change of liquid assets / change of total sources of funds..... | 49 |
| Figure 64 Liquidity ratios of the banking system..... | 50 |
| Figure 65 Liquidity ratios of the banking system by currency - Denar (up) and foreign currency (down) | 50 |
| Figure 66 Change in used sources of funding from parent entities | 51 |
| Figure 67 Structure of cash inflows and outflows of the banking system, annual (up) and quarterly (down) | 52 |
| Figure 68 Selected liquidity ratios of individual banks..... | 53 |
| Figure 69 Absolute amount (up) and structure (down) of banks' assets and liabilities, by contractual residual maturity | 54 |
| Figure 70 Contractual residual maturity mismatch between assets and liabilities, by maturity bucket..... | 54 |
| Figure 71 Cumulative difference between assets and liabilities with residual maturity of up to 30 days and up to one year | 55 |
| Figure 72 Results of the simulation for withdrawing 20% of household deposits (up) and withdrawing of deposits of the twenty largest depositors (down)..... | 56 |



| | |
|--|----|
| Figure 73 Annual absolute and percent growth of total assets and banks' assets and liabilities with currency component | 57 |
| Figure 74 Gap between assets and liabilities with currency component to banks' own funds..... | 58 |
| Figure 75 Structure of the gap between assets and liabilities with currency component | 58 |
| Figure 76 Dynamics of gap between assets and liabilities with currency component, by currency | 59 |
| Figure 77 Aggregate currency position / own funds ratio, by bank | 59 |
| Figure 78 Currency position / own funds ratio, by country | 60 |
| Figure 79 Structure of interest-sensitive assets and liabilities, by type of interest rate..... | 61 |
| Figure 80 Gap between interest-sensitive assets and liabilities, by type of interest rate..... | 62 |
| Figure 81 Interest-sensitive assets (up) and liabilities (down), by type of interest rate..... | 62 |
| Figure 82 Interest-sensitive assets and liabilities, by maturity and type of interest rate..... | 63 |
| Figure 83 Frequency of change of adjustable interest rates on loans (up) and deposits (down), by bank | 63 |
| Figure 84 Net weighted value and total weighted value of banking book / own funds ratio, by type of interest rate | 64 |
| Figure 85 Total weighted value of banking book / own funds ratio, by type of interest rate, currency and maturity bucket | 64 |
| Figure 86 Solvency ratios and annual growth of their components | 65 |
| Figure 87 Annual growth of capital positions | 65 |
| Figure 88 Annual growth of risk weighted assets and assets..... | 65 |
| Figure 89 Z-index for the banking system | 66 |
| Figure 90 Capital adequacy ratio, by bank | 66 |
| Figure 91 Capital adequacy ratio, by country..... | 67 |
| Figure 92 Major sources of increasing own funds of the banking system | 68 |
| Figure 93 Absolute increase of major incomes and expenses, compared to the same period of the previous year..... | 74 |
| Figure 94 Structure of total income | 75 |
| Figure 95 Sector structure of interest incomes | 75 |
| Figure 96 Sector structure of interest expenses | 75 |
| Figure 97 Use of total income | 76 |
| Figure 98 Impairment of financial assets (in millions of Denars)..... | 76 |
| Figure 99 Effect of impairment on earnings..... | 76 |
| Figure 100 Structure of operating costs | 77 |
| Figure 101 Lending (up) and deposit (down) interest rates | 77 |
| Figure 102 Interest spread, by currency | 78 |
| Figure 103 Interest spread, by sector | 78 |
| Figure 104 Comparison of ROAA and ROAE with some European countries %..... | 79 |
| Figure 105 Net interest margin | 80 |
| Figure 106 Net interest margin, by bank..... | 80 |

TABLES

| | |
|--|----|
| Table 1 Comparative indicators on number of residents per credit institution and per business unit of credit institutions* | 10 |
| Table 2 Qualification structure of the employees in the banking system | 11 |
| Table 3 CRs for the banking system of the Republic of Macedonia | 16 |
| Table 4 Structure of assets and liabilities of the overall banking system..... | 18 |



| | |
|---|----|
| Table 5 Capital adequacy ratio, after simulations..... | 46 |
| Table 6 Credit risk ratios, after simulations | 46 |
| Table 7 Banks' sources of funding | 51 |
| Table 8 Assets and liabilities with currency component and their share in total assets | 58 |
| Table 9 Currency structure of assets and liabilities with currency component..... | 59 |
| Table 10 Banks' open currency position/own funds ratio, by currency | 60 |
| Table 11 Use of own funds (capital requirements) to cover risks..... | 68 |
| Table 12 Results of stress-test simulations of the resilience of the banking system and individual banks to hypothetical shocks, as of 31 December, 2012..... | 72 |
| Table 13 Determining the minimum level of loss* at which the capital adequacy ratio is reduced to 8% and 0% | 73 |
| Table 14 Profitability and efficiency indicators of the banking system | 79 |



SUMMARY

During 2012, the changes in the structure of the banking system happened as a result of the acquisition of one bank by another, that contributed to its further consolidation. Further enhancement of the banking network improved the access to banking services in certain regions of the country. Strategic plans of some banks to substantially increase market share underlie the expectation for lower concentration of the banking system in near future, and accordingly, higher competitiveness, correcting the prices of bank products and services.

During 2012, economic conditions in the country and abroad were not favorable for conducting banking activities. The unfavorable economic indicators, the banks' perceptions of exacerbating risks emerging from the real sector, as well as the apparent deterioration of the credit performance of the corporate sector additionally supported conservative lending approach of banks, primarily toward corporate sector. Such economic conditions and reduced lending, followed by capital outflows abroad by some domestic companies with foreign capital had an impact on the amount of corporate deposits, and made an adverse contribution to the total deposit growth.

Despite the slower growth of total deposits, the conservative policies of some parent banks, due to the measure of financial deleverage, also were the main factors for the slower growth of assets of the banking system in 2012. It is expected that the extended resolution of the situation in parent banks will continue to have adverse effect on the domestic banks' lending.

Negative trends in the real sector spill over the households with a certain time lag. Households remained a major source of growth of the banks' deposit base, though the household deposits grew at a slower pace. The slower growth of household deposits reflects the reduced financial power of households, given the downward trend of wages and rise of consumer prices. Thus, high inflows from abroad (primarily in the form of cash, purchased on the currency exchange market) remain an important stimulus of household savings in banks. Monetary measures such as zero interest rate on over 2-year household deposits and consequently, stimulating longer-term deposit interest rate policies of some banks had their effect throughout 2012, with the long-term household deposits being generators of the growth of deposit base.

Preferences of banks' clients to hold their assets in domestic currency prevailed in 2012, thus improving the currency structure of deposits. In a traditional euroized economy and banking system of the Republic of Macedonia, such changes in the currency propensity for saving enabled Denar deposits to take the leading position in the currency structure of deposits of nonfinancial entities, since June 2012.

The presence of bank risks made the deposit growth to be mainly used to boost liquid assets, so that banks' lending activity increased moderately, at a rate which is lower than the growth rate in 2011. The National Bank forecasts indicate moderate acceleration of credit growth in 2013 and 2014, under the influence of expectations for more stable environment, deposit growth, stronger global economy, as well as the changes in monetary policy made during 2012 and early 2013.



The importance of credit risk in the overall banks' risk profile further increased. Double-digit growth of nonperforming loans as a result of adverse conditions in the domestic economy and creditworthiness of the corporate sector, explains the greater caution of banks when granting credits, which are eager to maintain stability and solvency, rather than their profit position. Double-digit growth of nonperforming loans, generated entirely from the corporate sector continued and increased further in the first months of 2013. However, full cover of nonperforming loans with total impairment diminishes the risk of reducing banks' own funds in case of hypothetical 100% default on these loans.

Bank liquidity is stable and increasing, and banks hold high volume of liquid assets. In 2012, deposit growth was mainly used to boost liquid assets and was mainly focused on investments in low-risk, government securities. An input was also provided by the changes made by the NBRM in its operational framework of monetary policy, primarily by reducing the frequency of auctions, limiting the offered amount of CB bills, introduced weekly repo auctions. The liquidity indicators of the banking system remained steady, with a tendency to improve further. According to the latest available data, in the first months of 2013, liquid assets continues to grow, while the liquidity indicators further improve. Stress-testing confirms the resilience of the banking system liquidity to simulated shocks of outflow of deposits.

Other risks, primarily currency risk and interest rate risk in the banking book, remained low. Immateriality of these two risk arises primarily from the maintenance of a fixed exchange rate of the Denar against the Euro as the central pillar of monetary strategy, as well as the possibility of banks to adjust interest rates to their goals and needs.

According to the core solvency measure, the banking system is solvent, implying that the capital adequacy ratio, which equals 17.1% is by more than twice higher than the regulatory requirement of 8%. In 2013 and 2014, banks' capital base, and accordingly, their solvency, is expected to further enhance, due to the macro-prudential measures taken by the National Bank of the Republic of Macedonia at the beginning of 2013. In fact, in April the National Bank adopted a regulation that obliges banks to use the released impairment due to the foreclosures and the amendments to the credit risk management regulations (starting from December 2013), for strengthening the capital, rather than to regard it as an income which could drain off from the bank in the form of dividends.

Amid flood of information on adverse trends in some European economies, particularly the domicile countries of the major shareholders of Macedonian banks, the increased difficulties in our real sector and weakened financial power of households create a serious need for maximum commitment of all stakeholders to maintain liquidity and stability of the banking system. Banks successfully fit into this situation in the economy and environment, through enhanced vigilance when taking risks and extending their activities. It is crucial in such situations, to avoid artificial creation of public uncertainty regarding the stability of banks, and therefore, the central bank should continue its communication with the public, and the banks should continue direct communication with their clients. The damage will be immense if there are attempts to tendentiously shake the banking system, which is highly liquid and solvent, and its stability is examined and verified through simulated, hypothetical shocks of increased default on loans and outflow of deposits.

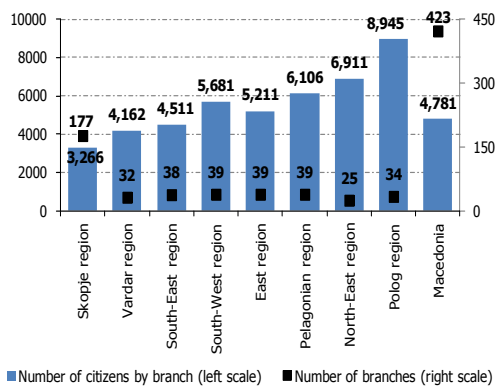


I. Structure of the banking system¹

1. Access to bank services

As of 31 December, 2012, the banking system in the country consists of sixteen banks and seven savings banks. Compared to the previous year, the number of banks declined by one bank as a result of the acquisition of a small-size bank by a medium-size bank². Also, the number of savings houses dropped by one savings house which went into liquidation³.

Figure 1 Bank branches* by region in the Republic of Macedonia



* The calculation does not include banks' windows.

Source: NBRM, based on data submitted by banks, State Statistical Office of the Republic of Macedonia according to official data of the 2002 census.

Bank branches spread across almost all cities in the country consists of 423 business units⁴. The number of business units increased by ten (14 new business units opened and 4 closed). Furthermore, 7 of the newly opened business units are located in the Skopje region, while the remaining 7 are spread across multiple regions. Thus, according to geographical distribution, bank branches are widespread in the Skopje region. Moreover, the access to banking services improved in the Skopje region, given the lower number of residents by 134 per business unit. Significant improvement is observed in the Polog region where the number of residents per business unit decreased by 559 upon opening of only 2 business units.

¹ This report focuses exclusively on the banks' operations because of they have the highest share in the activities of depository institutions. The share of savings houses is still insignificant and amounts to only 0.8% of total assets of the banking system, 1.2% of total loans and 0.3% of total deposits of natural persons in Denars and in Denars with FX clause.

² The Governor of the National Bank of the Republic of Macedonia made a Decision no. 7422 of 9 October, 2012 licensing the status change - acquisition of Ziraat Bank AD Skopje by Halk Bank AD Skopje. On 1 October, 2012, the Central Registry of the Republic of Macedonia registered the status change - acquisition. With the registration of the status change - acquisition, Ziraat Bank AD Skopje ceased as a legal entity without a liquidation procedure, while its overall assets and liabilities were assumed by Halk Bank AD Skopje.

³ At the request of owners, the Governor of the National Bank of the Republic of Macedonia passed a Decision no. 9996 of 19 December, 2012, to grant a prior approval for cessation of the savings house Inter Falco DOO Skopje. The same Decision, as specified by Article 154 of the Banking Law, abolished the founding license of the savings house issued by the Decision of the Governor of the National Bank of the Republic of Macedonia no. 02-14/385-93 of 26 November, 1993, ascertaining the fulfillment of conditions for implementation of liquidation proceedings of the savings house.

⁴ including the headquarters of banks.



Table 1 Comparative indicators on number of residents per credit institution and per business unit of credit institutions*

| Country | Number of citizens by credit institution | Country | Number of inhabitants per business unit by credit institution |
|------------------------|--|------------------------|---|
| Austria | 11,304 | Spain | 1,179 |
| Malta | 14,859 | France | 1,712 |
| Lithuania | 31,294 | Italy | 1,773 |
| Germany | 43,845 | Austria | 1,916 |
| Sweden | 54,325 | Bulgaria | 1,949 |
| Hungary | 56,258 | Germany | 2,165 |
| Montenegro | 56,366 | Poland | 2,641 |
| Poland | 60,209 | Greece | 2,813 |
| Netherlands | 63,078 | Belgium | 2,872 |
| Slovenia | 82,371 | Hungary | 2,887 |
| Italy | 83,333 | Slovenia | 2,998 |
| France | 102,668 | Serbia | 3,123 |
| Belgium | 108,208 | Romania | 3,150 |
| Macedonia | 128,737 | Croatia | 3,422 |
| Croatia | 138,407 | Malta | 3,962 |
| Spain | 150,527 | Lithuania | 4,398 |
| Slovakia | 175,656 | Sweden | 4,590 |
| Albania | 176,374 | Macedonia | 4,869 |
| Estonia | 183,791 | Montenegro | 5,124 |
| Czech Republic | 187,736 | Czech Republic | 5,131 |
| Bosnia and Herzegovina | 202,091 | Slovakia | 5,266 |
| Greece | 207,985 | Albania | 5,285 |
| Serbia | 219,433 | Netherlands | 6,324 |
| Bulgaria | 306,857 | Estonia | 6,666 |
| Romania | 464,482 | Bosnia and Herzegovina | н.п. |

* Data on Macedonia, Serbia, Montenegro, Bosnia and Herzegovina, Bulgaria, Croatia and Estonia concern banks. In Macedonia, they refer to 2012, while for all other analyzed countries they are as of 31 December, 2011. Data on the number of residents in the Republic of Macedonia result from the monitoring and analysis of demographic changes carried out by the State Statistical Office of the Republic of Macedonia for 2011.

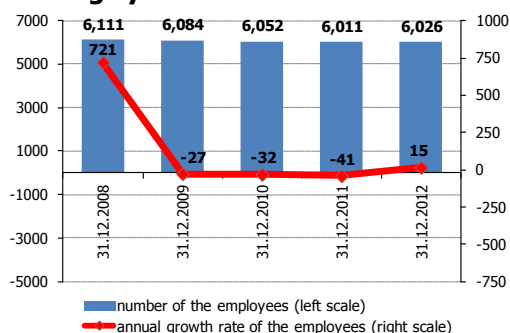
Source: the NBRM, state statistical offices of the analyzed countries, www.dbresearch.com, Bank of Albania (Supervision Annual Report 2011), Croatian National Bank (Banks Bulletin), BSCEE Review 2011, National Bank of Serbia (Banking sector in Serbia, Report on the III quarter 2012).

Banks in the Republic of Macedonia serve more residents than most countries included in the analysis, through their business units, on average. According to the number of residents per credit institution, Macedonia is still in the middle of the list, and according to the number of residents being served by business unit, its position worsened. Compared to countries in the region, only Montenegro and Albania are worse than Macedonia.



2. Employment in the banking system

Figure 2 Number of employees in the banking system



Source: NBRM, based on data submitted by banks.

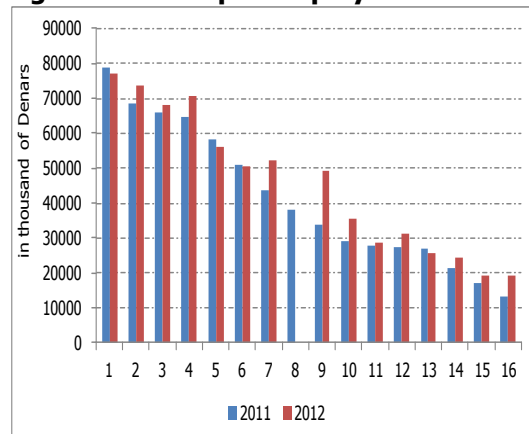
The three-year downtrend of the number of employees in the banking system was interrupted in 2012. Three banks reported significant changes in the number of employees. Namely, two of them reduced this number by 37 and 36⁵, respectively, whereas the third bank increased its number of employees by 24⁶.

Table 2 Qualification structure of the employees in the banking system

| Education degree | 31.12.2008 | 31.12.2009 | 31.12.2010 | 31.12.2011 | 31.12.2012 |
|------------------|------------|------------|------------|------------|------------|
| PhD and MSc | 1.9% | 2.4% | 2.8% | 4.0% | 4.7% |
| University ed. | 53.5% | 57.1% | 60.0% | 61.6% | 62.7% |
| College ed. | 5.0% | 4.9% | 4.7% | 4.3% | 4.1% |
| High school ed. | 38.6% | 34.7% | 31.6% | 29.4% | 28.1% |
| Other | 1.1% | 0.9% | 0.8% | 0.7% | 0.4% |

Source: NBRM, based on data submitted by banks.

Figure 3 Assets per employee*



* MBDP is not included in the analysis due to the specific nature of its activities.

Source: NBRM, based on data submitted by banks.

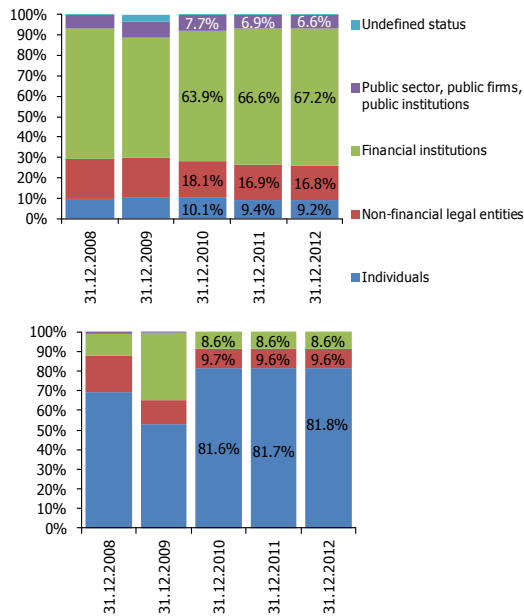
Despite the increase in the number of employees in the banking sector, bank productivity, as measured by assets per employee, enhanced primarily due to the faster pace of growth of assets compared to the growth of the number of new employees. Improvement was also observed in the qualification structure of employees in the banking system.

⁵ In one of these two banks, the cut in number of employees follows the reduction of scope of activities of the bank, while the other bank's decline in number of employees was due to the streamlining of operating costs, while the assets is growing.

⁶ The higher number of employees in this bank is accompanied by an increase in its volume of activities.

3. Ownership structure of the banking system

Figure 4 Ownership structure of common (up) and preference (down) shares of the banking system



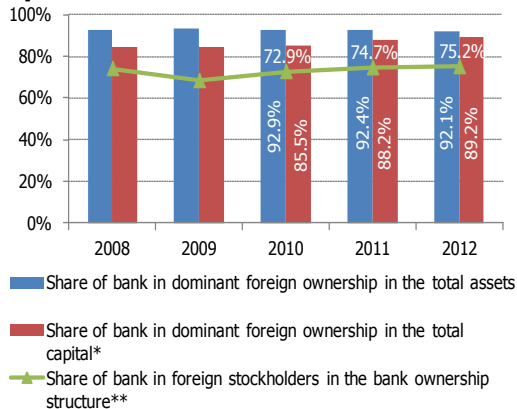
Source: NBRM, based on data submitted by banks.

Note: The term "undefined status" includes shares held by entities that cannot be identified, which are in bankruptcy or liquidation procedure or where the bankruptcy / liquidation procedure is closed.

In 2012, financial institutions continued to increase the participation in the ownership structure of banks, which further strengthened its dominant role as shareholders in the banking system. Their holding of common shares rose by 0.6 percentage points, as a result of the recapitalization of four banks⁷. The structure of preference shares has not changed, and therefore, the share of natural persons is still the highest.

⁷ Four banks issued new shares worth Denar 1,487 million, of which 98.5% purchased from banks' parent entities.

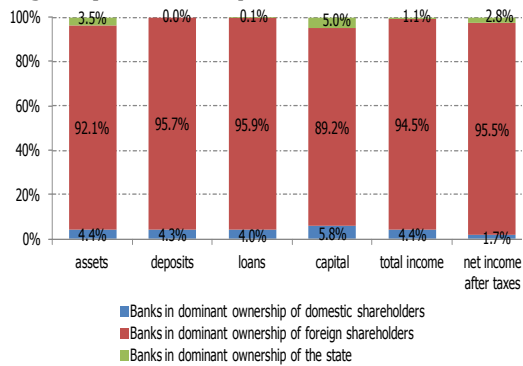
Figure 5 Market share of banks in dominant foreign ownership and trend of share of foreign capital in the total capital



* Total capital includes equity capital, reserve fund, retained earnings (accumulated loss) and revaluation reserves.
 ** This capital refers to the face value of paid-in and subscribed common and cumulative preference shares.
 Source: NBRM, based on data submitted by banks.

During 2012, new investments of foreign shareholders in the banking system amounted to Denar 2,784 million, which is by Denar 2,101 million less than in the previous year. The structure of new foreign investments is dominated by 53.4% of the abovementioned recapitalization of four banks by their foreign shareholders, while reinvested earnings by foreign shareholders accounts for 43.9%. This additional investment of foreign capital in banks in 2012 increased the share of foreign capital in the total capital of the banking system. The total foreign capital increased by 5.5%, while domestic capital increased by 2.4%.

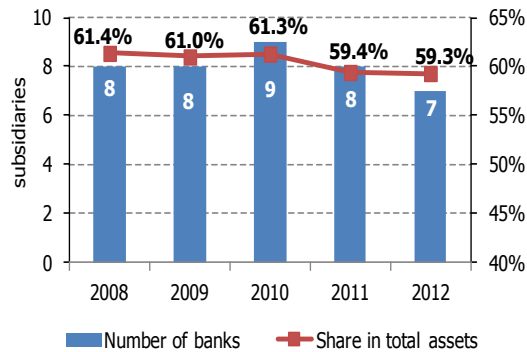
Figure 6 Structure of major banks' balance sheet positions, by banks' majority ownership



Source: NBRM, based on data submitted by banks.

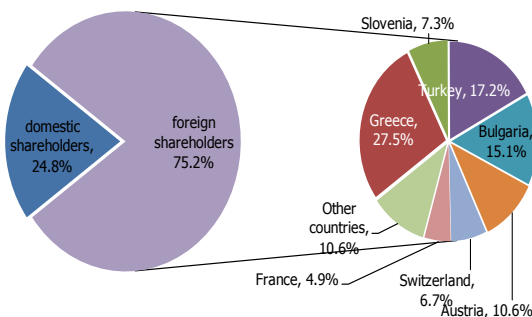
Twelve of sixteen banks in the Republic of Macedonia are in major ownership of foreign shareholders. Compared to the previous year, the number of banks in major ownership of foreign shareholders declined by one bank as a result of the previously mentioned acquisition of one bank by another bank, thus reducing the number of subsidiaries of foreign banks, from eight to seven.

Figure 7 Dynamics of foreign bank subsidiaries' share of assets in total assets



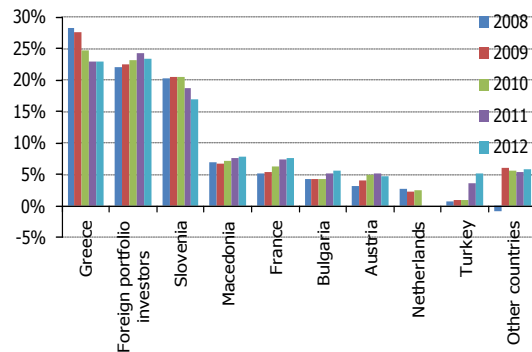
Source: NBRM, based on data submitted by banks.

Figure 8 Banks' equity structure, by country



Source: NBRM, based on data submitted by banks.

Figure 9 Banks' market share (assets), by country of origin of majority shareholder



Source: NBRM, based on data submitted by banks.

Although the foreign capital to total capital ratio of the banking system increased, the share of bank assets predominantly owned by foreign shareholders in the total assets of the banking system slightly decreased.

Capital originating from the European Union member-states has the largest share in the total foreign capital invested in the Republic of Macedonia.

Compared with the previous year, the share of capital originating from these countries increased by 0.7 percentage points, mainly due to the capitalization of one bank. The share of capital from Austria and Greece increased by 2.1 percentage points and 0.5 percentage points, respectively.

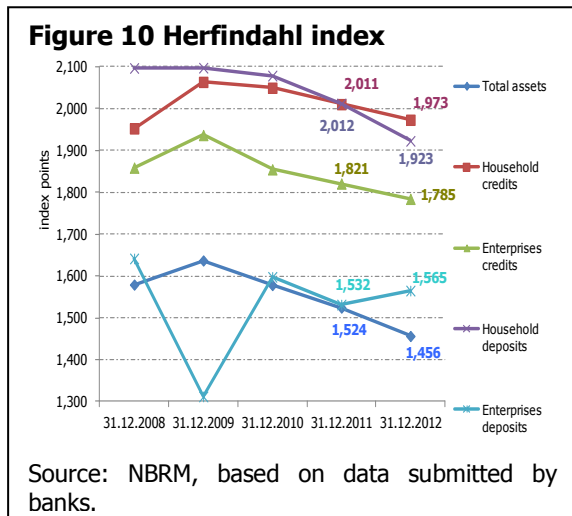
Banks that are predominantly owned by shareholders from Greece and Slovenia, as well as banks that are owned by foreign portfolio investors⁸ have the largest share in the total activities of the banking system, or 23%, 16.9% and 23.0%, respectively.

Compared to the previous year, there are certain changes in the market share of banks by country of origin. Changes are mostly notable with banks which are predominantly owned by shareholders from Slovenia (1.7 percentage points lower market share) and shareholders from Turkey (1.5 percentage points higher market share).

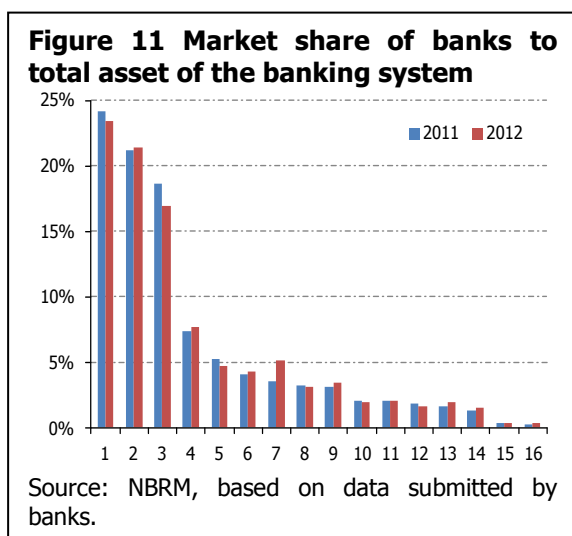
⁸ Banks which are predominantly foreign owned, but which lacks strategic investor.



4. Market share and concentration of the banking system



The concentration of banking system measured by Herfindahl index⁹ is relatively high in all banking segments. However, in the last three years, this indicator has registered a downward trend in all segments, except for corporate deposits, where the movement is fluctuating, and as of 31 December, 2012, it slightly increased (by 33 index points). However, the Herfindahl index of corporate deposits and loans and of total assets is at acceptable level, while the concentration of household loans and deposits is slightly above the acceptable ceiling.



The high concentration in the banking system is also confirmed by CR5 and CR3¹⁰, as well as by the market share of individual banks in total assets of the banking system. Two thirds of the total assets of the banking system is concentrated in three banks, while seven of sixteen banks occupy less than 3% of the total assets of the banking system.

However, there is a downtrend of concentration in the banking system. The reduction of CR3 is followed by a growth of the share of the next four banks (that follow the three largest banks) in all segments, except for corporate deposits. Major contributor was a bank of the group of medium-size banks, whose strategic objective is to increase market share in all banking segments. Hence, the concentration

⁹ Herfindahl index is calculated according to the formula $HI = \sum_{j=1}^n (S_j)^2$, where S is the share of each bank in the

total amount of the analyzed category (e.g., total assets, total deposits, etc.), where n is the total number of banks in the system. When the index ranges from 1,000 units to 1,800 units, the level of concentration in the banking system is considered to be acceptable.

¹⁰ CR5 (i.e. CR3) represents the share of assets (i.e. the analyzed category, such as corporate loans etc..) of the five (i.e. three) banks with largest assets (i.e. the analyzed category) in total assets (i.e. the analyzed category) of the banking system.



in the banking system is expected to continue decreasing in the future.

Table 3 CRs for the banking system of the Republic of Macedonia

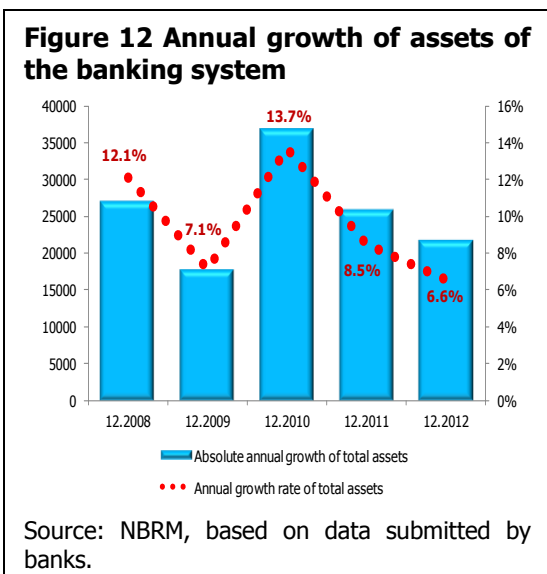
| | Year | Total assets | Household credits | Enterprises credits | Household deposits | Enterprises deposits |
|------------|-------------------|--------------|-------------------|---------------------|--------------------|----------------------|
| CR5 | 31.12.2010 | 77.2% | 79.3% | 81.1% | 84.9% | 83.3% |
| | 31.12.2011 | 76.6% | 78.8% | 81.7% | 82.9% | 83.5% |
| | 31.12.2012 | 74.5% | 79.2% | 79.9% | 81.0% | 82.1% |
| CR3 | 31.12.2010 | 66.0% | 68.6% | 69.2% | 76.7% | 62.5% |
| | 31.12.2011 | 64.0% | 67.7% | 67.4% | 75.0% | 57.5% |
| | 31.12.2012 | 61.7% | 67.1% | 65.6% | 72.9% | 59.9% |

Source: NBRM, based on data submitted by banks.

II. Bank activities

In 2012, the overall activities of the banking system continued to grow at a slower pace than previous years. The unfavorable economic environment additionally slowed down the growth of deposits of nonfinancial entities, primarily in the first half of the year, which contributed to the slower growth of bank assets. The above, coupled with the banks' risk perceptions for the real sector, the growth of credit risk, and the conservative policies of some parent entities affected by the measure of financial deleverage, caused a slower growth of the credit activity of banks in 2012. Increased investments of banks in low-risk securities, amid slower lending, and lower placement of funds on accounts with foreign banks (which bear very low yields), confirm the prudence of risk-taking by banks. Also, the denarization of funding sources represents incentive for banks to reduce the foreign currency component on the assets side, as well.

1. Balance sheet of the banking system



As of 31 December, 2012, total assets of the banking system stood at Denar 352,886 million (Annex 1). In 2012, the assets continued to grow at a slower pace though, with the annual growth rate of 6.6% being the lowest in the last ten years.

Observing the assets, one can notice a slower growth of credit activity¹¹, an increase of securities investments and a reduction of placements with banks and other financial institutions.

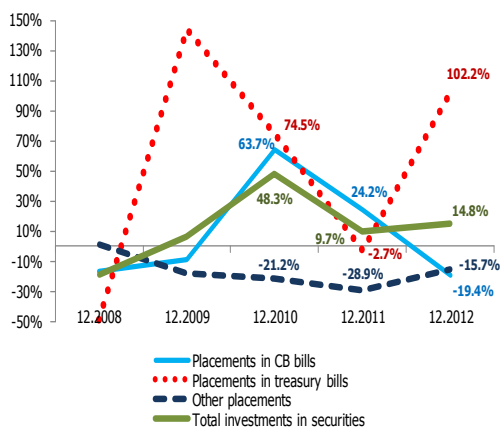
¹¹ More detailed analysis of the structure and movements of loans to nonfinancial entities is given in section 3. Credit Activity.


Table 4 Structure of assets and liabilities of the overall banking system

| Balance sheet | Amount (in millions of Denars) | | Structure | | Change 31.12.2012/31.12.2011 | | | |
|---|--------------------------------|----------------|---------------|---------------|------------------------------|-------------|--------------------------------------|---------------------|
| | 31.12.2011 | 31.12.2012 | 31.12.2011 | 31.12.2012 | Absolute change | In percent | In the structure (percentage points) | Share in the change |
| Cash and balances with NBRM | 38,227 | 41,149 | 11.5% | 11.7% | 2,922 | 7.6% | 0.1 | 13.5% |
| Securities portfolio | 49,831 | 57,219 | 15.0% | 16.2% | 7,388 | 14.8% | 1.2 | 34.0% |
| Placements with banks and other financial institutions | 43,528 | 43,141 | 13.1% | 12.2% | -386 | -0.9% | -0.9 | -1.8% |
| Loans of nonfinancial entities (net) | 181,017 | 190,867 | 54.7% | 54.1% | 9,850 | 5.44% | -0.6 | 45.4% |
| Gross loans of nonfinancial entities | 202,405 | 216,225 | 61.1% | 61.3% | 13,819 | 6.8% | 0.2 | 63.7% |
| <i>Accumulated amortization of loans of nonfinancial entities</i> | -855 | -965 | - | - | -110 | 12.9% | - | - |
| <i>Impairment (provisions) of loans to nonfinancial entities</i> | -20,534 | -24,393 | - | - | -3,859 | 18.8% | - | - |
| Accrued interest and other assets | 10,382 | 10,518 | 3.1% | 3.0% | 136 | 1.3% | -0.2 | 0.6% |
| Fixed assets | 8,192 | 9,992 | 2.5% | 2.8% | 1,799 | 22.0% | 0.4 | 8.3% |
| Unallocated loan loss provisions | 0 | 0 | 0.0% | 0.0% | 0 | - | 0.0 | 0.0% |
| Total assets | 331,176 | 352,886 | 100.0% | 100.0% | 21,710 | 6.6% | 0.0 | 100.0% |
| Deposits from banks and other financial institutions | 13,861 | 17,362 | 4.2% | 4.9% | 3,502 | 25.3% | 0.7 | 16.1% |
| Deposits of nonfinancial entities | 234,161 | 245,373 | 70.7% | 69.5% | 11,212 | 4.8% | -1.2 | 51.6% |
| Borrowings (short-term and long-term) | 30,740 | 34,637 | 9.3% | 9.8% | 3,897 | 12.7% | 0.5 | 18.0% |
| Liability component of hybrid and subordinated instruments | 7,760 | 7,723 | 2.3% | 2.2% | -37 | -0.5% | -0.2 | -0.2% |
| Other liabilities | 7,246 | 7,486 | 2.2% | 2.1% | 240 | 3.3% | -0.1 | 1.1% |
| Provisions for off-balance sheet items | 819 | 911 | 0.2% | 0.3% | 92 | 11.2% | 0.01 | 0.4% |
| Capital and reserves | 36,590 | 39,394 | 11.0% | 11.2% | 2,804 | 7.7% | 0.1 | 12.9% |
| Total liabilities | 331,176 | 352,886 | 100.0% | 100.0% | 21,710 | 6.6% | 0.0 | 100.0% |

Source: NBRM, based on data submitted by banks.

Note: The position "placements with the central bank" of Annex 1, is included in the position "Cash and balances with the NBRM" in this table.

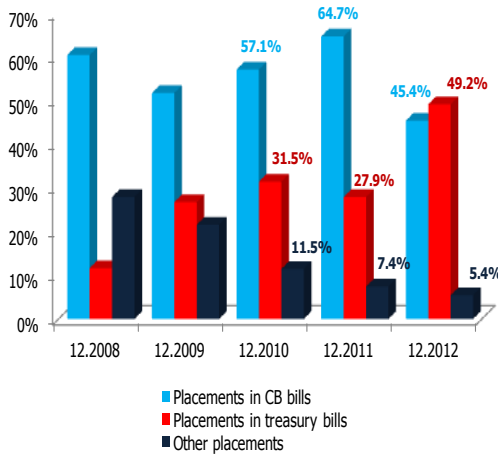
Figure 13 Annual dynamics of securities portfolio


Source: NBRM, based on data submitted by banks.

The changes in the operational framework of monetary policy (reduced frequency of auctions, a limited amount of CB bills, introduced weekly repo auctions) require from banks to use liquidity to boost long-term investments, and accordingly, to increase lending. However, given the refraining from taking higher risks, banks used alternative investments arising from the government activities for further development of the securities market and increased investments in government securities, resulting in changes in the structure of banks' investments in securities¹². Thus, the annual growth of the securities portfolio is fully determined by the significant increase of banks' investments in treasury bills

¹² Elaborated in more details in section III.2. Liquidity Risk.

Figure 14 Structure of securities portfolio



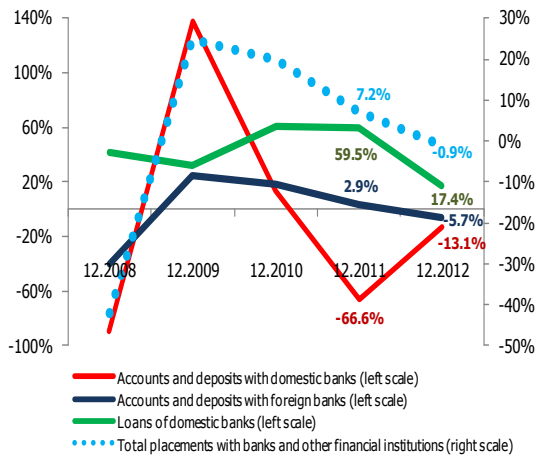
Source: NBRM, based on data submitted by banks.

(about Denar 14,218 million). In contrast, investments in CB bills decreased by Denar 6,251 million) in the previous year. Banks' investments in other securities decreased by Denar 579 million compared to the previous year, largely as a result of the government repayment of an installment of structural bond for privatization of Stopanska Bank AD Skopje.

As a result of this investment policy of banks, changes occurred in the structure of the securities portfolio, i.e. the share of CB bills reduced, while investments in treasury bills became dominant.

The expansion of investment opportunities by issuing government securities on longer runs allowed an increase of the maturity of banks' placement in liquid securities that can be used to provide short-term liquidity through the introduced regular weekly repo auctions by the National Bank.

Figure 15 Placements with banks and other financial institutions, annual growth in %



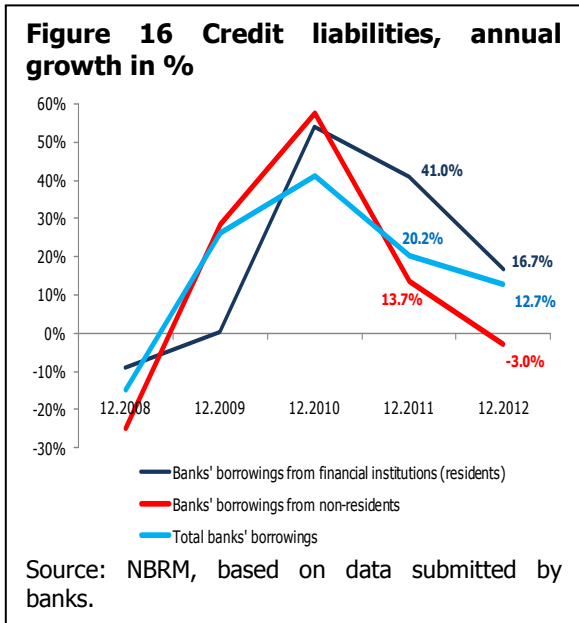
Source: NBRM, based on data submitted by banks.

Given the downward movement of yields of investments in foreign markets, the placements with banks and other financial institutions decreased on an annual basis, mostly pronounced in the first two quarters of 2012. This is primarily due to the decrease of time deposits of up to one month in foreign banks (by Denar 7,911 million). Accounts and deposits with domestic banks reduced annually by Denar 98 million. On the other hand, loans of domestic banks increased by Denar 1,625 million compared to the previous year, solely resulting from the growth of long-term loans in foreign currency from the European Investment Bank credit line launched through MBDP AD Skopje.

In 2012, banks' cash and balances with the NBRM increased due to higher short-term deposits in Denars and foreign currency with the central bank, mainly resulting from the higher amounts held by banks on their accounts with the National Bank, the growth of reserve requirement, and the introduction of deposit facility of up to seven days by the National Bank. The increase of short-term deposits in foreign

currency with the central bank to some extent results from the onetime increase of these deposits with a large bank.

The growth of deposits of nonfinancial entities¹³ had the greatest impact on the movement of liabilities of the banking system in 2012. On the liabilities side, deposits registered the largest absolute annual growth. Nevertheless, their growth rate of 4.8% decelerated by 5.0 percentage points compared to the previous year.



The increase of sources for funding banks' activities also resulted from the growth of credit liabilities and deposits of banks and financial institutions. The annual growth of credit liabilities is determined by the increase of credit liabilities of financial companies - residents (contribution of 47.7%¹⁴) and the increase of short-term liabilities based on repo transactions with the National Bank (contribution of 69.3%)¹⁵. Credit liabilities of nonresidents decreased by Denar 540 million, annually.

Deposits of banks and other financial institutions increased annually, which is totally due to the increase of short-term foreign currency deposits to nonresidents - financial companies, mostly (79.6%) parent entities¹⁶ of two medium-sized banks.

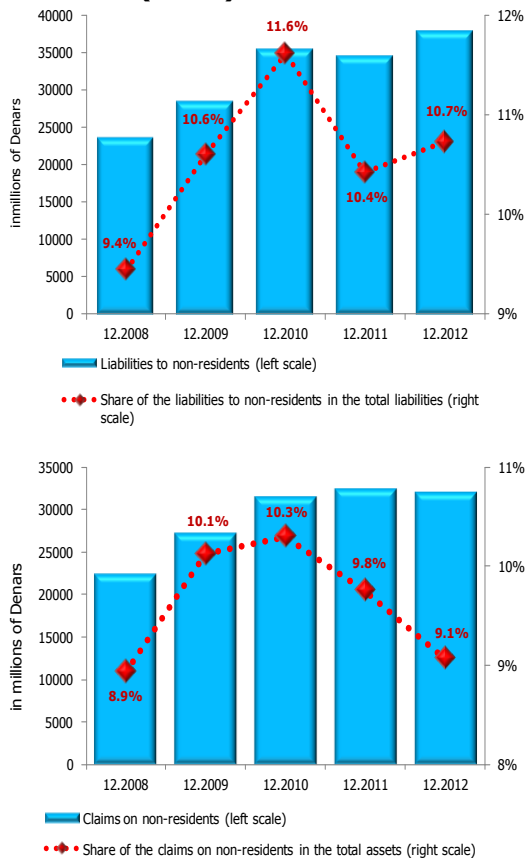
¹³ More detailed analysis of the structure and movements of deposits of nonfinancial entities is presented in section 4. Deposit Activity.

¹⁴ Placement of EIB credit line through MBDP.

¹⁵ The National Bank instrument for providing liquidity on a regular basis (weekly) which is available for banks and serves to improve efficiency in the bank's liquidity management and ability to invest in longer-term instruments.

¹⁶ A more detailed review of claims and liabilities on/to parent entities of the bank is presented in section III. 2. Liquidity Risk.

Figure 17 Dynamics of liabilities (up) to and claims (down) on nonresidents

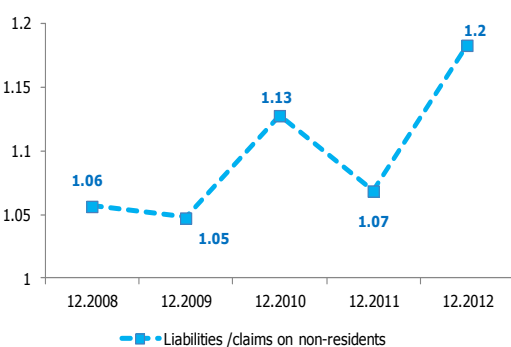


Source: NBRM, based on data submitted by banks.

Banks' claims on and liabilities to nonresidents are still low. In 2012, liabilities to nonresidents increased by Denar 3,336 million, or 9.7%, which caused an increase of their share in total liabilities of banks. Their overall growth was fully (132.5%) determined by short-term deposits in foreign currency to nonresidents - financial companies.

On the other hand, in 2012, claims on nonresidents fell by Denar 300 million, or 0.9%, due to lower investments in term deposits of up to one month, abroad.

Figure 18 Nonresident liabilities-claims ratio

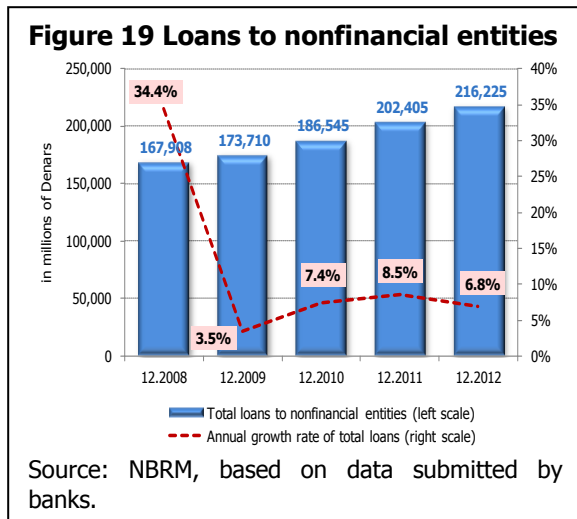


Source: NBRM, based on data submitted by banks.

As of 31 December, 2012, nonresidents' liabilities-to-claims ratio equaled 1.2.

2. Loans to nonfinancial entities

In 2012, banks continued to increase credit loans to nonfinancial sector, but at a slower pace. Slowing pace of growth reflects the increasing reticence of banks to take risks given the still high uncertainty about developments in the global and domestic economy and increased credit risk. Business policies of some domestic banks are under the influence of the strategies of parent banks, their attitude towards risk-taking and financial deleverage. Although these factors can prevent higher credit growth in the next period, the projections still point to a moderate acceleration of credit growth in 2013 and 2014. Expectations for a more stable environment, deposit growth, strengthening of global economy, as well as changes in the monetary policy in 2012 and early 2013 are expected to contribute to the growth of financial support for nonfinancial entities by banks. The growth of nonperforming loans illustrates the still unfavorable situation in the domestic economy and the need for greater caution of banks when approving credit applications and when preferring stability and solvency over profit position. However, according to the results of the Lending Survey¹⁷ conducted in January 2013, banks expect slower pace of tightening lending terms for the corporate sector and a moderate easing of the lending terms for the households, amid enhanced demand for loans from these two segments of the nonfinancial sector which are the main users of banks' credit products.



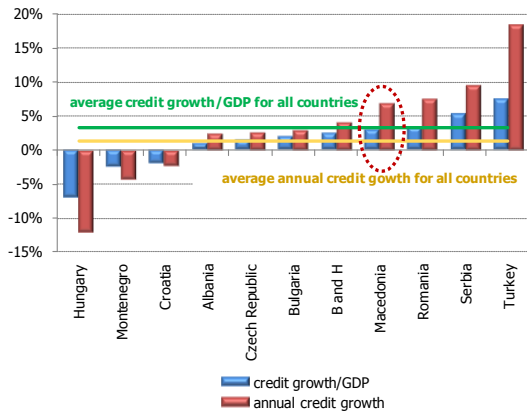
In 2012, loans to nonfinancial entities¹⁸ increased by 6.8%, which is still a moderate slowdown compared to the growth registered in the previous two years. The slower growth reflects the increasing restraint of banks' risk-taking, given the greater credit risk and deteriorated expectations due to the uncertainty about the recovery of the domestic and global economy¹⁹. Twelve banks increased lending, in a range from 3.0% to 248.5%, with a median of 14.3% and a third quartile of 45.9%. However, in 2012, most of the credit growth (84.2%) was determined by three large banks and one medium-size bank.

¹⁷ Since July 2006, the National Bank conducts regular (quarterly) lending surveys.

¹⁸ Total loans to nonfinancial entities include all loans to nonfinancial entities - residents and nonresidents, as follows: private and public nonfinancial companies (herein: corporate loans), central government, local government, nonprofit institutions serving households (herein: loans to other clients), sole proprietors and natural persons (herein: household loans).

¹⁹ Loans continued to grow slowly in the first two months of 2013, registering an annual growth rate of 5.9% in February.

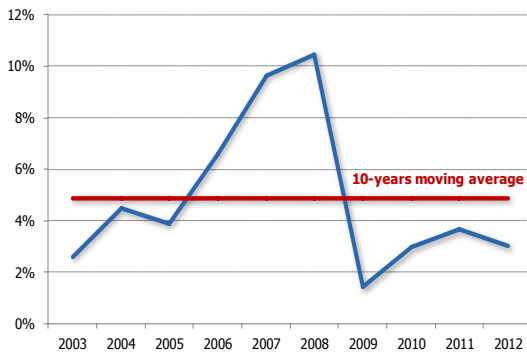
Figure 20 Annual growth rate of total credits and credit growth/GDP, by country



Source: NBRM, websites of central banks and national statistical agencies and IMF (World Outlook Database).

The comparative analysis of the annual growth rate of total loans with countries in the region shows that Macedonia is far above the average. However, the slower credit growth in 2012 made the share of credit growth to GDP below the average of the countries included in the sample.

Figure 21 Dynamics of credit growth/GDP

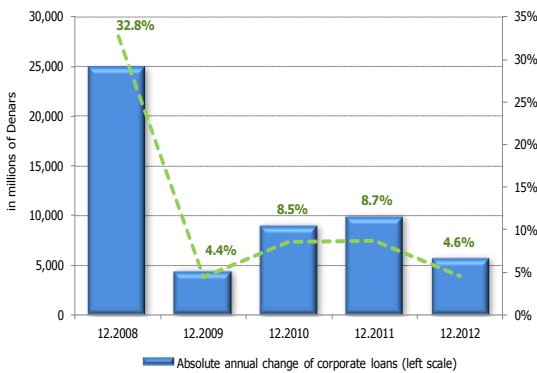


Source: NBRM, based on data submitted by banks.

The moderate pace of credit growth in the Republic of Macedonia also reflects the weaker economic performance. Credit growth to GDP ratio is lower than the ten-year average, compared to the period 2006-2008 when the credit growth of the banking system was unsustainable and high.

... loans, by sector

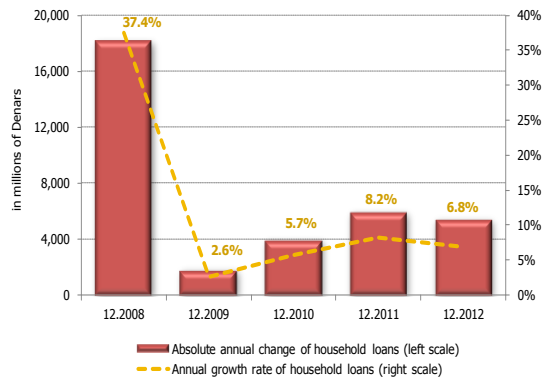
Figure 22 Annual dynamics of corporate loans



Source: NBRM, based on data submitted by banks.

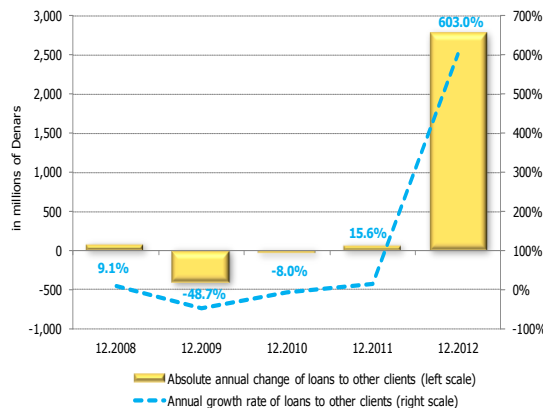
In 2012, banks tightened lending conditions and reduced credit support to companies compared to the previous year. Perceptions for higher risks of this sector and negative expectations about current and future trends in the economy largely explain the conservative corporate lending policy of banks. **The growth of corporate loans decreased almost double compared to 2011, but loans to these clients still make up a significant portion (41.4%) of the total credit growth.** As of 31 December, 2012, traditionally most important activities - "industry" and "wholesale and retail trade" and the fast-growing activity -

Figure 23 Annual dynamics of household loans



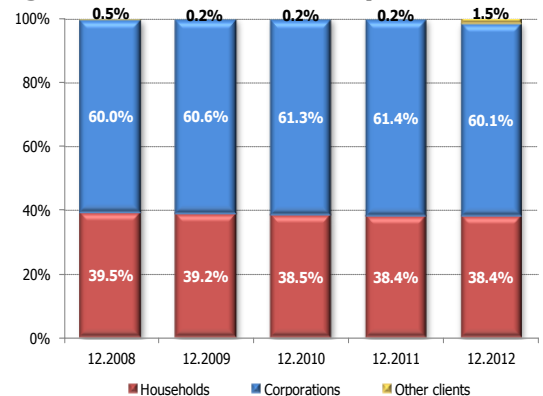
Source: NBRM, based on data submitted by banks.

Figure 24 Annual dynamics of loans to other clients



Source: NBRM, based on data submitted by banks.

Figure 25 Loan structure, by sector



Source: NBRM, based on data submitted by banks.

"construction" constitute most (83.1%) of the growth of loans to corporations and other clients.

Given the easing of lending terms, the demand for household loans increased (mostly in the second and the fourth quarter of 2012)²⁰, which contributed to less pronounced slowdown of lending to households and **evened out the contribution of household loans (38.5%) with the contribution of corporations, as common generator of credit growth.**

Consumer loans are still the most widely used loan product by households, making up 73.0% of the annual growth of lending to this sector. Special contribution to the annual growth was also made by residential and commercial real estate loans, which account for 24.2% of the total growth of household loans. Other loan products registered minor change, with the exception of car loans which decreased by 30.0% and limited the growth of loans to households (Annex 9).

For the first time, after the constant minor contribution, loans to other clients²¹ made up 20.1% of the total annual growth of loans, but their share in total loans is still marginal. Growth of loans to other clients refers to government sector and does not result from the approved loans for financing government needs, but from the contract for sale of real property by a bank to the government, with deferred payment.

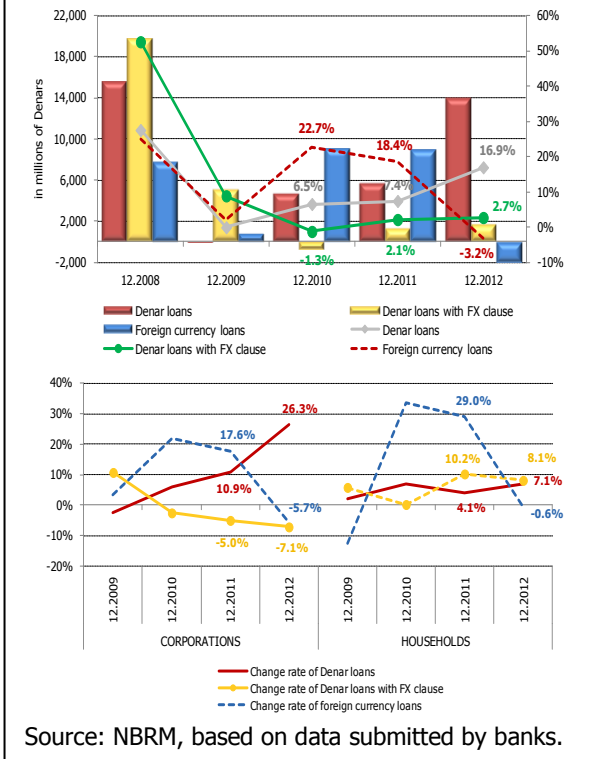
The downtrend of corporate loans contributed to reduction of their share in the loan sector structure of 1.3 percentage points, although they remain dominant (Annex 7).

²⁰ Source: banks' lending surveys conducted by the National Bank.

²¹ For the purposes of this analysis, other clients include government sector, nonprofit institutions serving households and nonresident nonfinancial companies.

... loans, by currency

Figure 26 Annual dynamics of loans by currency, for all sectors (up) and by individual sector (down)



Source: NBRM, based on data submitted by banks.

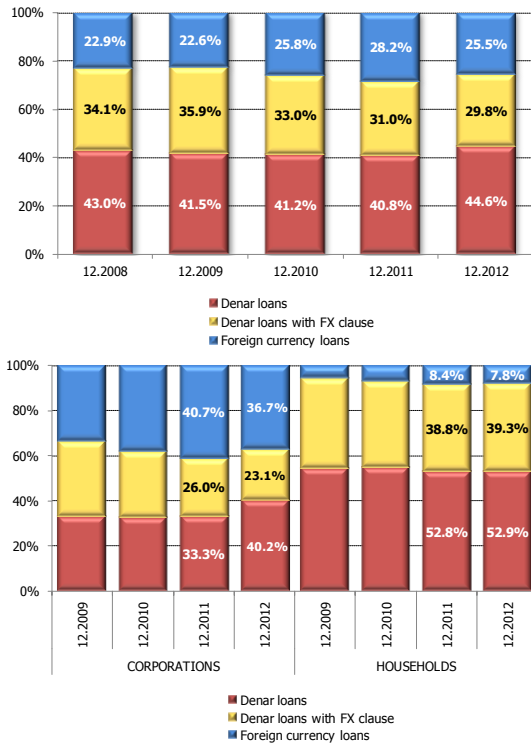
The denarization of sources, primarily deposits, properly transmitted to the currency structure of banks' credit investments. Thus, during 2012, Denar loans continued to grow more intensively, registering double-digit growth for the first time after 2008. In contrast, foreign loans declined in 2012. Thus, Denar loans fully determined the overall annual credit growth, unlike previous years when loans with currency component caused most of the growth.

Corporate Denar loans registered the fastest growth, thus fully contributing to the annual growth of loans to this sector (negative contribution of loans with currency component). Notwithstanding the far lower growth rate of Denar loans to households, they contributed by more than half (54.6%) to the growth of household loans, and the rest was due to Denar loans with FX clause.

Accelerated growth of Denar loans increased their share in the currency structure of loans, which equaled 44.6% as of 31 December, 2012. However, loans with a currency component constitute 55.4%, thus dominating the structure of total loans.



Figure 27 Currency structure of total loans (up) and loans, by sector (down)



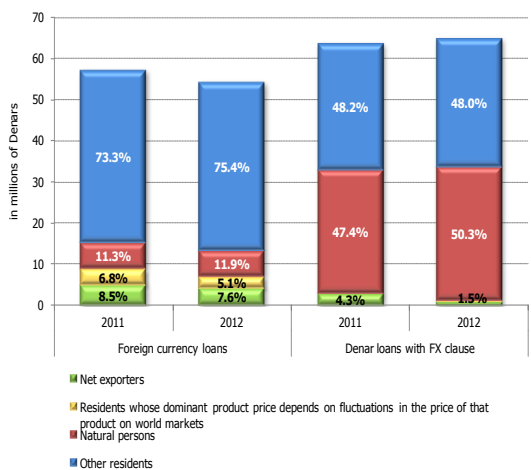
Source: NBRM, based on data submitted by banks.

Lending with currency component is more frequent in the structure of corporate loans, despite the increasing importance of Denar lending. On the other hand, the structure of household loans is overwhelmed by Denar credits (Annex 5).

The structure of loans with a currency component by category of resident²², is dominated (93.3%) by the categories of natural persons and other residents who are regarded as borrowers with mismatched currency position.

Much of the reduction of foreign currency loans or 62.2%, in 2012, results from foreign currency loans for domestic payments (according to the regulation, foreign currency loans for domestic payments are recognized as foreign currency loans in the balance sheet, but in its essence, they are same as Denar loans with FX clause, since they are approved in Denars).

Figure 28 Resident foreign currency and Denar loans with FX clause, by category of borrowers

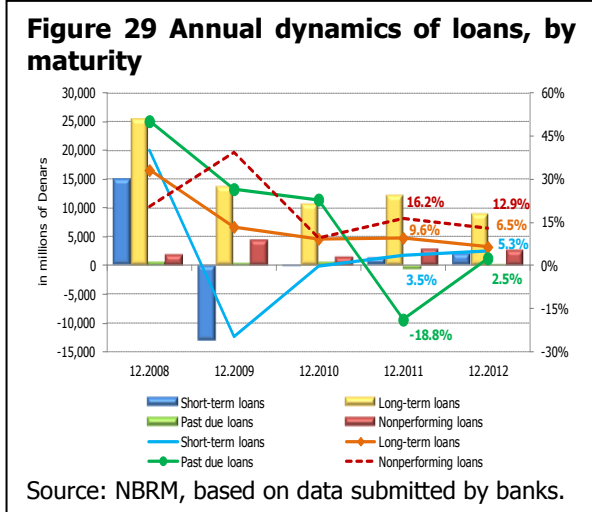


Source: NBRM, based on data submitted by banks.

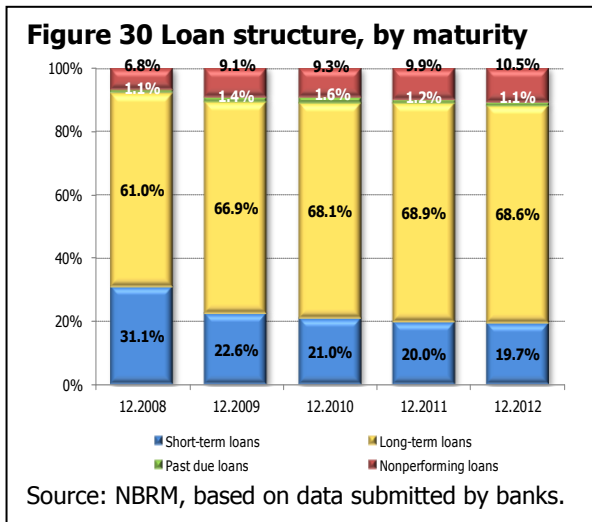
Analyzing by category of residents, corporate loans where the most common product price depends on fluctuations in the price of that product on world markets, mainly from industrial sectors of "metal manufacturing and mining" determine most of the reduction of foreign currency lending for payments abroad (with simultaneous downward movement of these loans in all categories). Loans to natural persons fully contribute to increased lending to residents in Denars with FX clause

²² According to the Instructions for implementation of the Decision on the terms and the manner of extending foreign currency loans and Denar loans with FX clause among residents ("Official Gazette of the Republic of Macedonia" no. 52/2006 and 43/2009), residents to whom the bank have approved loans with a currency component are classified into four categories: category I - net exporters, category II - residents whose dominant product price depends on fluctuations in the price of that product on world markets, category III - natural persons and category IV - all other residents not included in the previous three categories of residents. Categories III and IV are considered to have mismatched currency position.

... loans, by maturity, and nonperforming loans

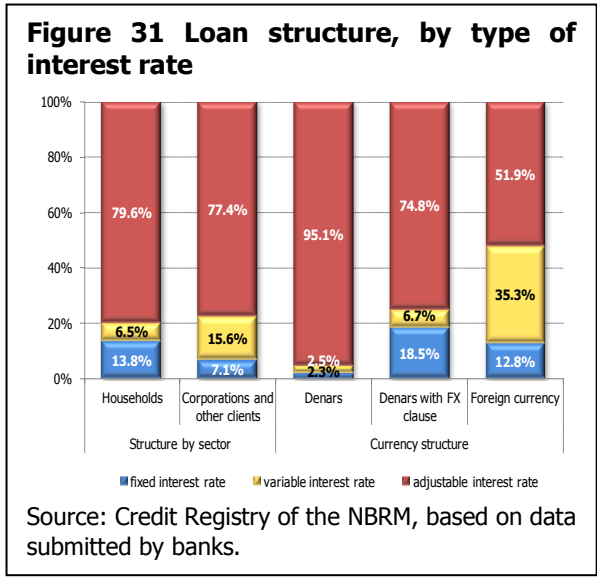


In 2012, the growth of nonperforming loans slowed down, but still at a double-digit rate of 12.9%. The growth of nonperforming loans solely arises from corporate loans, with the largest contribution made by "supply of electricity, gas, steam and air conditioning", and of "construction".

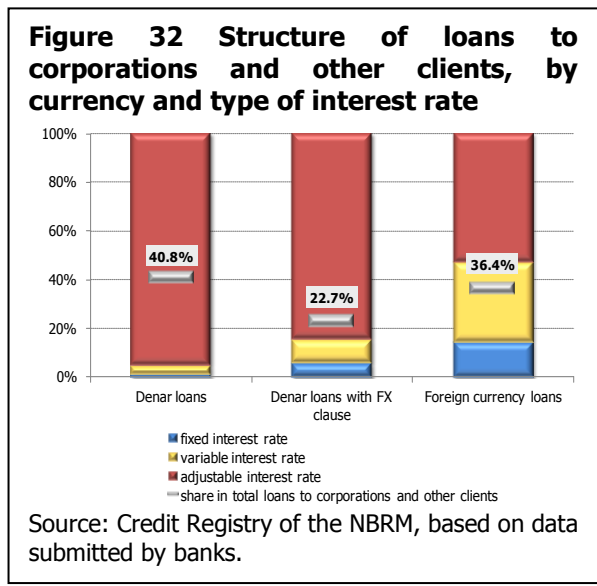


Analyzing maturity, long-term loans are still the most common and contribute with 65.3% to the annual growth of loans (Annex 6).

... loans by type of interest rate



Analysis of loans by type of interest rate²³ shows that as of 31 December, 2012, the adjustable²⁴ interest rates prevail the sector and currency structure of loans to nonfinancial entities. However, the variable interest rate is also present in loans to corporations and other clients, compared to households where the fixed interest rate is the second most important. Observed by currency, the interest rate of almost all Denar loans is adjustable. However, this type of interest rate constitutes only half of the foreign currency loans given the higher presence of variable interest rate.



The type of interest rate on loans to corporations and other clients²⁵ depends on both the client's activity and loan currency. Accordingly, the interest rate on almost all Denar loans to this sector is adjustable (95.3%), while the share of this interest rate type on foreign currency loans is lower (52.9%).

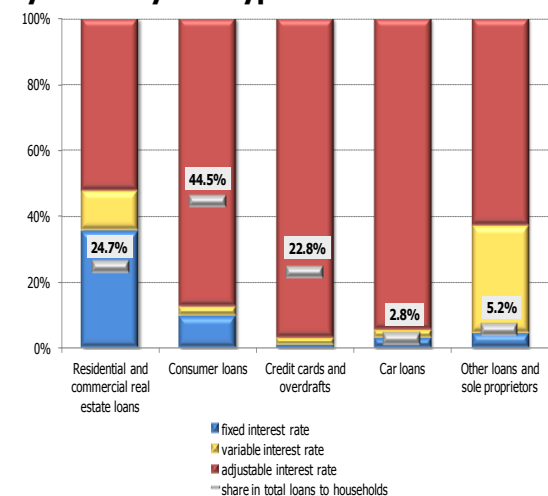
²³ The analysis refers to the total regular and nonperforming loans to nonfinancial entities classified by banks under the Decision on credit risk management ("Official Gazette of the Republic of Macedonia" no. 17/2008, 31/2009, 91/2011, 127/2012) on an individual basis (does not include loans classified by banks on a group basis).

²⁴ Interest rate changeable under a decision of an appropriate bank body.

²⁵ For the purposes of this analysis, corporations and other clients are presented together. Data are taken from the Credit Registry.



Figure 33 Structure of household loans, by currency and type of interest rate



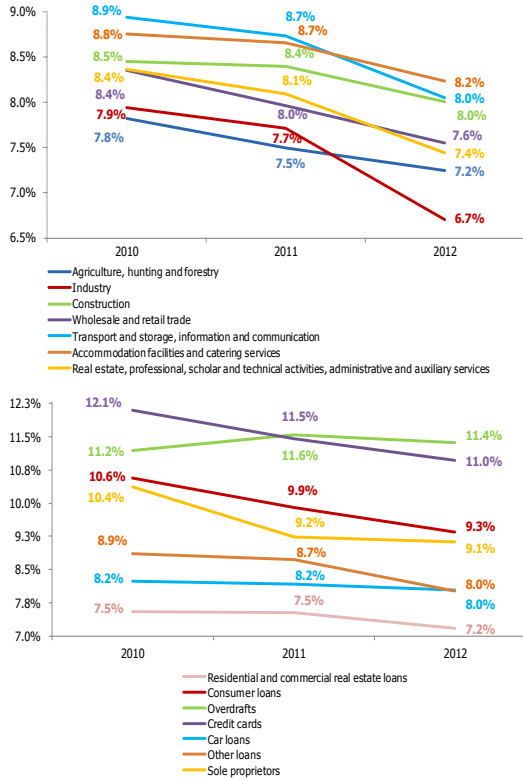
Source: Credit Registry of the NBRM, based on data submitted by banks.

In households, among other things, currency and type of credit product form the type of interest rate. Adjustable interest rate is the most frequent in all types of loans to this sector. The fixed interest rate is usually present in loans secured by a certain type of collateral and longer repayment period and mostly applies only to the first years of loan repayment²⁶. Mostly, the interest rate on residential and commercial real estate loans is fixed, while variable interest rate has substantial share in the structure of other loans and loans to sole proprietors.

²⁶ According to the Decision on managing the interest rate risk in the banking book ("Official Gazette of the Republic of Macedonia" no. 163/2008, 144/2009), positions in which the interest rate is fixed for a certain period of time rather than for the entire period to maturity, are treated as positions with fixed interest rate. If the bank changes the type of interest rate after the period of fixed interest rate, it has to redeploy these positions by the appropriate type of interest rate.

... interest rate and residual loan maturity

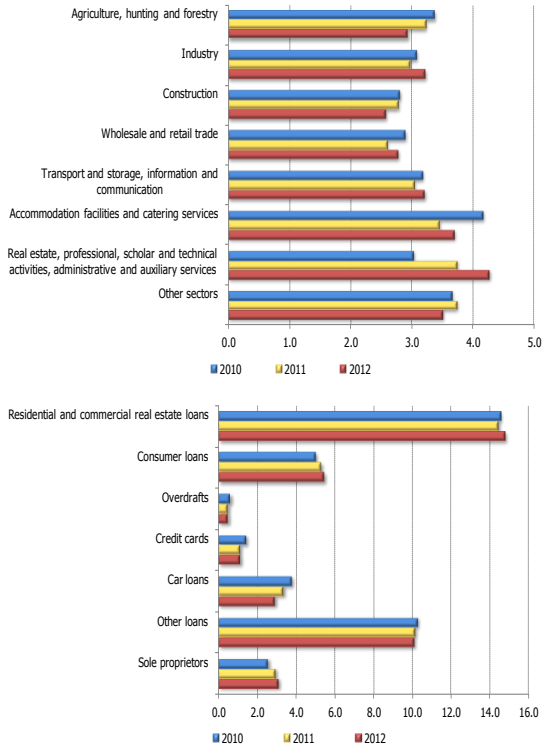
Figure 34 Average interest rate on loans to corporations and other clients (up) and households (down)



Source: Credit Registry of the NBRM, based on data submitted by banks.

In 2012, the downward trend in the average interest rate, analyzed by industries and by credit product, continued and further accelerated, which corresponds with the reduction of the National Bank policy rate in the second quarter of the year. The average loan interest rate to corporations and other clients sector registered an accelerated pace of reduction, with the interest rates on loans to "industry" and "activities related to real estate" registering the most significant decrease. Analyzing the households, the most pronounced decrease was registered in the average interest rate on credit cards.

Figure 35 Average period to maturity of loans to corporations and other clients (up) and households (down), by year

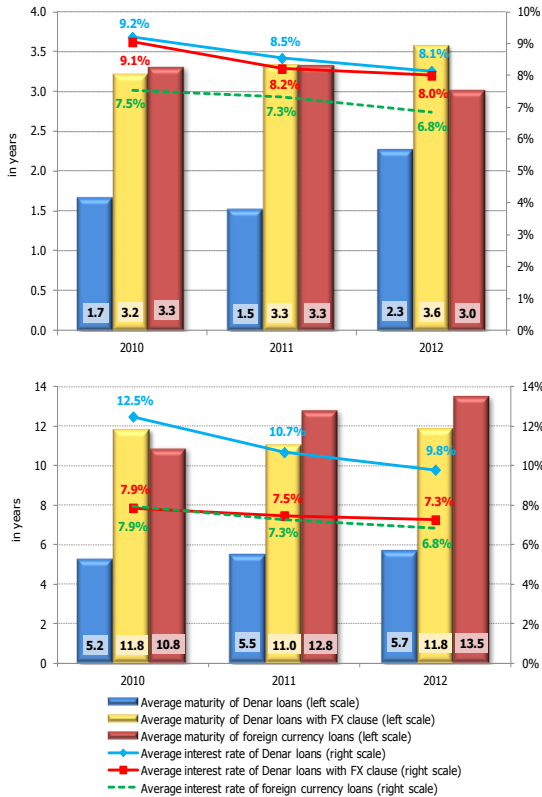


Source: Credit Registry of the NBRM, based on data submitted by banks.

As of 31 December, 2012, the weighted average residual maturity of loans (average time to maturity in years) was the longest in residential and commercial real estate loans (14.8 years). Compared to 31 December, 2011, the **average maturity period for loans to nonfinancial entities generally increased**, with the exception of activities of "construction" and "agriculture, forestry and fisheries" and car loans that experienced shortened average maturity period.

... newly approved loans, interest rate, maturity and decisions on loan applications

Figure 36 Average weighted interest rate and maturity of newly approved loans to companies (up) and households (down)



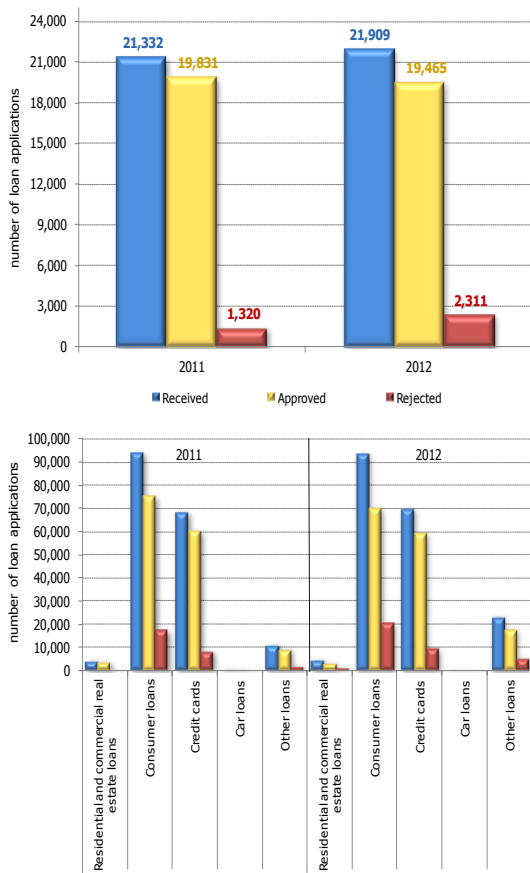
Source: Credit Registry of the NBRM, based on data submitted by banks.

At the end of 2012, average weighted interest rates on newly approved loans to companies and households declined compared to the previous year. The average weighted interest rate on newly approved corporate foreign currency loans registered a most significant cut and reduced to the lowest level in four years. The average weighted interest rate on newly approved Denar loans to households was cut the most (0.9 percentage points). This allows the interest rate on Denar loans to households to partial approach the interest rate on Denar loans to companies.

The average maturity of newly approved loans increased in both sectors (excluding corporate foreign currency loans), with the largest extension of maturity of corporate Denar loans²⁷ and household Denar loans with FX clause.

²⁷ Which corresponds to the faster growth of long-term Denar deposits, influenced by measures of the monetary authority, and the confidence in domestic currency.

Figure 37 Received, approved and rejected loan applications of companies (up) and households (down)



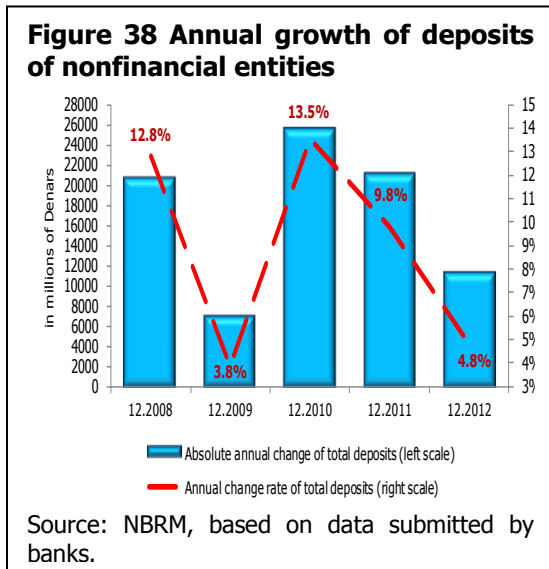
Source: NBRM, based on data submitted by banks.

Increased vigilance and tightened lending terms of banks caused no significant change in the number of loan applications submitted by companies and households, but contributed to the increase of the number of rejected loan applications (75.1% of companies' applications and 31.3% of households' applications). Hence, as of 31 December, 2012, the number of approved loan applications of companies and households decreased to 88.8% and 78.5%, respectively.

According to the number of loan applications received for meeting households needs, the greatest interest was shown in consumer loans.

3. Deposits of nonfinancial entities

In 2012, banks' deposit base²⁸ continued to grow, but at a slower pace. Given the relatively weak economic performance in 2012, corporate deposits made a negative contribution, and thus contributed to the slowdown of total deposits in 2012. Also, capital outflows of some companies to abroad, further explain the negative developments of corporate deposits. Given the slower spillover of weaknesses from the real sector to households, household deposits still grow, but at a slower pace. The slower deposit growth of households is attributable to the adverse trends in the domestic economy and primarily the weaker pace of disposable income (downward trend of wages amid rising CPI), which made most of the income be spent for basic consumption rather than saved. Preferences of banks' clients to hold their assets in domestic currency and in a long run prevailed in 2012 and early 2013.

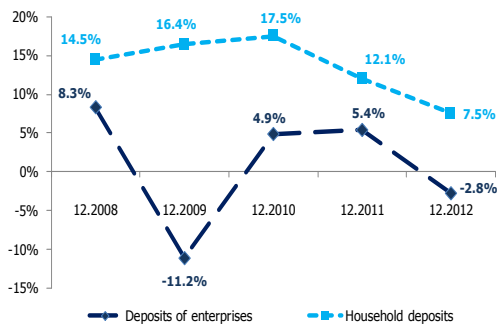


In 2012, total deposits of nonfinancial entities amounted to Denar **245,373 million**. Compared to the previous year, they increased by Denar 11,212 million, or 4.8%, which is a deceleration of the growth by 5 percentage points (Annex 10).

²⁸ In this subsection, the terms "deposit base" and "total deposits" imply total deposits of nonfinancial entities.

... deposits, by sector

Figure 39 Annual deposit growth, by sector



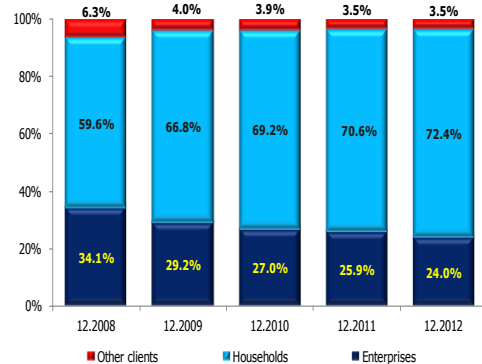
Source: NBRM, based on data submitted by banks.

Household deposits continued to be the main driver of growth of the banks' deposit base, but their growth slowed down. The slower growth of household deposits reflects the lower financial power of households, given the almost unchanged net wages of employees and higher consumer prices. Thus, high inflows from abroad, primarily in cash, purchased at the currency exchange market remain an important source of household savings in banks.

The growth of household deposits amounted to Denar 12,424 million, largely due to the rising household long-term Denar deposits. On the other hand, given the weak economic performance and capital outflows from some companies, the corporate deposits declined by Denar 1,681 million, or 2.8%.

Household deposits reinforced their dominance in the banks' deposit base.

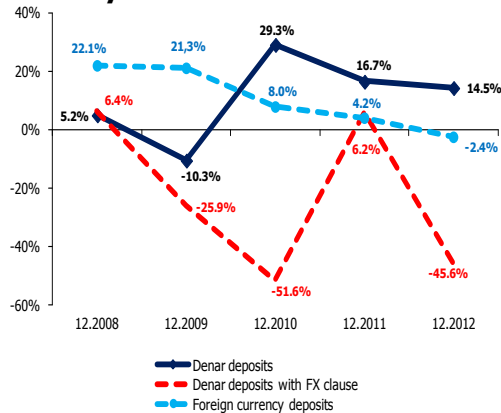
Figure 40 Sector structure of deposits



Source: NBRM, based on data submitted by banks.

... deposits, by currency

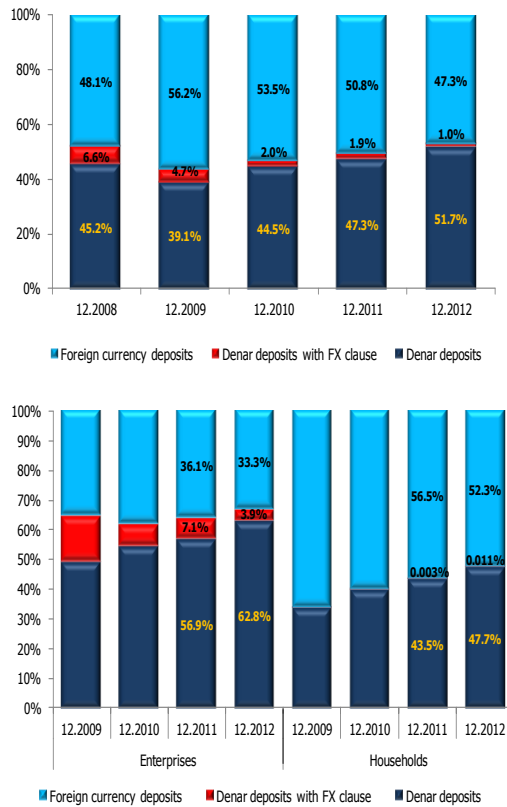
Figure 41 Annual deposit growth, by currency



Source: NBRM, based on data submitted by banks.

The faster growth of Denar deposits relative to foreign currency deposits continued in 2012, when Denar deposits increased by Denar 16,107 million, or 14.5%. Almost 80.0% of their growth is due to the higher long-term household Denar savings. Corporate Denar deposits contributed with "merely" 15.8% to the total growth of Denar deposits, mostly through the increase of Denar sight deposits.

Figure 42 Deposit currency structure



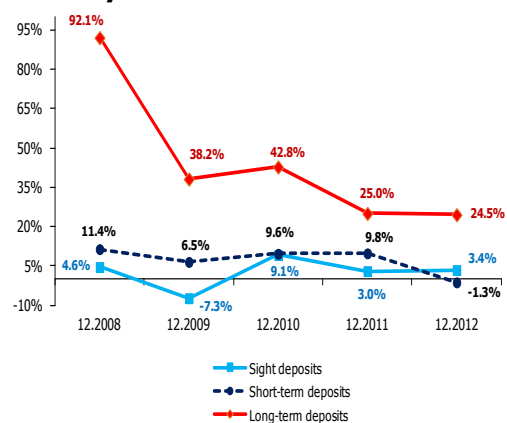
Source: NBRM, based on data submitted by banks.

In contrast, foreign currency deposits (of all sectors) registered an annual decrease of Denar 2,816 million, or 2.4%. The decline of corporate foreign currency deposits is most evident. Denar deposits with FX clause registered an annual fall of Denar 2,080 million, but their share in total deposits is marginal.

Increased Denar savings improved the currency structure of deposits. In fact, in June 2012, Denar deposits took the top position in the currency structure of deposits of nonfinancial entities, remaining there till the end of the year.

... deposits, by maturity

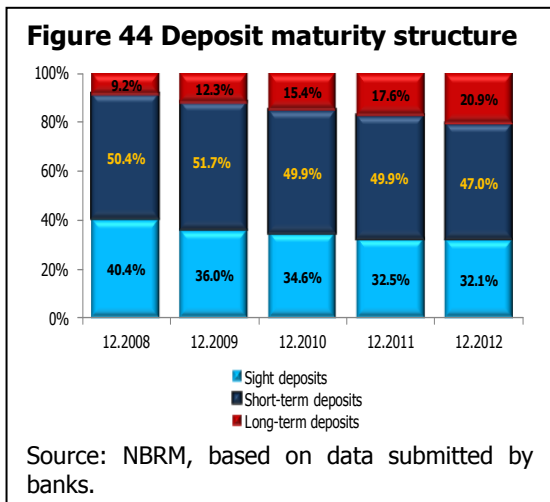
Figure 43 Annual deposit growth, by maturity



Source: NBRM, based on data submitted by banks.

In 2012, the growth of deposits of nonfinancial entities mainly resulted from the increased long-term savings, which amid unfavorable economic circumstances, could be explained by the higher interest rates offered by some banks for longer maturities of deposits, triggered by the changes in reserve requirement, which is 0% for above two-year long-term household deposits.

Long-term deposits registered the highest absolute annual increase of Denar 10,106 million and made up 90.1% of the growth of total deposits. The growth of long-term deposits is almost entirely (91.4%) due to the rising long-term household Denar deposits.



In contrast, short-term deposits decreased by Denar 1,499 million, as a result of the lower short-term corporate deposits. In 2012, sight deposits grew by 2.605 million, with the corporate and household contribution being 73.5% and 27.4%, respectively.

The significant annual growth of long-term deposits improved the maturity structure of deposits, as reflected by the increase in the share of long-term deposits in the structure of banks' total deposits by 3.3 percentage points. In the last five years, the share of long-term deposits increased by 11.7%.

III. Bank risks

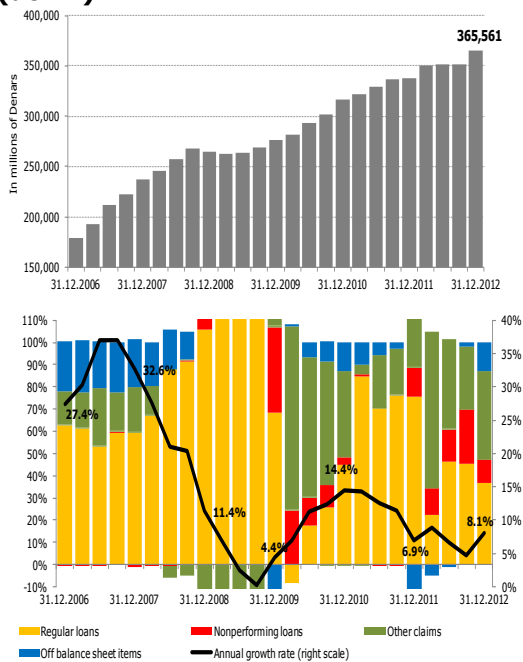
1. Credit risk

Deteriorating business conditions in the country and beyond has increased the importance of credit risk to the banking system of the Republic of Macedonia. Despite the slowing growth of nonperforming loans, this risk is still present, as confirmed by the rapid growth of nonperforming loans in the first months of 2013. Nonperforming loans to total loans increased moderately ratio in one year, by 0.6 percentage points, same as in 2011. This ratio is lower compared to most countries in the immediate surroundings. In the first two months of 2013, it increased by additional 1.4 percentage points, but this trend is not expected to continue to the end of 2013. Corporate sector is a generator of the growth of nonperforming loans. There is an increased level of credit risk concentration, increased average risk level of loan portfolio of the banking system and worsened results of the stress-test analysis of banks compared to the previous year.

1.1. Loan portfolio quality of the banking system

As of 31 December, 2012, the total banks' credit exposure in the Republic of Macedonia reached Denar 366,561 million, which is by 8.1% more compared to the end of the previous year. Considering the dynamics, the growth was most pronounced in the first and the last quarter of the year when most banks invested in CB bills and treasury bills, respectively. In fact, in 2012, banks became more attracted to risk-free instruments and given the greater supply of treasury bills on the domestic market, they increased their credit exposure to the government by Denar 15,437 million, or 92.2%. Being profit-based, banks cut their investments in CB bills, thus decreasing the total credit exposure to financial institutions by Denar 4,786 million, or 6.0%, and continued supporting the nonfinancial sector²⁹. Thus, the credit exposure to financial institutions and government (mostly investments in CB bills and treasury bills, respectively) contributed with 38.7% to the annual growth of total credit exposure, while the contribution of credit exposures to nonfinancial entities, equaled 61.3%.

Figure 45 Total credit exposure, amount (up) and contribution of components to its annual growth (down)

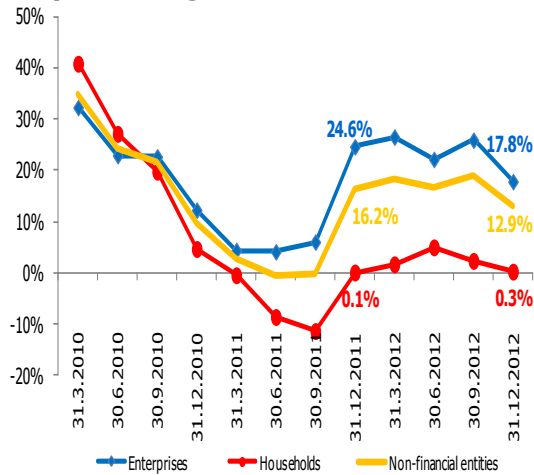


Other claims, besides fees, commissions etc., include banks' investments in CB bills and treasury bills.

Source: Credit Registry of the National Bank.

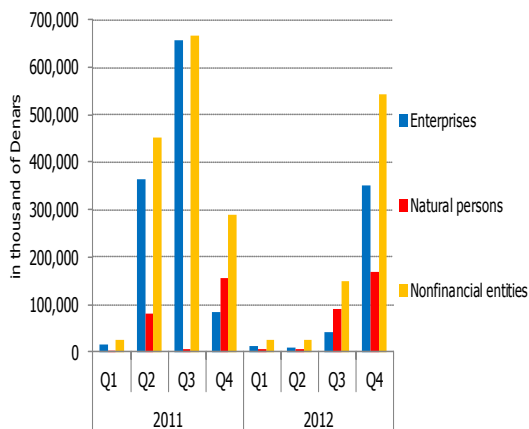
²⁹ Credit exposure to nonfinancial sector increased by Denar 16,847 million or by 7%.

Figure 46 Annual growth rate of nonperforming loans



Source: NBRM, based on data submitted by banks.

Figure 47 Written off claims



Source: NBRM, based on data submitted by banks.

Annexes 14, 15 and 16 provide an overview of the amount and the changes of credit exposure, by sector, industry, currency and type of exposure.

In 2012, the deterioration of loan portfolio quality of nonfinancial entities decelerated, evident through the 3.3 percentage points lower growth rate of nonperforming loans compared to 2011, but this year, the growth rate was double-digit and equaled 12.9%³⁰. The rise of nonperforming loans derives solely from credit exposures to companies, reflecting the relatively poor economic performance.

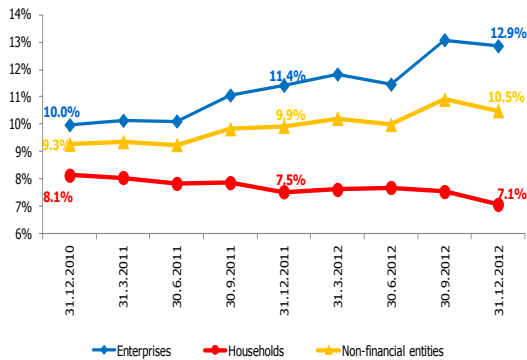
Write-offs made during 2012 had no greater impact on the trend of nonperforming loans, because even if the effect of write-offs is excluded, the growth rate of nonperforming loans goes down (would equal 14.5% and 19.1% for all nonfinancial entities and for corporations, respectively). Moreover, write-offs made in 2012 are lower compared to write-offs made in 2011.

Deterioration in the performance of corporations can also be confirmed by the efforts of banks to "ease" the credit burden of companies through restructuring³¹ of their debt. As of 31 December, 2012, 6% of total credit exposure to companies have been restructured (3.5% as of 31 December, 2011). Restructured credit exposure to companies fully contributed to the high annual growth of restructured credit exposure of the banking system (which increased by Denar 4,555 million or 81.9%).

³⁰ In February 2013, the growth of nonperforming loans again accelerated and reached 25.2%.

³¹ Claim restructuring implies establishing new credit exposure by the bank to replace the existing one, inducing significant changes in the contractual terms as a result of the deteriorating financial condition of the borrower.

Figure 48 Share of nonperforming loans in total loans of nonfinancial entities and of individual sectors

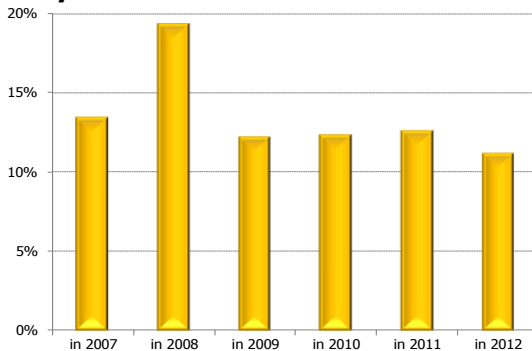


Source: NBRM, based on data submitted by banks.

Nonperforming loans to total loans ratio of nonfinancial entities equals 10.5%. Compared to the previous year, it increased by 0.6 percentage points, same as in 2011. The upward trend continued in 2013, when in two months this rate increased by 1.4 percentage points and climbed to 11.9%.

In 2012, nonperforming loans to corporations were generators of the increase, when this rate reached 12.9% (11.4% at end-2011). Household nonperforming loans to household total loans ratio gradually reduced.

Figure 49 Loans that received nonperforming status in the year of approval, in % of total loans approved that year



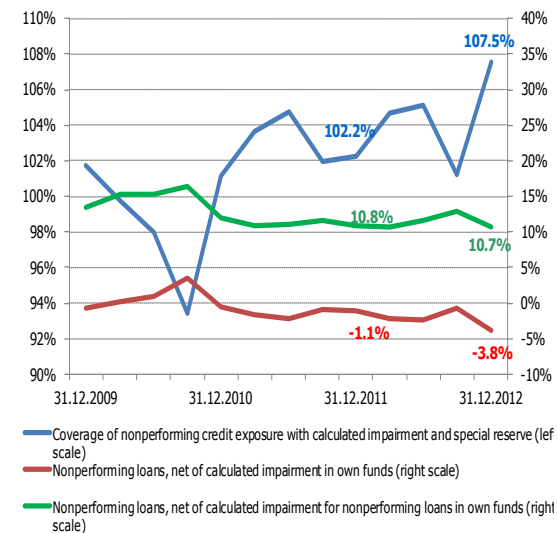
Source: Credit Registry of the National Bank, based on data submitted by banks.

The share of nonperforming loans in gross loans to nonfinancial entities in the banking system of the Republic of Macedonia is the lowest compared with the neighboring countries³².

The percentage of loans that receive nonperforming status in the same calendar year of approval stabilized in the years after 2008 (year of high credit growth), and in 2012, it further reduced. Thus, 11.2% of loans approved in 2012 received nonperforming status during the same year (the percentage does not deviate from the average of the last four years), 92.7% of which to the corporate sector.

³² As of 30 September, 2012, nonperforming loans to gross loans ratio equaled: 12.7% - Bosnia and Herzegovina, 13.9% - Croatia, 17.1% - Montenegro, 19.9% - Serbia, 22.7% - Albania (source: IMF's database of financial stability ratios).

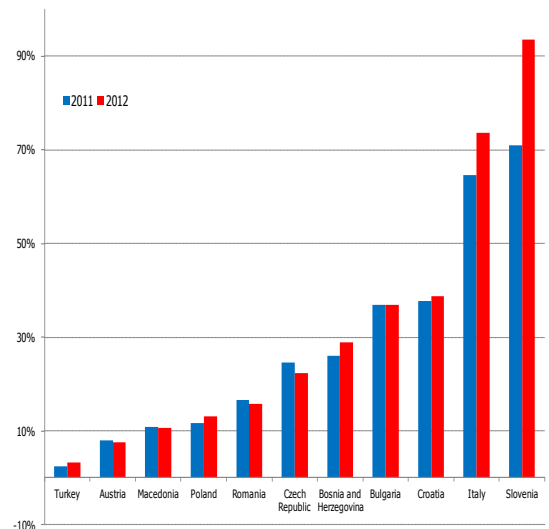
Figure 50 Nonperforming loan coverage and nonperforming loan to own assets ratio



Source: NBRM, based on data submitted by banks.

Nonperforming loans are fully covered by impairment. As of 31 December, 2012, the coverage of nonperforming loans only with their impairment (not of the total exposure) increased to 79.0% (77.4% as of 31 December, 2011). However, the share of nonprovisioned portion of nonperforming loans in total own funds of the banking system remained almost the same. Thus, having hypothetical full default on nonperforming loans, the risk of reducing the own funds remained low and virtually unchanged compared to 2011 (own funds would have decreased by 10.7% in 2012 and 10.8% in 2011).

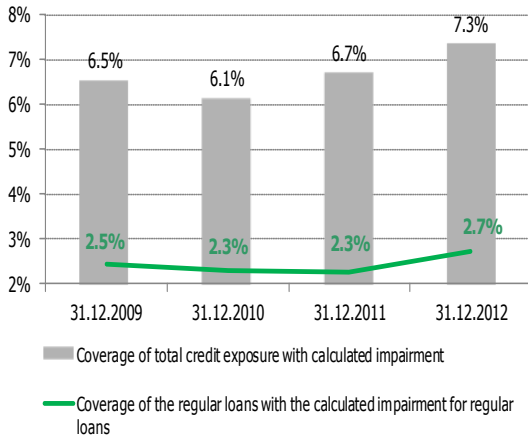
Figure 51 Share of nonperforming loans (net of their impairment) in own funds, by country



Source: IMF's database of financial soundness ratios.

Compared to most of the neighboring countries and beyond, included in the comparative analysis, the share of net nonperforming loans to total own funds of the banking system of the Republic of Macedonia is lower. The banking system of Turkey is at the bottom of the scale, where, in the third quarter of 2012, this ratio equaled 3.2%. Only in Austria, Romania and the Czech Republic, as countries under observation, this ratio decreased annually, while other ratios have registered higher credit risk. Slovenia's banking system is at the top of the scale for 2012, where the coverage of net nonperforming loans requires 93.6% of banks' own funds.

Figure 52 Average risk level for the total credit exposure and for regular loans

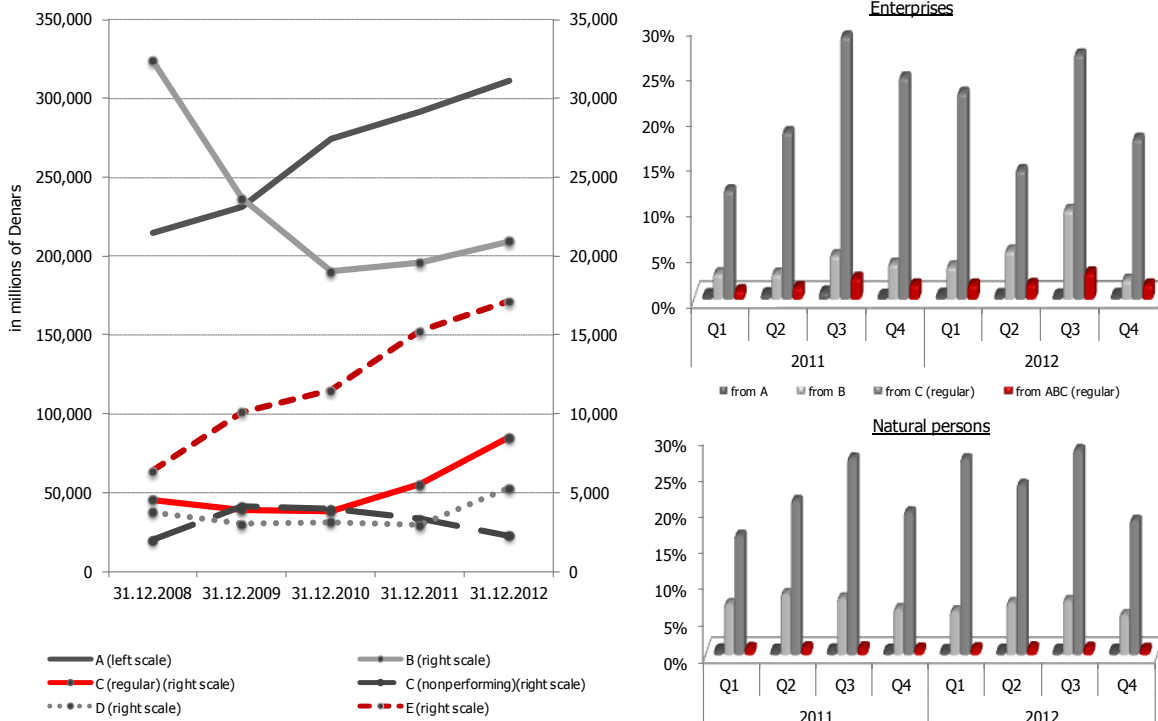


Source: Credit Registry of the National Bank, based on data submitted by banks.

In 2012, the 18.6% annual increase of impairment rose the average risk level of the loan portfolio of the banking system. The annual growth of total impairment is mainly due to the increased impairment of credit exposure to companies which contributed with 86.6% to its growth. The increase of impairment and special reserve mostly derives from the activity of wholesale and retail trade which have the largest share of 32.3% in credit exposure to the corporate sector.

The credit risk in accommodation and catering services (corporate sector) and car loans (household sector) (Annex 15 and 16) is the highest. Same as the last year, according to the currency structure, Denar credit exposure with FX clause is the riskiest (Annex 14).

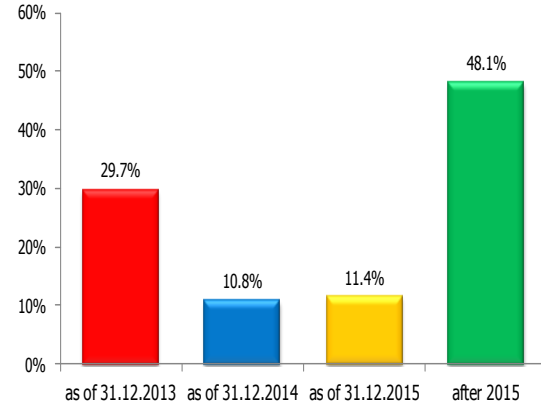
Figure 53 Credit exposure by risk category (left) and transfer of credit exposure from regular to nonperforming status (right)



Source: Credit Registry of the National Bank, based on data submitted by banks.

* Percentages in the right chart are calculated as a ratio between credit exposure that received nonperforming status during the quarter and credit exposure at the beginning of the analyzed quarter. They do not include credit exposures approved during the quarter.

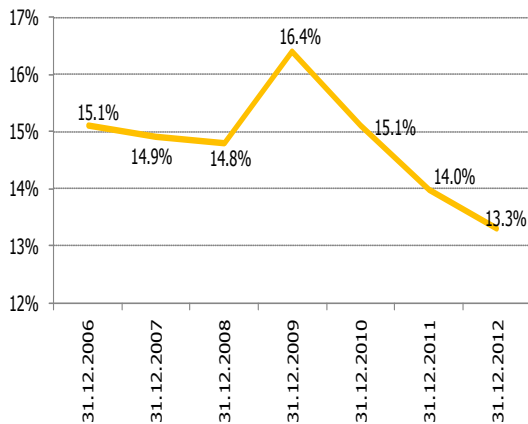
Figure 54 Structure of credit exposure to nonfinancial entities as of 31 December, 2012, by maturity of principal



Source: Credit Registry of the National Bank, based on data submitted by banks.

According to the maturity of loans to nonfinancial entities, as of 31 December, 2012, about one-third of the total credit exposure falls due by end-2013, while nearly half of the exposure falls due after 2015. The exposure with an average risk level to 25% (A and B risk category) accounts for 94.5% of the structure of credit exposures to nonfinancial entities that falls due by the end of 2013. According to the transition matrix data (that shows changes in risk categories made during 2012, Annex 18), only 3.8% of these exposures receive nonperforming status in one year (4.0% as of 31 December, 2011). Also, transition matrices show lower share of credit exposures classified in B risk category with regular status, which receive a nonperforming status in a period of 12 months (from 51% in 2011 to 38% in 2012).

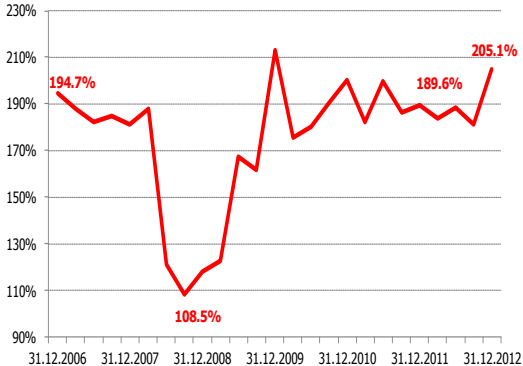
Figure 55 Share of loans with onetime repayment of principal in total loans to nonfinancial entities



Source: NBRM, based on data submitted by banks

As of 31 December, 2012, the share of loans with onetime repayment of principal in the structure of total loans decreased, which is positive in terms of the amount of credit risk on this basis. Such structured loans were almost entirely (95.9%) approved to corporations.

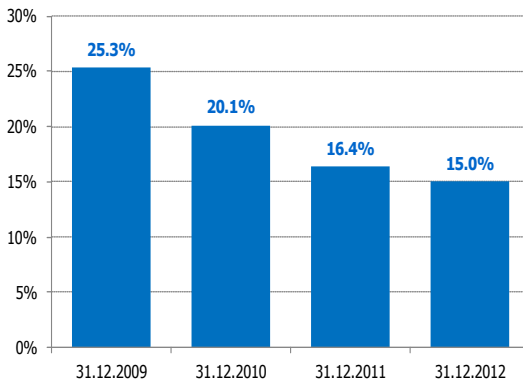
Figure 56 Share of high exposures in banks' own funds



Source: Credit Registry of the National Bank, based on data submitted by banks

If we exclude exposures to financial institutions and investments in CB bills and treasury bills, large exposures, instead of 205.1%, accounting for "only" 90.2% of own funds.

Figure 57 Uncollateralized exposure to total credit exposure to nonfinancial entities



Source: Credit Registry of the National Bank, based on data submitted by banks.

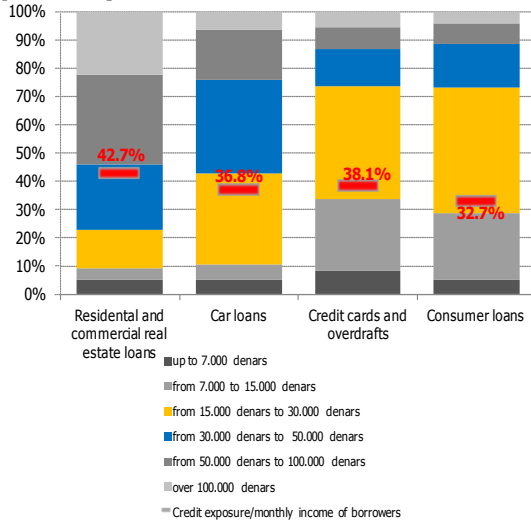
At the end of 2012 credit risk concentration increased, measured by the share of large exposures³³ in the banks' own funds, which increased by 15.5 percentage points. Analyzed by bank, the number of large exposures ranges from 1 to 24, while the total number of credit exposures of the overall banking system equals 131. Moreover, five banks make up 64.1% of the large exposures of the overall banking system, while their credit exposure constitute 38.5% of the total credit exposure. By individual bank, banks' large exposures to total credit exposure ratio ranges from 5.3% to 92.8%. Excluding the banks' exposure to financial institutions and investments in CB bills and treasury bills, for more realistic understanding of credit risk concentration, the number of large exposures by individual bank ranges from 0 to 22, while the total number of large credit exposure of the overall banking system equals 67. Moreover, three banks account for 79.2% of the amount of large exposures of the overall banking system, while their credit exposure makes up 64.0% of the total credit exposure. The bank-by-bank analysis shows that the share of large exposures in total credit exposure ranges from 2.4% to 26.4%.

Concerning collateralization of credit exposure, at the end of 2012, uncollateralized credit exposure to total credit exposure to nonfinancial entities decreased, same as to individual sectors. Credit exposure to natural persons is the least collateralized (32.9%). If we exclude the exposure based on overdrafts and credit cards³⁴, this ratio would be lower and would equal 13.2%.

³³ According to the regulations, large exposure to person and persons connected thereto is an exposure equal to or higher than 10% of the bank's own funds. The total amount of large exposures must not exceed eight times the bank's own funds.

³⁴ Most of this credit exposure is collected by the monthly income of borrowers.

Figure 58 Credit exposure structure by monthly income of borrowers (natural persons)



Source: NBRM, based on data submitted by banks.

Natural persons with monthly income of up to Denar 30,000 are the most indebted, constituting two-thirds of the total exposure of banks to this sector and nearly 59.9% of total exposure intended for consumption (Annex 23). Moreover, as of 31 December, 2012, the average debt per person (debtors only) equals Denar 96 thousand. Banks adjust the amount of debt to the monthly income of natural persons, so that the average debt per person grows along with the increase of monthly income of persons.

Based on data obtained from banks, in 2012, two major banks relaxed the requirement for credit exposure to monthly income ratio, which may partly explain the growth of regular loans to the household sector.



1.2 Stress-test simulation of the sensitivity of the banking system to increased credit risk

Regular stress tests are conducted in order to examine the sensitivity of the banking system to deterioration of the quality of certain segments of loan portfolio. They consist of simulations of hypothetical migration of 10% (first simulation) and 30% (second simulation) of credit exposure to companies and households separately, and to the two sectors together, to the next two higher risk categories.

The results of simulations show that the resilience of the banking system to simulated shocks is maintained at the same level. However, compared with the previous year, there is a certain deterioration of the results of individual banks.

A more detailed review of the results of the simulations is presented in Annex 24.

Table 5 Capital adequacy ratio, after simulations

| Description | CAR at the level of banking system | | Bank with the lowest CAR, after simulation | | Number of banks with CAR after simulation below the CAR of the overall banking system after simulation (number of banks with CAR after simulation below 8%) | | |
|-----------------------------------|------------------------------------|------------|--|------------|---|------------|-------|
| | 31.12.2011 | 31.12.2012 | 31.12.2011 | 31.12.2012 | 31.12.2011 | 31.12.2012 | |
| Base line | 16.8% | 17.1% | | | | | |
| Enterprises and households | I simulation | 14.8% | 15.1% | 10.9% | 9.7% | 6 (0) | 8 (0) |
| | II simulation | 10.1% | 10.5% | 3.7% | 5.4% | 6 (5) | 7 (5) |
| Enterprises | I simulation | 15.5% | 15.8% | 11.7% | 9.9% | 6 (0) | 7 (0) |
| | II simulation | 12.8% | 13.0% | 7.7% | 6.6% | 6 (2) | 6 (2) |
| Households | I simulation | 16.1% | 16.4% | 12.4% | 11.2% | 5 (0) | 7 (0) |
| | II simulation | 14.6% | 15.0% | 10.9% | 10.1% | 7 (0) | 8 (0) |

Source: NBRM calculations, based on data submitted by banks.

Table 6 Credit risk ratios, after simulations

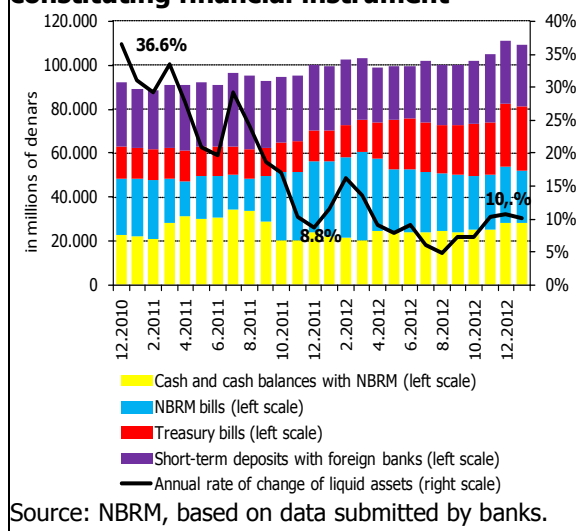
| Description | Share of "C", "D" and "E" in total credit exposure | | Average level of risk | | |
|-----------------------------------|--|------------|-----------------------|------------|-------|
| | 31.12.2011 | 31.12.2012 | 31.12.2011 | 31.12.2012 | |
| Base line | 8.0% | 9.1% | 6.7% | 7.3% | |
| Enterprises and households | I simulation | 11.5% | 12.5% | 8.1% | 8.8% |
| | II simulation | 18.4% | 19.2% | 11.0% | 11.7% |
| Enterprises | I simulation | 10.2% | 11.2% | 7.6% | 8.3% |
| | II simulation | 14.5% | 15.4% | 9.4% | 10.2% |
| Households | I simulation | 9.3% | 10.4% | 7.2% | 7.8% |
| | II simulation | 11.9% | 12.9% | 8.3% | 8.9% |

Source: NBRM, based on data submitted by banks.

2. Liquidity risk

During 2012, banks in the Republic of Macedonia held a sufficient amount of liquid assets that made the liquidity risk remain acceptable. Liquid assets increased on an annual basis, which was more pronounced in the second half of the year. Changes made by the National Bank in its operational framework for monetary policy (primarily reducing the frequency of auctions, limiting the offered amount of CB bills, introducing 0% reserve requirement on over two-year household deposits) released additional assets in the banking system. However, against the backdrop of increased real sector risks, banks were vigilant when placing these assets in a long run. Therefore, they invested most of the new deposits in short-term government securities and used the rest as credit support to the nonfinancial sector. These changes modified the structure of liquid assets. Furthermore, the increasing difference between yields of Denar and of foreign currency liquid financial assets also made the banks invest in Denar liquid assets, although, in the second half of the year, the placements in foreign currency liquid assets resurged. Liquidity of the banking system remained stable. In 2012, major driver of the growth of banks' funding sources was the growth of long-term funding sources, primarily long-term savings of nonfinancial entities, as well as long-term liabilities of banks based on loans and borrowings, which reduced the maturity mismatch between assets and liabilities. Funding sources from parent entities went up modestly in 2012. Stress test simulations confirm the resilience of the banking system to liquidity shocks. According to the latest available data in late February 2013, liquid assets increased by 9.8% on an annual basis and liquidity indicators show further improvement.

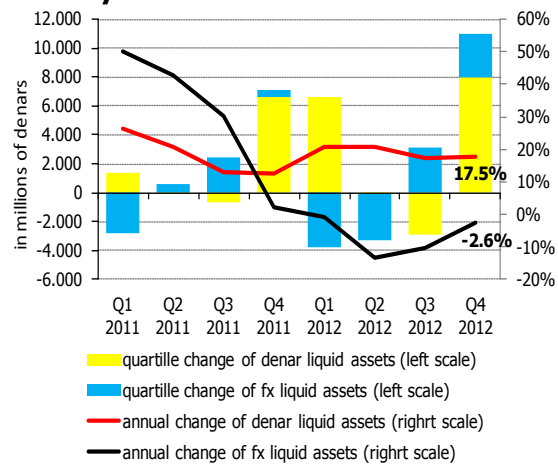
Figure 59 Banks' liquid assets, by constituting financial instrument



At the end of 2012, the liquid assets³⁵ of the banking system amounted to Denar 110,913 million. Liquid assets increased by Denar 10,702 million or 10.7% annually, which almost entirely derives from the growth of liquid assets in the last quarter of 2012 (Denar 10,988 million). Banks' investments in treasury bills were generators of the growth of liquid assets. Given the increased government supply of treasury bills on the domestic market, as of the second quarter of 2012, banks increased their investments in these financial instruments, which at the end of 2012 registered an annual growth rate of 102.2%. At the end of 2012, banks' investments in CB bills registered an annual decline of 19.4%. Given the increased supply of treasury bills on the domestic market, in the second quarter of 2012, banks began to

³⁵ Liquid assets include cash and balances on accounts with the National Bank, CB bills, correspondent accounts and short-term deposits with foreign banks and investments in short-term securities issued by the government. For the liquidity analyzing purposes, Denar assets and liabilities with FX clause are regarded as Denar assets and liabilities. The liquidity analysis and the calculation of liquidity ratios of the banking system do not take into account resident interbank assets and liabilities. Na end of 2012, the liquid assets of the banking system amounted to 110,913 million.

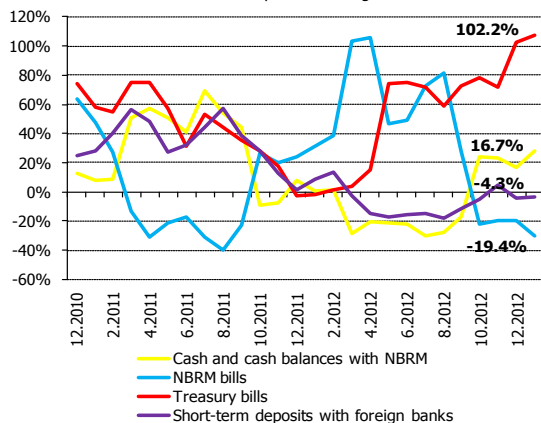
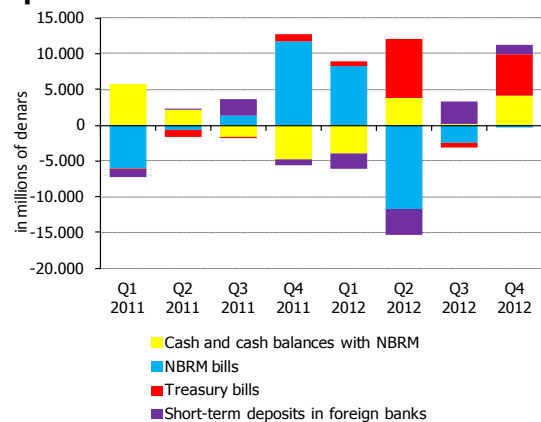
Figure 60 Growth of liquid assets, by currency



Source: NBRM, based on data submitted by banks.

increase investments in these instruments, which in 2012 rose by 102.2%. To improve liquidity management in the banking system and the transmission mechanism of monetary policy, the National Bank made changes in the operational framework (effective since April 2012), which supplied the banks with a greater range of excess liquidity management tools introducing deposit facilities of up to seven days and regular weekly repo operations, and reducing frequency of CB bill auctions and limiting the amount of CB bills. Changes were also made in the type of tender - switch from tender of fixed interest rate and unlimited amounts to tender with a maximum interest rate and a limited amount. These changes in the operational framework of monetary policy tend to release funds in the banking system. Banks were cautious when lending in long run to nonfinancial entities and given the increased supply of treasury bills on the domestic market they turned towards short-term risk-free investments.

Figure 61 Quarterly absolute growth (up) and annual relative growth (down) of financial instruments that constitute the liquid assets



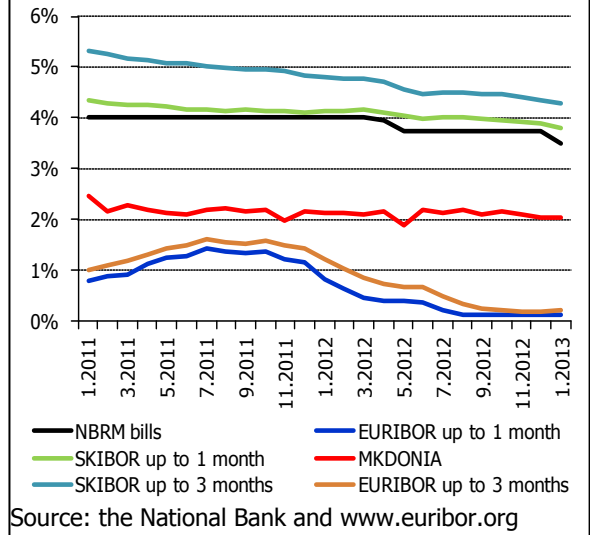
Source: NBRM, based on data submitted by banks.

The share of CB bills in the structure of liquid assets declined by 8.7 percentage points and equaled 23.4% as of 31 December, 2012. The share of treasury bills equaled 25.4%, and compared to the end of 2011 it rose by 11.5 percentage points. Short-term assets placed in foreign banks decreased by 4.3% in 2012, accounting for 25.9% in the structure of liquid assets, which is by 4.1 percentage points less compared to the end of 2011.

These changes in financial instruments that comprise liquid assets affected the currency structure of the banks' liquid assets. The share of Denar assets in the structure of liquid assets increased by 4.1 percentage points, reaching 70.0% at the end of 2012. While foreign currency liquid assets increased in the last two quarters of 2012, at the end of 2012 they registered an annual decline of 2.6%.

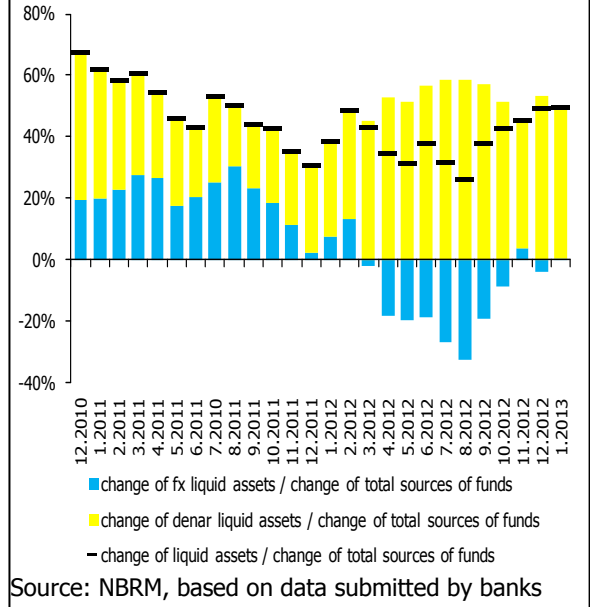
Currency structure of banks' liquid assets and investments in certain financial instruments is also determined by the dynamics of the yield offered by instruments, usually correlated with

Figure 62 Movement of policy rates, in Denar and in Euro



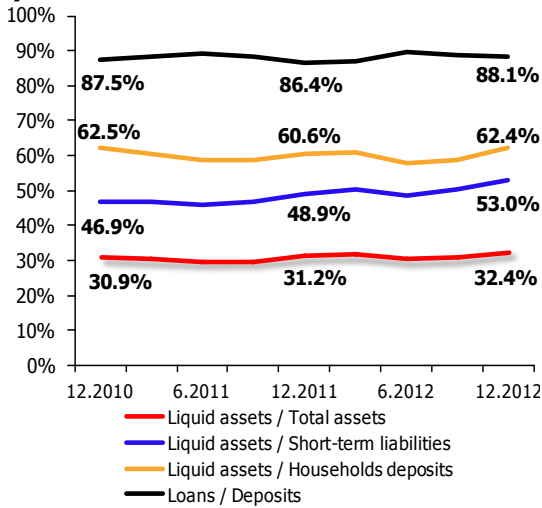
the movements of key interest rates on financial markets. Moreover, EURIBOR, the key interest rate on the money market in the euro area and a benchmark of the yield from short-term placements in foreign banks, kept on decreasing in the first half of 2012. At the end of 2012, these rates were at the lowest historical level, discouraging the banks to place assets in foreign banks. On the other hand, interest rates on Denar instruments, primarily treasury bills, although decreasing in 2012, are still at a higher level, making Denar liquid assets more attractive for banks. The debt crisis in some member states of the euro area and the risks arising thereof enhanced the denarization of deposits as the main source of funding banks' activities, and further increased the banks' investments in Denar liquid assets.

Figure 63 Change of liquid assets / change of total sources of funds



The lower preference of banks to place new sources of funding in foreign currency liquid assets during the 2012 can be seen from the ratio between the annual change in foreign currency liquid assets and total sources of funding, which for the most part of 2012 was negative. Banks' preference to convert foreign currency liquidity in Denar financial assets was particularly notable in the first quarter of 2012, which corresponds with the period of greater turbulence on international financial markets due to the developments in the euro area. In contrast, the ratio between the change of Denar liquid assets to total funding sources during 2012 was significantly higher, compared to 2011. Also, in the second half of 2012, banks gradually increased the share of new sources of funding invested in liquid assets, which was not the case in the first half of the year, when most of the new sources of funding were invested in other categories of assets, including loans. The preferences of banks to invest new sources of funding in liquid instruments comply with the tightened lending terms, especially for the corporate sector (according to the NBRM's lending surveys) and the negative expectations for the overall economic activity in the country.

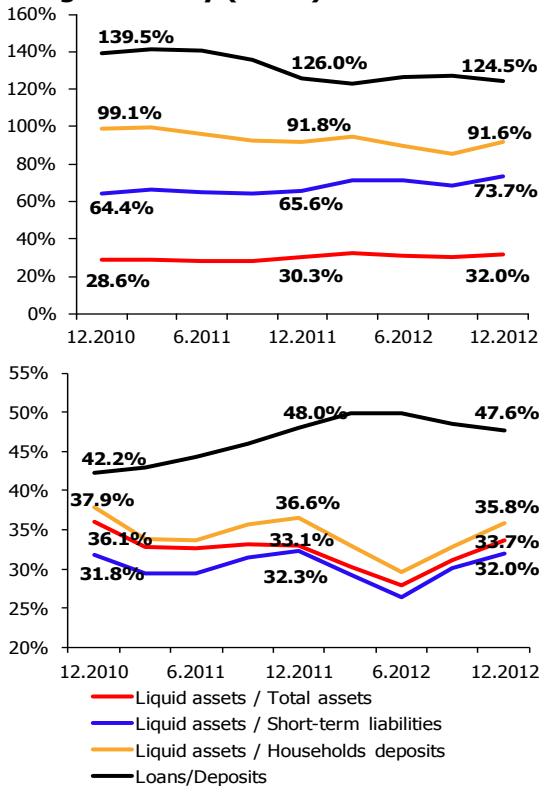
Figure 64 Liquidity ratios of the banking system



Source: NBRM, based on data submitted by banks.

During 2012, the banks' liquidity ratios were stable, showing some improvement. The highest annual improvement was registered in the coverage of short-term liabilities with liquid assets (by 4.1 percentage points), with an increase being observed in the share of liquid assets in the total assets of the banking system (by 1.2 percentage points). Driver of this improvement was the faster growth of liquid assets of the banking system compared with the growth of total assets and short-term liabilities. At the end of 2012, loan/deposit ratio increased by 1.7 percentage points compared to the end of 2011, indicating a growing use of deposits as banks' funding source for lending.

Figure 65 Liquidity ratios of the banking system by currency - Denar (up) and foreign currency (down)



Source: NBRM, based on data submitted by banks.

Observing the currency structure, in 2012, Denar liquidity ratios showed more stable dynamics. The share of Denar liquid assets in the total assets, as well as the coverage of short-term liabilities with Denar liquid assets increased faster than the foreign currency liquidity ratios. Foreign currency liquidity ratios fluctuated more during 2012 and declined in the first half of the year, compared to the growth in the second half, due to the changing preferences of banks to invest in foreign banks. At the end of 2012, the loan/deposit ratio dropped in both Denars and foreign currency. The drop in Denars is due to the faster growth of deposits compared to loans, while the drop in foreign currency arises from the faster decline of foreign currency loans compared to the decline of foreign currency deposits.

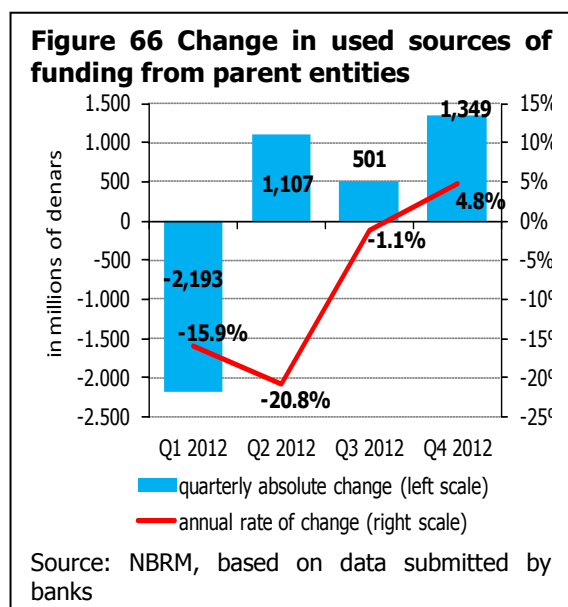
In 2012, the structure of banks' sources of funding was again dominated by deposits of nonfinancial entities. In addition, deposits of nonfinancial entities were generator of the growth of banks' sources of funding. The analysis of maturity structure of funding sources shows that the long-term funding sources significantly increased, primarily due to the increase of long-term deposits.



Table 7 Banks' sources of funding

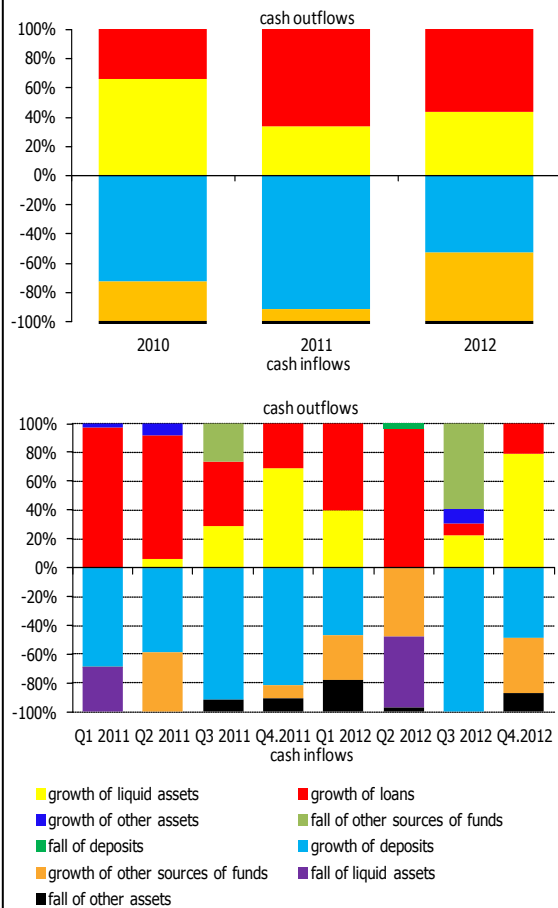
| Type of sources of funding | 31.12.2011 | | 31.12.2012 | | Annual change | |
|--|--------------------------------|------------------------|--------------------------------|------------------------|---------------|--------------|
| | Amount (in millions of denars) | Share in the structure | Amount (in millions of denars) | Share in the structure | Absolute | Relative |
| Deposits of nonfinancial enteties | 234,821 | 71.1% | 246,605 | 70.4% | 11,784 | 5.0% |
| -o.w. by parent enteties | 49 | 0.0% | 34 | 0.0% | -15 | -31.4% |
| Deposits of financial institutions | 13,169 | 4.0% | 16,996 | 4.9% | 3,826 | 29.1% |
| -o.w. by parent enteties | 4,414 | 1.3% | 7,529 | 2.2% | 3,115 | 70.6% |
| Borrowings, issued securities, subordinated debt and hybrid capital instruments | 38,840 | 11.8% | 42,411 | 12.1% | 3,572 | 9.2% |
| -o.w. by parent enteties | 11,437 | 3.5% | 9,114 | 2.6% | -2,323 | -20.3% |
| Equity and reserves | 39,299 | 11.9% | 39,799 | 11.4% | 500 | 1.3% |
| Other sources of funding | 4,206 | 1.3% | 4,312 | 1.2% | 106 | 2.5% |
| -o.w. by parent enteties | 80 | 0.0% | 68 | 0.0% | -13 | -15.9% |
| Total sources of funding | 330,334 | 100.0% | 350,122 | 100.0% | 19,788 | 6.0% |
| Long-term sources of funding | 106,302 | 32.2% | 123,245 | 35.2% | 16,943 | 15.9% |
| -o.w. by parent enteties | 8,897 | 2.7% | 9,449 | 2.7% | 552 | 6.2% |
| Short-term sources of funding | 180,528 | 54.7% | 182,767 | 52.2% | 2,238 | 1.2% |
| -o.w. by parent enteties | 7,003 | 2.1% | 7,227 | 2.1% | 224 | 3.2% |
| Equity and reserves | 39,299 | 11.9% | 39,799 | 11.4% | 500 | 1.3% |
| Other sources of funding | 4,206 | 1.3% | 4,312 | 1.2% | 106 | 2.5% |
| -o.w. by parent enteties | 80 | 0.0% | 68 | 0.0% | -13 | -15.9% |
| Total sources of funding | 330,334 | 100.0% | 350,122 | 100.0% | 19,788 | 6.0% |

Source: Data have been provided by the banks based on a specific request of the National Bank and therefore differences may occur in the balance sheet data submitted by the banks on a regular basis in accordance with the Decision on submission of data on the stock and flow of accounts in the banks' chart of accounts and the financial statements ("Official Gazette of the Republic of Macedonia" no. 126/2011).



In 2012, the sources of funding (other than equity) of parent entities and group members increased by 4.8%, or about Denar 763 million, but their share in the structure of total sources of funding remained unchanged at 4.8%. The growth of sources of funding of parent entities and group members was stronger in the second half of the year. Additionally, the growth was not concentrated in all banks equally. Four banks reported an annual increase of the funding sources of the parent entities or group members, while five banks reported a decline of these sources of funding. In contrast, as of 31 December, 2012, the exposure of domestic banks to their parent entities (including group members) was valued at Denar 2,117 million which is an annual decrease of Denar 493 million, or 18.9%. Furthermore, three banks account for 91.9% of total exposure of domestic banks to their parent entities (including group members), indicating a high concentration ratio. At the end of 2012, only one domestic bank was a net creditor of its parent entity and group members.

Figure 67 Structure of cash inflows and outflows of the banking system, annual (up) and quarterly (down)



Source: NBRM, based on data submitted by banks.

* The category of other assets includes assets that are not loans to nonfinancial entities, that are not included in the category of liquid assets (long-term loans in foreign and domestic banks, foreign exchange reserve requirement, foreclosures, fixed assets, etc.).

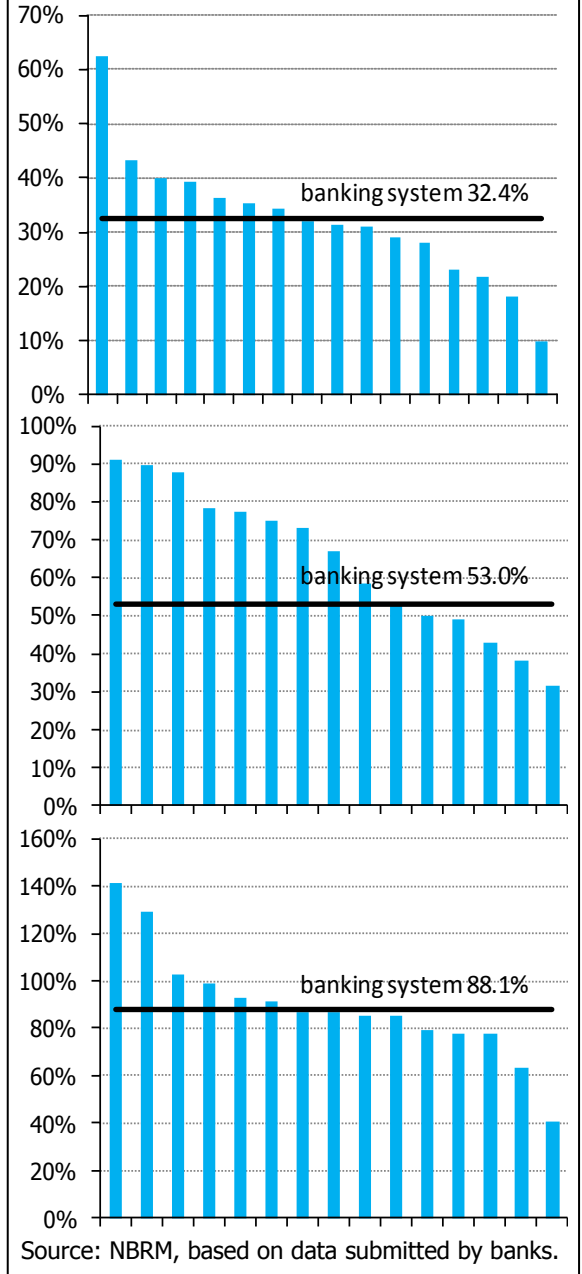
** The category of other funding sources includes all sources of funding which are not deposits of nonfinancial entities (equity and reserves, deposits of financial institutions, loans, subordinated instruments etc.).

Cash flows³⁶ of the banking system during 2012 were determined almost equally by the deposit growth and the growth of other (nondeposit) sources of funding. Compared with the previous two years, the growth of deposits reduced its input in the creation of new funding sources of banks. The deposit growth kept on making the highest contribution to the new funding sources of banks, with the exception of the second quarter of 2012 when deposits registered a quarterly decline. Analyzing cash outflows of the banking system in 2012, banks equally used the sources of funding, investing in loans and liquid assets. On a quarterly basis, during the first two quarters of 2012, banks preferred to invest the new sources of funding in loans, while in the second half of the year, they preferred to invest in liquid assets.

³⁶ Cash inflows and outflows of banks in 2011 were obtained indirectly, i.e. by changing the balances of some accounts of the banks' balance sheets. The effect on the banks' cash flows arising from the expenses and income that do not represent cash outflow or inflow (e.g., write-off of loans, revaluation of securities available for sale or held for trading, depreciation of fixed assets, net exchange differences etc..) is an integral part of the change in the corresponding balance sheet items the corresponding inflow or outflow refer to.

Figure 68 Selected liquidity ratios of individual banks

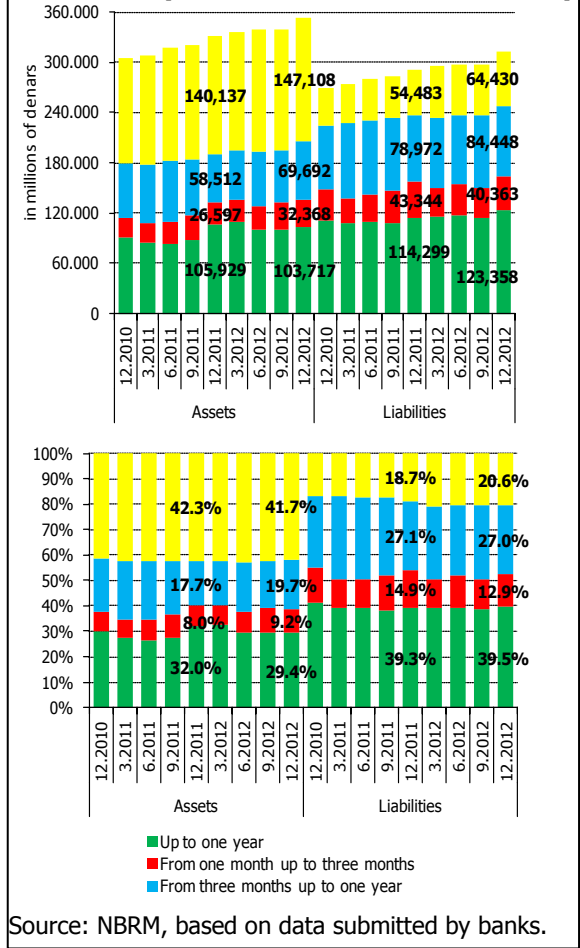
up: liquid assets/total assets
middle: liquid assets/short-term liabilities
down: loans/deposits



Analyzing by bank, deposit growth had the highest share in the structure of cash inflows of six banks, while the majority of cash inflows of five banks originated from the growth of other - nondeposit funding sources. The other five largest banks reported that the highest input to the creation of funding sources was made by the decrease of various asset categories. Observing the structure of cash outflows during 2012, eight banks reported dominant share of the increase of liquid assets, five banks reported dominant share of credit growth, and two banks reported dominant share of other categories of assets. Only one bank reported that the decrease of deposits had the greatest input to the cash outflows during 2012.

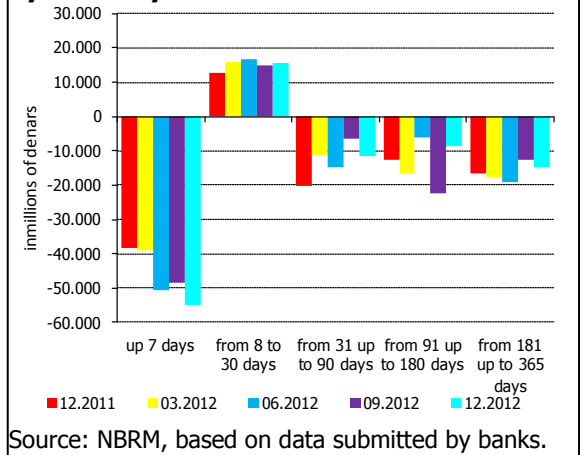
In 2012, almost all banks reported an annual growth of liquid assets, which resulted in stable dynamics of banks' liquidity ratios, and therefore, in acceptable level of liquidity risk.

Figure 69 Absolute amount (up) and structure (down) of banks' assets and liabilities, by contractual residual maturity



At the end of 2012, the banks' liabilities still had lower contractual residual maturity compared to the assets of the banking system (Annex 26). Observing annually, maturity profile primarily of banks' liabilities improved, due to the dynamical growth of liabilities with residual maturity of over one year (18.3%), mainly due to the growth of long-term deposits of nonfinancial entities. Hence, their share in the structure of banks' liabilities by contractual residual maturity increased by 1.9 percentage points annually, climbing to 20.6% as of 31 December, 2012. Observing banks' assets by residual maturity, the fastest increase of 21.7% was registered in assets with residual maturity of one to three months, with the assets with residual maturity from three months to one year (an increase of 19.1%) and above one year (an increase of 5.0%) being the major generator of growth, jointly providing over 80% of the total growth of banks' assets.

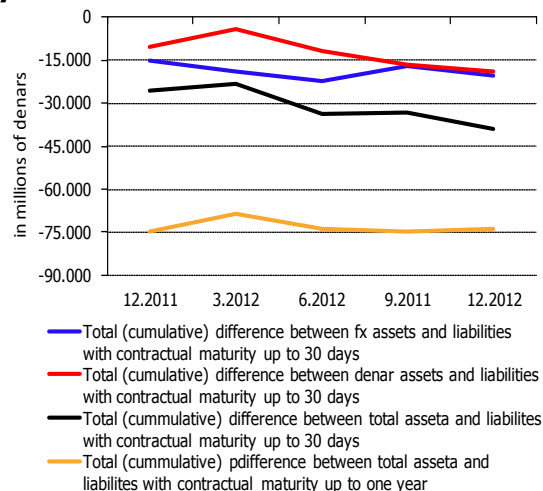
Figure 70 Contractual residual maturity mismatch between assets and liabilities, by maturity bucket



In 2012, the increase of banks' liabilities maturity decreased the maturity mismatch between assets and liabilities in the residual maturity buckets greater than one month. Highest mismatch between assets and liabilities is recorded in the maturity bucket of up to seven days, based on the classification of sight deposits in this maturity bucket, while only the residual maturity bucket of 8 to 30 days registered a positive gap between the contractual maturity of assets and liabilities, primarily because most of the financial instruments that comprise liquid assets are included in this maturity bucket.



Figure 71 Cumulative difference between assets and liabilities with residual maturity of up to 30 days and up to one year



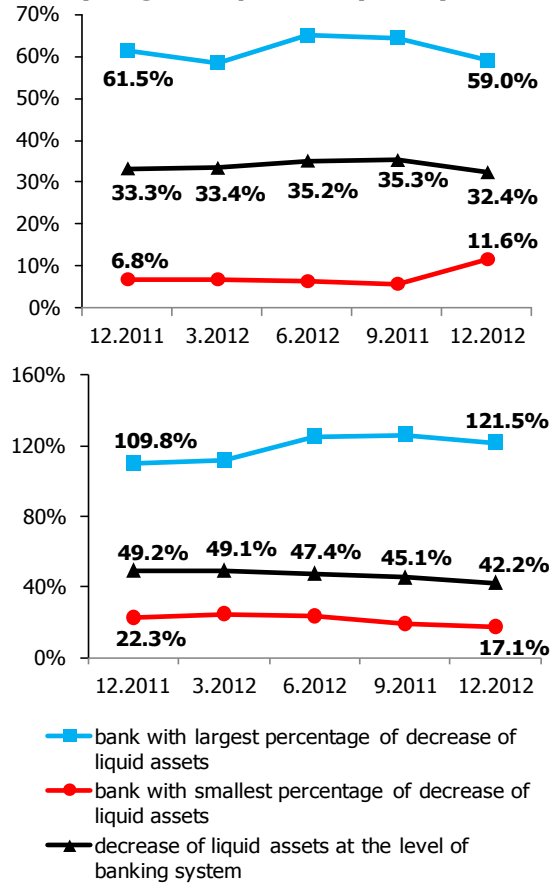
Source: NBRM, based on data submitted by banks.

In 2012, the cumulative negative gap between assets and liabilities with residual maturity of up to one month registered various trends depending on the currency features of assets and liabilities.

The aggregate difference between Denar assets and liabilities with contractual residual maturity of up to 30 days increased, while this difference between the foreign currency assets and liabilities was stable partially due to the currency transformation of the banks' liabilities, primarily the stronger preference of depositors to save in domestic currency.

The growth of long-term deposits in 2012 did not change significantly the expectations of banks in terms of their stability. Hence, the cumulative gap between assets and liabilities remained positive in all maturity buckets, as expected by banks (Annex 27). Banks expect 83.0% of deposits with residual maturity of up to three months to be stable and to remain in the banks in the next three months (86.8% as of 31 December, 2011). Such expected stability in time deposits and sight deposits equaled 81.9% and 90.2%, respectively.

Figure 72 Results of the simulation for withdrawing 20% of household deposits (up) and withdrawing of deposits of the twenty largest depositors (down)



Source: NBRM calculations, based on data submitted by banks.

The Macedonian banking system remained resilient to liquidity shocks throughout 2012.

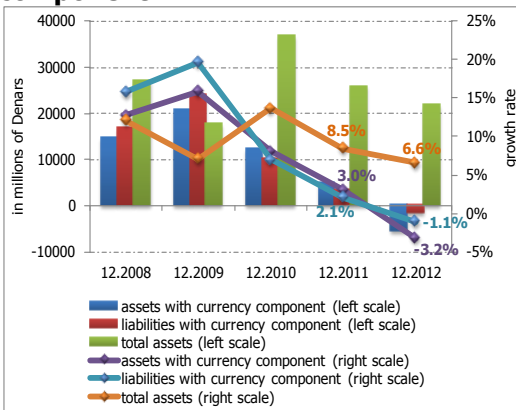
Simulations of the banking system resilience show that banks hold sufficient liquidity to cope with possible shocks, either in the form of withdrawal of 20% of household deposits, or outflow of deposits of twenty largest depositors. Moreover, in the last quarter of 2012, the results improved mainly because of the faster growth of liquid assets in this quarter. At the end of 2012, the share of liquid assets to total assets would decrease from 32.4% to 24.3% (upon withdrawal of 20% of household deposits) and to 21.5% (upon withdrawal of deposits of the twenty largest depositors). The coverage of short-term liabilities³⁷ would reduce by 10.3 and 14.1 percentage points, respectively, while the coverage of total deposits with liquid assets would decrease from 45.2% to 35.3% and to 31.8%, respectively. In addition, the simulation that includes outflow of banks' sources of funding from their parent party (other than subordinated and hybrid capital assets whose payment is regulated by the National Bank) also confirms the stable liquidity position of domestic banks. The reduction of liquid assets per individual bank, in this case, would range from 0.4% to 50.5%, equaling 9.4% at the level of banking system. The share of liquid assets in total assets during this simulation would reduce by 2.9 percentage points.

³⁷ The simulations assume that deposits withdrawn from banks are of short-term maturity profile and are considered short-term liabilities.

3. Currency risk

Maintaining a fixed exchange rate of Denar against the Euro, as a central pillar of monetary strategy, diminishes the relevance of currency risk to the banking system of the Republic of Macedonia. In 2012, the volume (amount) of the banking system exposure to currency risk was reduced mainly due to the narrower gap between assets and liabilities with currency component and the increase of own funds. Most banks reported lower aggregate currency position/own funds ratio, while all banks remained within the statutory limit of 30%. Euro is the most common currency of the assets and liabilities with a currency component, which given the fixed exchange rate of the Denar against the Euro, further contributes to reducing the importance of currency risk to the stability of the banking system.

Figure 73 Annual absolute and percent growth of total assets and banks' assets and liabilities with currency component



Source: NBRM, based on data submitted by banks.

Positive gap between assets and liabilities with currency component fell by Denar 3,652 million or about 41.7%, and at the end of the year amounted to Denar 4,891 million³⁸. The gap narrowed after the significantly greater reduction of assets with currency component (Denar 5,384 million) compared to the slower reduction of liabilities with currency component (Denar 1,732 million).

The decrease of assets with currency component is mostly due to the lower deposits in foreign currency (Denar 8,878 million)³⁹ and loans in foreign currency (Denar 1,963 million)⁴⁰, as well as the decreased investments in treasury bills and government bonds held to maturity in Denars with FX clause (by Denar 1,062 and Denar 578 million, respectively). Additionally, the decrease was also caused by the greater impairment allocated by banks for loans and claims in Denars with FX clause (by Denar 921 million). The structure of assets with currency component showed a significant increase of cash

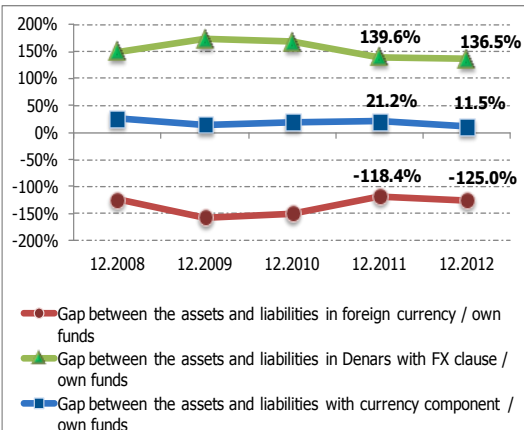
³⁸ The gap between assets and liabilities with currency component is the difference between assets and liabilities with currency component as determined by the methodology for managing currency risk, where the assets with currency component are presented on a net basis, i.e. less the impairment of assets with currency component classified in C, D and E risk categories. When determining the aggregate currency position, the gap between assets and liabilities with currency component takes into account the net off-balance sheet positions of banks with currency component.

³⁹ Foreign currency deposits in foreign banks decreased by Denar 10,806 million, but on the other hand, a larger bank placed Denar 1,660 million short-term foreign currency deposits in the National Bank.

⁴⁰ The reduction of foreign currency loans was mostly caused by long-term loans to nonfinancial entities which decreased by Denar 1,381 million.

and cash equivalents (of Denar 6,291 million)⁴¹. An increase was noted in investments in treasury bills available for sale in Denars with FX clause (Denar 2,485 million).

Figure 74 Gap between assets and liabilities with currency component to banks' own funds

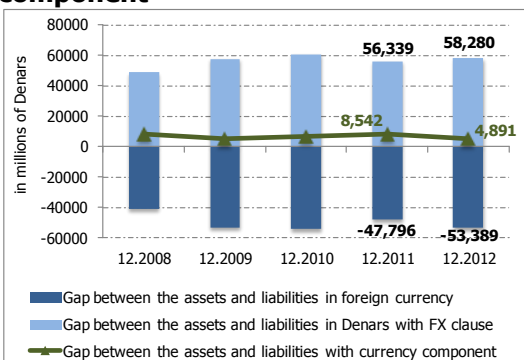


Source: NBRM, based on data submitted by banks.

Liabilities with currency component decreased mainly as a result of deposits of nonfinancial institutions with currency component which reduced to Denar 3,289 million⁴². Slower reduction was noted in current accounts and sight deposits (Denar 1,315 million)⁴³ and liabilities on foreign currency loans (Denar 777 million)⁴⁴. On the other hand, liabilities with currency component registered an increase of nonresidents' foreign currency deposits (Denar 3,622 million), resulting from foreign currency short-term deposits up to one month of nonresidents - financial companies.

The ratio of the gap between assets and liabilities with currency component and own funds decreased from 21.2% at the end of 2011 to 11.5% at the end of 2012.

Figure 75 Structure of the gap between assets and liabilities with currency component



Source: NBRM, based on data submitted by banks.

Table 8 Assets and liabilities with currency component and their share in total assets

| Items | Amount (in millions of Denars) 31.12.2011 | Amount (in millions of Denars) 31.12.2012 | Share in total asstes | |
|--------------------------------------|--|--|-----------------------|---------------|
| | | | 2011 | 2012 |
| Assets in Denars with FX clause | 63,732 | 63,516 | 19.2% | 18.0% |
| Assets in foreign currency | 105,354 | 100,186 | 31.8% | 28.4% |
| Assets with currency component | 169,085 | 163,701 | 51.1% | 46.4% |
| Total assets | 331,176 | 352,886 | 100.0% | 100.0% |
| Liabilities in Denars with FX clause | 7,393 | 5,236 | 2.2% | 1.5% |
| Liabilities in foreign currency | 153,150 | 153,575 | 46.2% | 43.5% |
| Liabilities with currency component | 160,543 | 158,811 | 48.5% | 45.0% |

Source: NBRM, based on data submitted by banks.

⁴¹ The increase of cash and cash equivalents was primarily generated by foreign currency current accounts in foreign banks. They rose to Denar 8,775 million. Moreover, foreign currency cash and reserve requirement in foreign currency with the National Bank also increased by Denar 1,254 million and Denar 1,098 million, respectively.

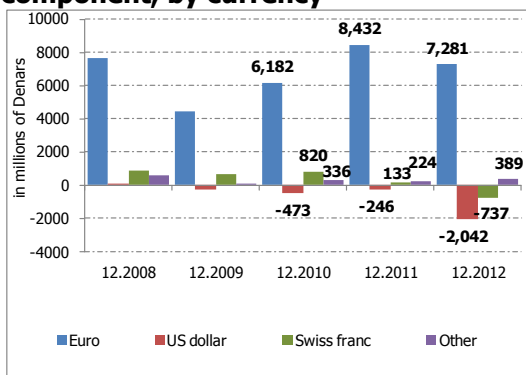
⁴² Denar deposits with FX clause and foreign currency deposits of nonfinancial institutions declined by Denar 2,021 million and by Denar 1,268 million, respectively.

⁴³ Current accounts and sight deposits in foreign currency of natural persons and nonfinancial companies decreased by about Denar 830 million and Denar 485 million, respectively.

⁴⁴ Short-term foreign currency credit liabilities decreased by Denar 3,075 million, the majority of which being liabilities to the parent entity. On the other hand, long-term foreign currency credit liabilities from nonresidents (nonparent financial entities) increased by Denar 2,376 million.



Figure 76 Dynamics of gap between assets and liabilities with currency component, by currency



Source: NBRM, based on data submitted by banks.

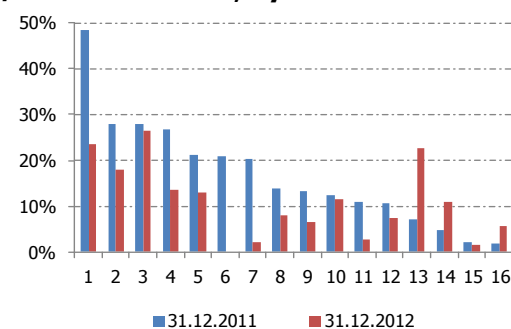
The gap between Euro assets and liabilities constitutes most of the total gap between assets and liabilities with currency component. In 2012, the increase of negative gap between assets and liabilities in US Dollars had a greater impact on the reduction of the gap between assets and liabilities with currency component. The increase of negative gap in US Dollars was mainly caused by two large banks⁴⁵.

Table 9 Currency structure of assets and liabilities with currency component

| Currency | 31.12.2011 | | 31.12.2012 | |
|--------------------|---------------|---------------|---------------|---------------|
| | Assets | Liabilities | Assets | Liabilities |
| Euro | 88.9% | 88.4% | 89.9% | 88.1% |
| US dollar | 7.2% | 7.8% | 6.1% | 7.6% |
| Swiss franc | 1.9% | 1.9% | 1.6% | 2.1% |
| Other | 2.0% | 1.9% | 2.4% | 2.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% |

Source: NBRM, based on data submitted by banks.

Figure 77 Aggregate currency position / own funds ratio, by bank



Source: NBRM, based on data submitted by banks.

Note: On 10 January, 2012, a small-size bank was acquired by medium-size bank, binding fifteen out of sixteen banks to report on open currency position.

As of 31 December, 2012, all banks complied with the limit on aggregate currency position (30% of own funds). Most of the banks maintain long open currency position in Euros.

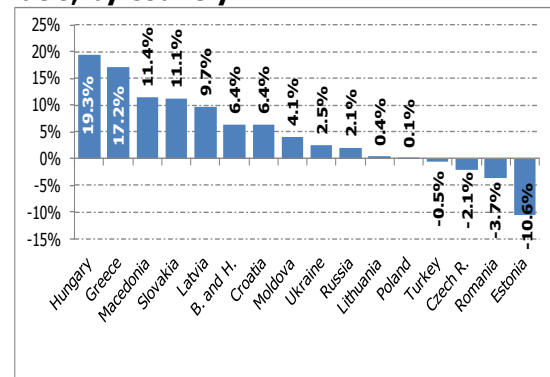
⁴⁵ US Dollar assets of one large bank reduced compared to its liabilities, mostly due to the lower amount of deposits in foreign banks, while US Dollar liabilities of another large bank increased mainly due to the increase of current accounts and short-term liabilities to nonfinancial institutions.

Table 10 Banks' open currency position/own funds ratio, by currency

| Open currency position by currency / own funds | Number of banks | | | | | | | |
|--|-----------------|-------|-----------|-------|-------------|-------|-------|-------|
| | Euro | | US Dollar | | Swiss franc | | Other | |
| | Long | Short | Long | Short | Long | Short | Long | Short |
| under 5% | 2 | 3 | 6 | 8 | 8 | 5 | 13 | 1 |
| from 5% to 10% | 4 | | | | | | | |
| from 10% to 20% | 3 | | | | | | | |
| from 20% to 30% | 3 | | | | | | | |
| over 30% | | | | | | | | |

Source: NBRM, based on data submitted by banks.

Figure 78 Currency position / own funds ratio, by country



Source: NBRM, based on data submitted by banks; IMF (financial soundness ratios).

Note: Data are as of 31 September, 2011, except for Macedonia, Croatia and Ukraine data which are as of 31 December, 2012.

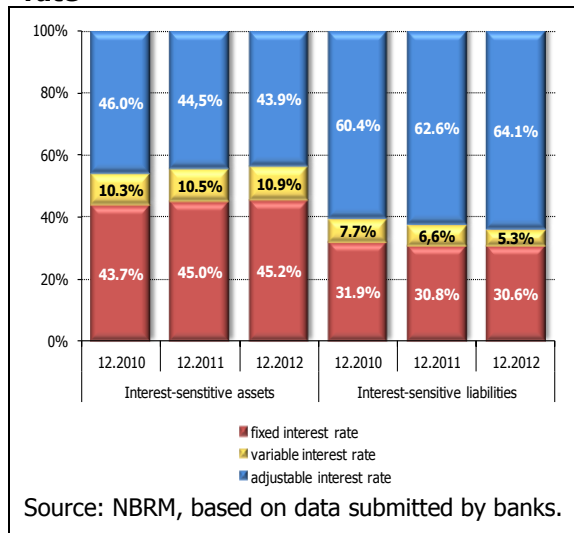
The comparative analysis of aggregate currency position / own funds ratio shows that the banking system in Republic of Macedonia ranks among those with a higher value of this ratio.

4. Interest rate risk in banking book

The significance of interest rate risk in the banking book is still very low, compared to the exposure to other risks. This is attributable to the high share of adjustable interest rates⁴⁶, helping the banks to avoid negative impact of any adverse changes in interest rates by transferring the interest rate risk to their borrowers, thus highlighting the relevance of indirect risk from changes in interest rates.

4.1. Structure of interest-sensitive assets and liabilities, by type of interest rate

Figure 79 Structure of interest-sensitive assets and liabilities, by type of interest rate



In late 2012, the share of positions with fixed interest rates (45.2%) in the structure of interest-sensitive assets was slightly higher than the share of positions with adjustable interest rates (43.9%), but the share of these positions shows a steady trend growth in the last three years.

The role of positions with adjustable interest rates on interest-sensitive liabilities further strengthened.

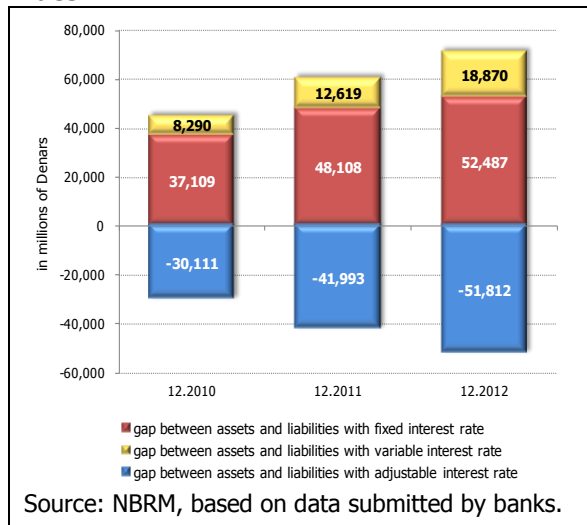
The gap between interest-sensitive assets and liabilities is positive in positions with fixed and variable interest rate⁴⁷, and negative in positions with adjustable interest rate⁴⁸. Compared to the end of 2011, the gap widened in all types of interest rates. Expansion of the gap in positions with fixed interest rates results from the faster increase of asset positions with fixed interest rates (primarily of loans to households, loans to domestic banks and treasury bills), the increase of liabilities positions with fixed interest rates (banks' liabilities based on foreign currency loans and repo transactions to the central bank).

⁴⁶ Interest rates are rather adjusted unilaterally because of the changes in interest rate policy of the bank, than on the basis of the policy rate. The use of adjustable interest rates ensures effective management, avoidance and transfer of risks, and could serve as a liquidity and profitability management instrument.

⁴⁷ The positive gap of fixed interest rate positions arises from the fact that this type of interest rate prevails in most items of interest-sensitive assets, namely in allocated reserve requirement (100%), securities (97.3%) and banks' investments in deposits, mainly in foreign banks (94.1%). The positive gap of positions with variable rate results from the fact that a large portion (82.5%) of sight deposits (primarily in foreign banks) have variable interest rates.

⁴⁸ The negative gap of positions with adjustable interest rates stems from the fact that a significant portion of time deposits and almost all sight liabilities have adjustable interest rates.

Figure 80 Gap between interest-sensitive assets and liabilities, by type of interest rate

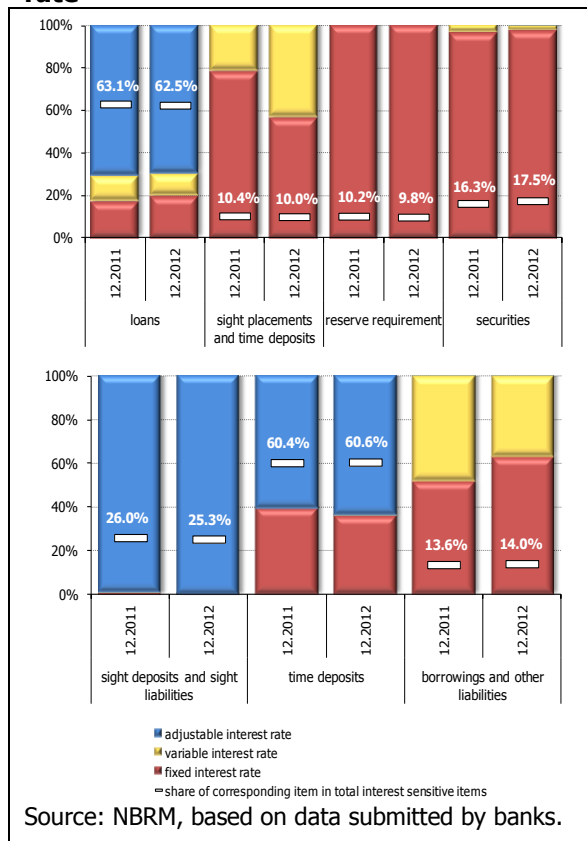


The gap in positions of variable interest rates widened due to the significant increase of funds on current accounts in foreign banks. On the other hand, the notable increase of negative gap between positions with adjustable interest rates is due to the more substantial increase of time deposits and liabilities on the liabilities side, vis-à-vis the growth of loans on the assets side.

Adjustable interest rates are mostly used for loans and time deposits, accounting for 69.9% and 64.1%, respectively, as most dominant financial instruments in the structure of interest-sensitive assets and liabilities of banks.

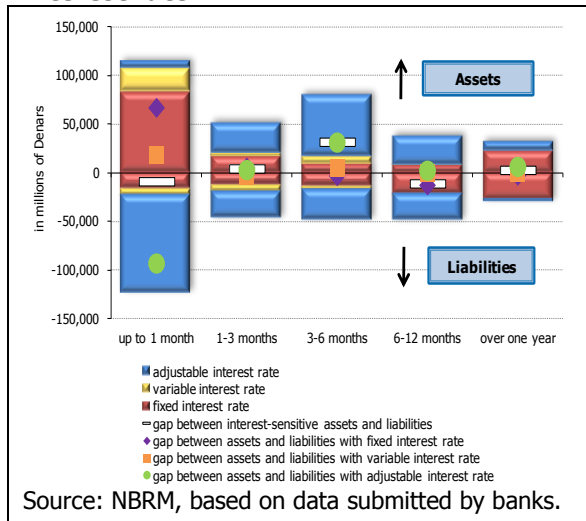
The leading role of adjustable interest rates is shown through their share in each bank's loan and deposit products. Positions with adjustable interest rates make up 62.4% of total loans to nonfinancial entities, including 78.5% of household loans and 51.8% of corporate loans.

Figure 81 Interest-sensitive assets (up) and liabilities (down), by type of interest rate



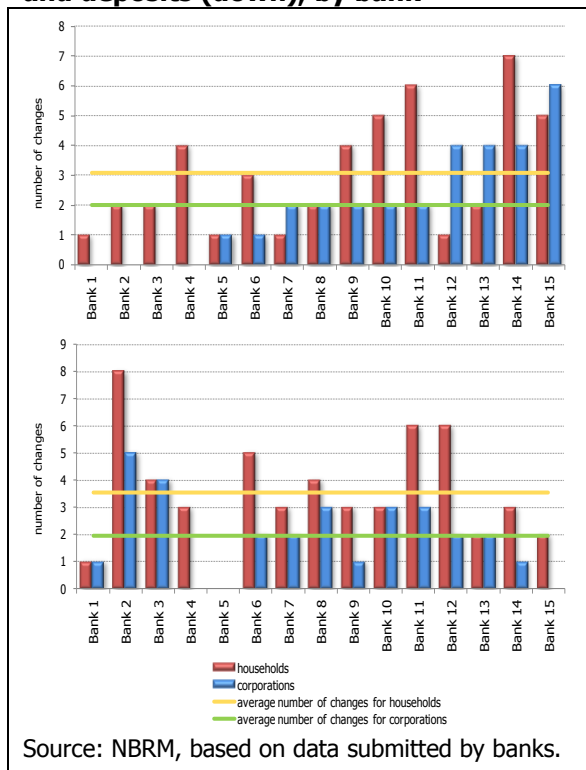
Annex 31 provides an overview of the share of adjustable interest rates on deposits and loans of/to corporate sector, by activity, and of/to households, by purpose, as well as by currency structure of interest-sensitive assets and liabilities.

Figure 82 Interest-sensitive assets and liabilities, by maturity and type of interest rate



The (positive) gap between interest-sensitive assets and liabilities is the highest in the three to six months maturity bucket that arises from positions with adjustable interest rates. These interest rates are present in all maturity buckets of assets and liabilities, with the highest share in interest-sensitive liabilities with lower maturity, due to the sight deposits. However, adjustable interest rates on most of the assets and liabilities positions provides an opportunity for banks to avoid any adverse effect of changes in interest rates, and thus to avoid direct interest rate risk.

Figure 83 Frequency of change of adjustable interest rates on loans (up) and deposits (down), by bank

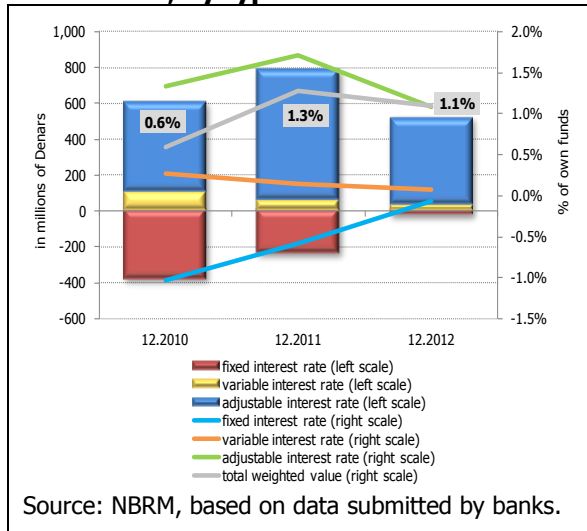


The maturity structure of positions with adjustable interest rates indirectly represents the banks' expectations for the period until the next adjustment of interest rates, which is expected in three to six months for assets (primarily loans) with adjustable interest rates and in one month for liabilities with adjustable interest rates (sight deposits and transaction accounts). Banks' expectations for adjustment of interest rates on time deposits are equally distributed between maturity buckets from one to three months, three to six months and six to twelve months.

In order to assess the banks' practice to change the adjustable interest rates, an analysis was made of the changing frequency. The analysis shows that **banks prefer this option to change the interest rates on household loans and deposits, rather than on corporate loans and deposits.** However, compared to the previous two years, the changing frequency of adjustable interest rates on loans and deposits of the two sectors is slower, on average. Moreover, changes in interest rates (on loans and deposits) were downward in 2012, which is a continuation of the trend that started in 2010.

Banks' expectations for the adjustment of adjustable lending interest rates for a period of three to six months, corresponds with their practice of changing interest rates on loans two or three times a year (depending on the sector). The frequency of changing interest rates on

Figure 84 Net weighted value and total weighted value of banking book / own funds ratio, by type of interest rate



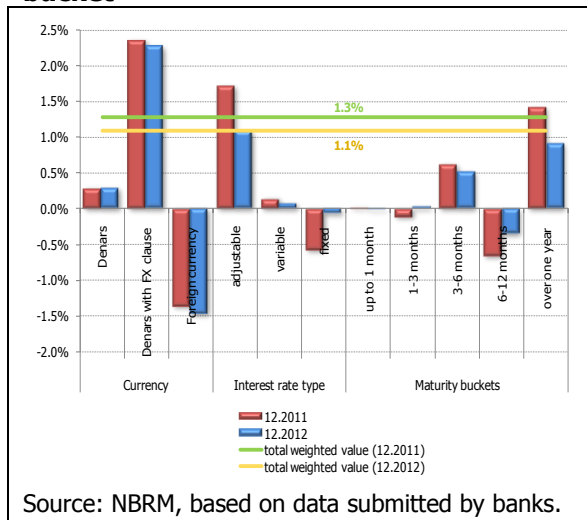
deposits corresponds with the expectations of banks to adjust the interest rates on time deposits.

4.2. Weighted value of the banking book

As of 31 December, 2012, the total weighted value of the banking book registered a slight annual decline (Denar 51 million) due to the lower positive weighted position with adjustable interest rate. Since the positive weighted value fully derives from weighted position with adjustable interest rate, it is not a relevant indicator of banks' exposure to interest rate risk.

The total weighted value of the banking book makes up merely 1.1% of the own funds in the banking system⁴⁹. Analyzing by bank, this ratio ranges from 0.2% to 5.8%. Most of the exposure to interest rate risk results from the positive weighted value of positions with adjustable interest rates, positions in Denars with FX clause and positions with maturity of over one year.

Figure 85 Total weighted value of banking book / own funds ratio, by type of interest rate, currency and maturity bucket

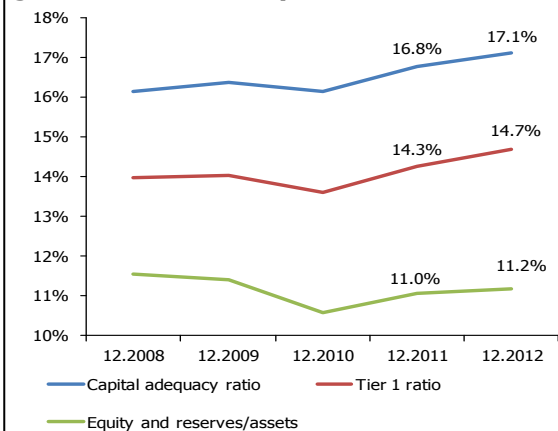


⁴⁹ According to the Decision on managing interest rate risk in the banking book ("Official Gazette of the Republic of Macedonia" no. 163/2008 and 144/2009), the banks' total weighted value of the banking book / own funds ratio could amount to 20%.

5. Insolvency risk

The banking system's solvency and capitalization improved in 2012, due to four banks. The annual growth of own assets arises from reinvesting of a portion of earnings in 2011, since several banks issued new shares. The trends in the structure of capital required to cover risks (or capital requirements), largely followed the new regulatory requirements defined in the Decision on the methodology for determining capital adequacy, effective since 1 July, 2012. Capital requirements for credit and currency risks registered an annual decline, at the expense of newly introduced obligation for banks to determine capital requirements for operational risk. The stress-test simulations as of 31 December, 2012 indicate that some banks need to strengthen their capital.

Figure 86 Solvency ratios and annual growth of their components

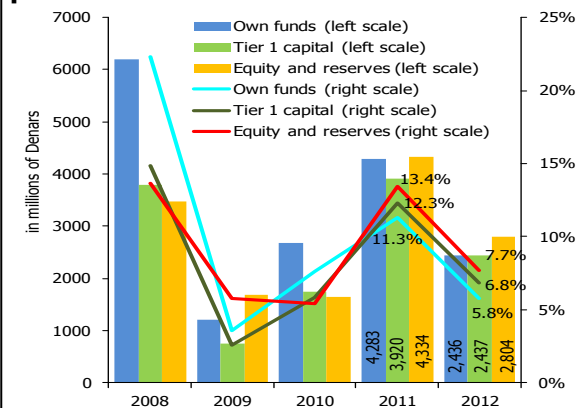


Source: NBRM, based on data submitted by banks.

5.1. Solvency and capitalization ratios of the banking system

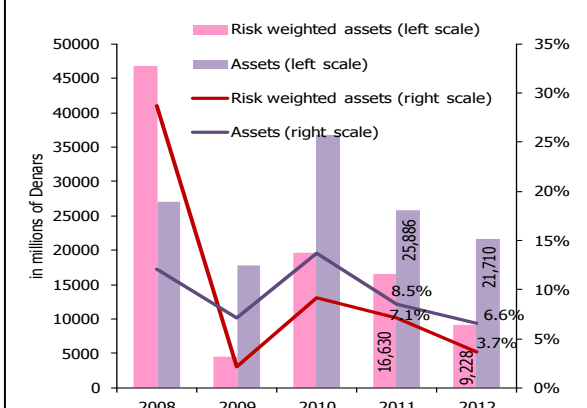
In 2012, the banking system's solvency and capitalization ratios improved. Despite the general slowdown of the annual growth in all components of the solvency ratios, the capital positions of the banks registered higher growth rate compared to the activities of the banking system, causing an increase of solvency ratios.

Figure 87 Annual growth of capital positions



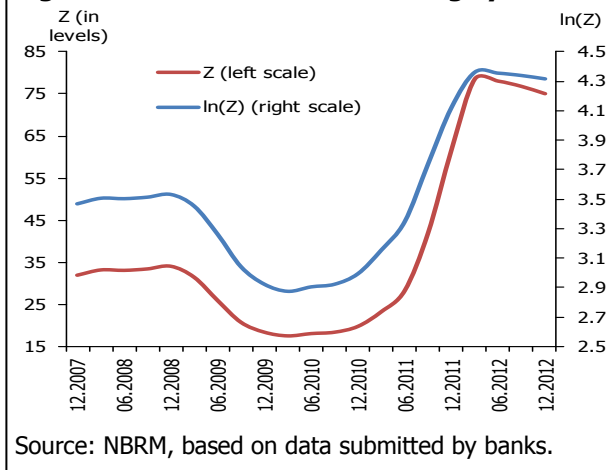
Source: NBRM, based on data submitted by banks.

Figure 88 Annual growth of risk weighted assets and assets



Source: NBRM, based on data submitted by banks.

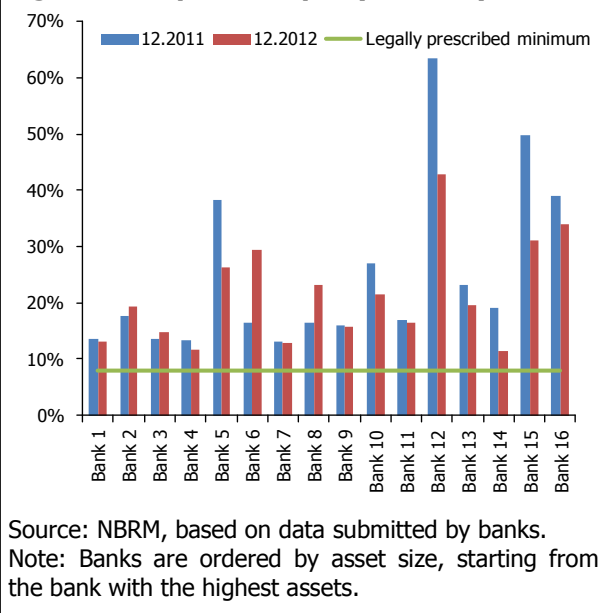
Figure 89 Z-index for the banking system



At the end of 2012, the capital adequacy ratio rose to 17.1%, exceeding this rate at the end of 2011, by 0.3 percentage points.

Improved solvency of the banking system is confirmed through the analysis of the movements of Z-index⁵⁰, which in the first quarter of 2012 rose to its highest historical level in five years. At the end of 2012, the capital potential of the banking system increased by 75 times compared to the variability of the rate of return on assets (measured through the standard deviation). However, the bank-by-bank analysis indicates significantly lower Z-index in some banks. Thus, at the end of 2012, the Z-index of one small-size bank reduced to the level of merely 0.1 standard deviation of its rate of return on assets, which is the record low in the past five years, followed by another small-size bank, whose Z-index was slightly higher and equaled 3.6 standard deviations of the rate of return on assets, at the end of 2012.

Figure 90 Capital adequacy ratio, by bank



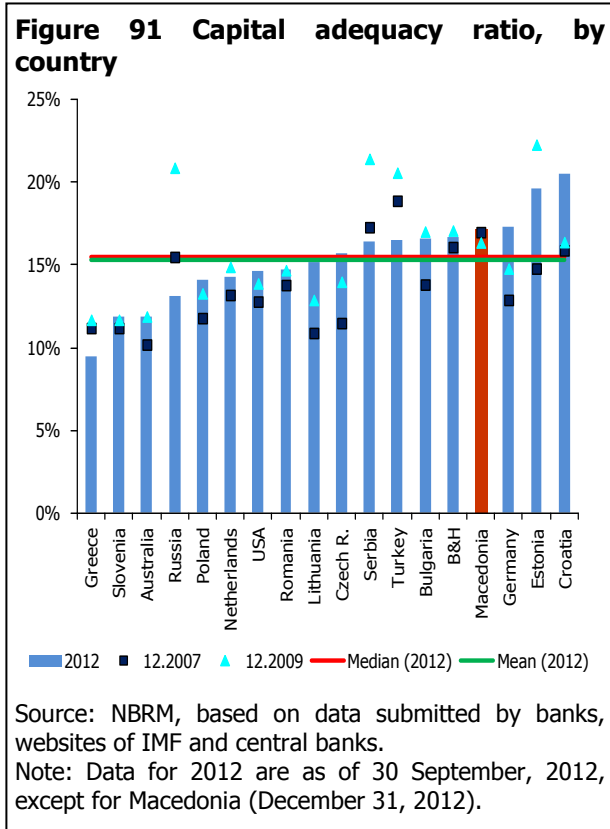
The bank-by-bank analysis indicates that the annual improvement of capital adequacy ratio is concentrated in four banks, which account for about 46% of the total assets of the banking system. On the other hand, the minimum level of capital adequacy ratio, by bank, decreased from 13.2% at the end of 2011 to 11,5% as of 31 December, 2012.

According to the capital adequacy ratio, the banking system of the Republic of Macedonia is positioned in the upper half of

⁵⁰ The Z Index is calculated as follows: $Z = \frac{ROA+E/A}{\sigma(ROA)}$, where *ROA* is the rate of return on assets, *E* is equity and

reserves, *A* is assets and $\sigma(ROA)$ is the standard deviation of the rate of return on assets, calculated for the last three years. The formula shows that this measure as such, combines several indicators: banks performance indicator (*ROA*), bank risk indicator ($\sigma(ROA)$) banks' soundness and solvency measure (*E/A*). Calculated as such, **the Z Index measures the bank's "distance" from full depletion of its capital potential, expressed in number of standard deviations from the rate of return on assets and as such, it is a measure of the banks' capacity to absorb losses. Higher levels of this index indicate lower risk levels and higher overall stability of the banks.** The Z Index is usually presented in logarithmic form (natural logarithm of the previously given formula), but it is easier to interpret and more indicative when presented in levels. In recent years, the Z index has been widely used by many authors dealing with research in the field of identification of determinants and measurement of the level of soundness and solvency of financial institutions (Iannotta et al, 2007; Garcia-Marco and Robles-Fernandez, 2008; Hesse and Cihak, 2007; Beck et al, 2009; Liu et al, 2010).

the list of eighteen countries under observation. Obviously, there is a relatively high uniformity in the capital adequacy ratio among the banking systems of the upper half of the analyzed list. Thus, the capital adequacy of the Macedonian banking system is by merely 1.7 percentage points above the median of the banking systems of all countries under observation.



In the period 2007-2012, the banking systems of developed countries show a slightly faster growth rate of capital adequacy compared to the banking systems of emerging and developing countries. In fact, from 2007 to 2012, the average capital adequacy growth rate of the banking systems of developed countries (Australia, Czech Republic, Estonia, Germany, Greece, the Netherlands, Slovenia and the United States) equals 2.1 percentage points, while the adequacy capital of the banking systems of developing countries and emerging economies (Bosnia and Herzegovina, Bulgaria, Lithuania, Poland, Romania, Russia, Serbia, Turkey, Croatia and Macedonia) increased by 1 percentage point, on average. These developments have contributed to the reduction of difference in capital adequacy ratios between banking systems of the two analyzed groups of countries registered before 2007, when the banking systems of developed countries were characterized by slightly lower solvent positions.

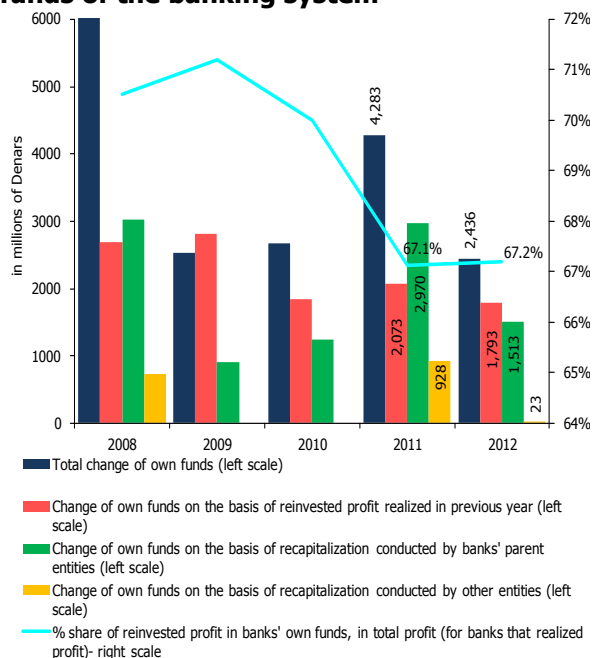
5.2. Developments and quality of own funds of the banking system

Reinvested earnings (of Denar 1,793 million) generated in 2011 were the most important source of increase of own funds of the banking system in 2012. Also, the current loss for 2012 is by Denar 562 million (or about 38%) less than the loss incurred in 2011, which also contributed to the annual growth of banks' own funds in 2012.

In 2012, four banks issued new shares, in a total amount of Denar 1,487 million. The majority (98.5%) of



Figure 92 Major sources of increasing own funds of the banking system



Source: NBRM, based on data submitted by banks.
 Note: 1) Parent entity is a shareholder (and entities connected thereto) holding a dominant share (over 50%) of the bank's ownership structure 2) Recapitalizations also include investments in subordinated and hybrid capital instruments.

outstanding shares were purchased by their parent banks.

In 2012, only one small-size bank issued new subordinated instruments, totaling merely Denar 64 million (one of the instruments in the amount of Denar 15 million was used during the year to cover a portion of the bank's accumulated loss).

Considering the sources of increasing the own funds in 2012 (primarily reinvestment of earnings and issue of common shares), their quality improved, as seen through the annual increase of share of core capital (after deductions of the core and supplementary capital) in the total own funds of the banking system from 84.1% to 85%.

More details about the level of own funds of each group of banks are given in Annex 32.

5.3. Movements and structure of capital requirements and available capital of the banking system

In 2012, the movements of capital requirements were largely influenced by the new regulatory requirements of the Decision on the methodology for determining capital adequacy, effective since 1 July, 2012.

Table 11 Use of own funds (capital requirements) to cover risks

| Description | 12.2008 | 12.2009 | 12.2010 | 12.2011 | 9.2012* | | 12.2012 | Change in 2012 | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|-------------|
| | | | | | Old Decision | New Decision | | In millions of Denars | In % |
| | | | | | | | | | |
| Capital requirements for credit risk | 15,814 | 16,214 | 17,527 | 18,595 | 19,512 | 17,973 | 17,883 | -712 | -3.8% |
| Capital requirements for operational risk | / | / | / | / | / | 2,197 | 2,258 | 2,258 | / |
| Capital requirements for currency risk | 975 | 939 | 1,203 | 1,465 | 1,306 | 607 | 658 | -807 | -55.1% |
| Total capital requirements | 16,789 | 17,153 | 18,730 | 20,061 | 20,818 | 20,777 | 20,799 | 738 | 3.7% |
| Own funds exceeding capital requirements | 17,123 | 17,962 | 19,053 | 22,006 | 23,493 | 23,534 | 23,704 | 1,698 | 7.7% |
| Own funds | 33,912 | 35,115 | 37,784 | 42,066 | 44,311 | 44,311 | 44,503 | 2,436 | 5.8% |

Source: NBRM, based on data submitted by banks.

Note: The amount of capital requirements for covering risk is equal to 8% of respective risk weighted assets, i.e. multiplication of the amount of capital requirements by 12.5 equals the amount of respective risk weighted assets.

* September, 2012 is the first reporting date under the new decision.



The capital requirements for credit risk decreased annually, which given the increase of the overall on-balance sheet and off-balance sheet exposure of the banking system⁵¹ (about Denar 35 billion, or 9%), mostly derives from the relaxed regulatory requirements in this area. During 2012, the highest release of capital requirement for credit risk results from the credit exposure based on a retail loan portfolio and claims secured by residential buildings and claims on banks, for which the new methodology for determining capital adequacy prescribes lower risk weights in the calculation of capital requirements (in consistence with Basel 2). Such relaxed regulatory requirements may create incentives for banks, especially in conditions of strengthening the economic activity in the country, to boost lending to the household sector⁵². Advantages of the household loan portfolio are attributable to the higher level of diversification typical for this portfolio, as well as the usually longer time lag of spillover and materialization of external economic shocks in this portfolio, thus providing more time for the banks to take adequate actions (usually, nonfinancial entities are the first to experience the adverse effects of external shocks in the economy, followed by households). On the other hand, the weaknesses of this portfolio result from certain peculiarities typical for this type of clients (for example, upon approval of credit exposure, the financial situation of natural persons is difficult to follow, as they do not prepare balance sheets and income statements), the connection between the portfolio performance and the cycles on the real estate market (on which there is very little data in the country), the usual mismatched currency position of households-borrowers etc..

The slightly more pronounced vigilance of banks when placing assets and when taking new risks is yet another factor for the annual reduction of capital

⁵¹ Net of impairment and special reserve.

⁵² In 2012, loans to households increased by Denar 5.3 billion (or by 6.8%). As of 31 December, 2012, the total balance sheet and off-balance sheet exposure based on a retail loan portfolio of the banking system (net of impairment and special reserve) amount to Denar 92.5 billion (total of 15 banks).



requirements for credit risk, particularly noticeable in the last quarter of the year, when despite the faster growth of the overall on-balance sheet and off-balance sheet exposure of the banking system (of Denar 26 billion, which is about 3/4 of the total annual growth), the capital requirements for credit risk register quarterly decline largely due to the banks' investments in liquid assets and the growth of off-balance sheet positions of low or medium-to-low risk, that are not or slightly included in the calculation of capital requirements.

Capital requirements for currency risk registered an annual decline, almost entirely due to the inclusion of impairment / special reserve of foreign assets items classified in C, D and E risk category when determining the foreign assets⁵³ and consequently, the calculation of aggregate currency position, as required by the new amendments of the Decision on the methodology for determining capital adequacy.

The new Decision on the methodology for determining the capital adequacy set a new obligation for banks to determine capital requirement for operational risk. As of 31 December, 2012, the capital requirement for operational risk was set at Denar 2,258 million, which is by Denar 738 million more compared to the released capital requirement for credit and currency risks. About 2/3 of the capital requirements for operational risk were set using the standardized approach, applied by the three largest banks. The remaining 13 banks set the capital requirements for operational risk using the basic indicator approach, which is generally more conservative, and takes higher amounts of capital requirement.

The faster annual growth of own funds compared to the growth of capital requirements made the available capital rise above the minimum requirements for covering risks, thus boosting its share in total own funds, from 52.3% to 53.3%.

⁵³ The term "foreign currency assets" also includes Denar assets with FX clause.



For more details about the structure of capital requirements for credit risk by risk weights and exposure categories, see Annex 33. Furthermore, Annex 34 presents data on the level of capital requirements for covering risks and capital adequacy ratio, by group of banks.

5.4. Stress testing the resilience of the banking system to hypothetical shocks

The stress test of the resilience of the banking system and individual banks in the Republic of Macedonia to simulated shocks indicate poorer results compared to the end of 2011, and slightly improved results relative to 30 September, 2012. The shocks on the side of credit risk still have the greatest impact on the stability of the banking system.


Table 12 Results of stress-test simulations of the resilience of the banking system and individual banks to hypothetical shocks, as of 31 December, 2012

| Simulations | Capital adequacy ratio (CAR) at the banking system level, after simulation | Bank with lowest CAR, after simulation | Number of banks with CAR after simulation below the CAR of the overall banking system after simulation (number of banks with CAR after simulation below 8%) |
|---|--|--|---|
| Credit shock | | | |
| Increase in the credit risk exposure classified in the risk categories C, D and E by 30% | 14.5% | 7.1% | 9 (1) |
| Increase in the credit risk exposure classified in the risk categories C, D and E by 50% | 12.6% | -1.0% | 8 (2) |
| Increase in the credit risk exposure classified in the risk categories C, D and E by 80% | 9.6% | -9.5% | 7 (7) |
| Transfer of 10% of the credit exposure classified in the risk categories A and B to the risk categories C, D and E, where the transferred credit exposure is distributed equally | 8.6% | 2.5% | 6 (6) |
| Simultaneous reclassification in the risk category C of the five largest credit exposures to nonfinancial entities (including the connected persons) | 14.2% | 8.6% | 6 (0) |
| Combination of credit and foreign exchange shock | | | |
| Increase in the credit risk exposure in the risk categories C, D and E by 50% and depreciation of the foreign exchange rate of the Denar relative to the Euro by 20% | 12.5% | -0.5% | 8 (1) |
| Increase in the credit risk exposure in the risk categories C, D and E by 80% and depreciation of the foreign exchange rate of the Denar relative to the Euro by 30% | 9.5% | -8.7% | 7 (7) |
| Transfer of 10% of the credit exposure classified in the risk categories A and B to the risk categories C, D and E, where the transferred credit exposure is distributed equally and depreciation of the foreign exchange rate of the Denar relative to the Euro by 30% | 8.5% | 2.5% | 6 (6) |
| Combination of credit and interest rate shock | | | |
| Increase in the credit risk exposure in the risk categories C, D and E by 80% and increase in the interest rates of individual asset and liabilities, on-balance sheet and off-balance sheet positions by 1 - 5 percentage points | 9.6% | -8.2% | 7 (7) |
| Combination of credit, foreign exchange and interest rate shock | | | |
| Increase in the credit risk exposure in the risk categories C, D and E by 50%, depreciation of the foreign exchange rate of the Denar relative to the Euro by 20% and increase in the interest rates of individual asset and liabilities, on-balance sheet and off-balance sheet positions by 1 - 5 percentage points | 12.6% | 0.2% | 8 (1) |
| Increase in the credit risk exposure in the risk categories C, D and E by 80%, depreciation of the foreign exchange rate of the Denar relative to the Euro by 30% and increase in the interest rates of individual asset and liabilities, on-balance sheet and off-balance sheet positions by 1 - 5 percentage points | 9.6% | -8.2% | 7 (7) |
| Capital adequacy ratio (CAR), before simulation: 17.1% | | | |
| Number of banks with CAR before simulation below the CAR of the overall banking system before simulation: 7 | | | |
| Source: NBRM, based on data submitted by banks. | | | |



As of 31 December, 2012, two additional simulations were conducted so as to determine the minimum loss level of each bank, where the capital adequacy ratio reduces to 8%, i.e. to 0%.

Table 13 Determining the minimum level of loss* at which the capital adequacy ratio is reduced to 8% and 0%

in millions of Denars

| Simulation | Amount of loss at the banking system level | Amount of loss at the banking system level/total assets | Bank with lowest amount of loss | Bank with lowest share of loss in total assets | Number of banks, that in the last ten years (31.12.2002-31.12.2012) have realized, at least once, same or larger share of loss in total assets, compared to the share registered with the simulation |
|---|--|---|---------------------------------|--|--|
| Minimum level of loss, at which capital adequacy ratio is reduced to 8%, for each bank separately | 21,255 | 6.0% | 147 | 2.6% | 5 |
| Minimum level of loss, at which capital adequacy ratio is reduced to 0%, for each bank separately | 37,776 | 10.7% | 272 | 6.3% | 4 |

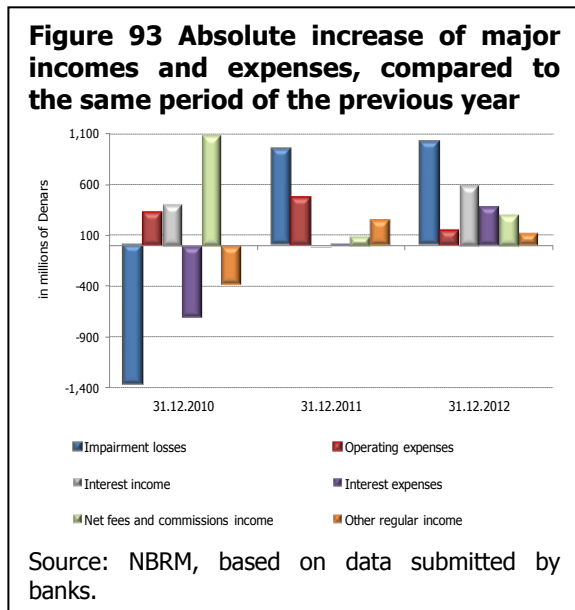
* The simulation determines the smallest amount of loss at particular bank that leads to a reduction of capital adequacy ratio of the bank at 8% and 0%

Source: NBRM, based on data submitted by banks.

The simulations indicate that some banks need to strengthen their capital. Thus, analyzing the banks that at least once registered the same or even lower rate of return on assets in the past ten years, same as in the first simulation (establishing the minimum loss level where the capital adequacy ratio reduces to 8%), one bank was found to have such an experience in 2012. In other words, if this bank (which belongs to the group of small-size banks) registers the same rate of return on assets as in 2012, *ceteris paribus*, its capital adequacy ratio will reduce to 8%.

6. Profitability

Profit shown by the Macedonian banking system at the end of 2012, reached Denar 1,461 million, which is an annual increase of Denar 278 million (23.5%), thus interrupting the downtrend of banks' profitability registered last year. The share of banks⁵⁴ that reported a positive financial result in the total assets of the banking system increased and reached 92%, compared to 87.4% in 2011. Major factors for increased profitability include the higher net interest income and other regular income of the banks, which despite the continuation of the upward trend of net impairment due to deterioration of the loan portfolio of banks, increased the profit. Also, in 2012, the banks improved their operational efficiency. Greatest risk to the successful performance of banks in the future is the possible further deterioration of banks' loan portfolio and further restraint of banks from lending because of the perceptions about the possible real sector risks.



6.1 Movements and structure of income and expenses of the banking system

In 2012, the total income of banks (total regular income⁵⁵ and extraordinary income) rose by Denar 1,414 million, or 8.7%, due to increase in all income components.

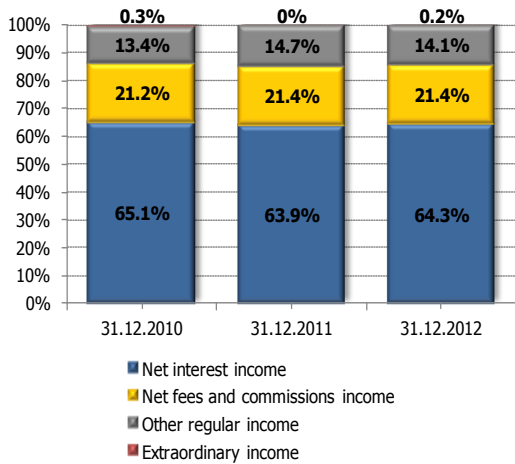
At the end of 2012, the largest contribution to the improvement of profitability of the banking system was made by the income from basic bank operations or net interest income, which was higher by Denar 969 million (9.3%) compared to 2011⁵⁶. A significant input to the improvement of banks' profitability was made by net income from fees and other regular income, which increased by Denar 307 million and Denar 114 million, respectively.

⁵⁴ Note that as of 1 October, 2012, the total number of banks in the country declined by one bank because of the acquisition of Ziraat Bank AD Skopje by Halk Bank AD Skopje. Ten banks reported positive financial result at the end of 2012, seven of which reporting higher profit compared to 2011. Six banks reported a negative financial result, two of which reporting lower loss compared to 2011.

⁵⁵ Total regular income includes: net interest income, net commission income and other regular income (net trading income, net income from financial instruments carried at fair value, net income from exchange rate differentials, income from dividends and equity investments, net gains from sale of financial assets available for sale, capital gains from assets sales, release of provisions for off-balance sheet items, release of other provisions, income from other sources and incomes based on recovered claims previously written off).

⁵⁶ Annual growth of net interest income is recorded in twelve of sixteen banks in the country. Four large banks made the greatest contribution to the annual growth of net interest income.

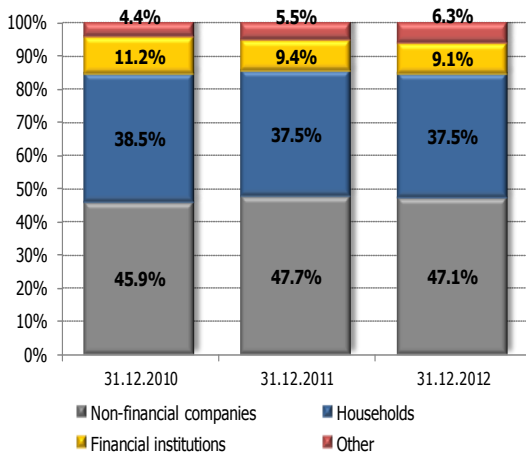
Figure 94 Structure of total income



Source: NBRM, based on data submitted by banks.

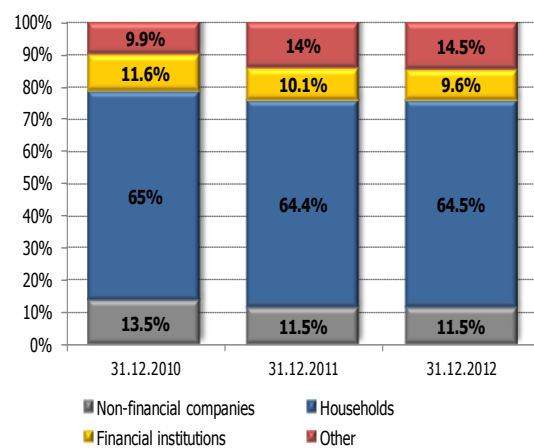
The increase of net interest income is largely due to the increase of interest income of banks, which rose by Denar 582 million, or 3%. The annual increase of interest income is due to the banks' credit growth to the nonfinancial sector⁵⁷ and to the income based on investments in CB bills⁵⁸ and securities issued by the central government⁵⁹.

Figure 95 Sector structure of interest incomes



Source: NBRM, based on data submitted by banks.

Figure 96 Sector structure of interest expenses

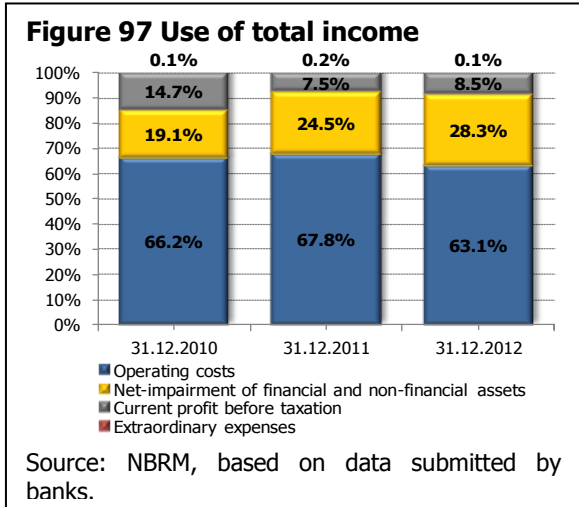


The reduction of interest expenses of Denar 386 million, or 4.2% made an input to the increase of net interest income as a result of the lower deposit interest rates, compared with December 2011, despite the growth of deposits of nonfinancial entities caused by the growth of

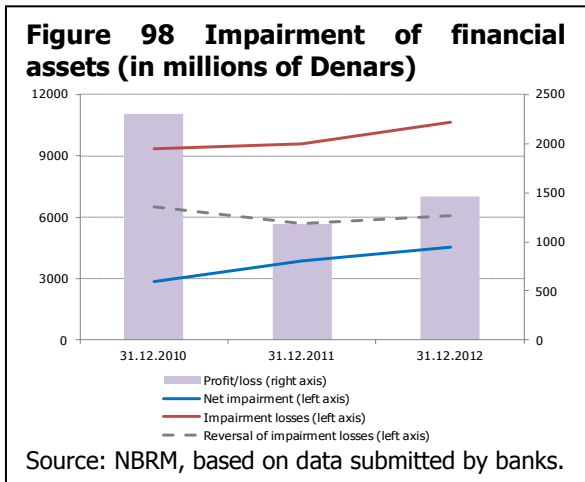
⁵⁷ Interest income from nonfinancial companies rose by Denar 133 million, or 1.5%. Accordingly, the contribution of interest income from nonfinancial sector to the growth of total interest income of banks equaled 52.3%.

⁵⁸ Interest income from banks' investments in CB bills increased by Denar 254 million or 29.5% on an annual basis, making up 43.6% of the increase of total interest income of banks.

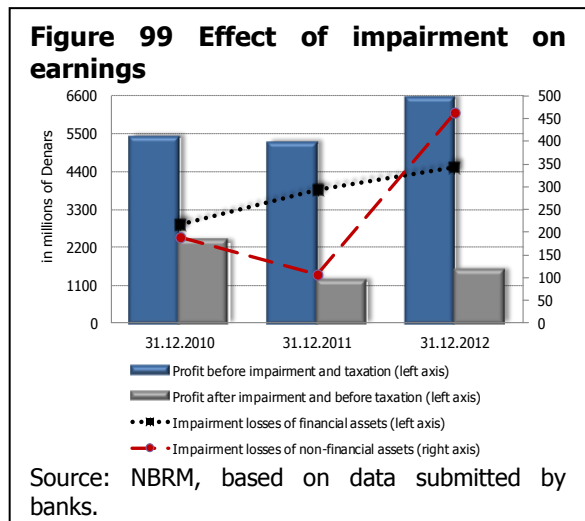
⁵⁹ Interest income from investments in treasury bills is included in the category of interest income from other entities, which in 2012 increased by Denar 200 million, or by 29.6%, contributing 34.3% to the increase of total interest income of banks.



Denar deposits. The decrease of interest expenses of banks was largely due to the interest expenses on time deposits of households⁶⁰, whose interest rates registered the largest decline of 1.4 percentage points. Additional contribution to the reduction of interest expenses of banks was made by interest expenses to financial companies (pension funds and insurance companies based on short-term deposits) and nonfinancial companies. The interest expenses on sight deposits and current accounts of public institutions increased by Denar 10 million or 25.9%.



Banks use most of their total income to cover operating costs⁶¹ and depreciation. Typical for 2012 was the reduction of share of operating costs in banks' total income of 4.7 percentage points, while the share of impairment as a result of the deterioration of banks' loan portfolio increased.



At the end of 2012, **net impairment (for financial and nonfinancial assets) reached Denar 5.003 million, registering an annual growth of 25.4%**. This significant increase of net impairment largely results from the deterioration of banks' loan portfolio where the impairment increased by Denar 656 million, or 16.9%. Nevertheless, the increase in total net impairment also resulted from the increase of impairment of nonfinancial assets in the second half of the year⁶². Namely, in the second half of the year, this type of impairment increased mainly due to the Decision on amending the Decision on the accounting and regulatory treatment of foreclosed assets, adopted in June

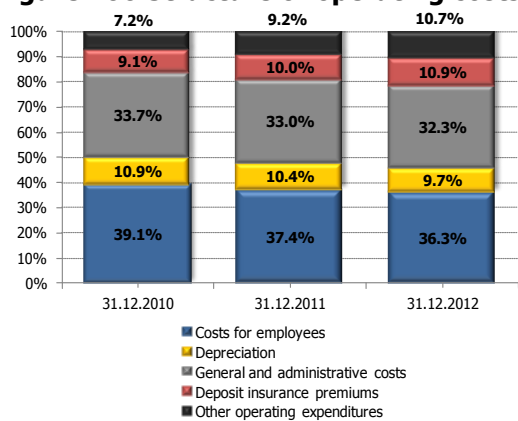
⁶⁰ (Weighted) interest rates on short-term and long-term Denar deposits declined by 1.5 percentage points and 1.4 percentage points, respectively.

⁶¹ Operating costs include: staff costs, depreciation, general and administrative expenses, deposit insurance premiums and other expenses, except extraordinary expenses.

⁶² If we analyze the amount of profit before allocation of impairment for financial and nonfinancial assets, it would equal Denar 6,464 million or 4.4 times more than the profits at the yearend.

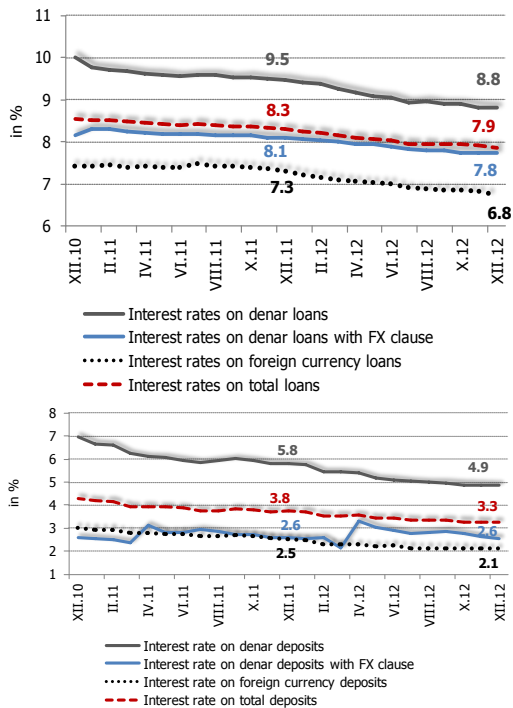


Figure 100 Structure of operating costs



Source: NBRM, based on data submitted by banks.

Figure 101 Lending (up) and deposit (down) interest rates



Source: NBRM, based on data submitted by banks.

2012⁶³. Since July, the banks have already started making adjustments in their income statement, having adverse effect on the financial result. Thus, at the end of 2012, the impairment of nonfinancial assets reached Denar 463 million, increasing by Denar 356 million, or 4.3 times, annually. Accordingly, the contribution of impairment of nonfinancial assets to the annual growth of net impairment equaled 35.2%. The uptrend of net impairment of financial and nonfinancial assets continued in January 2013.

Banks' operating costs rose by Denar 142 million (1.3%), with the largest increase of Denar 187 million, or 18.4%, being registered in the group of other operating costs⁶⁴, mostly arising from one bank. Pronounced annual increase of Denar 115 million (10.4%) was registered in the deposit insurance premiums, which corresponds with the annual growth of banks' deposits. Within the operating costs of banks, staff costs significantly decreased by Denar 74 million (1.8%), amid slight increase of the number of employees in the banks. These changes in the operating costs tend to reduce the share of staff costs and general administrative costs and increase the share of cost of deposit insurance and other operating costs.

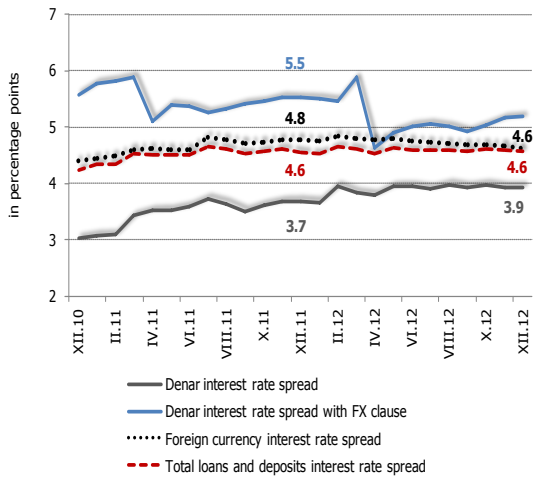
6.2 Interest rates and interest spread

The downward trend of lending and deposit interest rates, which began in late 2009, continued throughout 2012, in the backdrop of the cut of NBRM policy rate in the second quarter of the year and steady decrease of EURIBOR in 2012. Interest rates on Denar loans and deposits were cut the most, with more pronounced reduction of deposit interest rates. Exception to these trends are the changes in the interest rate

⁶³ In accordance with the Decision on amending the Decision on the accounting and regulatory treatment of foreclosed assets ("Official Gazette of the Republic of Macedonia" no. 74/2012), banks are required to recognize impairment losses in the income statement foreclosed until 1 January, 2010 in the amount of at least 20% of their value (as defined in the decision) not later than 1 January, 2013.

⁶⁴ Other operating costs include special reserve for off-balance sheet exposure, other provisions and expenses on other grounds (expenses from previous years, income taxes and contributions, expenses for fines, fees and court decisions and other costs). If correction is made for the expenses recognized as an operating expense in a bank that actually relate to capital loss from foreclosure of property, the group of other operating costs would then decrease by Denar 155 million, or 15.3%, annually.

Figure 102 Interest spread, by currency



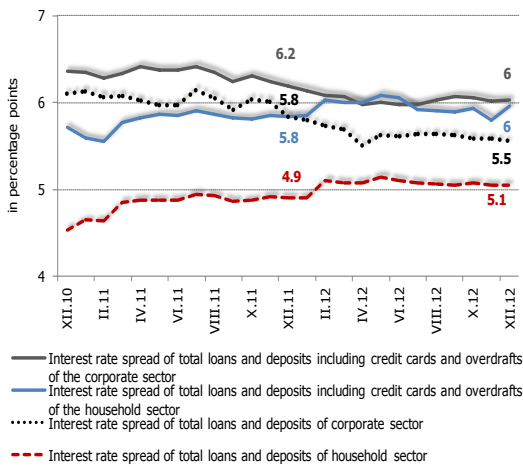
The calculations do not include loans based on overdrafts and credit cards.
Source: NBRM, based on data submitted by banks.

on Denar deposits with FX clause which gradually increased in the first half of 2012 when it began to drop, and at the end of 2012, it was reduced to the same level as in December 2011.

As a result of faster reduction of Denar deposit interest rates relative to the lending ones, interest spreads between Denar deposit and lending interest rates increased, while interest spreads between interest rates on Denar loans and deposits with FX clause decreased. In 2012, these changes in interest spreads brought the interest spreads closer, primarily those of Denars and Denars with FX clause.

The sector-by-sector analysis shows that the interest spread between total corporate loans and deposits (including loans based on overdrafts and credit cards) decreased in 2012. On the other hand, the interest spread between total household loans and deposits (including loans based on overdrafts and credit cards) increased.

Figure 103 Interest spread, by sector



Source: NBRM, based on data submitted by banks.



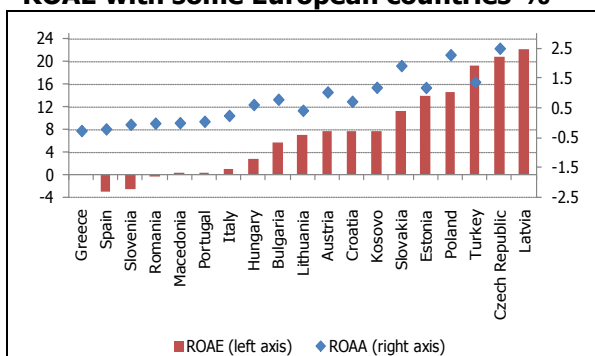
6.3 Banks' profitability and efficiency indicators

Table 14 Profitability and efficiency indicators of the banking system

| Indicators | Banking system | |
|---|----------------|------------|
| | 31.12.2011 | 31.12.2012 |
| Rate of return of average assets (ROAA) | 0.4% | 0.4% |
| Rate of return of average equity (ROAE) | 3.4% | 3.8% |
| Cost-to-income ratio | 67.8% | 63.2% |
| Non-interest expenses/Total regular income | 74.3% | 69.3% |
| Labour costs /Total regular income | 25.4% | 22.9% |
| Labour costs /Operating expenses | 37.4% | 36.3% |
| Impairment losses of financial and non-financial assets /Net interest income | 38.4% | 44.0% |
| Impairment losses of financial and non-financial assets / Gross loans to non-financial entities | 2.0% | 2.3% |
| Net interest income /Average assets | 3.3% | 3.3% |
| Net interest income /Total regular income | 63.9% | 64.4% |
| Net interest income /Non-interest expenses | 86.0% | 92.8% |
| Non-interest income/Total regular income | 36.1% | 35.6% |
| Financial result/Total regular income | 7.3% | 8.3% |
| Number of employees | 6,011 | 6,026 |
| Assets per employee (in millions of Denars) | 55.1 | 58.6 |
| Financial results per employee (in millions of Denars) | 0.2 | 0.2 |
| Operating costs per employee (in millions of Denars) | 1.8 | 1.9 |

Source: NBRM, based on data submitted by banks.

Figure 104 Comparison of ROAA and ROAE with some European countries %



Source: IMF's October 2012 Global Financial Soundness Report, and IFS March 2013.

Note: Data on the analyzed countries are as of September 2012, with the exception of Spain and Italy, whose data are as of June 2012, Kosovo whose data are as of November 2012 and Macedonia whose data are as of December 2012. There is no data for ROAE for Greece.

Increased profitability of the banking system in 2012 can be seen through the **improvement of some basic profitability indicators of banks, such as rates of return on equity (ROAE) and profit margin⁶⁵**. Compared to 2011, their improvement is due to the increased profitability of banks, primarily of the group of medium-size banks. Unlike these two profitability indicators of banks, **the rate of return on assets (ROAA) remained unchanged compared to the last year** (Annex 35).

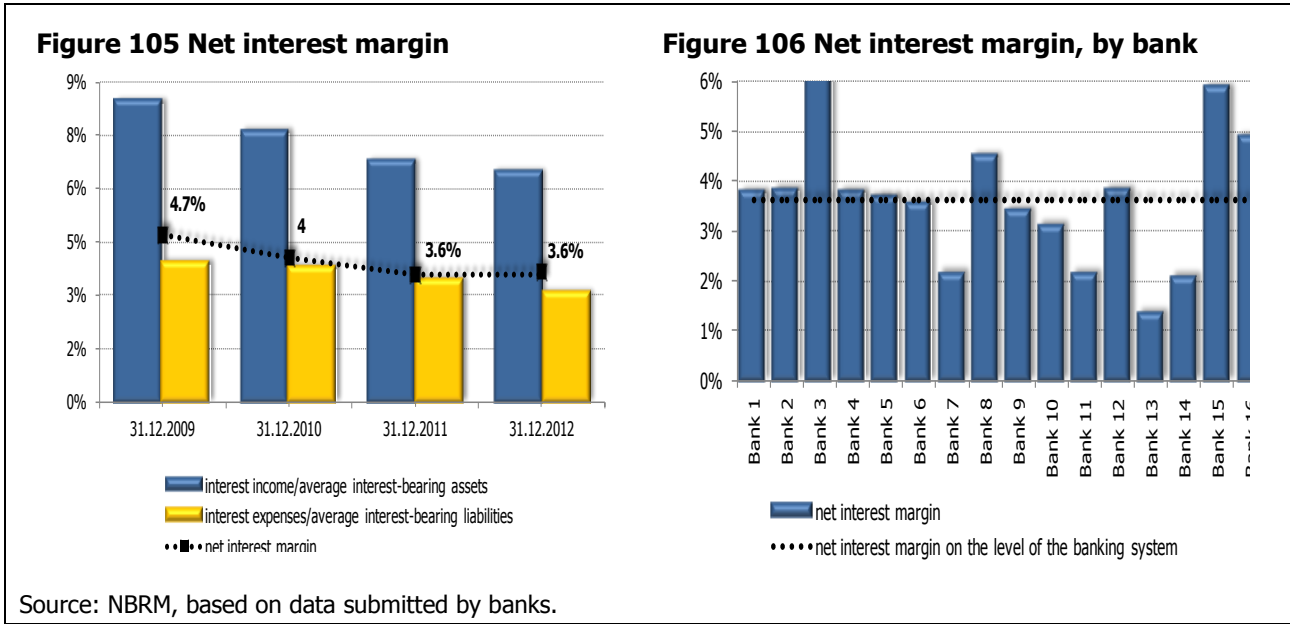
As a result of the deterioration of the banks' loan portfolio in 2012, the portion of net interest income used for impairment increased, which was most pronounced in the group of large and small-size banks, vis-à-vis the group of medium-size banks which reported an improvement of this indicator.

In 2012, the banks' operational efficiency improved, evident from the lower amount of total

⁶⁵ Profit margin represents a net profit to total regular income.

regular income spent to cover operating costs⁶⁶, as well as other ratios between the types of costs and total regular income.

The comparison of profitability ratios between the banking systems of the European countries, such as the rate of return on assets and equity, shows that the Macedonian banking system falls within the banking systems that have positive indicators, although with the lowest value.



Source: NBRM, based on data submitted by banks.

The net interest margin⁶⁷ remained unchanged compared to December 2011, as a result of the identical annual growth of average interest-bearing assets and net interest income. The interest income per unit of interest-bearing assets declined annually as a result of the stronger growth of average interest-bearing assets of banks compared to interest income. An annual decline was registered in interest expenses per unit of interest-bearing liabilities

⁶⁶ Cost-to-income ratio is calculated using the common methodology and includes the group other operating costs of a bank in the country, the majority of which being actually related to capital loss from foreclosing property. If correction is made for this amount, this indicator would be even lower, i.e. from 69.6% in September 2012, it would drop to 66.7%. It suggests further increase of the operational efficiency of banks.

⁶⁷ Net interest margin is calculated as the ratio between net interest income and average interest-bearing assets. Average interest-bearing assets is calculated as an arithmetic average of the amounts of interest-bearing assets at the end of the corresponding quarter of the current year and the end of the previous year.



due to the divergent movements of both components - reduction of interest expenses and increase of average liabilities of banks.

Seven of sixteen banks reported lower net interest margin compared to the net interest margin of the banking system.



ANNEXES

For analytical purposes, the National Bank shall categorize banks into three groups according to the size of their assets. The boundaries between different groups of banks are corrected for the average annual growth rate of total assets of the banking system in the previous four quarters. The boundaries shall be corrected annually (year-end).

As of 31 December, 2012, the boundaries between the groups of banks are: over Denar 26,900 million (large banks), from Denar 6,700 to Denar 26,900 million (medium-size banks) and below Denar 6,700 million (small-size banks). These boundaries will apply as of 30 September, 2013.