

**National Bank of the Republic of Macedonia**

Supervision, Banking Regulation and Financial Stability Sector

Financial Stability and Banking Regulations Department



***REPORT ON THE RISKS IN THE BANKING SYSTEM  
OF THE REPUBLIC OF MACEDONIA  
IN 2014***

April 2015

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## I. SUMMARY

Given the positive trends in the domestic economy and the signals of private sector recovery, activities of domestic banks grew rapidly in 2014. Loans to non-financial entities registered an almost double-digit annual growth (9.9%), which is higher by 50% in comparison with the growth recorded in 2013. The intensified lending activity was especially apparent in the segment of banks' corporate customers, where the annual growth of loans was twice higher compared to 2013, and there was also continued credit support to households whose annual growth has been accelerating for two consecutive years. The favorable developments in the domestic credit market come as a result of the improved perceptions of domestic banks regarding the quality of credit demand, but they also point to the second-round effect of the monetary loosening and the non-standard measures taken by the National Bank to strengthen the credit support to the corporate sector. Deposits from non-financial entities registered a double-digit annual growth rate (10.7%), which is almost twice higher compared to the growth rate achieved in 2013. Traditionally, households are the most important bank depositors, but in 2014, the deposits collected from companies also registered a remarkable growth. Denarization in the banks' balance sheets continued in 2014, being more prominent on the liabilities side.

Net interest income that banks earn (net interest margin) in the process of financial intermediation, went up to 3.9% at the end of 2014, which was enough to significantly improve the overall profitability of the banking system. It was significantly supported by the sharper decline in deposit compared to lending interest rates. The reduction of banks' operating costs, registered for the first time in recent years, should also be noted. It indicates improved cost-effectiveness, reflected by the reduced ratio between operating costs and total regular income, which is at the lowest level in seven years (55.5%).

The banks' credit channel impairment continued in 2014, but at a slower pace. Non-performing loans continued to grow, but with twice lower growth rate (of 8.3%), with their share in total loans being reduced to 11.3%. Twice lower annual growth of non-performing loans to companies contributed fully to the slower annual change in total non-performing loans. After a few years of almost unchanged level of non-performing loans to households, they registered a small increase in 2014, but their share in total loans continued to decline. The negative effects of possible complete default of non-performing claims on banks' capital are limited, given the high coverage of these loans with impairment. The total credit exposure to non-financial entities is characterized by high coverage with collateral, which further "mitigates" the level of credit risk undertaken by banks.

Banks' liquidity is stable and satisfactory, due to their propensity to maintain a stable level of liquidity, whose share constantly accounts for about one third of total assets. Liquid assets cover approximately 60% of short-term liabilities and more than 90% of the contractual obligations with residual maturity up to 30 days, which confirms the satisfactory liquidity position of domestic banks as one of the main pillars of the overall banking system stability.

Direct exposure of the banking system to the risks of changes in market-determined financial variables increased in the past two years, but their importance is low. There are limited conditions for materialization of currency risk and interest rate risk in the banking book. The depreciation of the euro against other world currencies on the international currency markets has no influence on the stability of the Macedonian banking system, given the applied strategy



of maintaining a stable exchange rate of the denar against the euro and the dominance of this currency in banks' items with currency component. In regard to the risk of changing interest rates, the ratio between the total weighted value of the banking book and own funds is low, despite the increase.

Stable solvent position and capital adequacy ratio twice higher than the minimum are the foundation of stability and resilience of the banking system of the Republic of Macedonia. In 2014, indicators of solvency and capitalization of the banking system were dwindling due to accrual reduction in subordinated instruments, but also due to the accelerated growth of banks' activities. The need for higher capital to cover the risks was covered by engaging the "free" capital of banks accumulated in the past. Results from the conducted stress test showed satisfactory resilience of the banking system, although individual banks show hypothetical need for recapitalization under simulated extreme shocks.

Amid accelerated economic growth and simultaneous absence of price pressures in the coming period, in line with the NBRM projections, further strengthening of banking activities is expected. However, the risks from the slower recovery of the external environment are still present and can have a corresponding impact on the business activities of domestic entities. The main challenge for banks in the period ahead will be to maintain optimal credit support for the non-financial sector, simultaneously reducing the credit channel impairment, which would in return affect profitability, capital stability and liquidity of banks.

## **II. Risks in banking operations**



## 1. Credit risk

**Given the solid economic performance and signals of private sector recovery in 2014, credit portfolios of banks grew rapidly, mostly due to greater credit support to non-financial entities, which was particularly pronounced in the last quarter of the year. The slower growth of non-performing loans amid the accelerated bank lending activity contributed to the decrease in the share of non-performing loans in total loans, which was reduced to 11.3% at the end of 2014. The increase in the non-performing loans continued after the cut-off date of this Report, while the growth of total loans slowed down, so that the share of non-performing to total loans equaled 11.6% in March 2015. The threat for the own funds of the banking system from the possible materialization of the credit risk from non-performing loans is not high, given that these loans have high coverage with allocated impairment (81.9% with their own and over 100% with total impairment). In the last three years there has been a tendency of growth of restructured non-performing loans. This signals the need for strengthening the capacity of banks for timely identification of the signals of financial difficulties among their customers, and consequently, timely, justified and adequate restructuring of their liabilities, which ultimately would contribute to slowing the growth of non-performing loans and overall improvement of the quality of credit portfolios of banks.**

### 1.1. Total credit exposure of the banking system

**In 2014, total credit exposure<sup>1</sup> of the banking system grew by Denar 36,623 million or by 9.5% and reached Denar 423,575 million.** The annual growth rate accelerated compared to the previous year, mostly due to the significant intensification of the credit activity to non-financial entities<sup>2</sup>, which was almost equally distributed to companies<sup>3</sup> and households. Analyzing the dynamics, in the last quarter of 2014, the credit support to companies<sup>4</sup> was the most intensive since the beginning of the crisis, indicating gradual strengthening of the confidence of the banks in the creditworthiness of

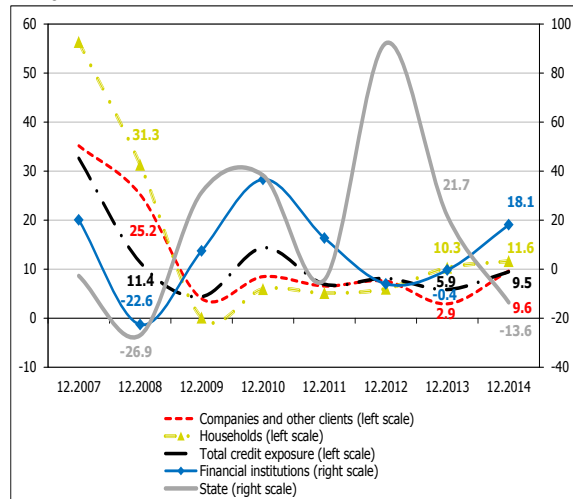
<sup>1</sup> The total credit exposure includes balance sheet (loans and deposits, financial leasing, payments made on the basis of given guarantees, letters of credit, warrants and other off-balance sheet positions, interest, fees and commissions, investments in securities and other financial instruments available for sale or held to maturity, etc.) and off-balance sheet claims (unused irrevocable credit lines, unused irrevocable credits based on overdrafts and on credit cards, letters of credit, guarantees and other contingent liabilities for the bank), which expose the bank to a credit risk.

<sup>2</sup> Exposure to non-financial entities increased by Denar 28,411 million, or 10.4%. Analyzed by certain activities/products, the largest contribution to growth was that of "construction" and "wholesale and retail trade" (for companies) and consumer loans (for households).

<sup>3</sup> The term "companies" refers to companies and other customers (customers from: "education", "health and social care", "arts, entertainment and recreation", "other services", "activities of households as employers" and "activities of extraterritorial organizations and bodies").

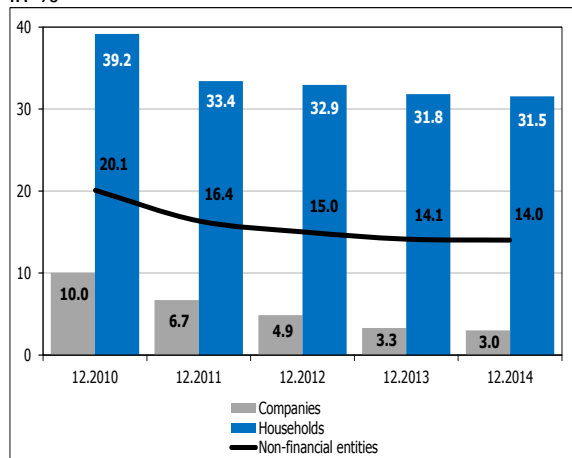
<sup>4</sup> This is due also to the favorable conditions for lending to companies created through the undertaken monetary policy measures, including the non-standard measure for encouraging the credit activity for net exporters and producers of electricity.

**Chart 1**  
Annual growth of credit exposure, by sector in %



Source: NBRM's Credit Registry, based on data submitted by banks.

**Chart 2**  
Share of the uncollateralized exposure in the total credit exposure to non-financial entities and to individual sectors in %



Source: NBRM's Credit Registry, based on data submitted by banks.

companies and reduction of their risk profile. Exposure to the financial sector<sup>5</sup> gave smaller contribution to the annual growth of total credit exposure (36.9%).

The growth of credit exposure in 2014 significantly lags behind the growth registered in the pre-crisis 2007, but is twice higher compared to the modest growth achieved in the crisis year 2009, followed by certain stabilization of growth.

**Most part, or 88.7% of banks' loan portfolio (to non-financial entities<sup>6</sup>) is with regular (performing) status.** Coverage of regular loans with the impairment allocated for them, i.e. the level of expected losses from these loans is relatively low, and at the end of 2014 it was 2.9%. The level of expected losses from the total loan portfolio of the banking system, i.e. its coverage with the total allocated impairment and special reserve amounts to 10.5%.

**The high coverage with a certain collateral is characteristic of the total credit exposure to non-financial entities and of individual sectors.** This contributes to "mitigating" the level of credit risk taken by banks and may serve as a potential source of recovering uncollected exposure. However, in extreme cases this may mean turning the credit risk into a risk of inability to sell the foreclosed property (at an appropriate price).

At the end of 2014, the **share of uncollateralized exposure** to companies accounted for only 3.0%. In contrast, the share of uncollateralized exposure to natural persons, excluding the exposure based on overdrafts on current accounts and credit cards<sup>7</sup> is slightly higher and amounts to 16.8%.

<sup>5</sup> Exposure to financial institutions increased by Denar 13,525, or 18.1% due to the growth in the deposits placed with the National Bank and funds in foreign banks. Investments in government securities decreased whereby the exposure to the government fell by Denar 5,313 million, or 13.6%.

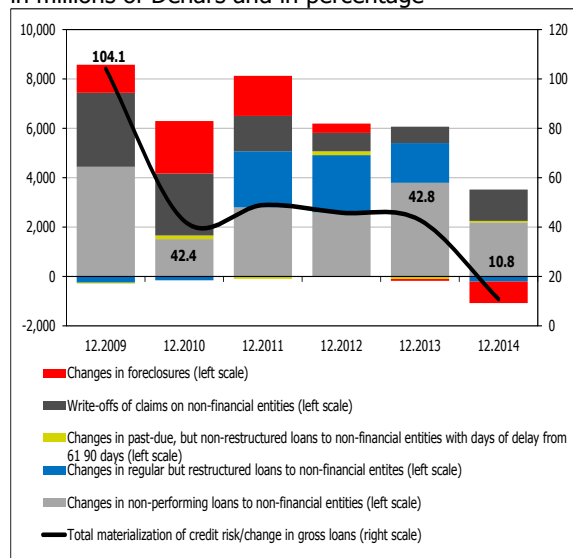
<sup>6</sup> Hereinafter, the overall analysis of non-performing, restructured and prolonged loans as well as the write-off applies only to non-financial entities.

<sup>7</sup> Most collections of this credit exposure are covered by the monthly income of borrowers.



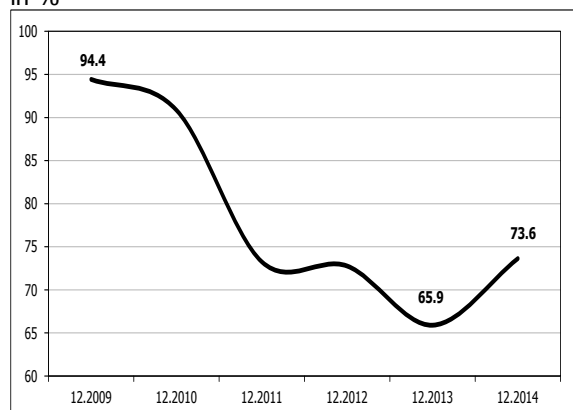


**Chart 3**  
Materialization of credit risk in banks' credit portfolios  
in millions of Denars and in percentage



Source: NBRM's Credit Registry, based on data submitted by banks.

**Chart 4**  
Share of large exposures to non-financial entities in banks' own funds  
in %



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

**In 2014, banks improved their credit risk management.** In fact, only 10.8% of the change in gross loans of the banking system is a consequence of the materialization of the credit risk in banks' portfolios<sup>8</sup>. This means that the growth of gross loans was mostly due to the faster growth of the loans without signs of impairment. This contribution is significantly higher compared to 2013, when the materialization of credit risk caused almost half of the change in gross loans, and especially compared to 2009, when despite the gradual stabilization of the effects of the crisis there was a decline in the loans without signs of impairment, whereby the change in gross loans was fully (104.1%) a result of the materialized credit risk in the banks' portfolios.

**Credit risk concentration, measured by the share of large exposures<sup>9</sup> to non-financial entities in the banks' own funds increased at the end of 2014.** However, this share is significantly lower compared with the end of 2009, when a substantial portion of the credit exposure of the banks was concentrated in their large exposures. From then until 2013, this indicator registered a continuous downward movement. Analyzed by bank, the share of large exposures to non-financial entities ranges from 11.1% to 246.0%. By including the banks' exposures to financial institutions and investments in CB bills and government securities, the share of large exposures in the banks' own funds is significantly higher and at the end of 2014 it reached the historically highest level<sup>10</sup> of 233.1%. Analyzed by bank, this share ranges between 57.6% and 755.1% and is within the maximum prescribed limit<sup>11</sup>.

<sup>8</sup> Total materialization of the credit risk is calculated as the sum of annual changes in non-performing loans, regular restructured loans, non-restructured loans with a delay of 61 to 90 days, write-offs of claims and assets foreclosed on the basis of uncollected claims.

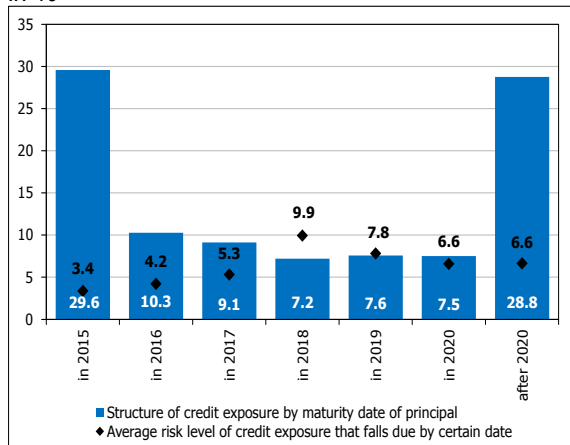
Total change in gross loans refers to the annual change in gross loans including the change in the written-off loans and assets foreclosed on the basis of uncollected claims, as they were loans in the past.

<sup>9</sup> Large exposure to a person or persons related thereto is an exposure equal to or higher than 10% of bank's own funds.

<sup>10</sup> Since 2005, when data on this indicator are available.

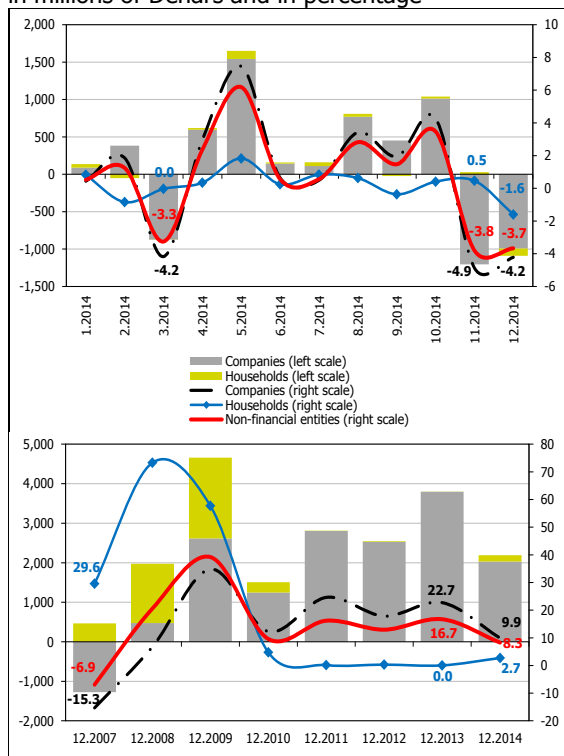
<sup>11</sup> The total amount of large exposures must not exceed eight times the amount of bank's own funds.

**Chart 5**  
Structure and average risk level of the credit exposure to non-financial entities, by maturity of principal  
in %



Source: NBRM's Credit Registry, based on data submitted by banks.

**Chart 6**  
Monthly (top) and annual (bottom) growth rate of non-performing loans to non-financial entities and individual sectors  
in millions of Denars and in percentage



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

<sup>12</sup> The exposure classified in risk categories "A" and "B" accounts for 92.4% of the total credit exposure which falls due by the end of 2015, most of which (75.7%) refers to companies, i.e. customers from the activities "wholesale and retail trade", "industry" and "construction", whose average risk level is in the risk category "B".

**According to the agreed maturity of the principal, by the end of 2015 it is expected that 29.6% of total credit exposure to non-financial entities will fall due on 31.12.2014.** Given their low average risk level<sup>12</sup>, serious difficulties in the collection of these exposures are not expected.

## 1.2. Non-performing loans

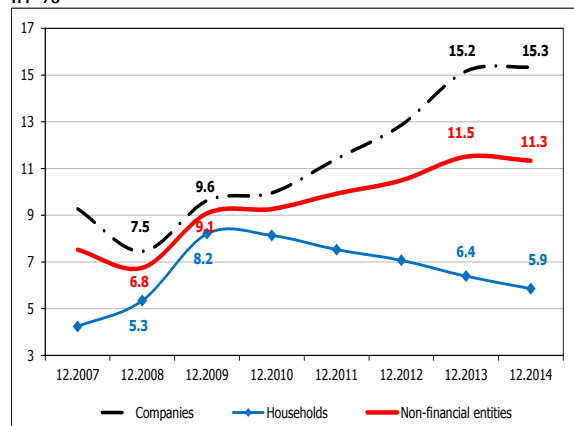
**The quality of the banking system's loan portfolio, measured by the changes in non-performing loans to non-financial entities registered an improvement, which was not continuous throughout the year.** After improving in the first quarter of 2014, in April the loan portfolio quality deteriorated, which was a trend that lasted until November. In December, a downward movement of non-performing loans was registered again, on both monthly and quarterly basis.

**In 2014, the annual growth rate of non-performing loans was reduced to a one-digit level of 8.3%.** After the considerable increase in the growth rate of these loans during the crisis (2008 - 2009), in the post-crisis period it stabilized. The growth of non-performing loans and its volatile intensity arise solely from the changes in non-performing loans to companies, with a certain number of customers. Thus in 2014, the growth of non-performing loans reflects the deteriorating performance of some customers in "wholesale and retail trade" and "activities related to real estate." Given the positive developments in the real sector, no



Chart 7

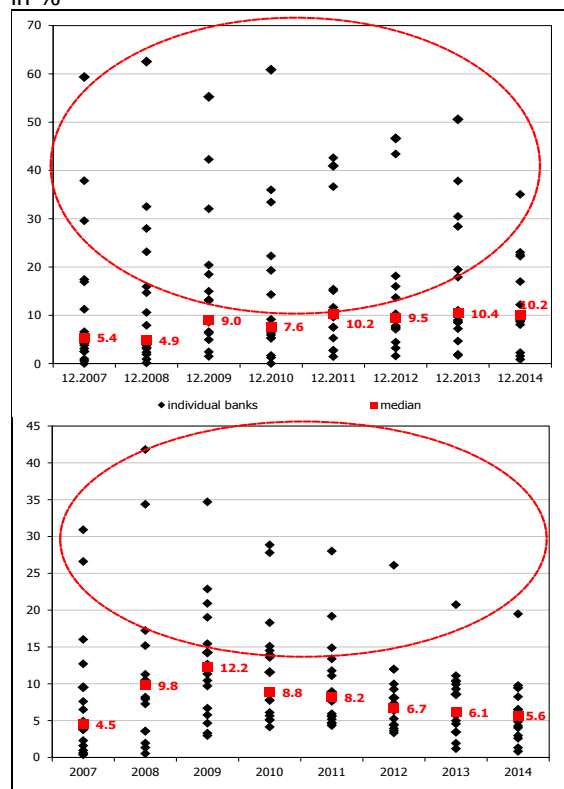
Share of non-performing loans to total loans of non-financial entities and by sectors in %



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

Chart 8

Share of non-performing loans to total loans to companies (top) and households (below), by individual bank in %



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

major increments in the rate of non-performing loans are expected in the forthcoming period.

**Changes in non-performing loans to households are relatively stable, with less upward movement in the entire post-crisis period.** In 2014, the upward movement was most evident in non-performing residential and consumer loans.

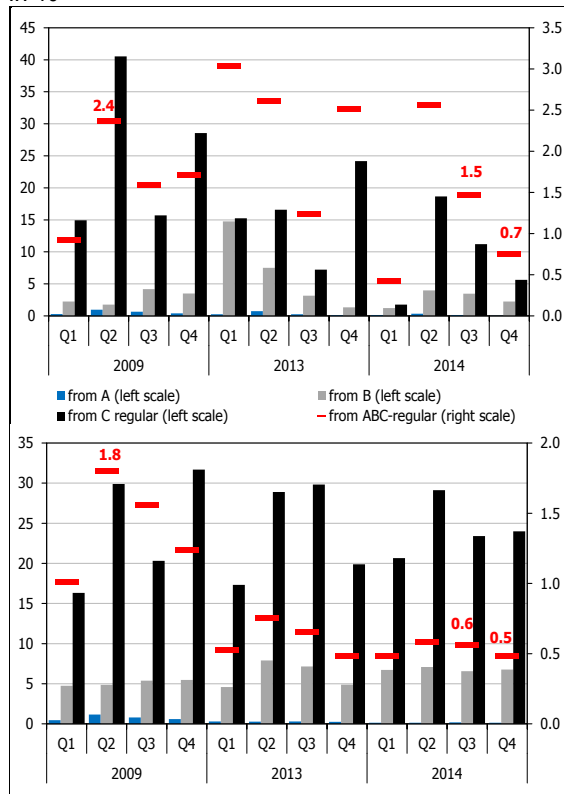
The slower growth of non-performing loans amid the greater acceleration of the bank lending activity contributed to the **decline in the share of non-performing loans in total loans to 11.3%**. Although companies are the generator of the growth of total non-performing loans, their share has registered a minimal increase due to the growth of total corporate loans. However, at the end of 2014, this indicator was twice higher compared to the end of 2008. The rate of non-performing loans<sup>13</sup> to households continued to decline and fell to the lowest level after 2008.

In 2015, the rate of non-performing loans was on the upswing and in March it rose to 11.6%.

**Credit risk is concentrated with several banks,** measured by the share of non-performing loans to total loans to companies and households of individual banks. Thus, in the eight-year period analyzed, the high rate of non-performing loans to companies is a result of their concentration with several banks where this share exceeds 10%. In 2014, some convergence in the rates of non-performing loans (to companies and households) of individual banks to the median and to the rate at the level of the banking system was registered.

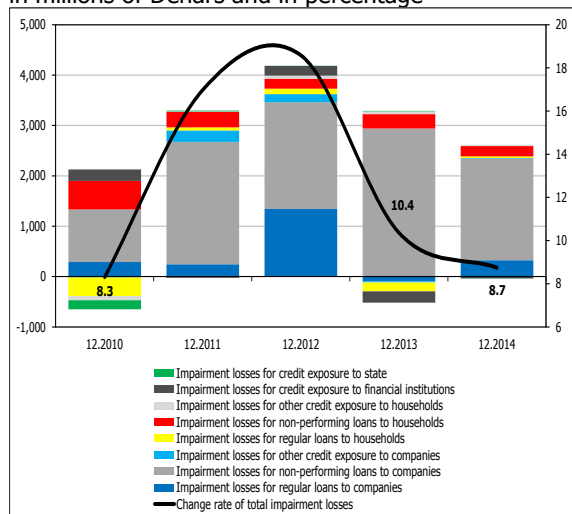
<sup>13</sup> The rate of non-performing loans is a share of nonperforming loans in total loans.

**Chart 9**  
Shift of the credit exposure to companies (top) and households (bottom) from regular to non-performing status in %



Source: NBRM's Credit Registry, based on data submitted by banks.

**Chart 10**  
Annual change of impairment for certain sectors in millions of Denars and in percentage



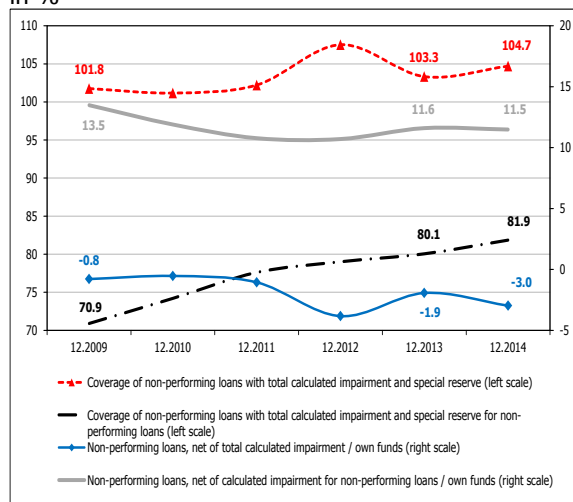
Source: NBRM's Credit Registry, based on data submitted by banks.

**Signs of some improvement in the loan portfolio quality are evident also from the so-called transition matrix.** The percentage of credit exposure with regular status, which for a period of one quarter receives a status of a non-performing exposure declined to 0.6% in the last quarter of 2014 (1.1% at the end of the third quarter and 1.6% at the end of 2013). The migration of exposure to individual sectors from regular to a non-performing status, within one quarter, also confirms the slower growth of non-performing loans. The shift to a non-performing status is substantially lower also in comparison with the second quarter of 2009, when amid spillover of the negative effects of the crisis, the migration of the regular exposures to non-financial entities to a non-performing status was the highest registered in the last six years.

**The coverage of non-performing loans with allocated impairment is high, which indicates a satisfactory capacity of the banking system to absorb potential credit losses.** At the end of 2014, coverage with total allocated impairment increased to 104.7%, and with the impairment for the non-performing loans to 81.9%. This stems from the larger increase in the impairment for non-performing loans than the increase in the actual non-performing loans. The coverage of non-performing loans with their own impairment has registered a steadily upward trend since late 2009, indicating a more conservative approach of banks in their perceptions of the risks of possible default on loans with serious signs of impairment. Fully provisioned non-performing loans account for 56.3% in the structure of non-performing loans to non-financial entities, while the impairment allocated for those loans accounts for about two thirds (68.7%) of the impairment for the non-performing loans. If banks write off the loans that are fully provisioned, the coverage of non-performing loans with the impairment allocated for them would be reduced to 58.5%. Assuming this, the share of non-performing in

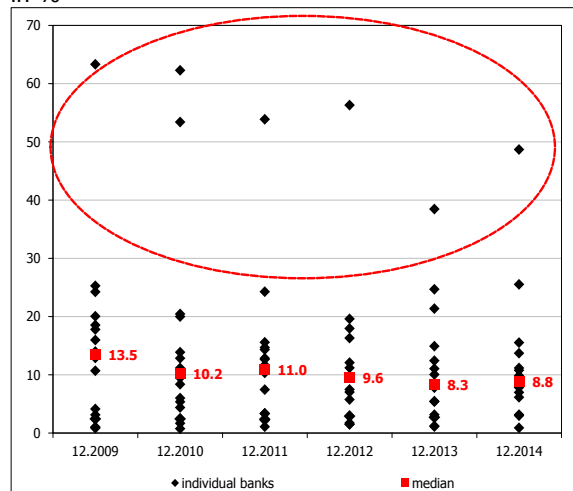


**Chart 11**  
Coverage of non-performing loans and share of net non-performing loans in banks' own funds  
in %



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

**Chart 12**  
Share of net non-performing loans in own funds, by bank  
in %



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

total loans would be more than twice lower, i.e. it would amount to 5.3%.

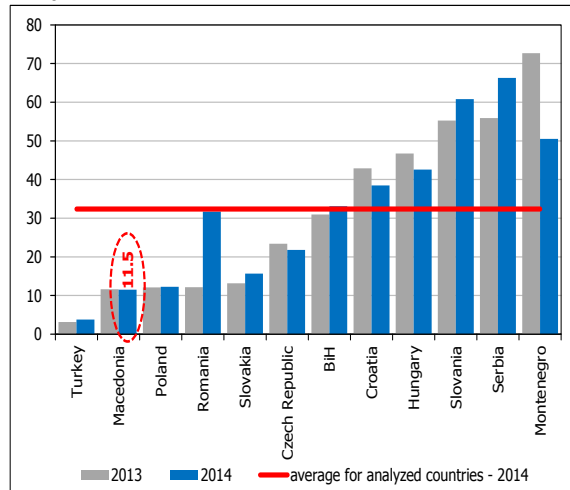
**Given the high coverage of non-performing loans, the threat for the own funds of the banking system from possible full default is minimal.** Under an extreme assumption of full uncollectibility of non-performing loans and utilization of impairment that is allocated only for these loans, at the end of 2014, own funds would decrease by 11.5%, which is almost identical with the assumed decline at the end of 2013.

In recent years, the share of the non-provisioned part of the non-performing loans in the own funds of most banks gradually converges towards the median. However, some banks have registered a significant deviation from the median, which implies higher risk for their own funds from possible materialization of the credit risk from the non-performing loans.

**Compared to some countries from the neighborhood and beyond,** the share of the unprovisioned portion of the total non-performing loans<sup>14</sup> in the own funds of the banking system of the Republic of Macedonia is significantly lower. This indicator is more

<sup>14</sup> Non-performing loans to financial and non-financial entities.

**Chart 13**  
Share of the uncollateralized part of the non-performing loans in banks' own funds, in selected countries  
in %

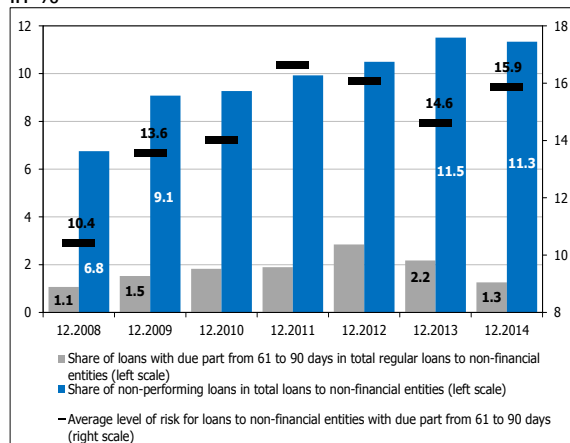


Source: NBRM, based on data submitted by banks, websites of IMF and central banks

\*Note: Data are as of 30.9.2014, except for Macedonia (31.12.2014) and Czech Republic (30.6.2014).

favorable only for the banking system of Turkey. The share of the unprovisioned portion of non-performing loans in the own funds of the banking system of the Republic of Macedonia is three times lower than the calculated average value for the banking systems of the countries analyzed.

**Chart 14**  
Average risk level for loans with due part for collection of principal between 61 and 90 days  
in %



Source: NBRM's Credit Registry, based on data submitted by banks.

### 1.3. Past due, restructured and written off loans

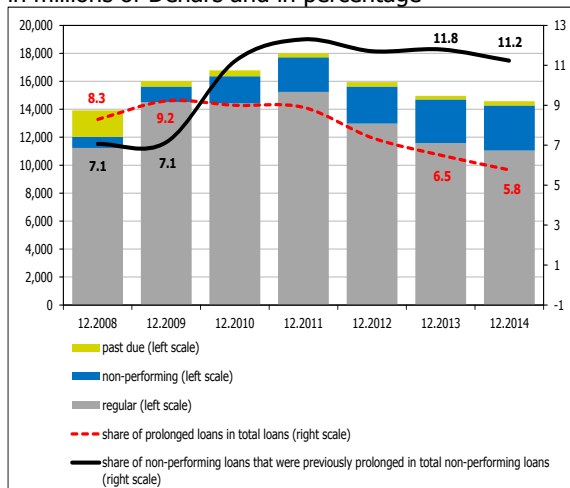
**Past due loans with delayed repayment of principal between 61 and 90 days represent a potential source of increase in the non-performing loans in the next month.** Assuming that none of the due parts of these loans will be collected in the following month, 1.3% of the total regular loans as of 31.12.2014, would migrate to non-performing<sup>15</sup>, making the non-performing loans rise by Denar 2,830 million, or 9.9% only on this basis. However, the growth registered in the following month (January 2015) is significantly lower and equals 2.2% or Denar 635 million, indicating a **satisfactory collection of the loans with past due part of 61 to 90 days.** According to regulations, the change in the contractual terms of loans through the **extension of the maturity** is not always associated with poor financial condition of

<sup>15</sup> The smaller share of the loans with past due part of 61 to 90 days as of 31.12.2014 compared to other years, is due to the fact that this analysis made at the end of 2014 includes the loans with delay in the repayment only of principal between 61 and 90 days, while for the other years it includes the loans with delay between 61 and 90 days based on any item (principal, interest or other claim) on the reporting date. Focusing on the analysis only of loans with delays in repayment of principal was allowed by the amendments to the regulation on the Credit Registry from 12.1.2014 (according to the Guidelines for implementing the Decision on the content and functioning of the Credit Registry, "Official Gazette of the Republic of Macedonia no. 14/2014").



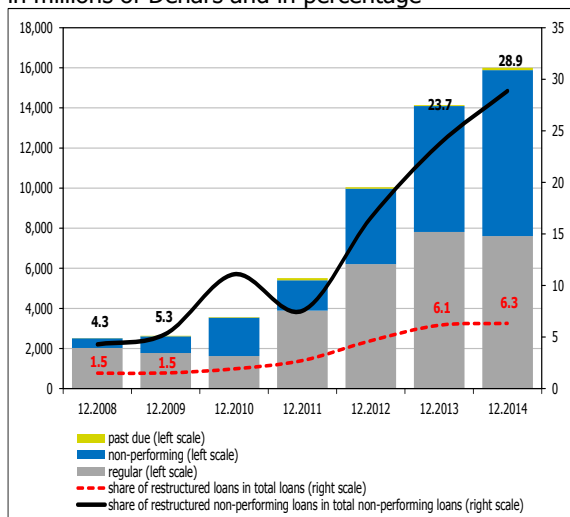


**Chart 15**  
Structure of prolonged loans according to their status (regular/non-performing), by year  
in millions of Denars and in percentage



Source: NBRM's Credit Registry, based on data submitted by banks.

**Chart 16**  
Structure of restructured loans by their status (regular/non-performing), by year  
in millions of Denars and in percentage



Source: NBRM's Credit Registry, based on data submitted by banks.

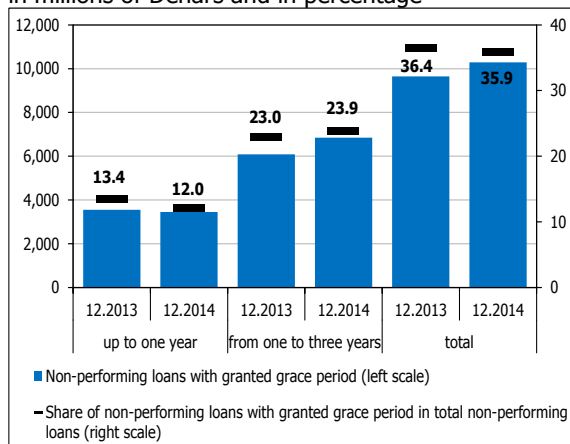
customers. But the fact that 11.2% of total non-performing loans were previously prolonged points to the prolonged loans as a possible source for the growth of non-performing loans. Prolonged loans moved upwards starting from the beginning of the crisis in 2008, until 2012, when they began to decline (in parallel with the increase in restructured loans), but their structure registered an increasing share of previously prolonged loans which received a non-performing status. Although the average level of risk of total prolonged loans is relatively low (22.3%), the coverage of non-performing loans that had previously been prolonged with the impairment allocated for them is 83.9% and corresponds to the risk category "E".

The dynamics of "higher-risk-bearing" loans is largely conditioned by banks' timely detecting of financial difficulties of customers and consequently, timely and proper **restructuring** of the claims according to the needs and abilities of their customers, which should lead to improved repayment of the liabilities and restrict the growth of non-performing loans. In 2014, the change in the total restructured loans slowed down, after the significant growth in the past two years, while their share in total loans to non-financial entities remained relatively stable. Restructured loans began to increase gradually starting from the end of 2010, following the revival of bank lending, and since 2012 they have been growing at a faster pace (following the announcement and then the adoption of the new regulation on credit risk management encouraged greater use of the already existing possibilities for restructuring. The regulation introduced minimum percentage of provision for non-performing loans of 30%).

In the last three years, the structure of the restructured loans has deteriorated i.e. there was a tendency of **growth of non-performing restructured loans and significant slowdown in the growth of restructured regular loans, and even their reduction at the end of 2014**. This stems from the new restructured loans that were non-performing at

the time of restructuring, but also from the restructured claims, which in 2014 received a non-performing status. Only in 2014, about half of the new non-performing loans<sup>16</sup> were restructured earlier, but their share in the total non-performing loans is low and amounts to 8.0%. The constant increase in the share of restructured non-performing loans in the total non-performing loans in the last three years shows that banks are **late in the restructuring** of claims on their customers, as they are already facing financial difficulties and their liabilities already received a non-performing status, but also that **some of the previous events of restructuring were not successful** and did not facilitate the settlement of debt by the customers. Banks' delay in the restructuring of claims is confirmed also by the high share of loans with non-performing status in the structure of total restructured loans (51.7%). The growth of restructured non-performing loans and the corresponding growth of impairment allocated for them<sup>17</sup> increases the average level of risk of total restructured loans to 45.9%, corresponding to the risk category "D" (39.7% as of 31.12.2013).

Chart 17  
Structure of non-performing loans according to the length of the extended grace period in millions of Denars and in percentage



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

For more than one third (35.9%) of the non-performing loans as of 31.12.2014, a **grace period was granted**<sup>18</sup> at the time of the loan approval or in the process of their restructuring. These loans account for 19.1%<sup>19</sup> of total loans with granted grace period, which exceeds the share of non-performing loans in total loans (amounting to 11.3%). The grace period for 58.1% of the non-performing loans with grace period was granted at the time of restructuring, i.e. after the bank already perceived the worsened financial situation of the customer.

The application of the grace period, as one of the common elements of the restructuring, could delay or impede the perception of the effects of restructuring and the

<sup>16</sup> New non-performing loans as of 31.12.2014, which were regular as of 31.12.2013.

<sup>17</sup> The average risk level of the restructured non-performing loans increased to 66.6% (59.2%, as of 31.12.2013).

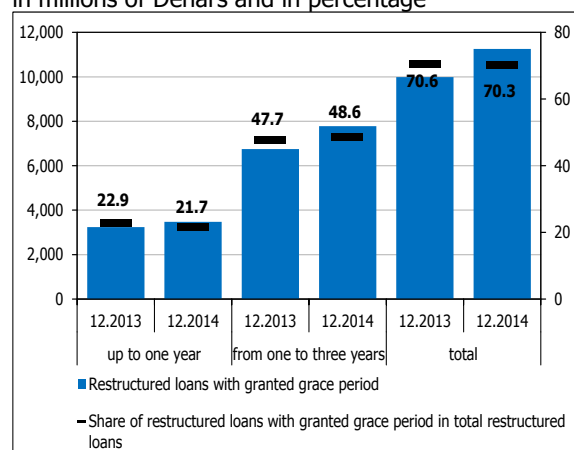
<sup>18</sup> The grace period refers to the agreed length of time to maturity of the first installment, in the case of delayed payment of the principal, for loans with annuity repayment.

<sup>19</sup> Non-performing loans with granted grace period were almost entirely (95.6%) granted to companies, i.e. customers from the activities "industry" and "wholesale and retail trade".



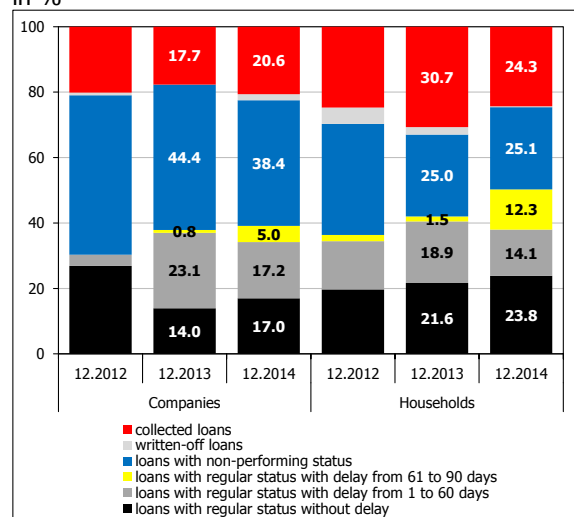


**Chart 18**  
Structure of restructured loans according to the length of the extended grace period in millions of Denars and in percentage



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

**Chart 19**  
Structure of loans restructured two years ago, on corresponding date in %



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

creditworthiness of the client until the expiration of the grace period<sup>20</sup> (70.3% of total restructured loans at the end of 2014 are with granted grace period, and 72.2% of total restructured non-performing loans are loans with granted grace period)<sup>21</sup>. Hence, there is a reservation in respect of the reality of provisions set aside for the part of the banks' loan portfolio which is being restructured, but with granted grace period. Moreover, in some cases the grace period "disguises" (delays) the recognition of already identified, expected credit losses or the non-performing status of the client.

**The success of restructuring is assessed according to the performance of loans two years after the restructuring<sup>22</sup>**, assuming that the period of two years is sufficient to see the effects of this activity of the banks. Loans that are considered "successfully restructured" are those that are collected or have regular status two years after restructuring. Thus, at the end of 2014, **restructuring was "successful" in 59.7% and 74.6% of restructured loans to enterprises and households, respectively.** However, a potential risk of reducing the effectiveness of conducted restructuring, are the claims with regular status, but with a delay between 61 and 90 days<sup>23</sup>. If these regular loans are excluded from the analysis, then 54.8% of the restructured loans to enterprises and 62.3% of these loans extended to households would be considered successful. In contrast, restructuring proved unsuccessful<sup>24</sup> in 40.3% and 25.4% of restructured loans to enterprises and households, respectively.

<sup>20</sup> It is assumed that if the grace period had not been granted, these loans would have received non-performing status earlier, which would adequately reflect the level of total non-performing loans. Namely, during the grace period, the customer is obliged to repay only the interest, which is usually less burden and does not reveal the actual creditworthiness of the client, until the expiry of the grace period.

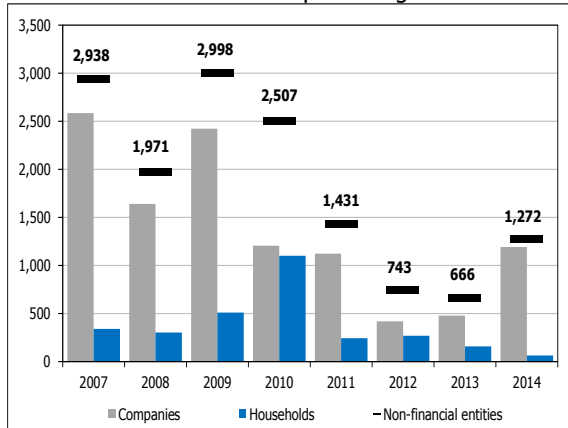
<sup>21</sup> These loans are entirely related to enterprises, but are distributed among customers from several activities, such as, "industry", "supply of electricity, gas, steam and air conditioning", "wholesale and retail trade" and "activities related to real estate."

<sup>22</sup> The analysis is based on the amount as of 31.12.2014, of those loans that were restructured in 2012. It covers only loans that were restructured in 2012, and which as of 31.12.2014 had a regular or non-performing status and loans that are no longer in the portfolio due to collection or write-off, while the loans that are collected through foreclosures are excluded. The same logic applies to restructured loans as of the end of 2013 and 2012.

<sup>23</sup> Loans with past due part of 61 to 90 days are analyzed below.

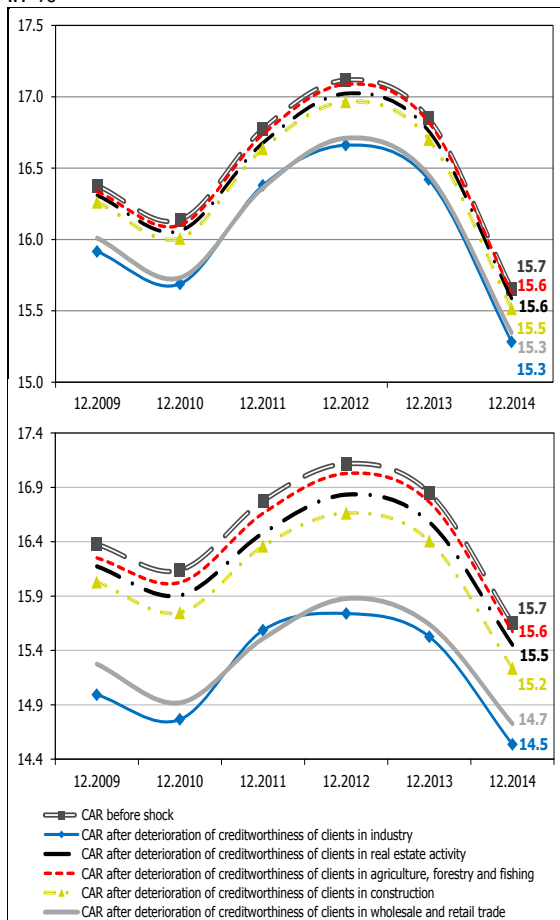
<sup>24</sup> Non-performing and written off loans are considered unsuccessfully restructured loans.

**Chart 20**  
Write-offs during the years  
in millions of Denars and in percentage



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

**Chart 21**  
Capital adequacy ratio, by activity, before and after the first (top) and the second (bottom) simulation for both sectors in %



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

Note: CAR stands for capital adequacy ratio.

**Write-offs made in 2014 amounted to Denar 1,272 million and were twice higher than in 2013.** This indicates that the write-offs have some impact on the slower growth in non-performing loans, particularly on their downward quarterly movement in the last quarter of the year. Thus, excluding the effect of write-offs in 2013 and 2014, the annual growth rate of non-performing loans as of 31.12.2014 would be higher by 2.0 percentage points, and if the effect of write-offs for 2014 is excluded, the growth rate would be higher by 4.8 percentage points. Written-off claims almost entirely (93.7%) relate to companies, and if their effect is excluded, the annual growth rate of non-performing loans would be higher by 3.2 percentage points and would equal 13.1%. In the forthcoming period reduction of non-performing loans can be expected due to higher write-offs, given the high prevalence of loans classified in risk category "E" that have been fully provisioned for a longer period of time and are still present in the banks' balance sheets.

#### 1.4. Stress-testing - simulation of rising credit risk

Regular stress tests are aimed to investigate the sensitivity of the banking system during the deterioration of the quality of certain segments of the loan portfolio. They consist of simulations of hypothetical migration of 10% (first simulation) and 30% (second simulation) of credit exposure to companies (by activity) and households (by credit product), separately, and to the two sectors jointly, to the following two higher risk categories. **The results of the simulations show resilience of the banking system to the simulated shocks**, but are somewhat weaker in comparison with the end of 2013. This is due to lower capital adequacy of the banking system before the simulations, but also to the increased sensitivity of some banks to the assumed shocks. However, capital adequacy of the banking system does not go below 8% in any of the simulations, although individual banks reveal a need for recapitalization in the event of possible materialization of the simulated shocks.



In both simulations, the greatest reduction in the capital adequacy ratio was noticed in the deterioration of the creditworthiness of the customers from "industry" and "wholesale and retail trade" (Annex 29).

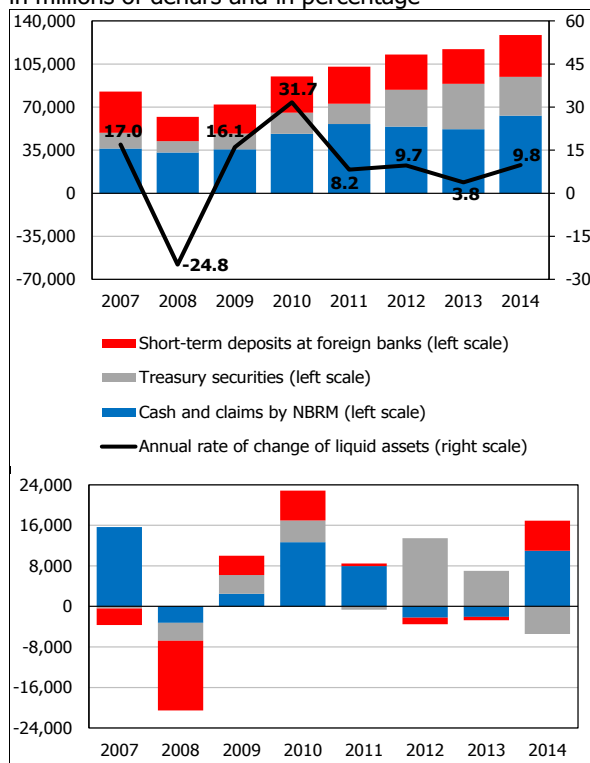
## 2. Liquidity risk

The satisfactory volume and stable share of liquid assets in the total assets of the banking system allow banks to adequately manage liquidity and maintain an acceptable level of liquidity risk. The growth of placements in standing deposit facility at the National Bank and short-term deposits in foreign banks, have enabled accelerated growth of liquid assets and improvement of the liquidity ratios, which is somewhat more evident in the ratios in foreign currency.

In 2014, some of the previously established trends in the banking system continued - reduction of the yield borne by liquid instruments in denars, decline in the liabilities of domestic banks to their parent entities, improvement of the maturity profile of banks' liabilities and increase in their residual maturity. Simulations of combined liquidity shocks show satisfactory resilience of the banking system to hypothetical liquidity shocks.

Chart 22

Dynamics of liquid assets (top) and absolute change of the individual components of liquid assets (bottom) in millions of denars and in percentage



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

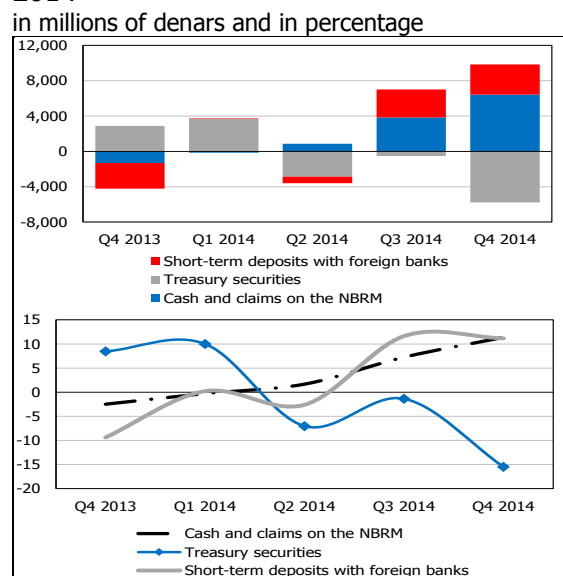
### 2.1. Dynamics and composition of liquid assets

At the end of 2014, the liquid assets<sup>25</sup> of the banking system amounted to Denar 128,498 million, which is an increase of Denar 6,052 million, or 9.8% on an annual basis. The annual rate of growth of liquid assets in 2014 was at a similar level as in the past few post-crisis years. However, changes were observed in the contribution of individual financial instruments to the overall growth of liquid assets. Thus, unlike the past two years when government securities were the generator of growth of liquid assets, during 2014 they reduced, when the growth of banks' liquid assets was generated by the investments in financial instruments with the National Bank and in foreign currency liquid assets.

<sup>25</sup> The liquid assets encompass: 1) cash and claims on the National Bank, which include cash, assets on the accounts of banks with the National Bank, deposit facility with the National Bank and CB bills; 2) short-term deposits with foreign banks, including the assets of the banks on their correspondent accounts abroad and 3) the fair value of the investments in securities issued by the Republic of Macedonia. For the purposes of analyzing the liquidity, assets and liabilities in denars with foreign exchange clause are considered denar assets and liabilities.

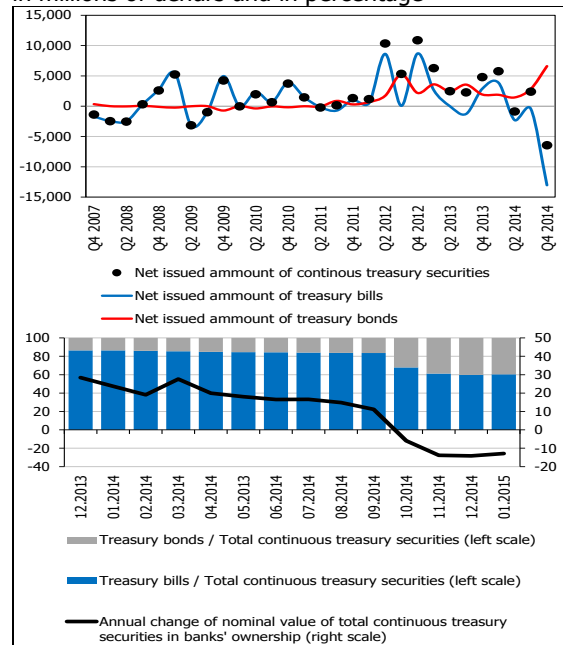


**Chart 23**  
Absolute (top) and relative (bottom) quarterly change in liquid assets during 2014



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

**Chart 24**  
Quarterly dynamics of net issued amount (top) and structure of banks' investments (bottom) in government securities in millions of denars and in percentage



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

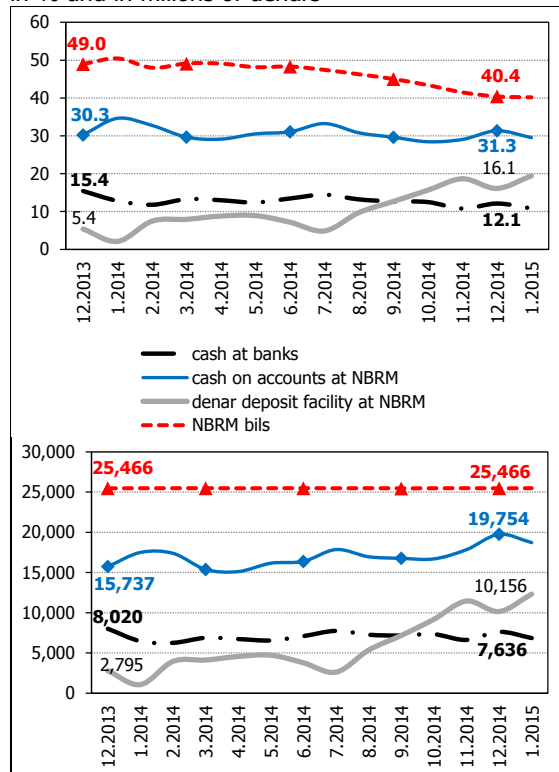
During 2014, the accelerated growth of assets and claims of banks on the National Bank was particularly pronounced in the second half of the year. The same goes for the growth of short-term deposits placed in foreign banks. On the other hand, the banks' placements in government securities registered the largest decline in the last quarter of 2014.

**The decline in banks' investments in government securities in 2014 was largely due to the changes in the primary market for government securities during the year.** Unlike past few years, in 2014, there was a downward trend in the net amount of issued government securities in the primary market<sup>26</sup>. This was particularly evident in the last quarter of the year, when the historically largest decline in the net - issued continuous treasury securities was registered.

Despite this, the share of government securities in total liquid assets of banks decreased from 31.6% to 24.5% on an annual basis. During 2014, a restructuring was made in the supply of government securities and their maturity was increased, whereby the share of government bonds in the structure of the portfolio of government securities of banks was increased at the expense of the reduced share of treasury bills.

<sup>26</sup> Net - issued amount of government securities on the primary market is calculated as the difference between the amount of newly issued government securities within a certain period and the amount of due government securities in the relevant period.

Chart 25  
Structure (top) and absolute amount (bottom) of cash and claims of banks on the National Bank in 2014  
in % and in millions of denars



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

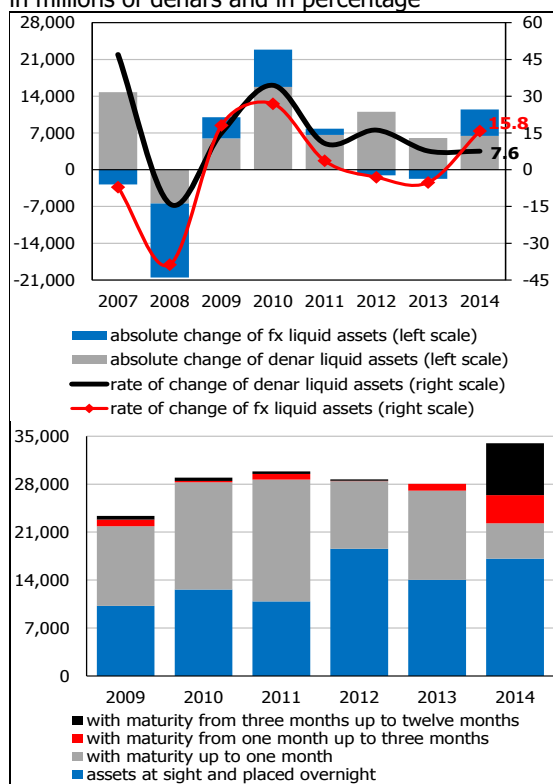
**At the end of 2014, cash and claims of banks on the National Bank account for almost one half of the banks' liquid assets.** Within this component of liquid assets, largest amount accounts for the investments in NBRM bills, followed by the assets on the banks' accounts in the National Bank<sup>27</sup>. Auctions of NBRM bills during 2014, were conducted through a volume tender and limited amount offered, and throughout the year this amount was not changed. Despite this, the standing deposit facility<sup>28</sup> with the National Bank registered growth, which particularly accelerated in the second half of 2014, when the supply on the primary market of government securities reduced. Thus, in 2014 some structural shifts occurred in banks' assets and claims on the National Bank, i.e. the share of deposit facility in denars increased, while the share of NBRM bills declined significantly.

<sup>27</sup> According to the Decision on the reserve requirement ("Official Gazette of the Republic of Macedonia" No. 153/12, 98/13, 166/13, 143/14, 30/15 and 35/15), the average daily outstanding amounts on the bank account at the National Bank are used to meet the total calculated reserve requirement of banks based on their liabilities in denars and liabilities in denars with FX clause, as well as 30% of the calculated reserve requirements of banks on the basis of their foreign currency liabilities. During 2014, banks could fully utilize their assets on the account with the National Bank on a daily basis.

<sup>28</sup> According to the Decision on the deposit facility ("Official Gazette of the Republic of Macedonia" No. 49/12, 18/13, 50/13 and 166/13), banks could place deposits with the National Bank every working day with a maturity of one business day and once a week with a maturity of seven days. These deposits are placed without the possibility of partial or full early withdrawal. Interest rates on these deposits until 15.10.2014 amounted to 0.75% for overnight deposits and 1.25% for the deposits with a seven-day maturity, and starting from 15.10.2014 the interest rates on these deposits decreased by 0.25 percentage points.

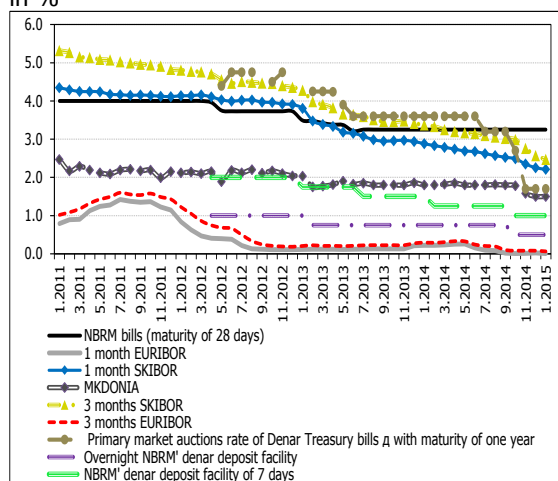


**Chart 26**  
Absolute and relative annual change in liquid assets by currency (top) and structure of short-term deposits with foreign banks (bottom) in millions of denars and in percentage



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

**Chart 27**  
Dynamics of key interest rates relevant for domestic banks in %



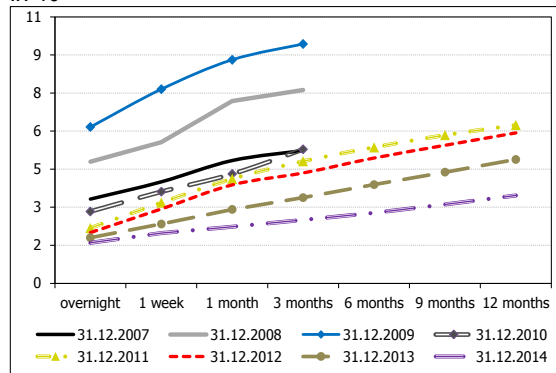
Source: National Bank and the website of the EURIBOR.

Short-term assets placed in foreign banks, rose by 21.1% on an annual basis, whereby their share in the total liquid assets increased from 24.0% at the end of 2013 to 26.4% at the end of 2014. These financial instruments constitute the main part of the foreign currency component of the banks' liquid assets, so that their dynamic growth accelerated the growth of liquid assets in foreign currency. At the end of 2014, the annual growth of liquid assets in foreign currency recorded the highest growth rate in four years, with their share in total liquid assets of banks at the end of 2014 being 28.7% or 1.5 percentage points higher compared to 2013. At the end of 2014, funds placed overnight and assets of correspondent accounts in foreign banks had the highest share in the structure of short-term assets placed in foreign banks.

The yield borne by banks' liquid financial instruments is directly dependent on fluctuations in market interest rates. The structural changes of liquid assets in 2014 occurred amid historically lowest interest rates on both the domestic financial market, i.e. for financial instruments in domestic currency, and on the international financial markets, mainly due to the expansionary monetary policy of the European Central Bank. At the same time, the gradual narrowing of the spread between denar interest rates on the domestic interbank market (SKIBOR) and the key interbank rates in the euro zone (EURIBOR) continued.



**Chart 28**  
Dynamics of the yield curve for SKIBOR in %



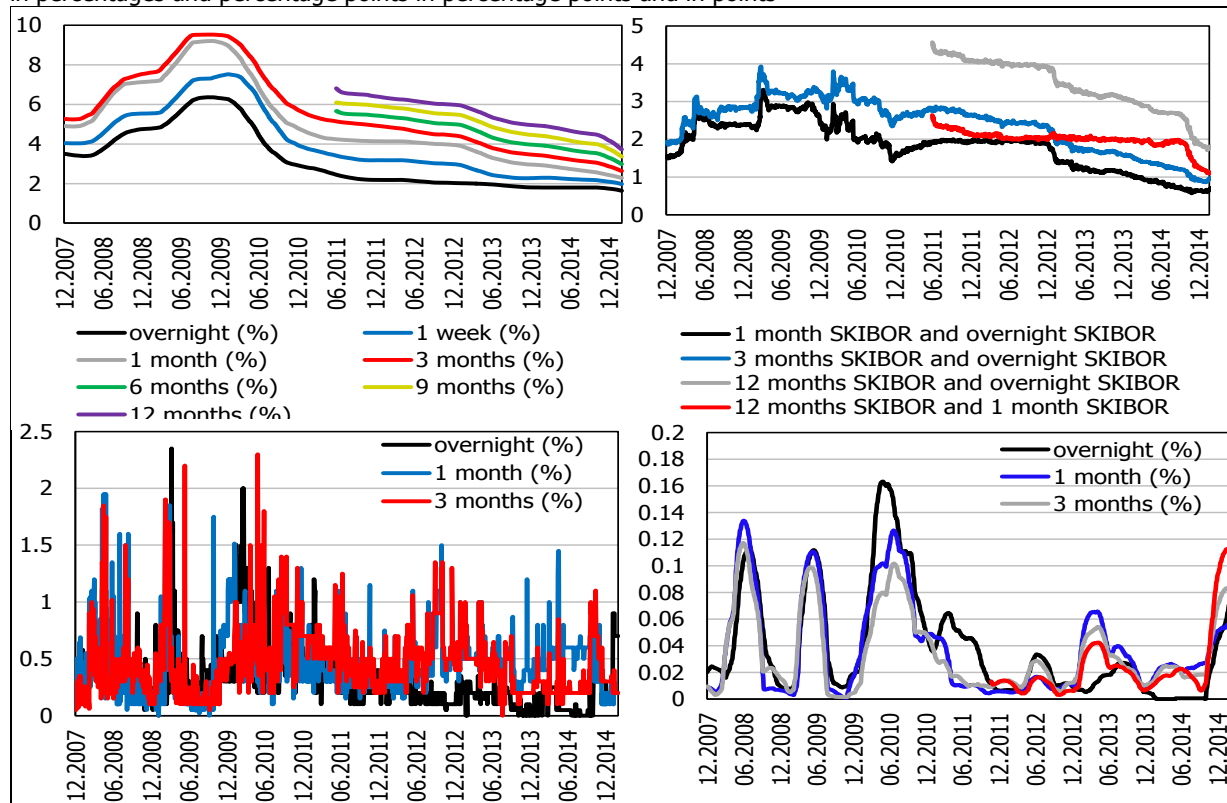
Source: the National Bank

During 2014, the downward trend in the interest rates on the domestic interbank market continued. Thus, the yield curve for SKIBOR at the end of 2014 was at the historically lowest level for all maturity buckets, whereby the spread between SKIBOR for certain maturities during the year registered a downward trend. In the first half of 2014, SKIBOR with maturity of three months dropped under the interest rate on the CB bills for the first time. These downward movements of SKIBOR were the basis for increasing its volatility during 2014.

**Chart 29**

A hundred-day average for SKIBOR for an individual maturity (top left) and spread between SKIBOR for selected maturities (top right)  
Spread between the highest and lowest banks' quoted rate for selected maturities (bottom left) and annualized volatility of SKIBOR for selected maturities on a time frame of one hundred days (bottom right)

in percentages and percentage points in percentage points and in points

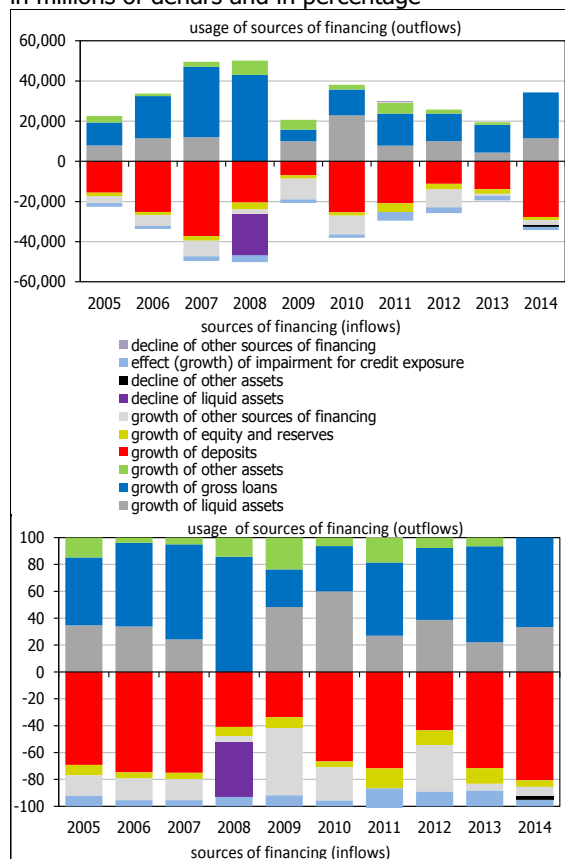


Source: internal calculations of the National Bank.





**Chart 30**  
Amount (top) and structure (bottom) of the new sources of funding of the banking system and their use in millions of denars and in percentage



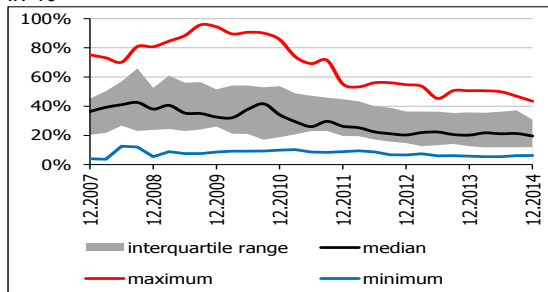
Source: NBRM, based on the data submitted by banks.

The volume of new sources<sup>29</sup> of financing that banks find shows a high degree of sensitivity to general economic conditions in which they operate. Namely, during the greatest credit expansion (2007 - 2008) there was a remarkable increase in the volume of new sources of funding. Then, due to the transmission effects of the global financial crisis, in 2009 there was a significant decline in the new sources of funding for banks and their gradual stabilization in subsequent years at a level that is similar to the level of the years before the credit expansion. The dominant role of the deposits of domestic non-financial entities in the sources of financing the activities of domestic banks is one of the main features of the Macedonian banks, whereby, quite expectedly, deposits take the main place also in the structure of the new sources of funding for banks. In 2014, the share of deposits of non-financial entities in the structure of the new sources of funding for banks is slightly above 80%.

**The use of the sources of financing by banks indirectly shows the changes in their appetite for lending.** Thus, in the first post-crisis years (2009 - 2010), it is quite obvious that there is a reduced propensity of banks to undertake new credit risk and stronger tendency to use new sources of funding to invest in financial instruments as part of liquid assets. However, in subsequent years (2011 - 2014), the portion of newly collected sources of financing that banks used for lending gradually increased, indicating a gradual increase in the risk appetite. **In 2014, banks used around two thirds of new sources of funding for lending**

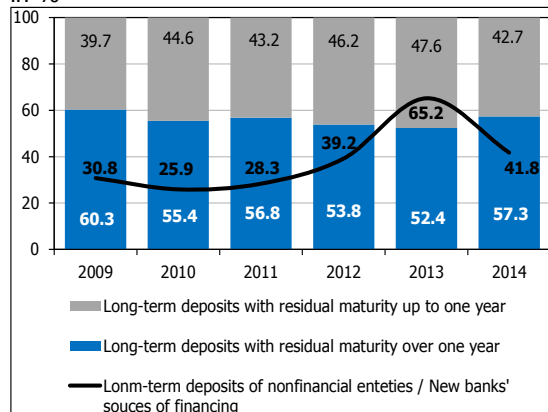
<sup>29</sup> The new sources of funding for banks and their use are obtained in an indirect calculation, i.e. by changing the balances of individual accounts of the banks' balance sheet. The effect on the banks' cash flows, which is due to the income and expenditures that do not represent cash outflow or inflow (e.g. loan write-offs, revaluation of securities available for sale or held for trading, depreciation of fixed assets, net foreign exchange differences, etc.) is an integral part of the change in the corresponding balance sheet items, the respective inflow or outflow refers to, while the effect of the impairment of loans and other assets is included in the total sources of funding. \* The category of other assets includes assets that are not loans to non-financial companies and are not included in the category of liquid assets (placements in securities that are not part of the liquid assets, long-term placements in foreign and domestic banks, foreign exchange reserve requirement, foreclosures, fixed assets, etc.) The category "other sources of financing" includes all sources of funding that are not included in the deposits of non-financial entities, capital and reserves, subordinated and hybrid capital instruments (deposits of financial institutions, borrowings, other liabilities, current profit etc.) and the effect of the change in impairment of assets. In 2009, the International Financial Reporting Standards for Macedonian banks were applied in full and, hence, the effects thereof are included in the changes for this year.

**Chart 31**  
Concentration of deposits of banks as measured by the share of the twenty largest depositors in the total deposits of banks  
in %



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

**Chart 32**  
Importance and residual maturity of long-term deposits  
in %



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

**purposes, while around one third were directed to liquid assets.**

**In the post-crisis years, there was a gradual reduction of the concentration of banks' deposits, which improves the environment for banks' liquidity management.**

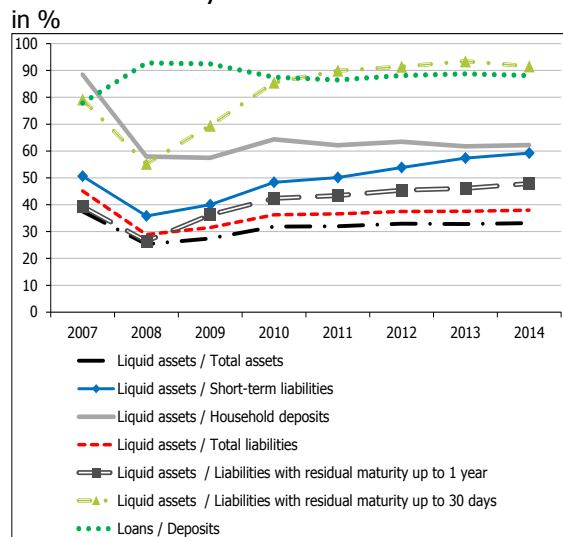
The decline in the concentration of deposits is taking place in parallel with the improvement of their maturity structure, i.e. the **gradual increase in the share of long-term deposits in the total deposits of banks. This is indicative of the confidence that domestic economic agents have in the banking system and the strengthening of preferences, especially of the households, to save in the long run.** Thus, in 2014, about one-half of the new sources of funding of banks are long-term. Deposits of non-financial entities are predominant, accounting for 41.8% of banks' total new sources of funding. On the other hand, the structure of long-term deposits according to their residual maturity has improved<sup>30</sup>. Namely, at the end of 2014, more than 57% of long-term deposits had a residual maturity greater than one year. These deposits accounted for 16.2% in total deposits, which is higher by 2.7 percentage points compared with the end of last year.

<sup>30</sup> The structure of long-term deposits according to their residual maturity refers to the sum of deposits of non-financial entities and deposits of financial institutions.



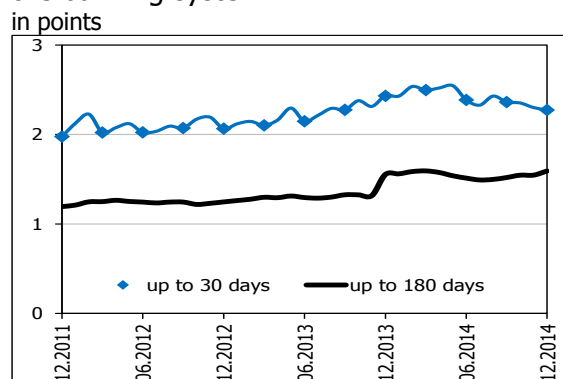
## 2.2. Liquidity indicators

Chart 33  
Liquidity ratios of the banking system at the end of the years



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

Chart 34  
Regulatory prescribed liquidity ratios of the banking system



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

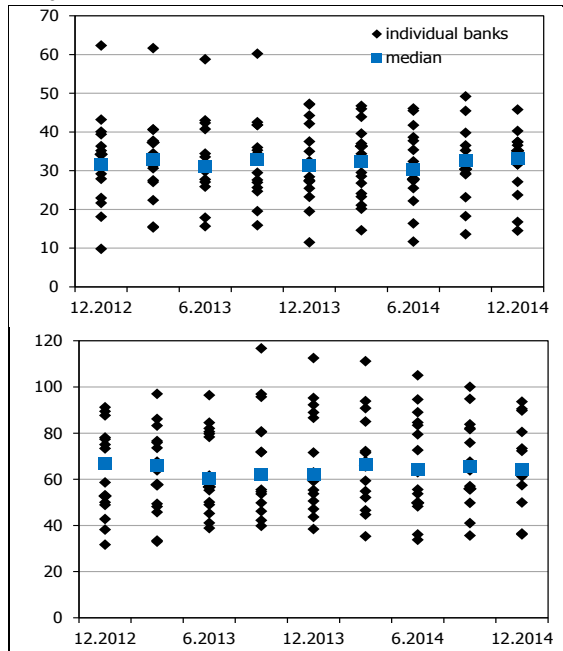
**Indicators of banking system liquidity<sup>31</sup> were stable also in 2014, which is common for their dynamics throughout the post-crisis period.** Moreover, some indicators are at a higher level compared to 2007, mainly resulting from the positive changes in the maturity structure of banks' liabilities (described above in the text). Liquid assets account for about one third of banks' total assets and cover about 60% of short-term liabilities and more than 90% of the contractual liabilities with residual maturity up to 30 days.

Banking system regulatory prescribed liquidity ratios<sup>32</sup> presented as a ratio between assets and liabilities that mature in the next 30 days and 180 days, equaled 2.3 and 1.6 respectively, at the end of 2014, which is significantly higher than 1, as the prescribed minimum level. All this indicates sufficient amount of liquidity available to the Macedonian banking system.

<sup>31</sup> The calculation of the liquidity of the banking system does not take into account the resident interbank assets and liabilities.

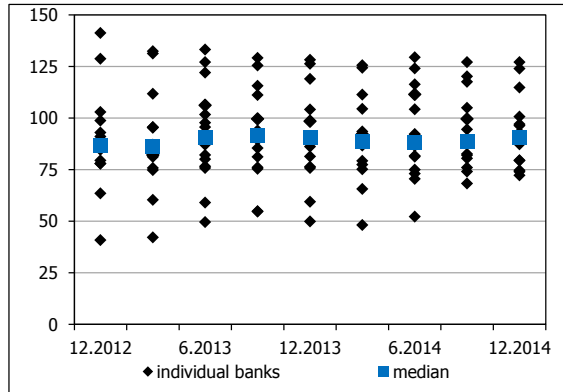
<sup>32</sup> The method of calculation of liquidity ratios up to 30 and up to 180 days is determined by the Decision on the liquidity risk management of banks ("Official Gazette of the Republic of Macedonia" no. 126/11, no. 19/12 and no. 151/13).

**Chart 35**  
Share of liquid in total assets (top) and coverage of short-term liabilities with liquid assets (bottom) by bank in %



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

**Chart 36**  
Dynamics of the ratio loans/deposits of non-financial entities, by bank in %



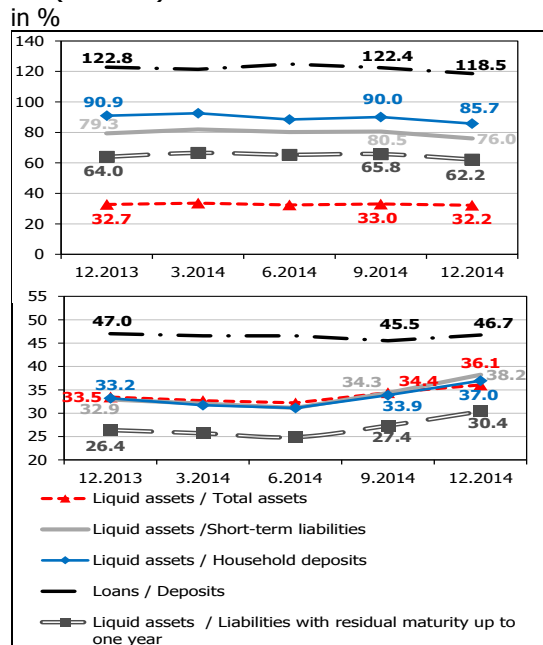
Source: NBRM, based on the data submitted by banks.

By individual bank, at the end of 2014 the share of liquid assets in the total assets ranged from 14.5% to 45.8%, while the coverage of short-term liabilities with liquid assets ranged from 36.1% to 93,6%. Also, during 2014 compared to last year, there was a trend of gradual convergence of these indicators by individual bank toward the median for the banking system.

The ratio between loans and deposits of non-financial entities remained at a stable level of just under 90%, which also indicates that banks used most of the collected deposits to finance the credit support of the economic agents. At the end of 2014, this indicator ranged from 72.3% to 127.2%, and in four banks this ratio is over 100%.



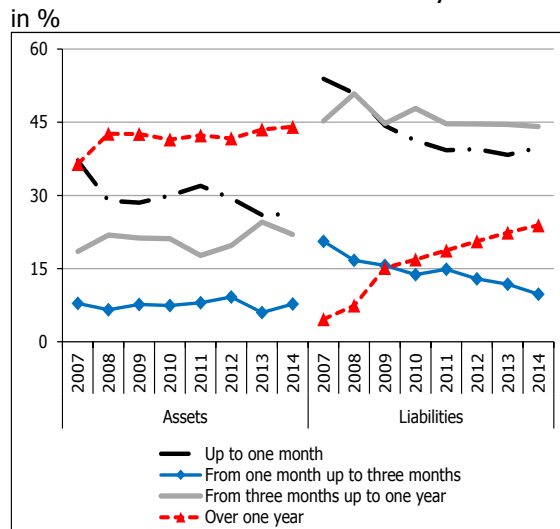
Chart 37  
Banking system liquidity ratios, according to currency structure - Denars (top) and FX (bottom)  
in %



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

**Liquidity ratios according to the currency characteristics of assets and liabilities showed divergent dynamics during 2014.** Thus, foreign currency liquidity indicators have improved, which became especially prominent in the second half of the year. Engine of this movement was the growth of the foreign currency component of banks' liquid assets due to the increase in their propensity to place funds on accounts in foreign banks. Denar liquidity indicators mainly registered a downward trend, but they are still far higher than the indicators of foreign currency liquidity due to increasing participation of denar liquid financial instruments in the liquid assets of the banking system.

Chart 38  
Structure of banks' assets and liabilities by their contractual residual maturity  
in %



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

### 2.3. Maturity structure of assets and liabilities

**Increased propensity of domestic economic agents to save in the long run in the post-crisis period, influenced the increase in the share of liabilities with residual maturity greater than one year** and the decline in the share of liabilities with residual maturity shorter than three months. This trend of improvement in the structure of banks' liabilities according to the contractual residual maturity continued throughout 2014.

**In the banks' assets, changes in the maturity structure in the analyzed period had a more moderate pace.** There is a trend of decrease in the share of assets with residual maturity up to one month, primarily due to the changes in the supply of financial instruments on the domestic market, especially to the gradual increase in the maturity of the new issues of continuous government securities.

Changes in the maturity structure of assets and liabilities of banks in the analyzed post-crisis period caused changes in their gap according to the agreed residual maturity, which has deepened in the maturity bucket of up to 30 days, which is mainly caused by the increased maturity of the liquid assets due to investments in longer-term instruments. The mismatch between assets and liabilities in the foreign currency component is significantly higher compared to that in the denar component, but in 2014, due to the growth of liquid assets in foreign currency, the gap between foreign currency assets and liabilities by contractual residual maturity reduced, especially in the maturity buckets from one to three months and three months to one year.

**According to banks' expectations, the cumulative difference between assets and liabilities in all maturity buckets is positive** (Annex 32). This is due to their expectations that a large portion of the deposits will remain in the banks after the expiration of their contractual residual maturity, suggesting that banks have strong positive expectations about the stability of their main source of funding. Thus, as of 31.12.2014, banks expect that 85.1% of time deposits with residual maturity of up to three months (81.4% as of 31.12.2013) should be stable, i.e. remain in the banks.

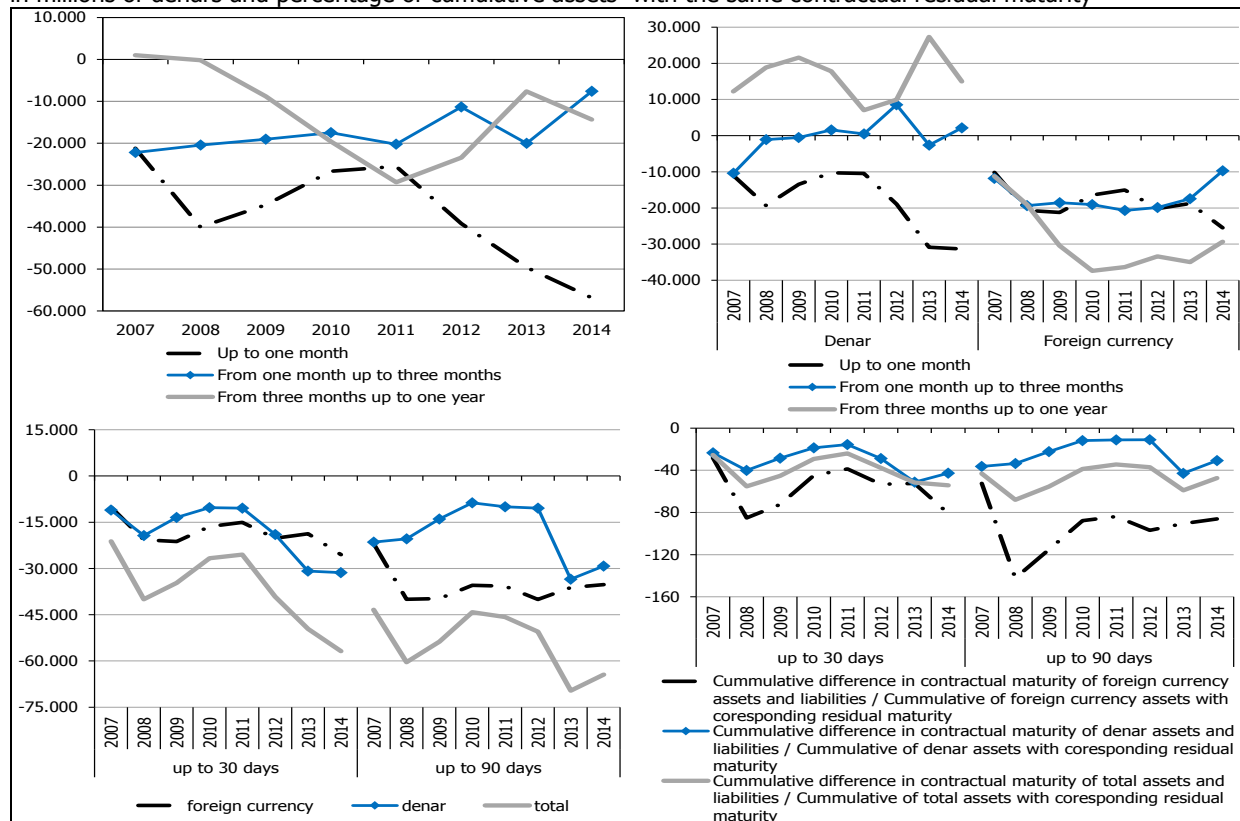


Chart 39

Difference between assets and liabilities according to their contractual residual maturity and maturity buckets (top left) and currency structure of the difference between assets and liabilities according to their contractual residual maturity and maturity buckets (top right)

Cumulative difference between assets and liabilities for selected residual maturity and currency features (bottom left) and relative importance of the aggregate difference between assets and liabilities according to their contractual residual maturity (bottom right)

in millions of denars and percentage of cumulative assets with the same contractual residual maturity



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

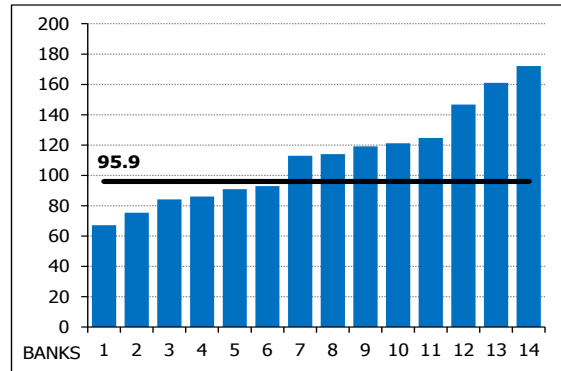
## 2.4. Stress testing - simulations of liquidity shocks

**The high level of liquidity which Macedonian banks have at their disposal provides settlement also of assumed extreme liquidity outflows.** Such liquidity shock implies a combination of a series of outflows of sources of funding<sup>33</sup> outside banks in

<sup>33</sup> The simulation assumes outflow of deposits of the twenty largest depositors, 20% of household deposits, liabilities to parent entities with the exception of liabilities on subordinated instruments and hybrid capital instruments that are excluded from the simulation as according to the regulations for calculating capital adequacy the possibility for their early repayment is limited, 50% of the liabilities to non-residents (excluding liabilities to non-resident parent entities of banks which are already covered by one of the previous simulations) and conversion of certain off-balance sheet liabilities of the banks (uncovered letters of credits, irrevocable credit lines and unused limits based on credit cards and approved overdrafts on transaction accounts) in balance sheet claims. The simulations of liquidity shocks exclude MBDP AD Skopje, because of the legal restriction to serve in a deposit market and hence in the presentation of results this bank is excluded in all indicators.

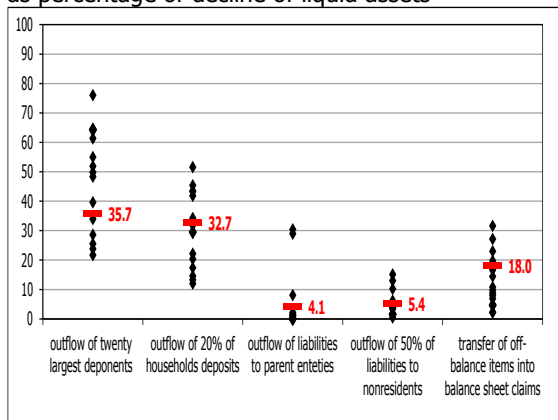


**Chart 40**  
Reduction of liquid assets in the simulation of combined liquidity shocks in %



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

**Chart 41**  
Contribution of individual combined shocks to the decline in the liquid assets in the simulation of a combined liquidity shock as percentage of decline of liquid assets



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

a time frame of 30 days. At the level of the banking system, such extreme liquidity shock would absorb the liquid assets almost entirely (95.9%). After the conducted simulation, the share of liquid assets in the total assets of the banking system would amount to 1.8%, while the coverage of short-term liabilities<sup>34</sup> with liquid assets would be 3.5%. Analyzed by banks, eight banks, whose share in total assets of the banking system at the end of 2014 amounted to 29.0%, would require additional Denar 12,338 million to bridge this very extreme liquidity outflow. In the other six banks, after such an integrated liquidity shock the share of liquid assets in the total assets would range from 3.7% to 14.9%, while the coverage of short-term liabilities with liquid assets would range from 7.1% to 22.0%. If for the purpose of this simulation the coverage of liquid assets is expanded with other financial instruments<sup>35</sup> owned by banks, which can be assumed that could be collected or converted into liquid assets within a time horizon of 30 days, then the reduction in liquid assets at the level of the banking system in this simulation would amount to 86.2%. The sharpest decline in liquid assets occurs during a simulation of outflow of the deposits of the twenty largest depositors, which indicates that despite the downward trend of concentration of deposits in the post-crisis period, still there is room for improvement in this area in some of the banks. Simulated materialization of reputation risk and loss of confidence of the population in the banks represented by an outflow of 20% of household deposits, may limit the opportunities for growth in the banks' activities. The small share in the total structure of the sources of funding of the liabilities to non-residents, as well as sources of funding from parent entities, causes moderate impact of the shocks associated with them on the overall result of this simulation.

<sup>34</sup> The simulations assume that outflows in individual shocks are proportional to the contractual maturity structure of the individual sources of funding for which the outflow as of 31.12.2014 has been assumed. Such obtained maturity structure of assumed outflows serves to calculate short-term liabilities after simulated outflows.

<sup>35</sup> In this expansion of the scope of liquid assets, in addition to financial instruments that comprise liquid assets, the following financial instruments from the balance of the banks are added: term deposits in foreign banks, money market instruments issued by non-residents, foreign government bonds, loans with contractual residual maturity of up to 30 days and the effect of reducing the reserve requirement for foreign currency liabilities of banks, which is allocated in foreign currency due to the outflow of households' foreign currency deposits.

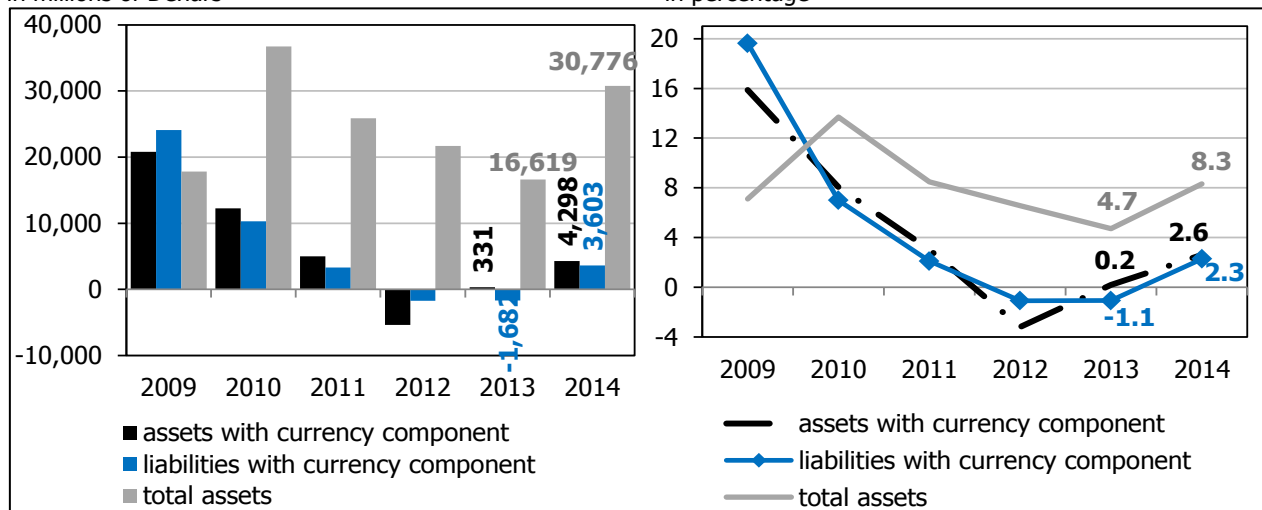


### 3. Currency risk

The exposure of the banking system in the Republic of Macedonia to currency risk is low, despite the widened gap between assets and liabilities with currency component and its share in the banks' own funds. The ratio between the aggregate currency position and own funds remains within the prescribed limit for all banks (30% of banks' own funds). On the international foreign exchange markets the euro depreciated against the other world currencies, but these movements have no significant influence on the stability of the Macedonian banking system, given the applied strategy of maintaining a stable exchange rate of the denar against the euro and the dominance of this currency in banks' items with currency component. Thus, neither the appreciation in the value of the US dollar in the past few years (especially present since April 2014), nor the recent sudden increase in the value of the Swiss franc (in January 2015) had significant effects on the domestic banking system.

As of 31.12.2014, the gap between assets and liabilities with currency component increased by Denar 695 million and amounted to Denar 7,599 million at the end of the year. This widening of the gap arises from the faster growth in the assets with currency component (by Denar 4,298 million)<sup>36</sup> relative to the liabilities with currency component (by Denar 3,603 million)<sup>37</sup>. Although in the last two years growth in the assets and liabilities with currency component was registered, their share in total assets has registered a steady decline, which is an obvious

Chart 42 Annual change of assets and liabilities with currency component in millions of Denars



Source: NBRM, based on data submitted by banks.

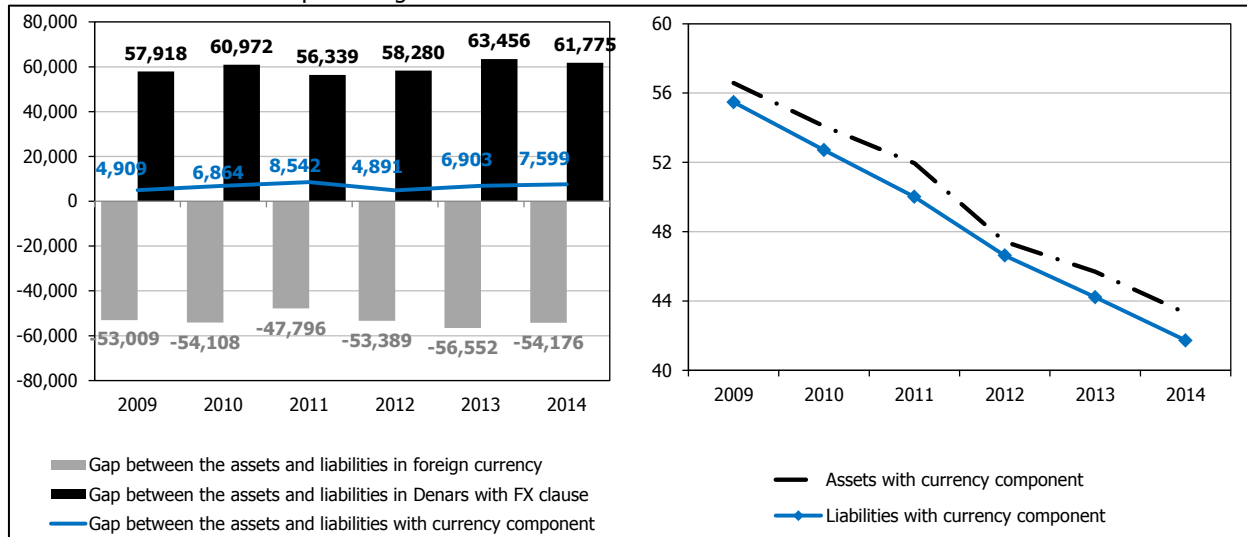
<sup>36</sup> The growth of assets with currency component is due to the increased banks' placements in current accounts and deposits with foreign banks and to the growth in foreign currency loans.

<sup>37</sup> The increase in current accounts and demand deposits with foreign currency component of non-financial companies and natural persons made a major contribution to the annual growth of liabilities with currency component.

indicator of the **denarization of banking activities**. Thus, in 2014, the growth of assets and liabilities with currency component is approximately four times lower than the growth of total assets.

**The widened gap between assets and liabilities with currency component increased its share in banks' own funds in 2014** (by 1.7 percentage point) and it equals 17.5%.

Chart 43 The structure of the gap between assets and liabilities with currency component (left) and the share of the assets and liabilities with currency component\* in the total assets of banks in millions of Denars and in percentage



Source: NBRM, based on data submitted by banks.

\*Within the assets, loans are on a net basis (i.e. adjusted for the impairment). "MBDP" AD is not taken into account.

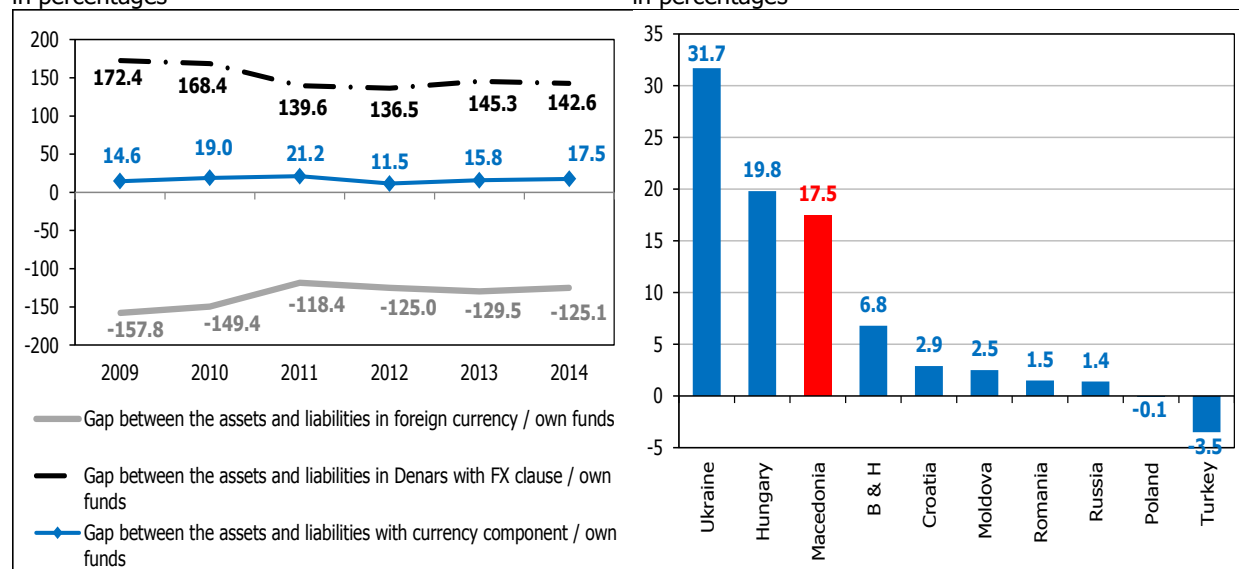
On the list of selected sixteen countries<sup>38</sup>, the banking system of the Republic of Macedonia is among the countries with higher share of the open currency position in the regulatory capital. This indicator is lower only in the banking systems of three countries (Ukraine, Hungary and Estonia). However, the ratio between the aggregate currency position and own funds is within the legally prescribed limit of 30% in all domestic banks. Also, the likelihood of materialization of the assumed foreign currency risk is relatively low taking into account the dominance of the euro in banks' assets and

<sup>38</sup> Selected EU countries are outside the euro zone.



liabilities with currency component in circumstances of applying monetary strategy of stable exchange rate of the denar against this currency.

Chart 44 Share of the gap between assets and liabilities with currency component in the own funds (left) and ratio between the open currency position and own funds, by country (right) in percentages



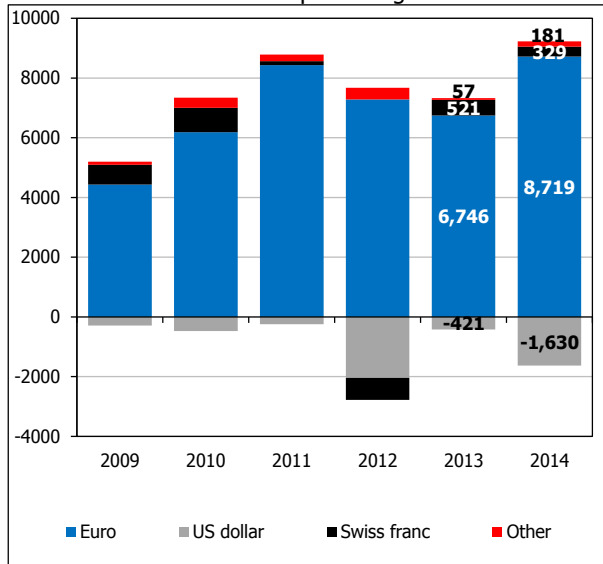
Source: NBRM, based on data submitted by banks; IMF (financial stability indicators).

Note: Data on Macedonia, Croatia and Ukraine are as of 31.12.2014, while for all other countries data are as of 30.9.2014.

Expectations for taking measures of so-called quantitative easing by the ECB in 2015, but also for rising the interest rates by the Fed, caused a more significant increase in the value of the US dollar against the euro starting from April, 2014<sup>39</sup>. Considering the direct dependence of the intercurrency relations of the denar with the other currencies on the movements of the exchange rate of the euro on the international foreign exchange markets, the weakening of the euro caused a corresponding decrease also in the value of the Macedonian Denar against the dollar. However, such movements have no significant impact on the domestic banking system, given the **low representation of the US dollar in banks' balance sheets**. Thus, as of

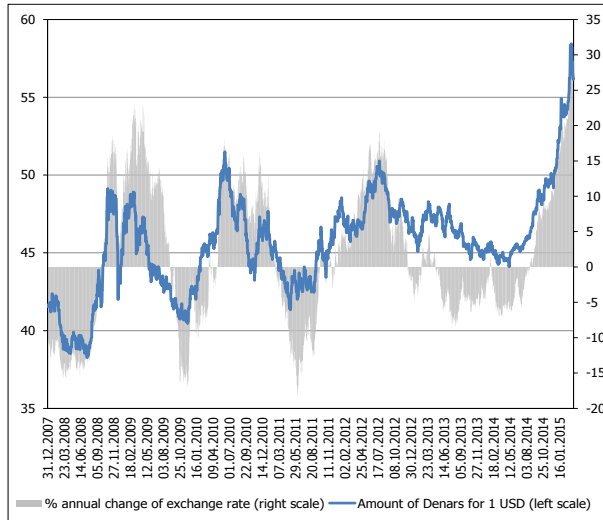
<sup>39</sup> The US dollar has been appreciating against the euro and some other world currencies for several years, as a result of the improved performances of the US economy in the post-crisis period, compared with its major trade partners (EU and Japan) and the consequently improved trade balance, falling budget deficit and higher interest rates compared with some other developed countries.

Chart 45 Dynamics and structure of the gap between assets and liabilities with currency component, by currency in millions of denars and in percentage



Source: NBRM, based on data submitted by banks.

Chart 46 Movement of the denar exchange rate against the US dollar in denars and in %



Source: NBRM

31.12.2014, the US dollar is present with about 2.5% in banks' total assets and with about 3% in their liabilities. Placements in US dollars pertain mostly to current accounts and deposits with foreign banks (which account for about 63% of total assets with dollar component) while on the liabilities side predominant are deposits of natural persons (with a share of 52.4% in the total liabilities with dollar component). Loans with dollar component<sup>40</sup> accounted for about 1.3% of total bank loans, while liabilities in the form of deposits and current accounts with dollar component represent about 3.8% of total deposits and current accounts with banks. As of 31.12.2014, at the aggregate level, the banking system has a short open currency position in US dollars, which accounts for only 0.1% of banks' capital and reserves (the negative gap between the assets and liabilities with dollar component is somewhat greater and it accounts for about 4% of the total capital and reserves).

By using monthly frequency of data on foreign exchange positions of banks in US dollars<sup>41</sup> it is estimated that for the period 30.4.2014-31.12.2014, at the aggregate level, the banking system registered expenses from exchange rate differences from positions in dollars, totaling about Denar 136 million (1.1% of total non-interest-bearing expenses for 2014). Analyzing by individual bank, these costs do not exceed Denar 72 million, while individual banks register revenues from exchange rate differences from positions in US dollars, but the amounts are small. One should also consider the possibility of materialization of the bank's exposure to indirect credit risk, due to possible deferred collection of loans in US dollars placed with customers whose incomes are not tied to the exchange rate of the US dollar (due to the increased denar counter-value of customers' debt in US dollars). However, the banks' credit portfolio with dollar component is of good quality, and as of 31.12.2014, the

<sup>40</sup> Most of the loans with dollar component approved to non-financial entities account for legal entities (99.0%), while only 1% have been approved to households. Among legal entities, the largest share is that of the loans with dollar component approved to entities dealing with the production of metals, machinery, tools and equipment (68.5%), followed by construction companies (9.3%), wholesalers and retailers (7.8%), legal entities that are engaged in mining and quarrying (7.2%), etc.

<sup>41</sup> Calculations are performed using a monthly frequency of data on the positions of banks in US dollars.



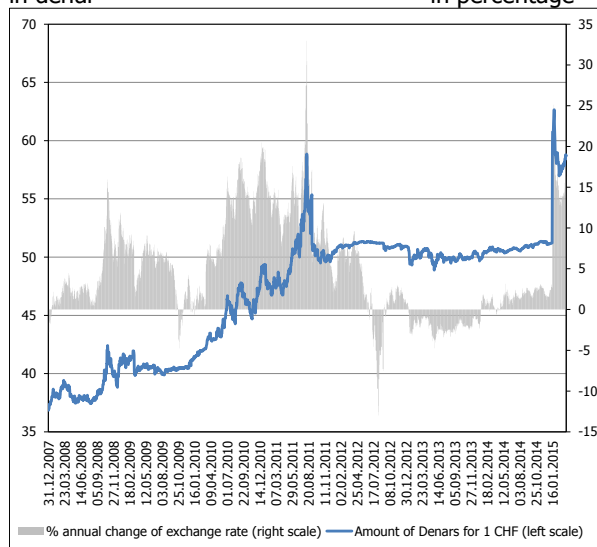
share of non-performing to total loans in dollars granted to non-financial entities amounted to only 1.8% (as of 31.3.2014, this share amounted to 4.5%).

Table 1 Currency structure of assets and liabilities with currency component in %

| Currency           | 31.12.2013   |              | 31.12.2014   |              |
|--------------------|--------------|--------------|--------------|--------------|
|                    | Assets       | Liabilities  | Assets       | Liabilities  |
| <b>Euro</b>        | 88.8         | 88.4         | 89.1         | 87.9         |
| <b>US dollar</b>   | 6.8          | 7.3          | 6.1          | 7.4          |
| <b>Swiss franc</b> | 2.3          | 2.1          | 2.3          | 2.2          |
| <b>Other</b>       | 2.2          | 2.2          | 2.5          | 2.5          |
| <b>Total</b>       | <b>100.0</b> | <b>100.0</b> | <b>100.0</b> | <b>100.0</b> |

Source: NBRM, based on data submitted by banks.

Chart 47 Movement of the denar exchange rate against the Swiss franc in denar



Source: NBRM

**The Swiss franc is still less represented in the banks' activities and therefore** the effects of the recent more significant appreciation in the value of this currency<sup>42</sup> on the operations of domestic banks are still weak compared with those of the appreciation of the value of the US dollar. Namely, as of 31.12.2014, only around 1% of total assets and liabilities of the banks have foreign currency component in francs. Most part (or about 97%) of the placements in Swiss francs are in the form of current accounts and deposits in banks, and on the part of liabilities in Swiss francs, the most common are current accounts and other short-term liabilities (33.1%) and deposits of natural persons (32.4%). Loans with currency component in francs participate in the total bank loans<sup>43</sup> with about 0.1%, while deposits and current accounts with foreign currency component in francs represent about 0.8% of total deposits and current accounts placed with the banks. As of 31.12.2014, at the aggregate level, the banking system had a long open currency position in Swiss francs, accounting for only 0.1% of the capital and reserves of banks (the positive gap between

<sup>42</sup> In January 2015, the central bank of Switzerland abandoned its policy of interventions in the foreign exchange market in order to maintain the value of the franc against the euro. Following this decision, the exchange rate of the Swiss franc appreciated strongly against the euro, and soon its value against the euro stabilized, but on a higher level than that registered previously.

<sup>43</sup> Most of the loans with component in Swiss francs granted to non-financial entities, account for legal entities (70.8%) and the remaining 29.2% were approved to households. Among legal entities, the biggest share of loans were granted to the wholesalers and retailers (68.0%), followed by transport enterprises (28.9%). The portfolio consisting of households, consists mostly of consumer loans with currency component in Swiss francs (95.4%), while the rest are mostly home loans.

assets and liabilities with currency component in francs accounts for about 1% of the total capital and reserves).

In January 2015, at the aggregate level, the banking system generated revenues from foreign exchange differences from positions in Swiss francs, totaling about Denar 23 million. Analyzed by individual bank, these revenues do not exceed Denar 12 million, while individual banks register some minor amounts of expenditures from foreign exchange differences from the positions in Swiss francs. The negative effects of the possible materialization of the indirect credit risk on domestic banks are marginal, given the low presence of the loans in Swiss francs.

Table 2 Classification of banks according to the share of the open foreign currency position by currency and the aggregate foreign currency position in the own funds

| Items                  | Number of banks                                |       |           |       |             |       |       |       | Aggregate currency position / own funds |
|------------------------|--|-------|-----------|-------|-------------|-------|-------|-------|---|
|                        | Open currency position by currency / own funds |       |           |       |             |       |       |       |   |
|                        | Euro   |       | US Dollar |       | Swiss franc |       | Other |       |   |
|                        | Long   | Short | Long      | Short | Long        | Short | Long  | Short |   |
| <b>under 5%</b>        | 3  | 1     | 9         | 5     | 10          | 3     | 13    | 1     | 4                                       |
| <b>from 5% to 10%</b>  | 1  |       |           |       |             |       |       |       | 1                                       |
| <b>from 10% to 20%</b> | 3  |       |           |       |             |       |       |       | 3                                       |
| <b>from 20% to 30%</b> | 6  |       |           |       |             |       |       |       | 6                                       |
| <b>over 30%</b>        |  |       |           |       |             |       |       |       |   |

Source: NBRM, based on data submitted by banks.

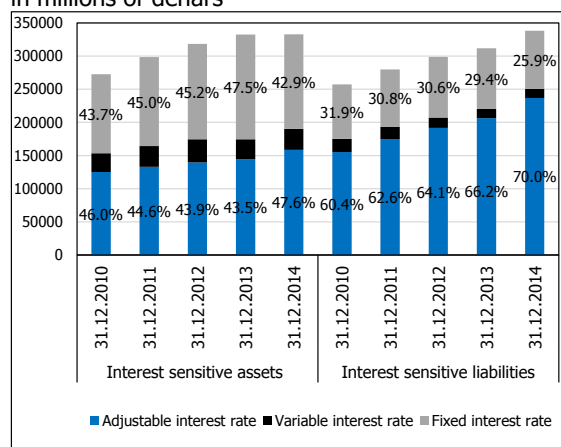
**The aggregate currency position is within the prescribed limit (30% of the own funds).**



#### 4. Interest rate risk in the banking book

The exposure of banks in the Republic of Macedonia to the interest rate risk in their banking books increased in 2014, but it is still negligible in comparison with their exposure to other risks they face throughout their operations. The ratio between the total weighted value of the banking book and own funds doubled due to increased long-term assets of banks with fixed interest rates, which for the banks imply a risk of "losing" revenues from these positions if market interest rates rise. However, this risk is almost fully offset by the broad presence of positions with interest rate that banks can unilaterally change.

Chart 48  
Structure and amount of interest sensitive assets and liabilities, by type of interest rates  
in millions of denars



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

**Interest-sensitive assets and liabilities in the banks' balance sheets as of 31.12.2014 registered an annual growth of 0.1% and 8.5% respectively, which was mostly due to the positions with adjustable interest rates<sup>44</sup>.** Positions with adjustable interest rates have increased their share in the interest-sensitive assets and liabilities as a result of the growth of loans and deposits with adjustable interest rates<sup>45</sup>.

**Second largest share in the total interest-sensitive assets and liabilities are the positions with fixed interest rate<sup>46</sup>.** Items with fixed interest rate on the part of assets registered annual decline of 9.6%, as a result of the change in the Decision on the reserve requirement<sup>47</sup>. If the effect of the reserve requirement is excluded, interest-sensitive assets with fixed interest rate increase by 9.5% due to the annual growth of loans and placements in time deposits with fixed interest rate of 15.3% and 49.9%, respectively. On the other hand, interest-sensitive liabilities with fixed interest rates declined annually by 4.2% due to the reduction of time deposits by 7.7%. **Positions**

<sup>44</sup> Adjustable interest rate - interest rate which is adjusted on the basis of a decision of the bank, rather than on the basis of a reference interest rate or index. By using the unilaterally adjustable interest rates, banks pass their own interest rate risk on their customers, and they may serve as an instrument for managing banks' liquidity and profitability.

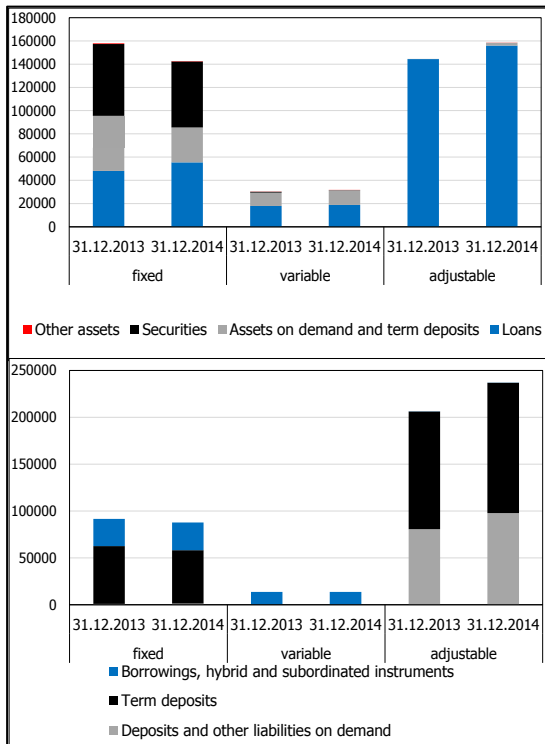
<sup>45</sup> As of 31.12.2014, loans and deposits with adjustable interest rate registered an annual growth of 8% and 10.6% respectively, and accounted for 46.9% and 44.6%, respectively in the structure of total interest-bearing assets i.e. liabilities of the banks, i.e. 98.4% and 58.7% respectively of the total balance sheet positions with adjustable interest rates.

<sup>46</sup> Fixed interest rate - interest rate which remains unchanged over the entire period, i.e. the bank has no right to change the interest rate, which is nominally set in the contract.

<sup>47</sup> With the Decision amending the Decision on the reserve requirement ("Official Gazette of R.Macedonia" no. 166/2013, starting from 1.1.2014, the NBRM is exempted from paying reserve requirement remuneration (previously, this remuneration equaled 1% for the denar reserve requirement and 0.1% for the reserve requirement in euros). Following this amendment banks no longer showed allocated reserve requirement (which is 3.1% of the total assets of the banking system) as an interest-sensitive position with a fixed interest rate.



Chart 49  
Structure and amount of interest-sensitive assets (top) and liabilities (bottom), according to the items in the balance sheet and the type of interest rates in millions of denars



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

**with variable interest rate<sup>48</sup> did not register significant changes in the past year.**

**Loans had the highest share and the highest annual growth compared to other positions in the structure of interest-sensitive assets.** What has been common in the recent years is banks' offer of housing and consumer loans with relatively low fixed interest rate for the first few years of the loan repayment<sup>49</sup>. Consequently, loans with fixed interest rate rose by 15.3%, which was mostly a contribution of the loans to households. Significant part of this growth accounts for positions with fixed interest rates in the first few years, which according to the regulations<sup>50</sup> are treated as positions with fixed interest rate. Consumer loans contributed with 73%, while housing loans with 28% to the annual growth of loans with fixed interest rates to the household sector.

Deposits prevail **in the structure of interest-sensitive liabilities**, accounting for 64.9% and 58.7% of banks' liabilities with adjustable and fixed interest rate, respectively.

<sup>48</sup> Variable interest rate - interest rate that is directly dependent on a reference interest rate (EURIBOR, SKIBOR, LIBOR, etc.) increased by a certain interest margin, according to the regulations of the bank. The change in the interest rate depends on the change in the reference interest rate, but also on the change of the established margin (mostly by unilateral decision of the bank). Interest-sensitive assets and liabilities with variable interest rate registered an annual increase of 5.1% and 0.3% respectively, and accounted for 9.5% and 4.1%, respectively of the structure of total interest-sensitive assets and liabilities.

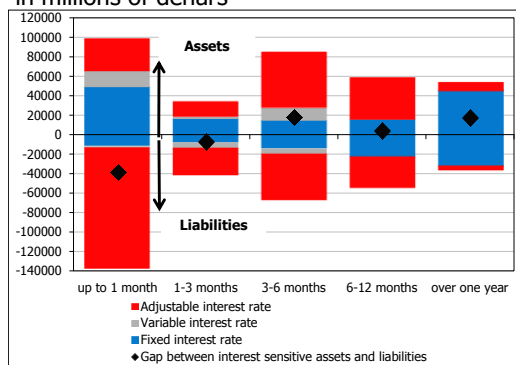
<sup>49</sup> After the expiration of the period in which the interest rate is determined as fixed, the bank may change the type of interest rate, when for most of these positions the bank would apply the interest rate determined according to the interest rate policy of the bank valid on the day of expiry of this period, i.e. these positions would become positions with adjustable interest rate.

<sup>50</sup> According to the Guidelines for Implementation of the Decision on managing the interest rate risk in the banking book ("Official Gazette of the Republic of Macedonia" no. 39/2010), the positions where the interest rate is fixed for a certain period of time rather than for the entire period until their maturity, are treated as positions with fixed interest rate. After the expiry of the period in which the interest rate is fixed, it is obliged to show these positions with the corresponding interest rate (variable or adjustable).





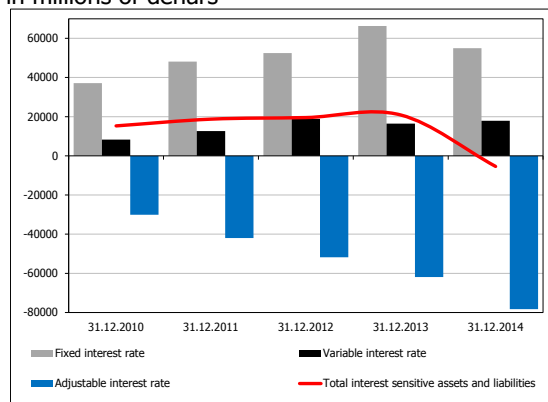
**Chart 50**  
Interest sensitive assets and liabilities, by maturity and type of interest rate in millions of denars



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

**Analyzed by maturity, adjustable interest rates play the main role in almost all maturity buckets of the interest sensitive assets and liabilities up to one year<sup>51</sup>.** Applying this type of interest rates offsets the risk to banks from changing interest rates in the banking book. In the longer term (over one year) assets and liabilities with fixed interest rate prevail. On the part of assets, it is due to the aforementioned loans in the longer term with fixed interest rate in the first few years, which according to the regulations are treated as assets with fixed interest rate in the full amount, until the expiry of this period, after which period most often they become positions with an adjustable interest rate. In the liabilities with fixed interest rates (over one year), time deposits to non-financial entities prevail.

**Chart 51**  
Gap between interest sensitive assets and liabilities, by type of interest rate in millions of denars



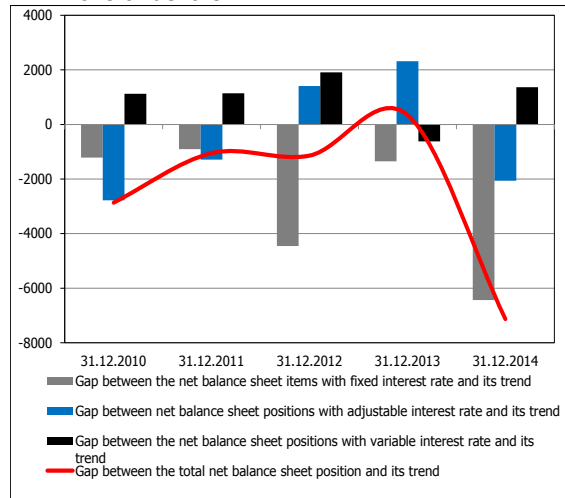
Source: NBRM, based on the data submitted by banks.

**As of 31.12.2014 the gap between interest-sensitive assets and liabilities had a negative sign for the first time in five years and amounted to Denar 5.4 million.** The negative gap is result of two factors: annual growth of 26.4% of the gap with adjustable interest rate (due to the faster growth in deposits compared to the credit growth), and reduced positive gap in the fixed interest rate by 17.2% (due to the exclusion of the allocated reserve requirement from the interest-sensitive assets). The positive gap between interest-sensitive positions with variable interest rate widened further, mainly due to the annual growth of the assets of correspondent accounts in foreign banks.

<sup>51</sup> Exception are interest sensitive assets in the maturity bucket up to one month, where the positions with fixed interest rate prevail, as a result of banks' placements in securities. In the same maturity bucket, on the liabilities side, the largest part accounts for transaction accounts, i.e. liabilities on demand with adjustable interest rate.

Chart 52

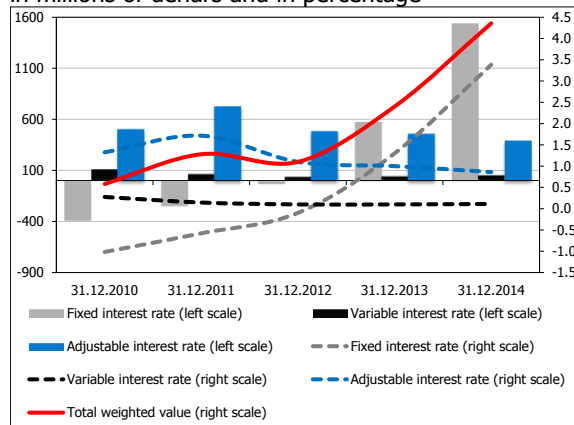
Gap between the net balance sheet items and their estimated trend, by type of interest rate  
in millions of denars



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

Chart 53

Weighted value (left scale) and total weighted value of banking book to own assets ratio (right scale), by type of interest rate  
in millions of denars and in percentage



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

**The analysis of the gap in terms of its trend<sup>52</sup> in the last five years showed that in 2014 the gap significantly increased in the "negative" direction.** This deviation from the current upward trend is due to the banks' positions with fixed interest rates, i.e. the amendment to the Decision on the reserve requirement. However, even if the effect of the reserve requirement is excluded from the analysis, there is a negative deviation of the total net balance sheet position from the calculated trend for the last five years, which is due to the net balance sheet positions with adjustable interest rate.

**In 2014, the ratio between the total weighted value of the banking book<sup>53</sup> and own funds doubled (from 2.4% at end-2013 to 4.4% at end-2014), but is well below the prescribed maximum of 20%.** The rise in this ratio is due to the annual increase in the weighted value of the banking activities (by 84.1%), which is completely due to the increase of net weighted value of the positions with fixed interest rates (which in turn is due to the growing maturity of the asset items explained in the previous text), but is also a result of the annual decrease of banks' own funds.

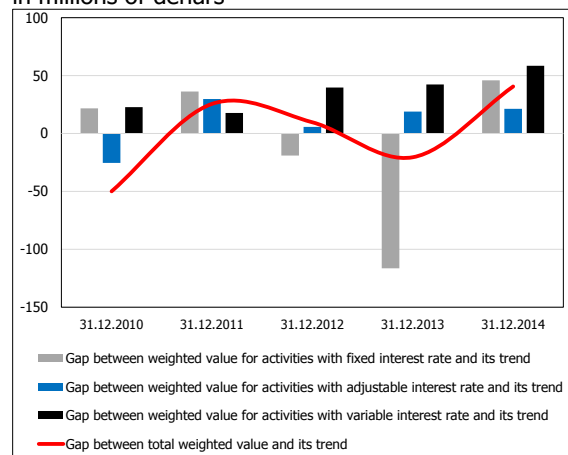
<sup>52</sup> The trend of the weighted value is calculated by using the Hodrick-Prescott filter with lambda 1600 (recommended value for quarterly data). Hodrick-Prescott filter is calculated according to a specified formula, where  $\mu_t$  is the trend,  $y_t - \mu_t$  is the cyclic component, and lambda -  $\lambda$  represents the degree of "smoothness" of the trend

$$\min \sum_{t=1}^T \{(y_t - \mu_t)^2 + ((\mu_{t+1} - \mu_t) - (\mu_t - \mu_{t-1}))^2\}$$

<sup>53</sup> The total weighted value of the banking book shows the change of the economic value of this portfolio as a result of the assessment of the change in the interest rates by using a standard interest rate shock (parallel positive or negative change in interest rates by 200 basis points). The total weighted value of the banking book of the banking system is obtained by aggregating the weighted values of the banking book of individual banks.



**Chart 54**  
 Gap between the weighted value of the banking book and its trend in millions of denars



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

**The positive gap between the amount of net weighted value of the banking book as of 31.12.2014, and the calculated trend in 2014, is mostly due to the positions with fixed interest rates due to the higher annual growth rate of the net weighted balance sheet position with fixed interest rates.** The weighted value of the banks' portfolio with fixed interest rates is mostly determined by loans with a residual maturity of 5 to 10 years<sup>54</sup>, which are weighted with higher weight when determining the weighted value.

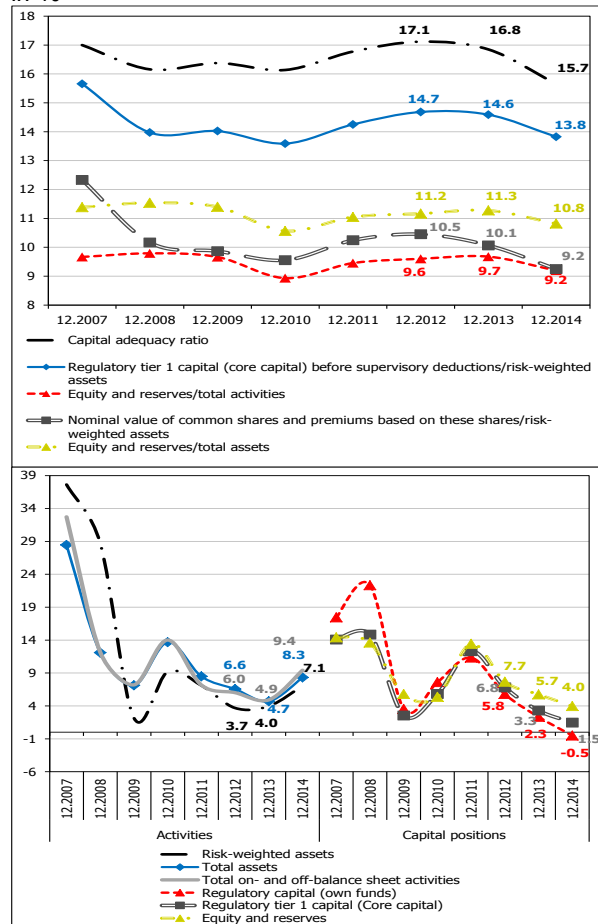
<sup>54</sup> These are loans with fixed interest rate in the first few years of the repayment of the loan, which initially are fully registered as positions with fixed interest rate, although after expiry of that period, the type of interest rate can be changed.

## 5. Insolvency risk

Stable solvent position and twice as high capital adequacy ratio are foundation of stability and resilience of the banking system of the Republic of Macedonia. In 2014, solvency and capitalization ratios of the banking system were dwindling, as a result of the reduction (under the regulation) of the amount of the subordinated instruments, as well as the slowing growth of other categories of capital positions. Moreover, the acceleration of growth of banks' activities, despite their reduced risk, created a need for higher capital requirements that were covered by engaging the banks' "free" capital, built-up in recent period. Results from the stress test indicate satisfactory resilience of the banking system, although some banks show hypothetical need for recapitalization under simulated extreme shocks.

Chart 55

Solvency indicators (up) and annual growth rates of components of the indicators (down) in %



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

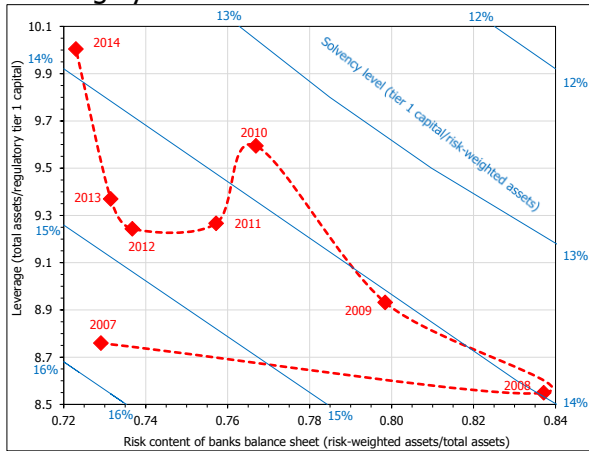
### 5.1. Solvency indicators and capitalization of the banking system and level of operational risk

In 2014, solvency and capitalization ratios of the banking system reached the pre-crisis levels recorded in 2008<sup>55</sup>. Capital adequacy ratio went down to 15.7%, but is still far above the capital requirement of 8%. The annual growth of capital positions is below the minimum registered in the last seven years and their own funds registered an annual decline for the first time in the period under observation. After years of consistent reduction of the annual growth rates, in 2014, the activities of the banking system somewhat revived, but their growth is still below the level registered in the pre-crisis period.

<sup>55</sup> In the second and the third quarter of 2008, due to enhanced bank operations, the capital adequacy ratio equaled 15.6% and 15%, respectively.

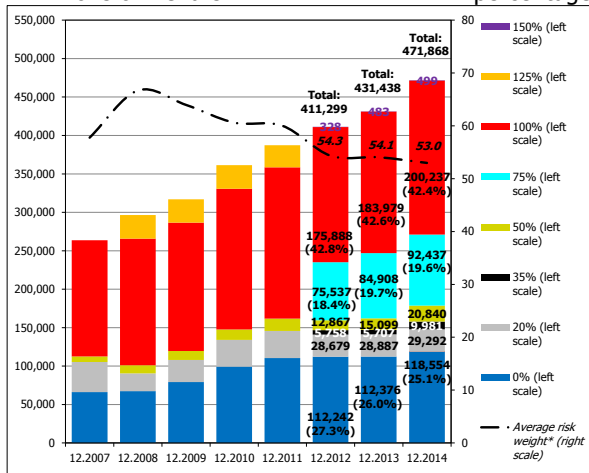


**Chart 56**  
Levels of leverage, risk and solvency of the banking system



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

**Chart 57**  
Stock and structure of total on-balance sheet and off-balance sheet, by risk weight\*\* in millions of Denars in percentage



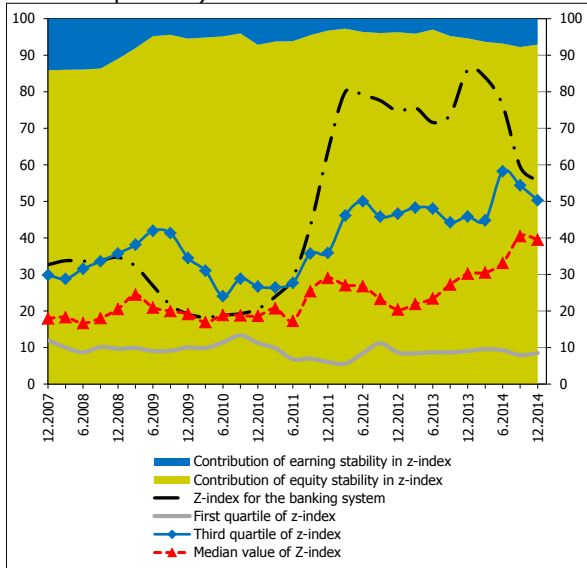
Source: NBRM, based on the data submitted by banks. Note: \* The average risk weight is calculated as a ratio between credit risk weighted assets and total on-balance and off-balance sheet exposure of the banking system.

\*\* Comparing presented data on individual dates, it should be borne in mind that in 2008, risk weight of 125% was introduced for claims on natural persons on (used and unused) overdrafts on transaction accounts and credit cards. This risk weight was in effect until 2011. In 2012, the regulation for determining capital requirements for credit risk was modified in order to apply the standardized approach of the Basel 2 Capital Accord, which, among other things, introduced several new risk weights and exposure categories.

**Upon substantial increase of bank risks in 2008, the regulatory core (tier 1) capital to risk-weighted assets ratio dropped to a new "equilibrium" level of 14%, around which it continued swinging in the next period.** As of 2008, the banking system has maintained almost stable solvency position by enhancing its activities and reducing its risk level, while gradually raising the level of leveraging. Namely, the significant credit growth in the pre-crisis period and the increased risk level of the banking activities followed a period of gradual reduction of the risk content of the banking activities (measured as risk-weighted assets to total accounting assets ratio). Simultaneously, the pace of capital positions is even slower, compared with the already slowing (and less risky) activity of the banking system, resulting in certain increase of the level of indebtedness of the banking system (measured as a ratio between assets and core capital before deductions), indicating that banks financed these activities through the deposits they received.

**The level of bank risks (measured as credit risk-weighted assets to total on-balance and off-balance sheet exposure ratio) has been steadily declining from 66.7% in 2008 to 53% at the end of 2014.** In 2014, there was a significant revival of activities which are considered riskier (100% risk weight), whose annual growth (Denar 16.3 billion, or 8.8%) is twice as high as the growth in 2013. However, activities considered to be risk-free (0% risk weight) registered a strong growth (of Denar 6.2 billion, or 5.5%), which is far above the increase achieved in 2013 (Denar 0.1 billion, or 0.1%). In addition, activities with relatively lower weights, 35% and 50%, in 2014, registered the highest percentage growth of 74.9% and 38.0%, respectively, which also contributes to lowering the average level of bank risks.

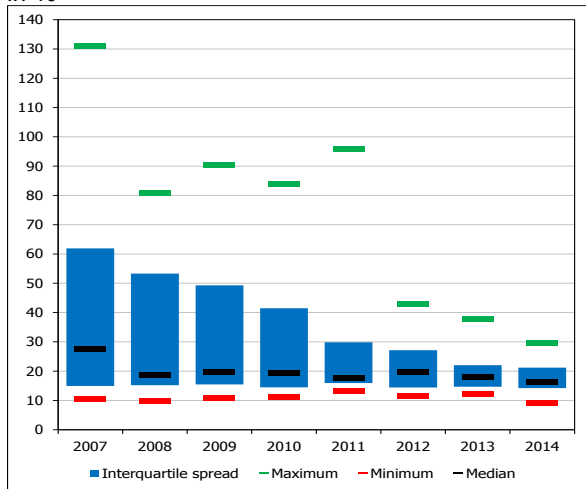
**Chart 58**  
Z-index for the banking system  
at levels (Z-index) and in % (contribution of the Z-index components)



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

Upon deterioration of the overall stability of the banking system in the period 2007-2010, as measured by the so-called **Z-index<sup>56</sup>**, it **significantly improved over the last four years**. However, upon hitting a record high in 2013, the Z-index somewhat declined in 2014, due to the lower capitalization rate of the banking system, as well as the slightly greater volatility of bank profits in 2014 (as measured through the standard deviation of the rate of return on average assets).

**Chart 59**  
Statistical measures for the capital adequacy ratio  
in %



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

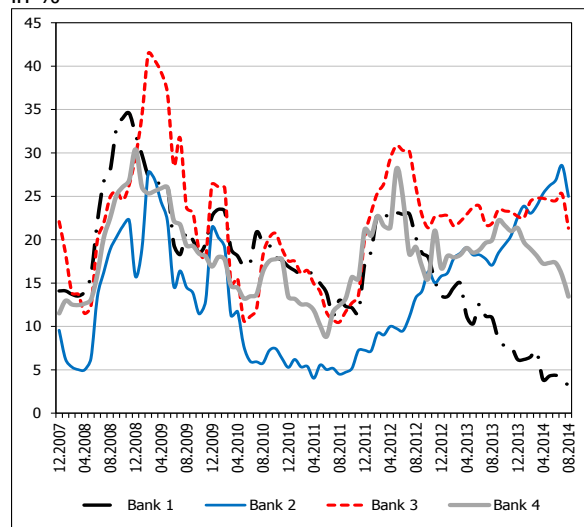
**Market consolidation and the slight raising of the level of activity of smaller banks have led to a gradual reduction of the extremely high levels of capital adequacy, reported by some of them.** Thus, over the last seven years, there has been increased convergence of domestic banks, according to the capital adequacy ratio. Namely, the difference between the bank with the highest and the bank with the lowest capital adequacy ratio declined by about 100 percentage points, the interquartile difference is smaller by almost 40 percentage points. At the same time, the minimum capital adequacy ratio registered in individual bank is relatively stable, ranging between 10% and 12%.

<sup>56</sup> 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. This measure combines several indicators: banks' performance indicator, banks' profitability indicator (ROA), bank risk indicator ( $\sigma(ROA)$ ) and 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 represents 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 a logarithmic form (natural logarithm of the previously given formula), but it is easier to interpret and more indicative when presented in levels.



Chart 60

Cost (price) of capital\* for the four largest banks in the system  
in %

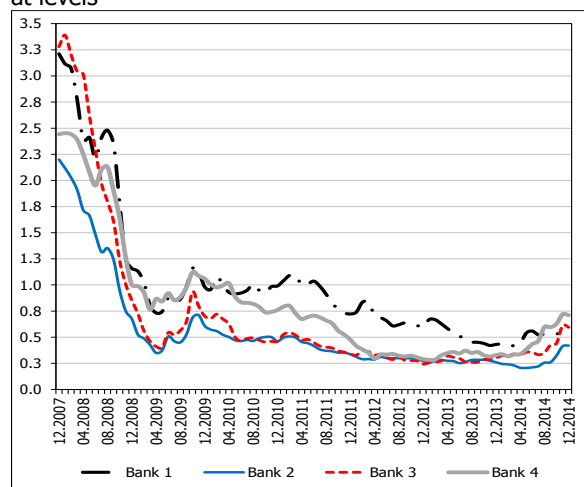


Source: NBRM, based on the data submitted by banks.

\* Note: Estimated as an average of capital cost determined using two capital pricing methods: Capital-Asset Pricing Model (CAPM) and Earnings Yield (EY). By applying CAPM, the cost of capital is determined as the sum of the risk free rate of return and the product of beta coefficient for the share and the difference between the market rate of return and risk free rate of return. When applying EY, the cost of capital is determined as the ratio between the profit per share and the market price of the share. Banks are numbered randomly.

Chart 61

Price-to-book ratio for the four largest banks in the system  
at levels



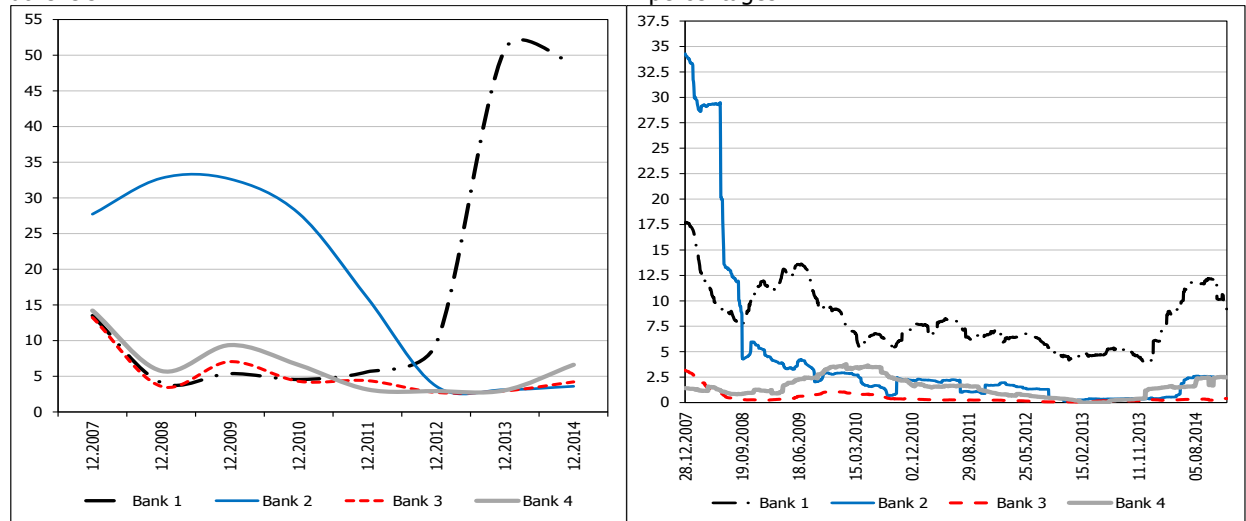
Source: NBRM, based on the data submitted by banks.

Substantial revival of domestic capital market in the pre-crisis period, starting from end-2007 followed by a period of gradual "burst" of speculative price bubbles accompanied by a weaker interest of investors to trade in shares and subsequently, reduced stock turnover. Such developments also hit bank shares traded on the Macedonian Stock Exchange, whose market prices were significantly corrected downward. **Thus, at the end of 2014, the market price of shares of the four largest banks in the system were down 20% to 50% of their book value per share, and investors in shares of these banks, with the exception of one bank, were willing to pay only about 5 denars for every denar profit per share** (by comparison, at the end of 2007, market prices of shares in these four banks were by 2 or 3 times higher than the book value per share, and investors were willing to pay up to 25 denars for every denar profit per share). **Cost of capital (required rate of return by investors in the shares of banks) decreased in 2014 in two of the four banks under observation, and in one of them, it came closer to the annual yield to maturity of bonds listed on the Macedonian Stock Exchange.** However, conclusions from the analysis of market indicators for the cost of banks' capital should be accepted with caution, given the (under)development of domestic capital market and its relatively low liquidity (both in depth and in breadth), and the fact that three of the four largest banks in the system are owned by dominant owners who hold significant share of the total number of issued shares and are not interested in trading in these shares. Thus, except in the case of one of the analyzed banks, where, in 2014, more than 10% of its total issued shares were traded, in the case of the other (three) banks, in the same period, barely 2.5% of their total issued shares were subject of trading.



Chart 62

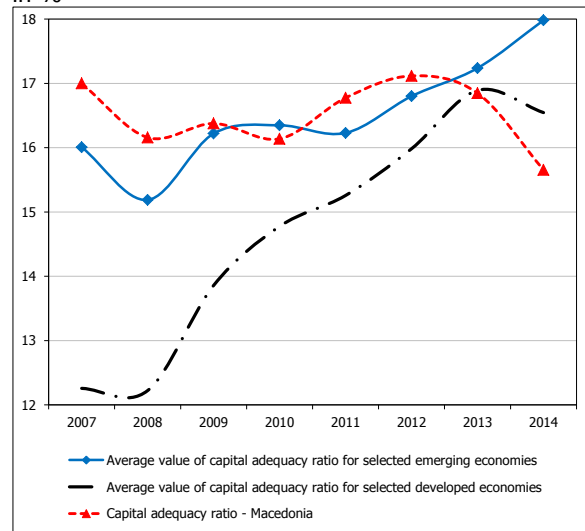
Price-to-earnings per share (left) and percentage of the total number of issued shares traded over the recent one-year period (right), for the four largest banks in the system at levels



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

Chart 63

Average capital adequacy ratio for selected developed and emerging economies, for the period 2007-2014 in %



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

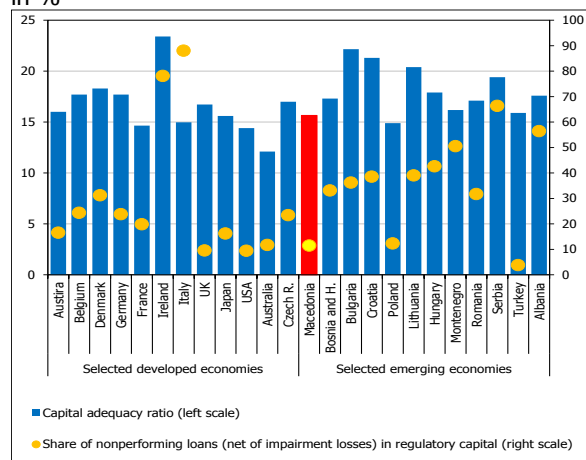
**The capital adequacy ratio of the Macedonian banking system is higher than the banking systems of five (France, Italy, USA, Japan and Australia) of the twelve developed economies under observation and the banking system of one (Poland) of the twelve selected emerging economies.**

However, the analysis would be incomplete if it does not take into account the significantly higher level of conservativeness of the Macedonian banks when determining the level of impairment for non-performing loans, which is one of the highest compared with the banking systems of the twenty-four countries under observation. Thus, compared to the Macedonian banking system, only three (the United States, the United Kingdom and Turkey) of the total number of selected countries have a lower share of non-provisioned non-performing loans in the regulatory capital.

According to this indicator, comparatively, the Macedonian banks significantly improved, especially with regard to the banking systems of emerging economies, where domestic supervisory and regulatory authorities tend to be quite restrained when requiring from their domestic banks to comply with certain stringent regulations



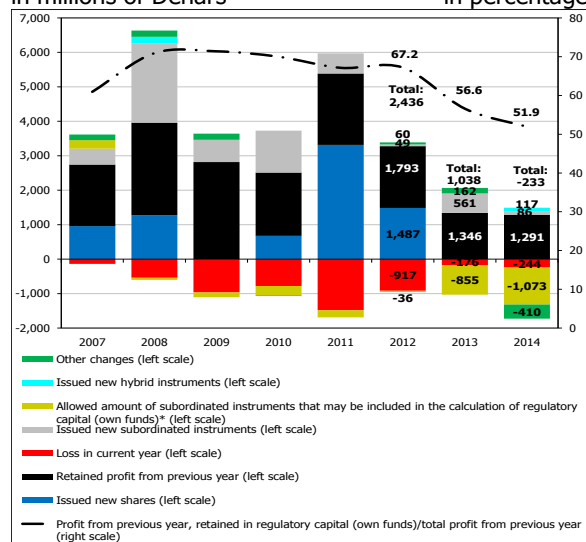
**Chart 64**  
Capital adequacy ratio for selected developed and emerging economies, for 2014 in %



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

\* Note: Data on share of non-performing loans (net of impairment) in own funds of the banking systems of Germany, Ireland, the United Kingdom, Bulgaria and Albania refer to 2013.

**Chart 65**  
Structure of annual changes in regulatory capital in millions of Denars in percentage



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

Note: \* Refers to the changes in the amount of already issued subordinated instruments arising from the compliance/non-compliance with the regulatory rules for inclusion of these instruments in the calculation of own funds.

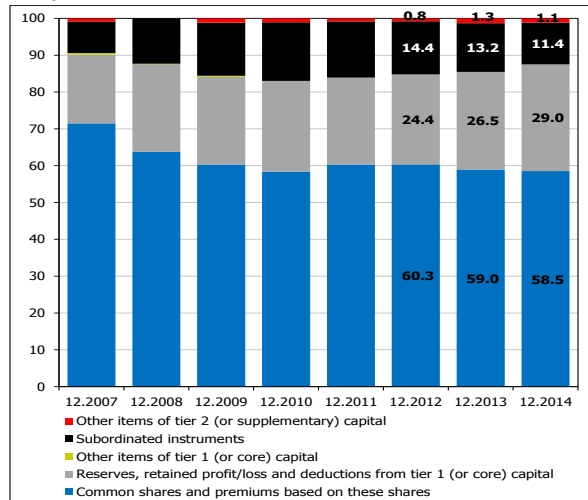
in this area, which if fulfilled, would probably cause solvency problems in some of the banks. Namely, banks originating from emerging economies faced the global financial crisis with relatively stronger solvency ratios compared with the banking systems of developed countries. However, the substantial impairment to their credit portfolios and the limited opportunities for new recapitalizations in the crisis period "ate-up" capital and deteriorated solvency positions. In contrast, the banks originating from developed countries faced the global financial crisis with lower capital adequacy ratios, followed by a period of their recapitalization (with massive financial support by their domicile countries), reduced scope of activities and accordingly, strengthening of solvency positions. These developments brought the average levels of capital adequacy of the banking systems of emerging countries closer to those of the banking systems of developed countries.

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

**In 2014, the own funds of the banking system recorded an annual decline of Denar 233 million (0.5%), which is mostly caused by the reduction in the allowable amount of subordinated instruments included in the calculation of additional capital in some banks<sup>57</sup>.** Reinvesting profits generated the previous year, issuing new shares and new subordinated instruments have been the most important sources of increasing own funds in the last seven years. Retained earnings in equity funds of banks is the most stable source of increasing own funds, although in the last three years, its contribution to the growth of own funds has declined, mostly because of the fact that banks reinvest profits with a status of "profit available for distribution to shareholders" which prohibits its inclusion in the banks' own funds. New share issues are also a significant source for increasing own funds, but they have been completely absent

<sup>57</sup> These are subordinated instruments, which entered the last five years to maturity, which, under the regulations, are included at discounted value in the calculation of own funds.

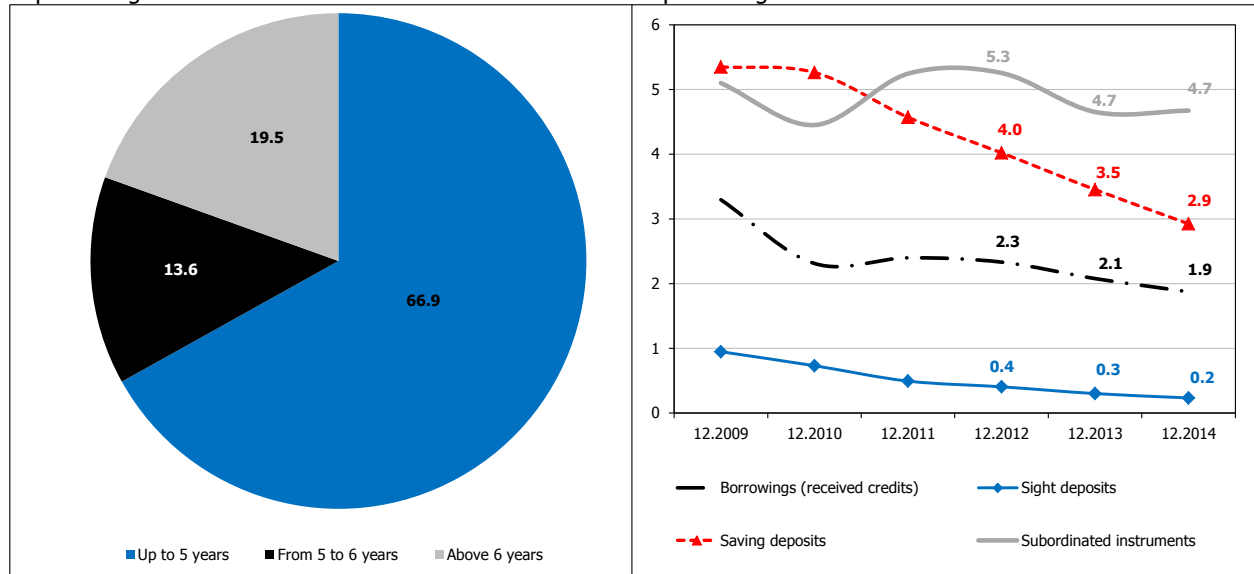
**Chart 66**  
Structure of own funds before deductions from core capital and supplementary capital in %



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

in the last two years, as well as in 2009, when the consequences of the global financial crisis were most severe. Issuing new subordinated instruments has been a regular practice in the last seven-year period, but they create liabilities that banks have to pay as agreed<sup>58</sup>, at a price (interest rate) that is usually higher compared to other sources of funding. Furthermore, according to the regulations, after subordinated instruments enter in the last five years to maturity, they are included at discounted value in the calculation of own funds and accordingly, their amount is reduced, before they fall due. The latter was particularly pronounced in 2014, and determined most of the annual decline of own funds of the banking system.

**Chart 67**  
Structure of banks' liabilities based on subordinated instruments, by residual period to maturity (left) and rate of interest expenses\* for individual types of sources of financing (right) in percentages



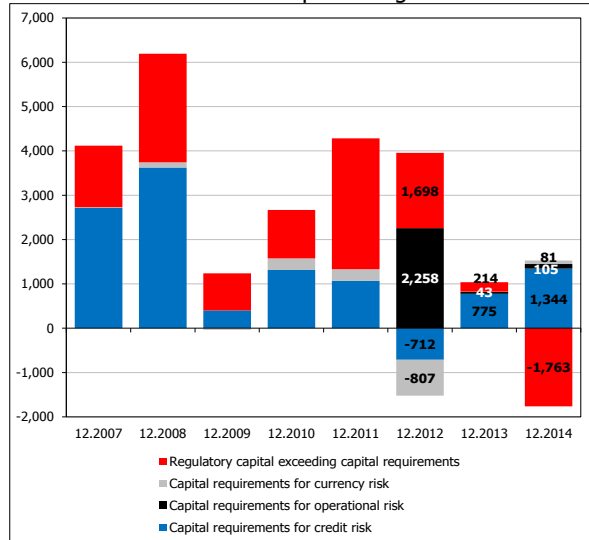
Source: NBRM, based on the data submitted by banks.

\* Note: The interest expenses rate is calculated as a ratio between the amount of interest expenses realized in the last four quarters (the cumulative flow of interest expenses realized in the last four quarters) and the average amount of sources of funds, calculated as an average of the their stock in the last five quarters.

<sup>58</sup> Subordinated instruments can not be paid or redeemed by the bank before the maturity date (maturity must be longer than five years and one day), except when converted into ordinary and non-cumulative preferred shares of the bank or in hybrid instruments in the bank (any payment / return of hybrid instrument requires approval from the National Bank).

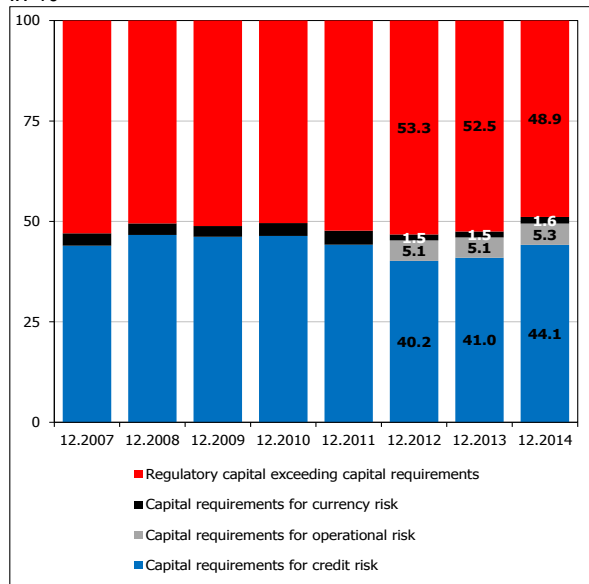


**Chart 68**  
Structure of annual changes of regulatory capital according to usage for covering risks in millions of denars and in percentage



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

**Chart 69**  
Structure of own funds according to the use for covering risks in %



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

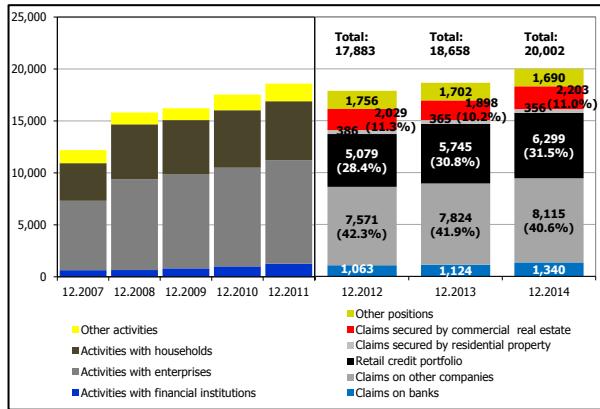
The share of core capital in total own funds before deductions of the core and additional capital has decreased by about 3 percentage points in the last seven years. However, the share of this high-quality capital in total own funds is still significant, amounting to 87.5% at the end of 2014.

More details about the level of own funds of individual groups of banks are presented in Annex 36.

### 5.3. Developments and structure of capital requirements and available capital of the banking system

After the significant growth of capital requirements for credit risk, 2007 and 2008 witnessed a buildup of "free" capital by banks, which was used in 2013 and especially in 2014, in environment of revival of banks' credit activity. Capital requirements for currency risk have changed insignificantly in the last seven years, and after introducing capital requirement for operational risk, in 2012, it registered no significant changes. **In 2014, the capital requirement for covering risks increased by Denar 1,529 million or 7.1%. The new capital requirements were covered by the "free" capital of the banking system, and its amount reduced because of the annual fall in total own funds of the banks.** About 88% of the increased capital requirements for covering risks result from the increased capital requirement for credit risk, which mostly results from the growth of retail credit portfolio and higher amount of claims collateralized with commercial properties. Despite the use of part of the "free" banking system capital for financing new capital requirements for covering risks, own funds above the minimum capital requirement for covering risks continue to have the highest share in total own funds, although this share dropped below 50% for the first time in the last seven years and equaled 48.9%, as of 31 December 2014.

**Chart 70**  
Amount and structure of capital requirements for credit risk, by category of exposure\* in millions of denars



Source: NBRM, based on the data submitted by banks.  
Note: \* In 2012, the regulations for determining capital requirements for credit risk was changed, upon application of the standardized approach of the Basel 2 Capital Accord, which, among other things, changed certain categories of exposure subject to capital requirements for credit risk.

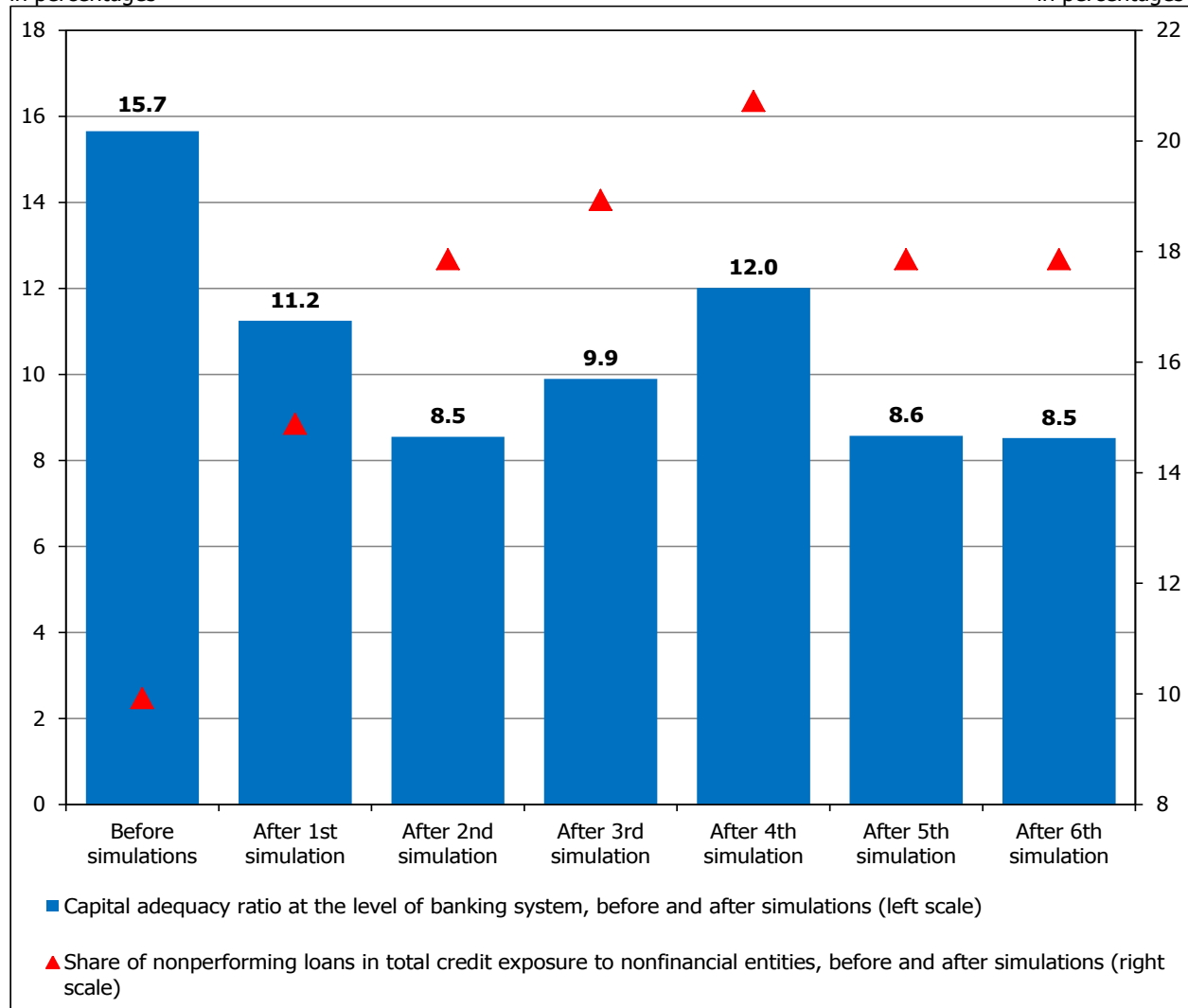
For more details on capital requirements for covering risks and capital adequacy ratio, by group of banks, see Annex 37.

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

**Stress testing shows satisfactory resilience of the banking system to simulated shocks. Thus, capital adequacy of the banking system does not drop below 8% in any of the simulations, although some banks show a hypothetical need for recapitalization under simulated extreme shocks.** Hypothetical shocks on the side of credit risk have the greatest impact on the stability of the banking system. Within the credit exposure to non-financial entities, the simulations show that the capital adequacy of the banking system would drop to the capital requirement of 8% only if non-performing credit exposure rises by 85.8%, i.e. in case of migration of 12.9% from regular to non-performing credit exposure<sup>59</sup>. These simulations would bring about almost double share of non-performing in total credit exposure to non-financial entities (from the current 9.9% to 18.4%). However, these are rather extreme and less likely simulations, especially in the short run.

<sup>59</sup> By comparison, in the second quarter of 2009, only 2.1% of regular credit exposure to non-financial entities received a non-performing status, which is a record high in the last six years. During 2014, this proportion was highest in the second quarter, when only 1.7% of regular credit exposure to nonfinancial entities passed in exposure to non-performing status.

Chart 71  
Results from simulations of credit and combined shocks, as of 31 December 2014  
in percentages



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

\*Stress testing includes the following simulations:

I simulation: Increasing the non-performing credit exposure to non-financial entities by 50%;

II simulation: Increasing the non-performing credit exposure to non-financial entities by 80%;

III simulation: Migration of 10% of the regular to a non-performing credit exposure to non-financial entities;

IV simulation: Reclassification in "C - non-performing" of the five largest credit exposures to non-financial entities (including related entities);

V simulation: Increasing the non-performing credit exposure to non-financial entities by 80% and increase in interest rates from 1 to 5 pp.;

VI simulation: Increasing the non-performing credit exposure to non-financial entities by 80%, depreciation of the Denar exchange rate by 30%, and increase in interest rates from 1 to 5 pp.;

\*\*Note: Credit exposure to non-financial entities includes the total credit exposure less exposure of banks to financial institutions and the government, i.e. to clients from financial and insurance sectors and public administration and defense and compulsory social security sectors



**Structural features  
major balance sheet changes and profitability of the  
banking system**



### III. Structure of the banking system

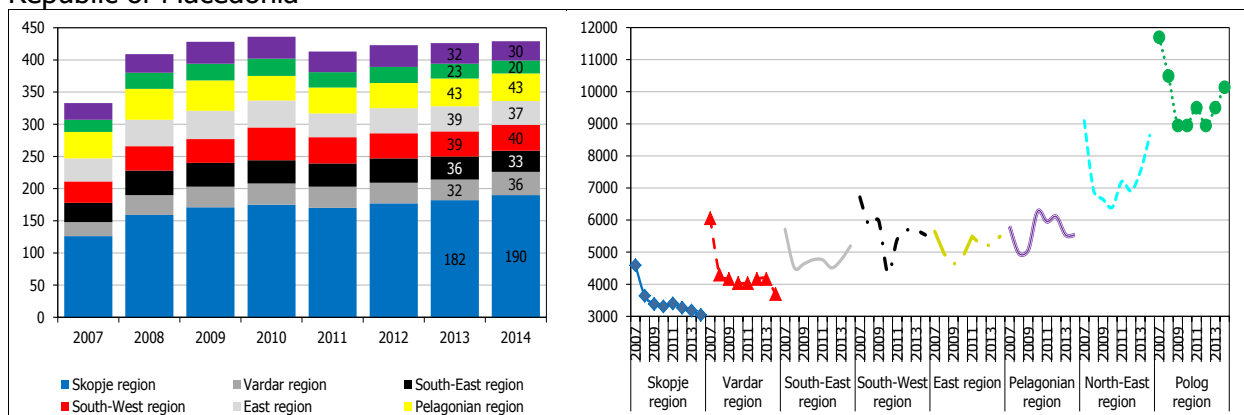
#### 1. Access to banking services

As of 31 December 2014, the banking system in the Republic of Macedonia was composed of fifteen banks and four savings houses. The number of banks decreased by one<sup>60</sup>, while the number of savings houses remained the same as in the previous year<sup>61</sup>. The analysis of savings houses is not included in this report due to their insignificant share in the banking system.<sup>62</sup>

The banking network is comprised of 429 business units spread across almost all cities in the Republic of Macedonia.<sup>63</sup> Compared with the previous year, this number increased by three business units (thirteen new business units were opened, and ten business units were closed). The business units are concentrated in the Skopje area, which further increased by new eight units. Compared with other areas, this area still offers the best access to banking services, as measured by the number of inhabitants per business unit.

Chart 72

Bank network\* (left) and number of inhabitants per business unit (right), by region in the Republic of Macedonia



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

\* The calculation does not include banks' windows.

<sup>60</sup> On 30 June 2014, the Central Registry of the Republic of Macedonia adopted a Decision on the registration of a status change - acquisition of Post Bank AD Skopje by Eurostandard Banka AD Skopje.

<sup>61</sup> Upon completion of the procedure for transforming the savings house Al Kosa AD Stip into financial company, in the first quarter of 2015, the number of savings houses reduced by one.

<sup>62</sup> The share of the savings houses accounts for only 0.7% of total assets of the depository financial institutions (banks and savings houses), 0.9% of total loans and 0.3% of total deposits of natural persons in Denars and in Denars with FX clause.

<sup>63</sup> The number of business units includes the headquarters of banks, but excludes banks' windows.

**Table 3**  
Comparative indicators on number of residents per credit institution and per business unit of banks

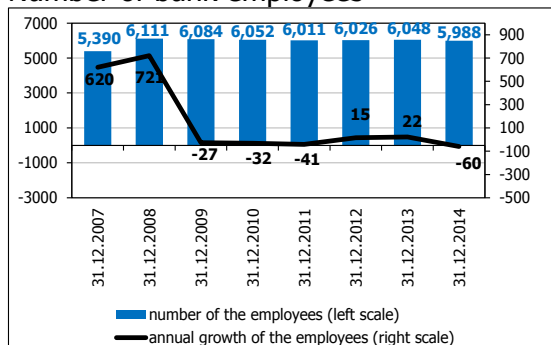
| Country                | Number of citizens by bank | Country                | Number of inhabitants per business unit by banks |
|------------------------|----------------------------|------------------------|--|
| Luxembourg             | 3,714                      | Cyprus                 | 1,258  |
| Austria                | 12,032                     | Spain                  | 1,380  |
| Cyprus                 | 15,053                     | France                 | 1,739  |
| Malta                  | 15,755                     | Portugal               | 1,742  |
| Lithuania              | 33,073                     | Italy                  | 1,914  |
| Latvia                 | 33,923                     | Bulgaria               | 1,922  |
| Estonia                | 35,563                     | Austria                | 1,955  |
| Germany                | 44,672                     | Germany                | 2,234  |
| Denmark                | 47,288                     | Poland                 | 2,456  |
| Hungary                | 52,261                     | Luxembourg             | 2,581  |
| Poland                 | 55,991                     | Belgium                | 2,997  |
| Montenegro             | 56,491                     | Hungary                | 3,043  |
| Sweden                 | 60,660                     | Slovenia               | 3,272  |
| Portugal               | 69,515                     | Croatia                | 3,481  |
| Netherlands            | 77,199                     | Greece                 | 3,536  |
| Slovenia               | 85,879                     | Romania                | 3,632  |
| Italy                  | 90,720                     | Malta                  | 3,867  |
| Belgium                | 108,777                    | Serbia                 | 3,886  |
| France                 | 132,733                    | Slovakia               | 4,312  |
| <b>Macedonia</b>       | <b>137,718</b>             | Denmark                | 4,480  |
| Croatia                | 141,560                    | Lithuania              | 4,487  |
| Albania                | 180,997                    | <b>Macedonia</b>       | <b>4,815</b>                                     |
| Czech Republic         | 187,722                    | Sweden                 | 4,886  |
| Slovakia               | 193,427                    | Czech Republic         | 4,924  |
| Spain                  | 205,806                    | Albania                | 5,474  |
| Bosnia and Herzegovina | 225,348                    | Latvia                 | 5,835  |
| Serbia                 | 246,440                    | Netherlands            | 7,773  |
| Bulgaria               | 258,774                    | Estonia                | 9,399  |
| Greece                 | 274,815                    | Montenegro             | n.a.   |
| Romania                | 511,470                    | Bosnia and Herzegovina | n.a.   |

Source: The NBRM, www.dbresearch.com, websites of the European Union, the World Bank, the Bank of Albania, (Supervision Annual Report 2013), the Croatian National Bank, (Bank Bulletin), BSCEE (Review 2013), the National Bank of Serbia (Banking sector in Serbia - Report on the Third Quarter of 2014).

\*Note: Data on Macedonia are as of 31 December 2014, on Serbia as of 30 September 2014, and on other countries, they are as of 31 December 2013.

**The bank network in the banking system in Macedonia is underdeveloped compared to the majority countries under observation.** Also, the number of residents served by a bank places Macedonia in the second half of this list. However, this indicator is better compared to some of the countries in the region (except Montenegro and Slovenia).

**Chart 73**  
Number of bank employees



Source: NBRM, based on data submitted by banks.

## 2. Employment in the banking system

In 2014, the number of bank employees decreased by 60, mainly due to the decrease that was faster<sup>64</sup> than the new increase<sup>65</sup> of employees.

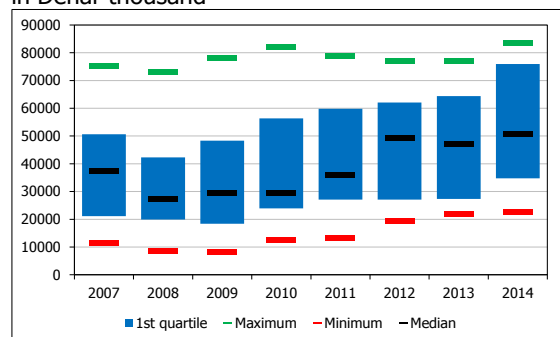
**Banking system productivity has been improving.** In the last seven years, assets have increased seven times faster compared to the number of employees. However, the differences between banks in terms of their productivity have increased in the last seven years, which is perceived by almost continual

<sup>64</sup> The largest decrease was registered in one large bank (by 78 employees), mainly due to retirement and one middle-size bank (by 72 employees), due to the decrease of operating costs.

<sup>65</sup> More pronounced growth of employees was registered in one large bank (by 25) and two middle-size banks (by 26 and 25, respectively)



Chart 74  
Assets per employee\*  
in Denar thousand



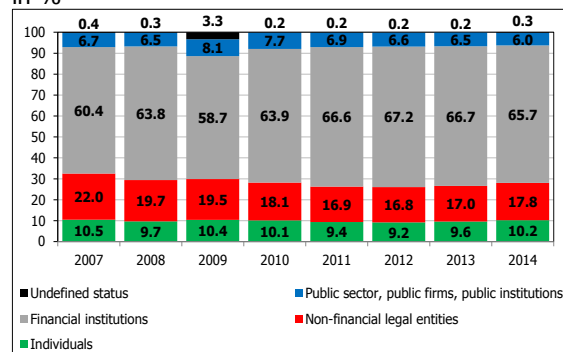
Source: NBRM, based on data submitted by banks. The MBDP is not included in the analysis due to the type of its operations.

expansion of the range between the first and third quartile of the assets per employee ratio.

Qualification structure of employees in the banking system continues improving, where the share of employees with at least university education increased by 3.4 percentage points to 72.7% (Annex 4).

### 3. Ownership structure of the banking system

Chart 75  
Ownership structure of ordinary shares in the banking system  
in %



Source: NBRM, based on data submitted by banks.

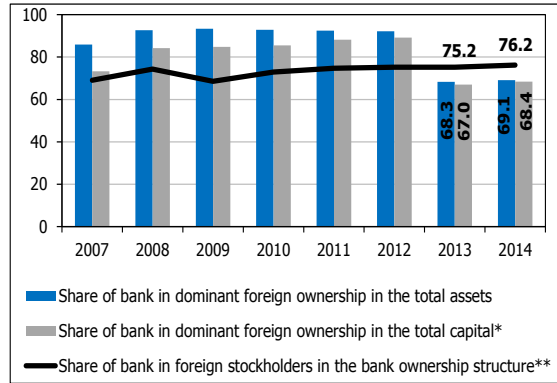
**Financial institutions hold most of the ordinary shares of the banks**, despite the structural changes as of 31 December 2014. The total nominal value of ordinary shares of the banking system dropped by Denar 425 million, because of the acquisition of one bank owned by a domestic bank and the government<sup>66</sup>. This caused the percentage of ordinary shares held by financial institutions and public sector in the total nominal value of ordinary shares of the banking system to drop by 1.0 and 0.5 percentage points, respectively, which in turn brought about greater holding of ordinary shares by non-financial legal entities and natural persons. One bank converted the preference shares into ordinary shares without any significant effect on the ownership structure of ordinary shares. After the conversion, preference (non-cumulative) shares are no longer present in the capital of the banking system.<sup>67</sup>

<sup>66</sup> It concerns acquisition of Post Bank AD Skopje by Eurostandard Banka AD Skopje, which was preceded by the purchase of the state's share in the Post Bank by Eurostandard Banka (on 24 January 2014, through a public auction conducted on the Macedonian Stock Exchange), whereby Eurostandard Banka AD Skopje became full owner of Post Bank.

<sup>67</sup> Banks hold preference cumulative shares that are treated as bank liabilities, composing a part of supplementary capital of the capital requirement.

Chart 76

Banks' market share in dominant foreign ownership and trend of foreign capital share in total capital in %



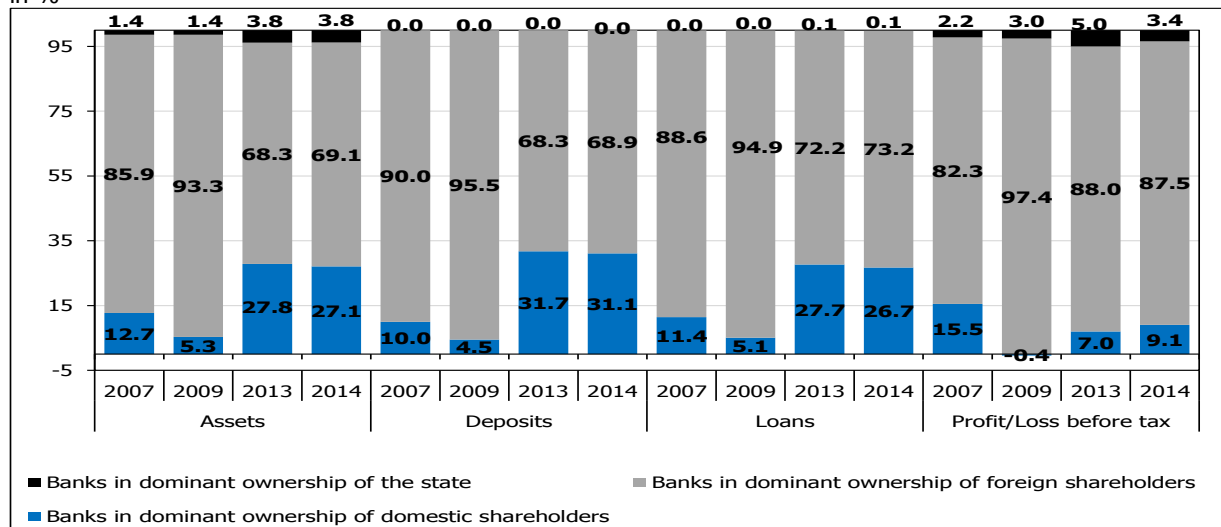
Source: NBRM, based on data submitted by banks.  
 \* Capital and reserves comprise the share capital and premiums based on paid-in shares, reserve fund, retained earnings (accumulated loss) and revaluation reserves. Capital and reserves were reduced by current loss.  
 \*\*Equity includes face value of paid-in common and preference shares.

**The share of foreign capital in total equity increased compared to the pre-crisis period (2007) by 7.1 percentage points, mostly due to the entry of foreign strategic investors in two domestic banks in 2008.** In 2014, the growth resulted from the abovementioned acquisition of one bank in dominant domestic ownership by another bank in dominant foreign ownership.

**These changes further increased the already prevailing share of banks in dominant foreign ownership in the most relevant balance sheet positions of the banking system.**

Chart 77

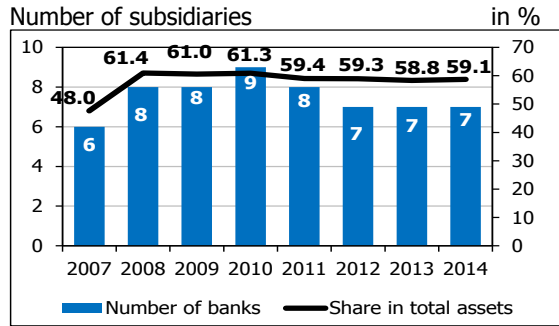
Structure of major banks' balance sheet positions, by banks' majority ownership in %



Source: NBRM, based on data submitted by banks.  
 Note: The share equity is presented in the figure 5.



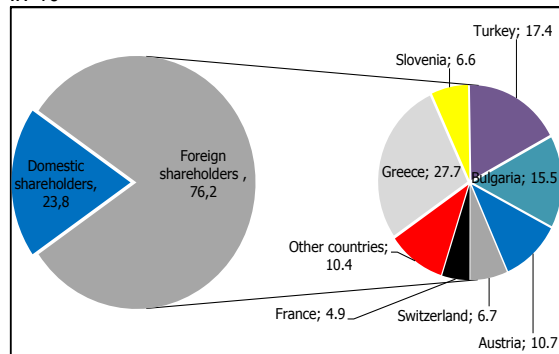
**Chart 78**  
Foreign bank subsidiaries' market share (assets)



Source: NBRM, based on data submitted by banks.

**Market share of foreign bank subsidiaries increased insignificantly compared to previous year, and their number remained the same (seven).**

**Chart 79**  
Banks' equity structure, by country of origin of the predominant shareholder in %

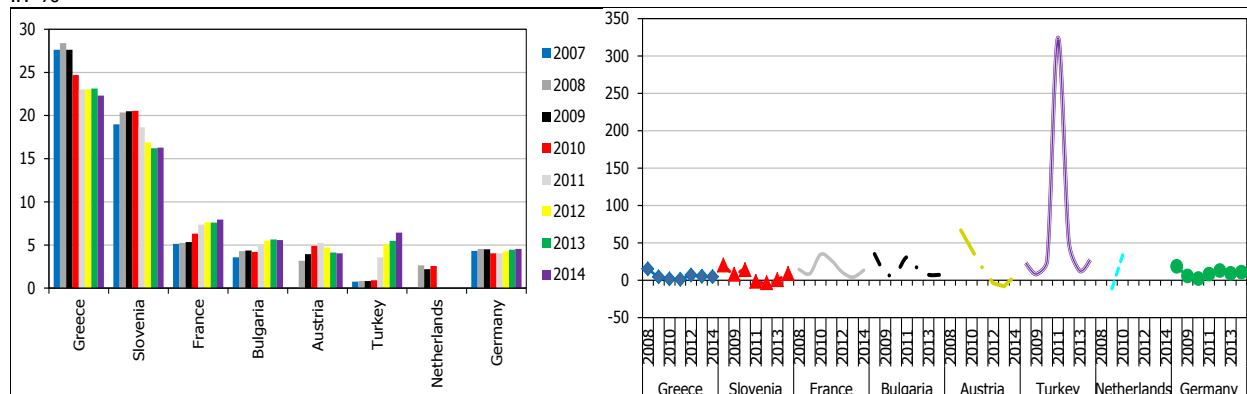


Source: NBRM, based on data submitted by banks.

**Observing the shareholders' country of origin, small structural changes occurred compared to previous year.**

The share of equity originating from Slovenia in the total foreign equity decreased by 0.5 percentage points due to the withdrawal of Slovenian foreign institutional investors from the banking system of the Republic of Macedonia, while the share of capital originating from Greece and Bulgaria rose by 0.2 percentage points each.

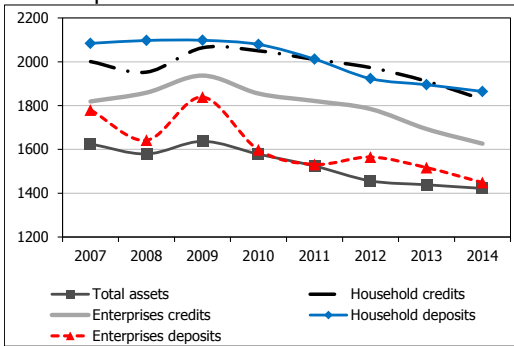
**Chart 80**  
Market share (assets) of banks (left) and growth rate of banks' assets (right), by country of origin of the predominant foreign shareholder\* in %



Source: NBRM, based on data submitted by banks.

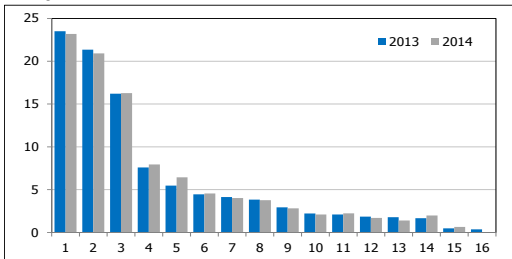
\*The bank in domestic ownership and banks without major owner are not included in the chart.

**Chart 81**  
Herfindahl index  
in index points



Source: NBRM, based on data submitted by banks.

**Chart 82**  
Share of individual banks in the total assets of the banking system\*  
in %



Source: NBRM, based on data submitted by banks.

In 2014, one bank ceased existing as a legal entity due to its acquisition by another bank.

In recent years, the market share of banks with majority Greek and Slovenian ownership has decreased due to the slower growth of assets of the respective banks compared to the faster growth of assets of other banks. The market share of the bank with majority Turkish ownership has increased, while the capital from the Netherlands is no longer present<sup>68</sup>. Changes in market shares of banks with dominant ownership of other countries are insignificant.

Although **concentration has been decreasing** in the last seven years as measured by the Herfindahl index, yet, this household loan to deposit ratio is still slightly above the acceptable limit.

The three largest banks make up almost two thirds of the total assets of the banking system, while individually, the share of each bank in total assets of the banking system ranges from 0.6% for the smallest bank to 23.2% for the largest bank in the system.

<sup>68</sup> In 2011, a shareholder from Turkey who is majority owner of Ziraat Bank AD Skopje purchased shares from the shareholder from the Netherlands in Halk Bank AD Skopje, thus becoming majority owner of that bank. In 2012, Ziraat Bank ceased existing as a legal entity since it was acquired by Halk Bank AD Skopje.



#### IV. Banks' activities

In 2014, domestic banks' activities were influenced by the solid growth of domestic economy and the real sector recovery. In such conditions, the growth of banks' deposit base and credit support for the real sector accelerated, which was also underpinned by the improved perceptions of domestic banks for the risk profile of credit demand, the monetary easing and the nonstandard measures on the credit support to the private sector, as well as by changes in credit strategies of some of the banking groups operating in the country. Amid assessments for boost of economic growth and absence of price pressures, according to the National Bank's projections, there are expectations for further strengthening of the credit support to non-financial sector and growth of deposits as the main funding source for banking activities. Still, we need to take into consideration any risks of weaker recovery of the external environment to the creation of additional deposit potential and to the banks' activity in the credit market. In 2014, banks increased investments in longer-term liquid securities and expressed an increased interest for investing in foreign banks and deposit facilities (in Denars) with the National Bank. Enhanced denarization of the banking activities has continued.

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

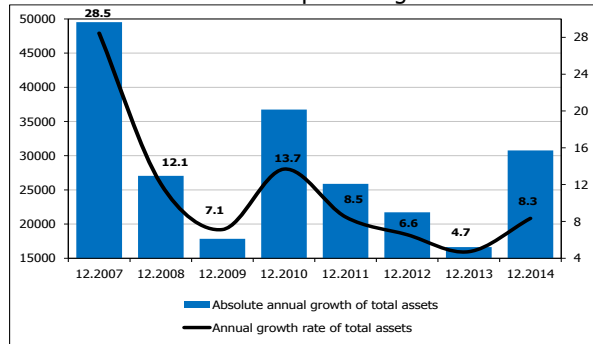
| Balance sheet   | Amounts in millions of Denars |                | Structure (in percent) |              | Change 12.2014/12.2013 |            |
|---|-------------------------------|----------------|------------------------|--------------|------------------------|------------|
|   | 31.12.2013                    | 31.12.2014     | 31.12.2013             | 31.12.2014   | In millions of Denars  | In percent |
| Cash and balances with MBRM   | 38,783                        | 50,137         | 10.5                   | 12.5         | 11,354                 | 29.3       |
| Securities portfolio  | 63,767                        | 58,614         | 17.3                   | 14.6         | -5,153                 | -8.1       |
| Placements with banks and other financial institutions (net)                              | 44,442                        | 49,940         | 12.0                   | 12.5         | 5,498                  | 12.4       |
| <i>Gross placements with banks and other financial institutions</i>                       | 44,623                        | 50,030         | 12.1                   | 12.5         | 5,407                  | 12.1       |
| <i>Accumulated amortization of placements with banks and other financial institutions</i> | -4                            | -3             | 0.0                    | 0.0          | 1                      | -29.5      |
| <i>Impairment (provisions) of placements with banks and other financial institutions</i>  | -177                          | -86            | 0.0                    | 0.0          | 90                     | -51.1      |
| Loans of nonfinancial entities (net)  | 201,835                       | 222,145        | 54.6                   | 55.5         | 20,310                 | 10.1       |
| <i>Gross loans to nonfinancial entities</i>   | 230,132                       | 252,967        | 62.3                   | 63.2         | 22,835                 | 9.9        |
| <i>Accumulated amortization of loans to nonfinancial entities</i>                         | -935                          | -803           | 0.0                    | 0.0          | 132                    | -14.1      |
| <i>Impairment (provisions) of loans to nonfinancial entities</i>                          | -27,362                       | -30,019        | 0.0                    | 0.0          | 2,657                  | -9.7       |
| Accrued interest and other assets   | 9,209                         | 7,680          | 2.5                    | 1.9          | -1,529                 | -16.6      |
| Fixed assets  | 11,469                        | 11,764         | 3.1                    | 2.9          | 295                    | 2.6        |
| Unallocated loan loss provisions  | 0                             | 0              | 0.0                    | 0.0          | 0                      | 0.0        |
| <b>Total assets</b>   | <b>369,505</b>                | <b>400,281</b> | <b>100.0</b>           | <b>100.0</b> | <b>30,776</b>          | <b>8.3</b> |
| Deposits of banks and other financial institutions  | 17,143                        | 16,603         | 4.6                    | 4.1          | -540                   | -3.1       |
| Deposits of nonfinancial entities   | 259,299                       | 286,979        | 70.2                   | 71.7         | 27,680                 | 10.7       |
| Borrowings (short-term and long-term)   | 34,910                        | 35,120         | 9.4                    | 8.8          | 210                    | 0.6        |
| Liability component of hybrid and subordinated instruments                                | 7,991                         | 8,032          | 2.2                    | 2.0          | 41                     | 0.5        |
| Other liabilities   | 7,591                         | 9,329          | 2.1                    | 2.3          | 1,738                  | 22.9       |
| Provisions for off-balance sheet items  | 913                           | 909            | 0.2                    | 0.2          | -4                     | -0.4       |
| Capital and reserves  | 41,657                        | 43,309         | 11.3                   | 10.8         | 1,652                  | 4.0        |
| <b>Total liabilities</b>  | <b>369,505</b>                | <b>400,281</b> | <b>100.0</b>           | <b>100.0</b> | <b>30,776</b>          | <b>8.3</b> |

Source: NBRM, based on the 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.

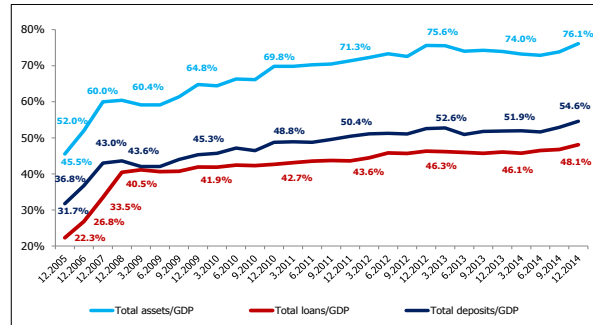


**Chart 83**  
Annual change of assets of the banking system  
in millions of denars and in percentage



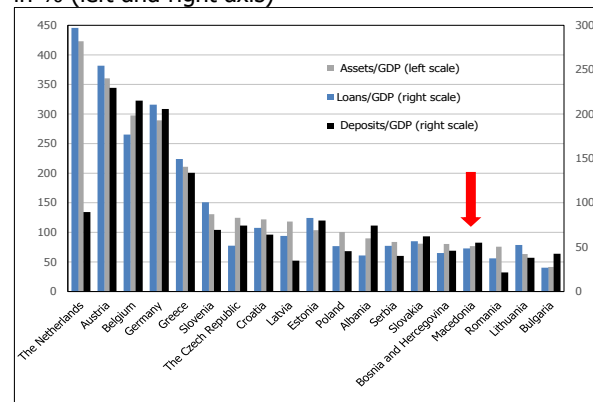
Source: NBRM, based on the data submitted by banks.

**Chart 84**  
Financial intermediation in the Republic of Macedonia  
in %



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

**Chart 85**  
Financial intermediation, by country  
in % (left and right axis)



Source: NBRM, based on data submitted by banks and websites of central banks of the countries under observation.

Note: Data for the Republic of Macedonia and Albania are as of 31 December 2014, while for the other analyzed countries as of 31 December 2013.

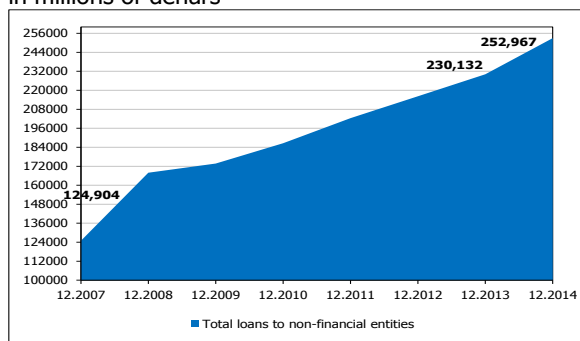
**As of 31 December 2014, the total assets of the banking system amounted to Denar 400,281 million.** In 2014, the annual growth rate of assets reached 8.3% after slowing down in the previous three years. It is almost doubled compared to the growth rate in 2013. The annual dynamics of banking activities was mostly fueled by the deposits of non-financial entities, which grew at a faster pace compared to loans. Other significant changes in assets are attributable to the faster growth of funds<sup>69</sup>, increased investments in banks and other financial institutions and decreased investments in liquid short-term securities, i.e. treasury bills.

**The significance of domestic banking system for economic activity has grown steadily. Although the bank activities constitute a significant share of GDP, yet, there is room for further strengthening of financial intermediation.** Compared to most EU countries under observation, financial intermediation in the Republic of Macedonia is lower, but similar to the level in the countries of the region.

<sup>69</sup> Faster annual growth of cash (by Denar 11,354 million) largely reflects increased banks' placements in deposit facilities with the National Bank, and less the increased balances on transaction accounts of banks with the National Bank.

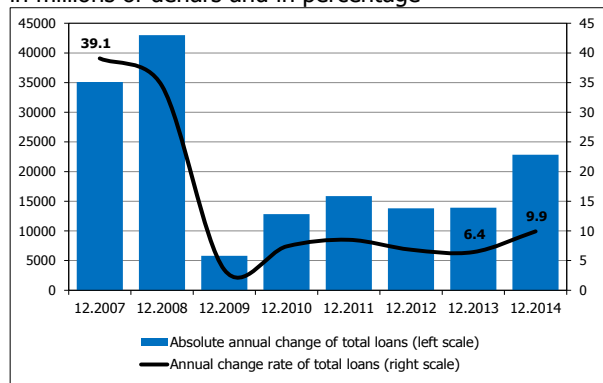


Chart 86 Stock of loans to non-financial entities  
in millions of denars



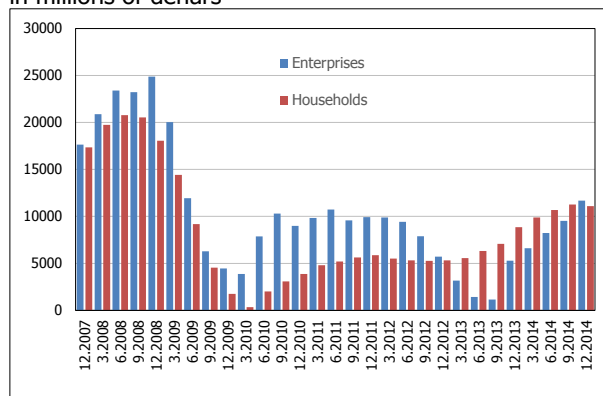
Source: NBRM, based on the data submitted by banks.

Chart 87 Annual growth of loans to non-financial entities  
in millions of denars and in percentage



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

Chart 88 Annual growth of loans to non-financial entities, by sector  
in millions of denars



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

## 1. Loans to non-financial entities

**In 2014, credit support by banks to non-financial sector<sup>70</sup> grew rapidly.** Loans to non-financial entities<sup>71</sup> registered a significant annual increase of Denar 22,835 million, while the annual growth rate accelerated by 3.5 percentage points to 9.9%. **Credit growth acceleration was more pronounced in the corporate sector** whose annual growth rate was almost twice as high as the growth rate in 2013.

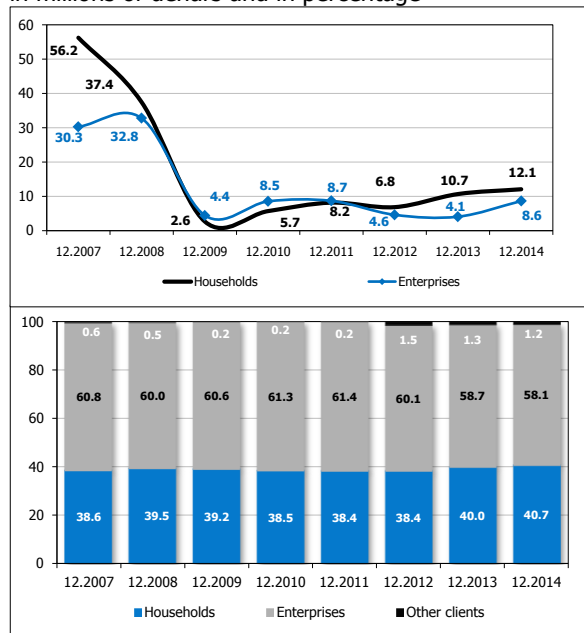
In times of crisis (2009 in particular), the pace of lending was hit by the downward trend of domestic economic activity and uncertainty about the implications of the international financial crisis on overall economic trends and operations of domestic banks. Changes in banks' terms of lending, as a prudent response to the deteriorating economic conditions, changes in credit strategies of some banking groups present in the country, and tightening of monetary conditions and macro-prudential measures in the area of reserve requirement taken by the National Bank, all had their effect. In the years that followed (2010-2013), the growth of credit activity continued at an average annual growth rate of 7.3%.

**In 2014, the shifts in lending activity point to a gradual improvement in the expectations of domestic banks for the risks surrounding non-financial entities. Annual changes by quarter show a gradual strengthening of credit support, including the corporate sector.** In the last quarter of the year, growth of corporate loans exceeded that of households. Amid favorable economic environment, the growth of lending to private sector is expected to further accelerate in 2015 and 2016, which, according to the October

<sup>70</sup> Loans to non-financial entities include loans to resident and non-resident non-financial entities, including loans to private and public non-financial companies (corporate loans), central government, local government, non-profit institutions serving households (loans to other clients), sole proprietors and natural persons (loans to households).

<sup>71</sup> Analyzing by individual bank, fourteen banks reported an annual increase of loans to non-financial entities (ranging from 2.5% to 49.7% for individual bank), while only one bank reported an annual decrease of loans to non-financial entities (of 11.0%).

**Chart 89**  
Annual change (up) and structure (down) of loans to non-financial entities, by sector in millions of denars and in percentage



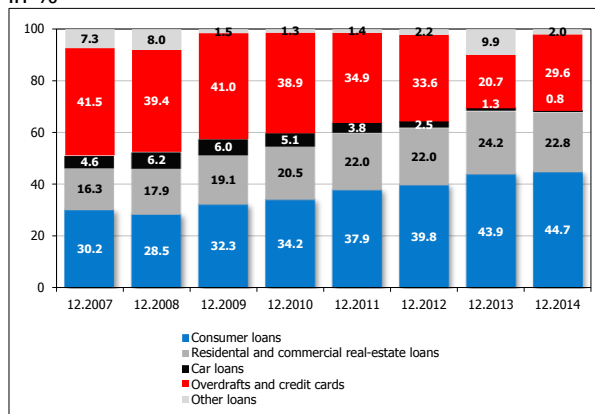
Source: NBRM, based on the data submitted by banks.

projections of the National Bank, will reach 9% and 10%, respectively.

**Observed by sector, loans to the corporate sector contributed 51.1% to the credit growth in 2014** (Annex 11). Lending to the corporate sector increased by Denar 11,673 million annually and registered an annual growth rate that is twice as high or 4.5 percentage points, as the growth in the previous two years. Construction, and wholesale and retail trade sectors made the greatest contribution to the growth of lending to the corporate sector in 2014.

The annual growth of **loans to households** also accelerated to Denar 11,095 million (or 12.1%), contributing 48.6% to the growth of total loans. Consumer loans and loans for the purchase and renovation of residential and commercial properties are the most widely used credit products in this sector (Annex 11).

**Chart 90**  
Structure of loans to households, by product in %



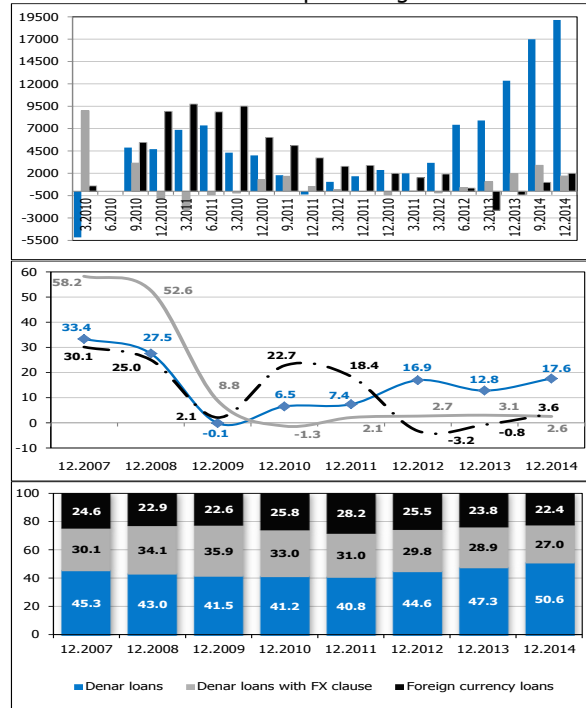
Source: NBRM, based on the data submitted by banks.

**Denarization of bank lending has continued. In 2014, credit growth largely (83.9%) resulted from increased lending in local currency.** Denar loans registered a significant increase of Denar 19,155 million (or 17.6%), which accelerated by 4.8 percentage points compared to 2013.



Chart 91

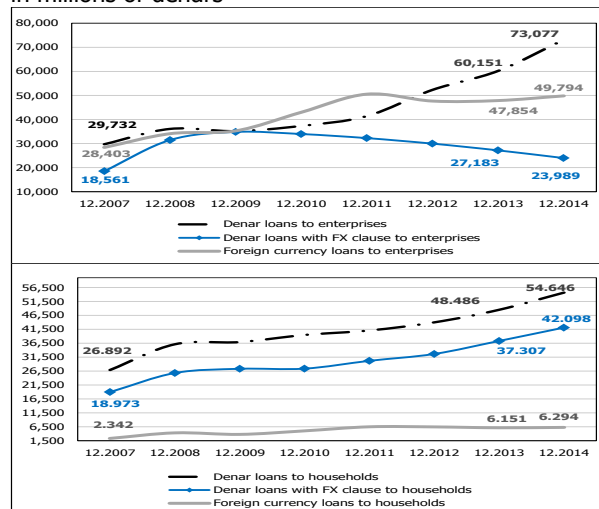
Annual absolute growth (up) and relative growth (middle) and structure (down) of loans to non-financial entities, by currency in millions of denars and in percentage



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

Chart 92

Credit, by currency, to corporate (up) and household (down) sectors in millions of denars



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

**The annual growth rate of Denar loans with FX clause and foreign currency loans are roughly six times smaller than the growth of loans in domestic currency.** Enhanced denarization of loans during 2014 was the most pronounced in loans to the corporate sector, whose contribution to the growth of Denar loans was twice as high (67.5%) as that of households (32.2%). This also reflects the continuous upward trend of Denar loans to the corporate sector in the past five years, compared to the opposite trend of Denar loans with FX clause and foreign currency loans to corporations.

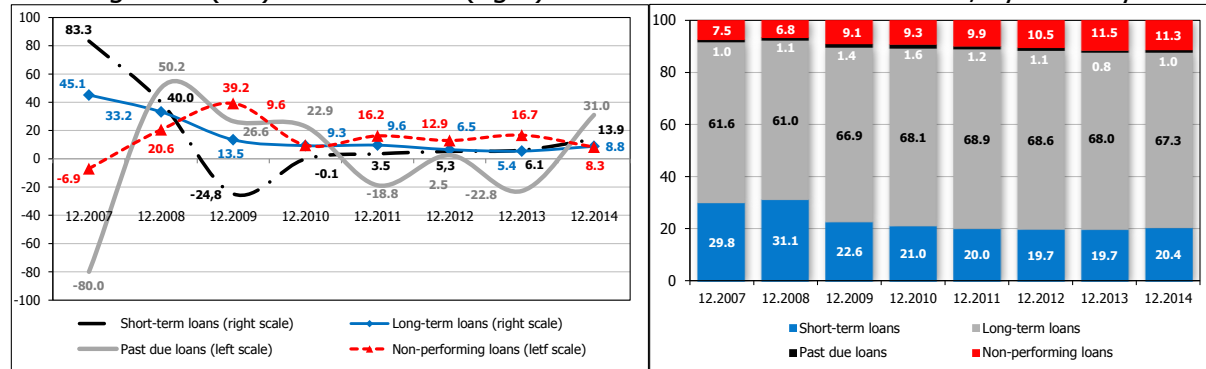
**Long-term lending dominates the structure of total loans.** In 2014, long-term loans registered an accelerated growth of Denar 13,778 million (or 8.8%), making the largest contribution (60.3%) to the growth of total credit activity. The growth of long-term loans for the most part (75.3%) came from the household sector<sup>72</sup>.

<sup>72</sup> Long-term loans to households go up by Denar 10,370 million annually, mainly due to the growth of long-term Denar loans to households (Denar 5,432 million) and less to the growth of long-term Denar loans with FX clause to households (Denar 4,750 million).

The growth of short-term loans, which amounted to Denar 6,276 million, or 13.9%, was primarily (91.9%) due to the Denar loans to corporations.

Chart 93

Annual growth (left) and structure (right) of loans to non-financial entities, by maturity



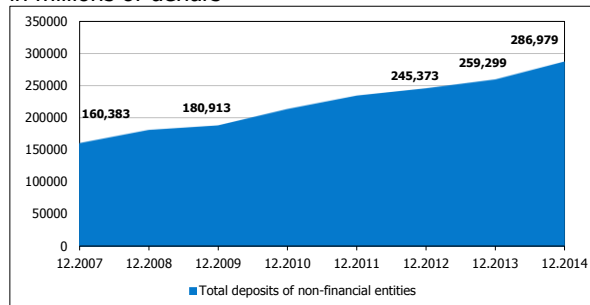
Source: NBRM, based on the data submitted by banks.

The annual growth rate of non-performing<sup>73</sup> loans equaled 8.3%, which is twice as low as in 2013.

## 2. Deposits of non-financial entities

Chart 94

Deposits in millions of denars



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

**In 2014, deposits<sup>74</sup> of nonfinancial entities grew at an accelerated pace and reached an annual growth rate of 10.7%, which is almost two times higher than in 2013.** According to the October projections of the National Bank, deposits are expected to grow at a similar rate in the next two years. Deposit potential of domestic banks remained stable, and a main source of funding their activities even in years when the financial crisis reached its zenith in the international markets.

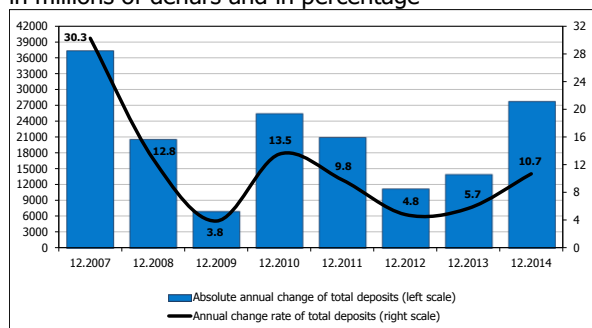
**The increase of banks' deposit potential in 2014 was largely (61.2%) supported by the growth of household deposits,** which amounted to Denar 16,933 million (or 8.9%). The annual growth rate of household deposits accelerated by 2.3 percentage points.

<sup>73</sup> For more details see section III.1 Credit risk.

<sup>74</sup> Analyzing by individual bank, thirteen banks reported an annual increase of deposits of non-financial entities (ranging from 2.0% to 41.5%, by bank), whereas one bank reported a quarterly reduction of deposits of 8.5%.



Chart 95  
Annual growth of deposits of non-financial entities  
in millions of denars and in percentage



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

**Corporate deposits** increased by Denar 9,893 million (or 16.3%) annually. The annual growth rate of corporate deposits substantially accelerated (by 13.1 percentage points). It is five times higher than in 2013, reaching a record high in the last six years.

**The propensity of depositors to save in domestic currency continued in 2014.**

Denar deposits registered a significant annual growth of Denar 22,741 million (or 16.1%), making the largest contribution (82.2%) to the growth of total deposit base. As of 2010, Denar deposits have registered higher growth rates compared to the Denar deposits with FX clause and foreign currency deposits. Fundamentals of this process include public confidence in the domestic currency and domestic monetary policy as well as lowered confidence in the euro due to the turmoil in the euro area, both in the real and the financial sector. Appropriate incentive to the denarization is provided by the higher interest rates on deposits denominated in domestic currency, as well as the differentiated reserve requirement rates depending on the currency of the deposits.

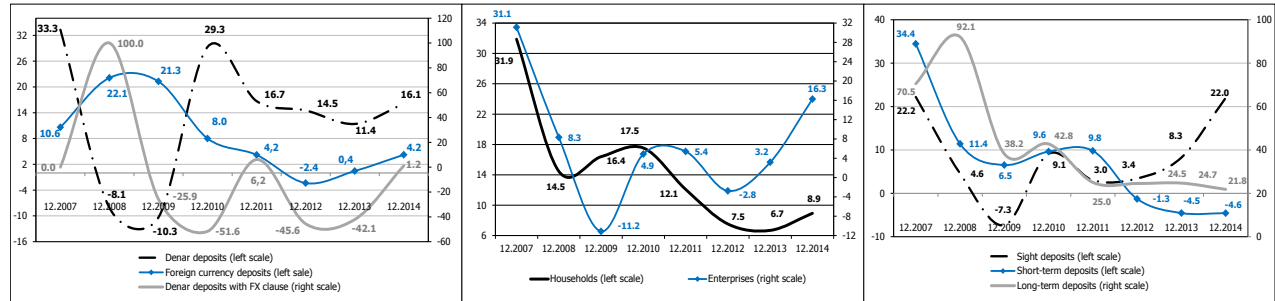
**Household deposits determine most of the growth of total Denar deposits (or 57.9% in 2014), but the denarization was more pronounced in corporate deposits.**

Namely, the growth of corporate deposits<sup>75</sup> almost entirely (96.0%) stems from the growth of Denar deposits<sup>76</sup>. Analyzing households, Denar deposits and foreign currency deposits contributed 77.7% and 22.3%, respectively, to the annual growth of deposits of this sector (Annex 16). Foreign currency deposits went up annually by Denar 4,922 million (or 4.2%), which for the most part (76.7%) came from household deposits. The share of Denar deposits with FX clause is trivial.

<sup>75</sup> Annual growth of Denar corporate deposits amounted to Denar 9,494 million (or 22.3%) and mostly (83.6%) came from demand deposits.

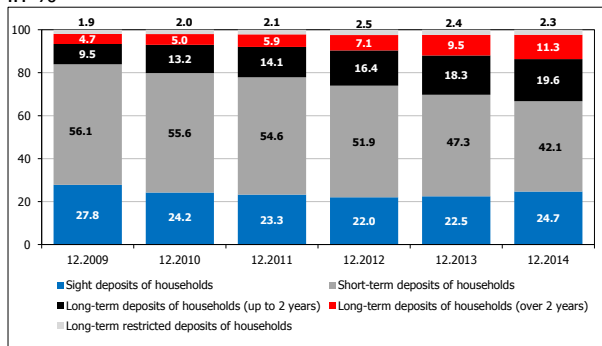
<sup>76</sup> Annual growth of Denar household deposits amounted to Denar 13,157 (or 14.0%), which primarily (56.7%) came from long-term deposits and less (46.1%) from demand deposits.

**Chart 96**  
Annual growth of deposits, by currency, sector and maturity  
in %



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

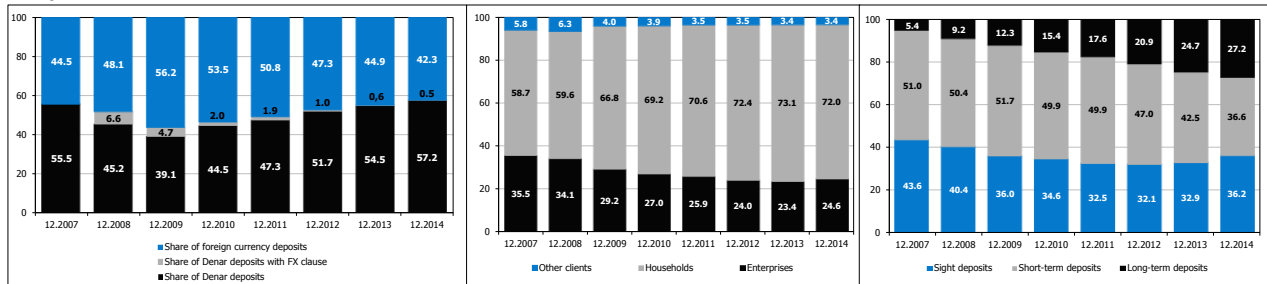
**Chart 97**  
Maturity structure of household deposits  
in %



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

**Last six years have witnessed continuous extension of the maturity of banks' deposit base, primarily due to the growth of household deposits** (with maturity of up to and over two years). This is certainly associated with the higher interest rates on long-term deposits, driven, among other things, by the structure of reserve requirement rates (as of August 2013, 0% reserve requirement rate applies on natural persons' deposits in national currency with contractual maturity of over two years). Namely, in 2014, long-term household savings<sup>77</sup> in domestic currency made the greatest contribution to the growth of long-term deposits, which increased by Denar 13,960 million (or 21.8%).

**Chart 98**  
Deposit structure, by currency, sector and maturity  
in %



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

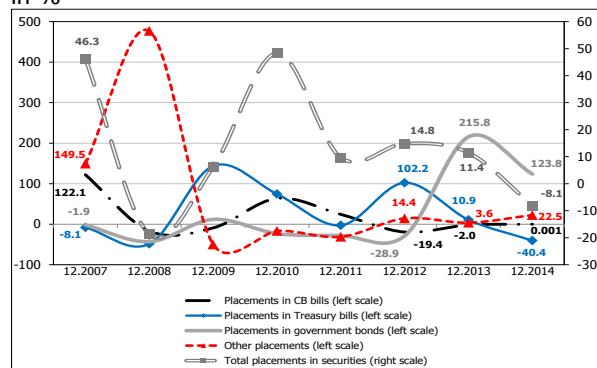
However, demand deposits, with annual growth of Denar 18,747 million (or 22.0%), made the greatest contribution (67.7%) to the growth

<sup>77</sup> Household long-term Denar deposits contributed with 53.4% to the growth in long-term deposits, while the contribution of household long-term foreign currency deposits stood at 27.5%.



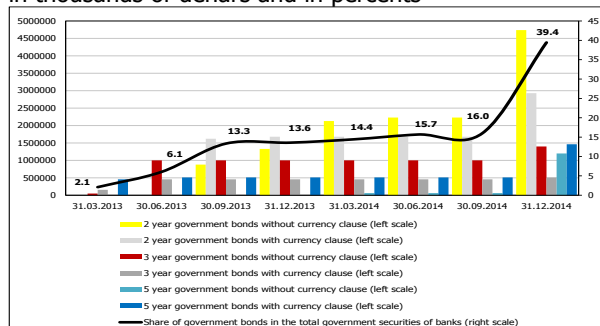


Chart 99  
Annual growth of the securities portfolio  
in %



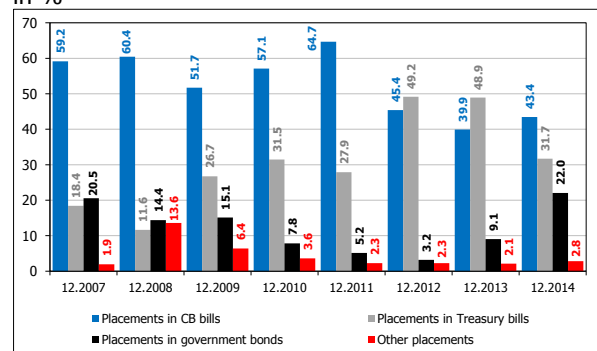
Source: NBRM, based on the data submitted by banks.

Chart 100  
Structure of banks' investments in continuous  
government bonds, by currency and maturity  
(in nominal terms)  
in thousands of denars and in percents



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

Chart 101  
Structure of securities portfolio  
in %



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

of total deposit base in terms of maturity<sup>78</sup>. The contribution of corporate and household sectors to the growth of demand deposits accounted for 51.8% and 44.2%, respectively.

Short-term deposits have registered a negative growth rate for three consecutive years.

### 3. Other activities

In 2014, the banks' securities portfolio decreased by Denar 5,152 million (or 8.1%) as a result of significantly reduced banks' investments in treasury bills (by Denar 12,599 million, or 40.4%). Banks have shifted most of the investments in treasury bills to investments in longer-term government bonds (mainly in two-year Denar government bonds with FX clause). On annual basis, total banks' investments in government bonds increased by Denar 7,146 million (or 123.8%). The structural share of continuous government bonds in the nominal value of government securities portfolio equaled 39.4%, which is by 25.9 percentage points more compared to the previous year. As a result, the share of investments in short-term treasury bills decreased at the expense of the higher share of investments in long-term government bonds.

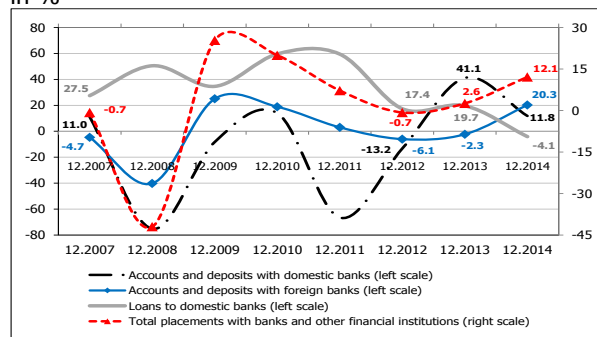
Banks' investments in CB bills registered no changes given the unchanged supply and interest rate on CB bills.

Along with the increased denarization in core banking activities (collecting deposits and granting loans), **banks increased their**

<sup>78</sup> Nearly half of the demand deposit growth in 2014 took place in December.

Chart 102

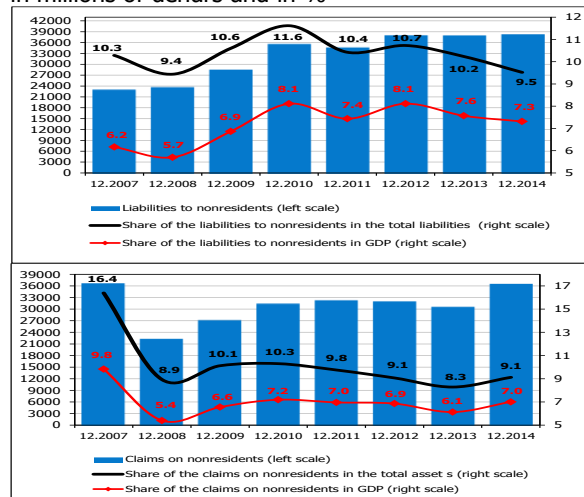
Placements with banks and other financial institutions (annual growth) in %



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

Chart 103

Liabilities to (up) and claims on (down) non-residents in millions of denars and in %



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

**investments in foreign currency in foreign banks.** Total accounts and deposits with foreign banks registered an annual increase of Denar 5,973 million, or 20.3%<sup>79</sup>.

**A decrease was also registered in loans<sup>80</sup> to domestic banks and short-term liabilities on loans from domestic banks<sup>81</sup>.**

**Liabilities on loans to non-residents** registered a modest annual growth arising from increased liabilities on credit line of the banking group of a domestic subsidiary, as well as the new borrowing from the EIB credit line, which is marketed through MBDP AD Skopje<sup>82</sup>.

Amid rapid growth of deposits of non-financial entities, which almost completely determined the growth of banks' funding sources in 2014, deposits<sup>83</sup> of banks and other financial institutions recorded an annual decrease.

**Banks in the Republic of Macedonia perform their activities mainly in domestic markets.** Liabilities to and claims on non-residents are low and occupy less than 10% of the total assets of the banking system. The share<sup>84</sup> of claims and liabilities to non-residents in GDP is also low, ranging from 5.0% to 10.0% in the last eight years. On an annual basis, there was a significant growth of claims<sup>85</sup> and modest growth of liabilities<sup>86</sup> to non-resident.

<sup>79</sup> Growth of investments in foreign banks is due to increased balances on correspondent accounts with foreign banks in foreign currency (by Denar 2,427 million) and higher investments in short-term deposits with foreign banks in foreign currency (by Denar 3,114 million).

<sup>80</sup> Loans to domestic banks reduced by Denar 543 million, or 4.1%, primarily a result of reduced Denar loans up to one month.

<sup>81</sup> Liabilities on loans to resident financial companies declined annually by Denar 729 million, mostly due to decreased liabilities on Denar short-term loans to domestic banks (by Denar 612 million denars) and reduced liabilities on Denar long-term loans denars with FX clause to banks and other financial entities (by Denar 477 million). At the same time, liabilities on long-term loans in foreign currency to domestic banks grew (by Denar 351 million), resulting from the credit line from the European Investment Bank, which the MBPR AD Skopje has marketed through local banks.

<sup>82</sup> Liabilities on loans to non-residents increased annually by Denar 937 million or 4.9%.

<sup>83</sup> Deposits of banks and other financial institutions registered an annual decrease of Denar 540 million. Within these, deposits of non-resident financial entities decreased (by Denar 1,466 million), and deposits of pension funds increased (by Denar 427 million) and insurance companies (Denar 429 million).

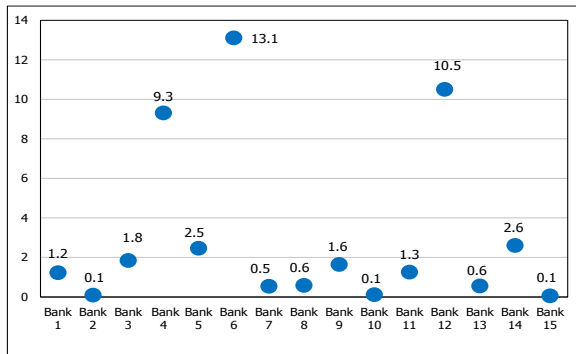
<sup>84</sup> Analyzed by individual bank, the share of banks' claims on non-residents in total assets ranges from 1.6% to 20.3%, while the share of banks' liabilities to non-residents in total liabilities ranges from 0.2% to 25.1% (with the exception of MBPR AD Skopje).

<sup>85</sup> Claims on non-residents increased by Denar 5,903 million annually, entirely (101.2%) due to the aforementioned increase in placements with foreign banks.

<sup>86</sup> Banks' liabilities to non-residents increased by Denar 294 million annually, as a result of the increase in deposits of non-resident non-financial entities (of Denar 1,042 million) and simultaneous decrease of deposits of non-resident financial entities (of Denar 1,699 million).

Chart 104

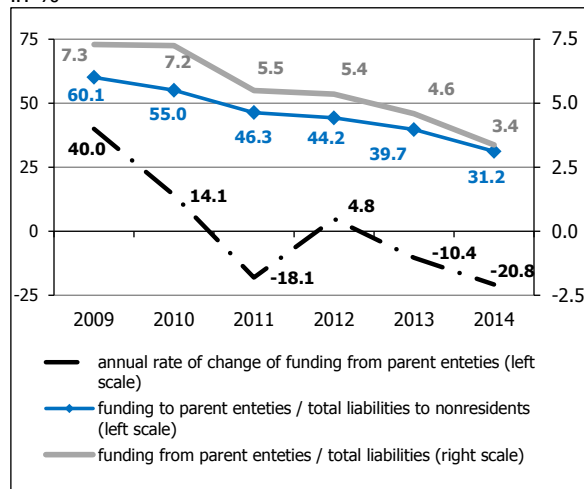
Ratio between liabilities to and claims on non-residents, by bank, as of 31 December 2014



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

Chart 105

Liabilities to banks' parent entities in %



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

In 2014, the ratio between total liabilities to and total claims on non-residents, by bank, ranged from 0.1 to 13.1, while for the overall banking system, this ratio equaled 1.0.

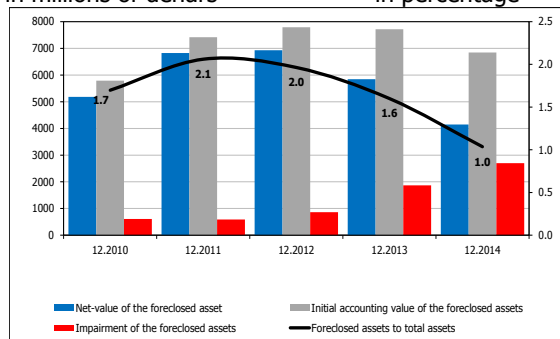
**In the post-crisis period, the Macedonian banking system was marked by gradual decline of the importance of funding sources provided by parent entities.** Their share in total liabilities of the domestic banking system, as well as in liabilities to non-residents has continuously decreased. The process of banks' deleveraging to their parent entities strengthened in 2014, with an annual decline of more than 20.0%. Thus, at the end of 2014, the structure of liabilities to parent entities was dominated by subordinated and hybrid capital instruments with share of 55.2%, which is by about 9.3 percentage points higher compared to the end of 2013.

#### 4. Foreclosed assets

For realistic presentation of the value of foreclosed assets in the banks' balance sheets and creation of greater incentive for banks to quickly sell property foreclosed for recovery of claims, in March 2013, the NBRM Council adopted the Decision on the accounting and regulatory treatment of foreclosed assets. This regulation requires compulsory initial impairment of the foreclosed asset of at least 20% and does not allow any bank to recognize income from the release of impairment for claim recovery, thus preventing any cyclical changes in income statement due to recognition of income from the release of impairment in asset foreclosure, which could be used for dividend payment. The bank's revaluation reserve increases for the amount of released impairment for credit exposure that the bank will not use for impairment of foreclosed asset. This tends to strengthen the bank's capital position<sup>87</sup>, which also creates greater room for lending and strengthen stability and resilience of the banking system.

As of 31 December 2014, foreclosed assets less impairment equal 1.0% of total assets, what is less by 0.6 percentage points compared to the share in the previous year. This is primarily due to the downward trend of foreclosures and the growth of impairment due to the obligation for mandatory annual impairment, as required by the regulations of the National Bank.

Chart 106  
Foreclosed assets (initial and net value) and their share in total assets  
in millions of denars in percentage



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

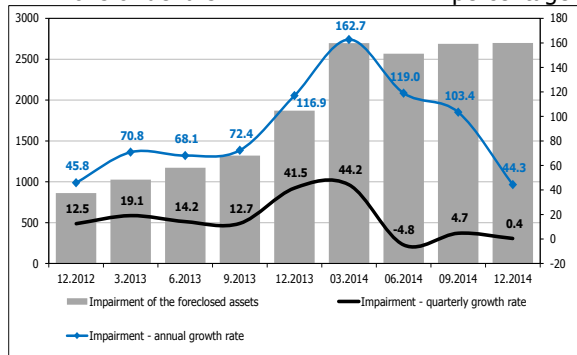
As of 31 December 2014, foreclosed assets totaled Denar 6,846 million (initial value at foreclosure) or Denar 4,146 million if initial value decreases by the amount of impairment.

Foreclosed assets to total assets ratio of banks in recent years went down and reduced to 1.0% as of 31 December 2014. Drivers of this decline were the obligation for compulsory impairment of foreclosed assets, as well as the downward trend of foreclosures for claim recovery.

<sup>87</sup> This revaluation reserve is part of the bank's supplementary capital and can be excluded from this capital only if the foreclosed asset is sold or if the bank provides capital with higher quality.

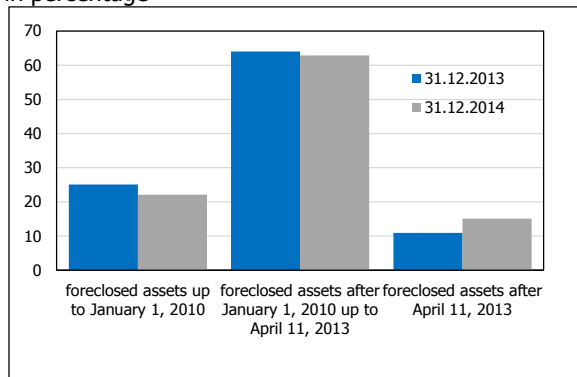


**Chart 107**  
Impairment of the foreclosed assets (movement and growth rates) in millions of denars in percentage



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

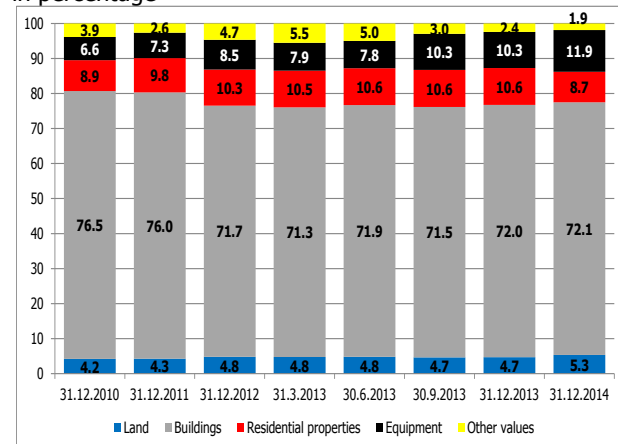
**Chart 108**  
Structure of foreclosed assets, by period of foreclosure in percentage



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

**In 2014, foreclosed assets recorded the largest annual decrease in the last five years** of Denar 871 million, or 11.3%. For comparison purposes, as of 31 December 2013, the annual decrease equaled Denar 74 million (0.9%), and as of 31 December 2012, its annual increase amounted to Denar 377 million (or 5.1%). This downtrend of foreclosures indicates that banks strive to sell promptly foreclosed assets<sup>88</sup>, rather than to settle loans by foreclosing assets.

**Chart 109**  
Structure of foreclosed assets in percentage

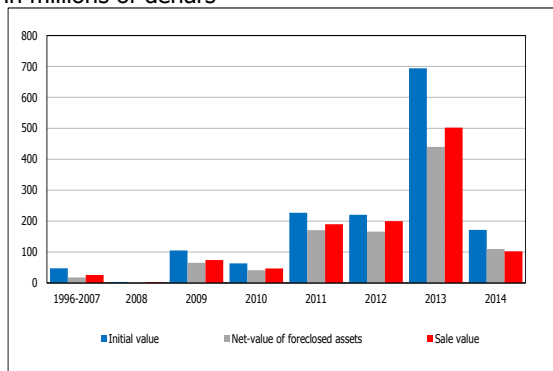


Source: NBRM, based on the data submitted by banks.  
Note: The amount of foreclosed assets refers to the initial value at the foreclosure. Construction buildings do not include residential properties.

About 80% of assets sold during 2014 were foreclosed in the period 2011-2014, most of which (23.5%) in 2013, and 15.7% in 2014. Such structure of assets sold by the date of their foreclosure is a good indicator that banks seek to sell them promptly. Assets sold in 2014 had remained in the banks' balance sheets about 2.4 years on average (2.6 years for assets sold in 2013). Analyzing the method of sale, 70.4% of

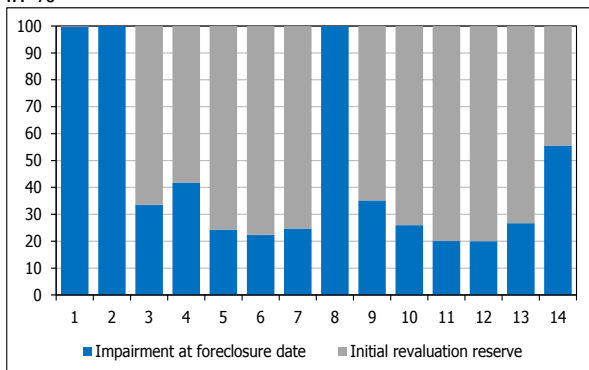
<sup>88</sup> As of 31 December 2014, the reversed impairment for non-financial assets totaled Denar 278.4 million, and as of 31 December 2013, it was Denar 21.3 million. Most (roughly 90%) of the released impairment in 2014 is due to sale of foreclosed assets by two banks on credit.

Chart 110  
Structure of foreclosed assets sold in 2014,  
by year of foreclosure  
in millions of denars



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

Chart 111  
Structure of derecognized impairment/special  
reserve, by bank  
in %



Source: NBRM, based on the data submitted by banks.  
Note: One bank has not foreclosed any assets after 11 April 2013 when the possibility for allocating revaluation reserve was introduced.

foreclosed assets were sold on credit, and 21.0% in cash<sup>89</sup>. The share of other selling methods is marginal. Of particular importance is the sale on the basis of loan to be properly structured, in order to avoid the impression of a delay of the impairment of foreclosed assets.

**The rate of sales (recovery) of foreclosures has been improving.** This rate<sup>90</sup> increased from 9.5% in 2013 to 13.6% in 2014.

**Regulation allows for an increase in bank's revaluation reserves, as a component of own funds, for the amount of impairment for the claim, which will not be used for impairment of foreclosed asset.** As of 31 December 2014, this revaluation reserve amounted to Denar 221.8 million, occupying less than 1% of banks' own funds. **Given the high capitalization, most banks show impairment for foreclosed asset above the requirement 20% and do not use the opportunity to increase revaluation reserve.** Namely, 68.4%<sup>91</sup> of the impairment/special reserve allocated for claims are used for foreclosed asset impairment, and 31.6% is used to strengthen capital positions, i.e. to increase revaluation reserve.

<sup>89</sup> Calculations use sales value of foreclosed assets.

<sup>90</sup> It is calculated when the sales value of the assets sold in the current year will be divided by the stock of foreclosed assets in the previous year increased for the property foreclosed in the current year.

<sup>91</sup> The requirement for allocating revaluation reserve relates only to assets foreclosed after 11 April 2013, when the new Decision entered into force.



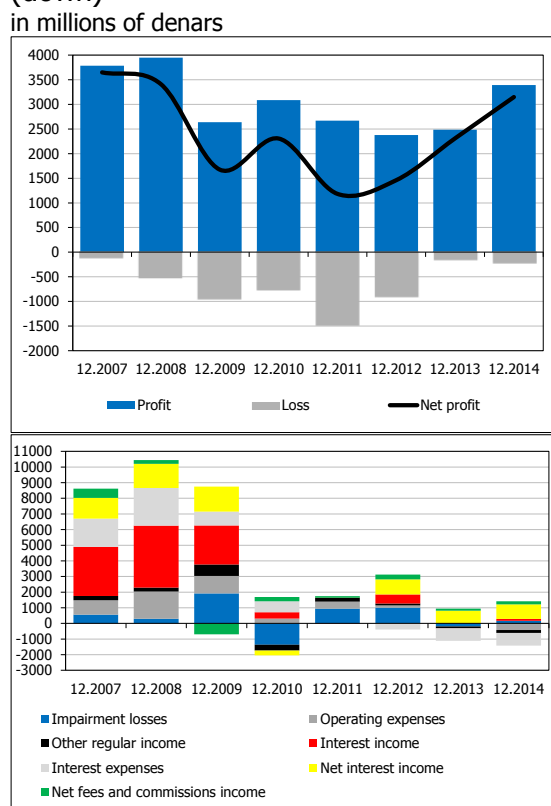
## 5. Profitability

Profitability of banks in the Republic of Macedonia in 2014 was significantly higher compared to 2013. Profit after tax earned in 2014 (Denar 3,149 million) increased by Denar 838.4 million, or 36.3%, compared to profits last year. Most pronounced positive impact on profitability was made by lower interest expenses, and for the first time in the past few years, banks' operating costs decreased on an annual basis. The main profitability ratios, return on assets and equity have risen significantly, and remarkably improved the operational ability of banks to generate income to cover operational costs. Allocated loan impairment in 2014 was lower compared to 2013, which corresponds to the lower annual growth rate of non-performing loans in 2014. However, the effect of credit risk on banks' profitability was negative, given that on a net basis, loan impairment increased due to the lower amount of reversed impairment for losses on loans and advances. Net impairment of

non-financial assets (foreclosed property) decreases. Notwithstanding the future movement of the credit portfolio quality, one of the major risks to the banks' profitability is the future banks' capacity to generate net interest income, which in recent years have been based mainly on the decreased interest expenses due to lower deposit interest rates.

Chart 112

Net profit after tax (up) and annual growth of main income and expenses (down) in millions of denars



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

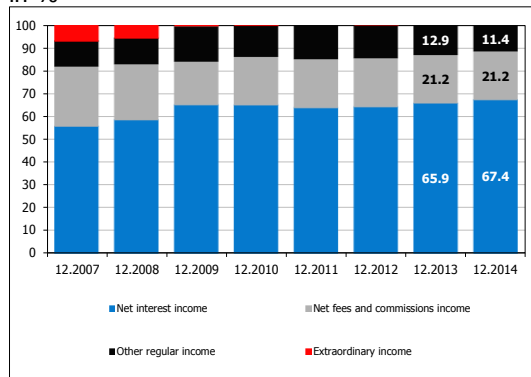
### 5.1 Income, expenses and profitability and efficiency ratios of the banking system

In 2014, **total banks' income** (total regular income<sup>92</sup> and extraordinary income), increased by Denar 939.4 million, or 5.1%, compared with the previous year, and reached Denar 19,401.6 million. The increase in income was almost entirely (98.5%) determined by the growth of net interest income (by Denar 925 million or 7.6%), which is a result of the stronger annual reduction in interest expenses (of Denar 808.6 million, or 10.2%) amid much smaller increase in interest income (of Denar 116.4 million or 0.6%). Additional contribution (21.2%) to the increase of banks' income was made by net income from fees and commissions, which rose annually by Denar 199.5 million or 5.1%. Extraordinary income also increased, but its share in the

<sup>92</sup> Total regular income includes: net interest income, net fee income and other regular income (net trading income, net income from financial instruments recorded at fair value, net income from exchange rate differentials, income based on dividends and capital investments, net gain from sale of financial assets available for sale, capital gains based on sale of assets, release of provisioning for off-balance sheet items, release of other provisioning, income on other bases and income based on collected written-off claims).

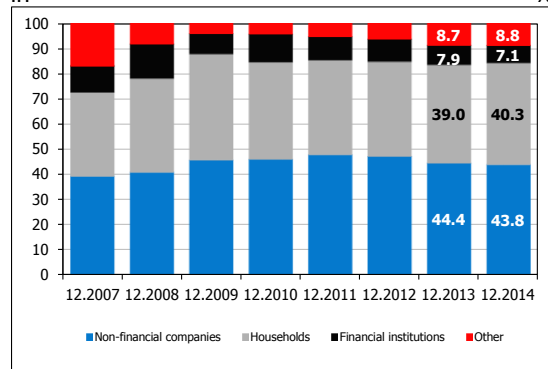


Chart 113  
Structure of total income  
in %



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

Chart 114  
Sector structure of interest income  
in %



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

structure of total income is negligible. Only other regular income<sup>93</sup> went down.

**The structure of total income in 2014 remained almost unchanged compared to the previous year, and the net interest income had the largest share in total banks' income (67.4%).**

**Increase in interest income** in 2014 primarily results from interest income from households, and less from other entities<sup>94</sup>. **The growth of interest income from households** (Denar 243.8 million, or 3.2%) corresponds to the accelerated annual credit growth to this sector, even though interest rates on loans to households have been declining. In 2014, **interest income from financial and non-financial entities decreased.** The reduction in interest income from financial entities (of Denar 149.8 million or 9.8%) was solely due to lower interest income from reserve requirement<sup>95</sup>, while the lower interest income from non-financial entities (by Denar 105.8 million, or 1.2%), was mainly due to the downward trend of lending interest rates.

As a result, **the sector-by-sector structure of interest income recorded an increased share of interest income from households** at the expense of the lower share of interest income from financial and non-financial entities.

In 2014, the growth in net interest income primarily reflected **lower interest expenses** to all sectors. The reason behind are the lower deposit interest rates compared to 2013, despite the accelerated annual growth of deposits of non-

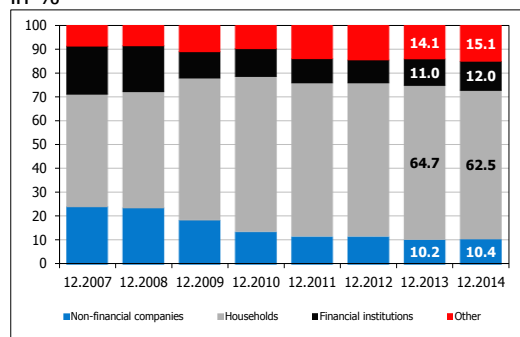
<sup>93</sup> Decrease of other regular income of Denar 185.1 million or 7.8% primarily resulted from the lower release of special reserve for off-balance sheet credit exposure on a group basis and decrease of income on other bases.

<sup>94</sup> This category includes interest income from investments in government securities. In 2014, this income increased by only Denar 39.7 million, i.e., 3.2% (by comparison, annual growth in interest income from investments in government securities in 2013 amounted to 386.9 million, or 44.3%). The reason behind is the reduced income from investments in treasury bills. The average monthly amount of banks' investments in treasury bills during 2014 decreased by Denar 1,255 million, or 4.2% compared to the average monthly amount invested in 2013. On the other hand, investment in government bonds increased significantly, especially in the last three months of 2014.

<sup>95</sup> According to the Decision amending the Decision on reserve requirement (Official Gazette of Republic of Macedonia No. 166/2013), the NBRM is exempted from paying reserve requirement remuneration (previously, this remuneration rate equaled 1% for the Denar reserve requirement and 0.1% for the Euro reserve requirement). This decision came into effect on 1 January 2014.

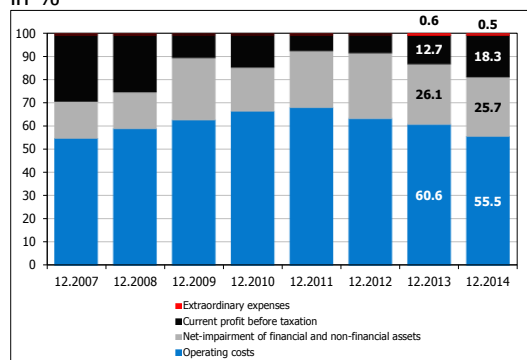


Chart 115  
Sector structure of interest expenses  
in %



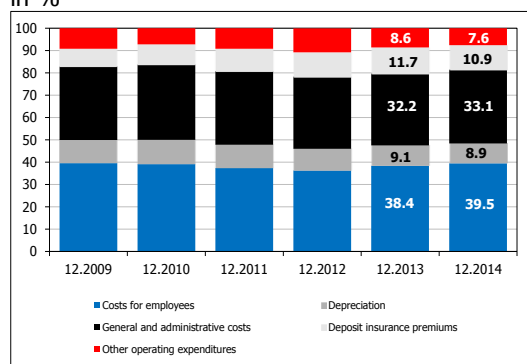
Source: NBRM, based on the data submitted by banks.

Chart 116 Usage of total income  
in %



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

Chart 117 Structure of operating costs  
in %



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

financial entities. The largest contribution (84.3%) to the decreased total interest expenses was made by interest expenses to the household sector<sup>96</sup>, amid fall in interest rates on deposits of this sector (the cut of interest rates on long-term Denar deposits was the largest, by 1.3 percentage points). Interest expenses to non-financial entities<sup>97</sup> also decreased (on time deposits), same as the interest expenses to financial entities (on term deposits of pension funds and insurance companies), and interest expenses to other entities (mainly interest expenses to financial entities - non-residents on the basis of loan liabilities and term deposits).

Notwithstanding the decrease, interest expenses to the household sector still have the largest share in the structure of interest expenses (62.5%).

**The largest portion of total banks' income was used to cover operating costs<sup>98</sup>**, despite their decreased share in total income (by 5.1 percentage point) compared to the previous year.

**In 2014, banks' operating costs** were lower by Denar 423.3 million, or 3.8%, compared to the previous year. The greatest reduction was registered in deposit insurance premiums<sup>99</sup> (of Denar 141.5 million, or 10.8%) and special reserve for off-balance sheet exposure (of Denar 134.3 million, or 23.8%).

Despite such developments, **no major changes have been noted in the structure of operating costs**, which, despite the decline, is still dominated by employee costs, and general and administrative costs (72.6%).

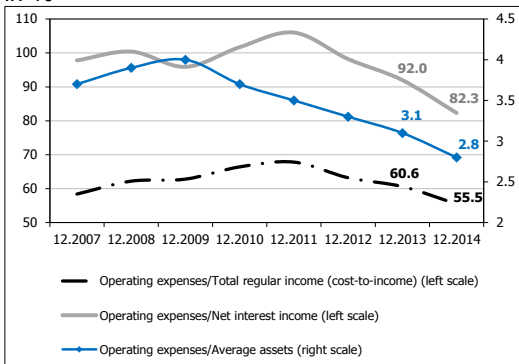
<sup>96</sup> Interest expenses from the household sector decreased by Denar 681.3 million, or 13.3%, annually.

<sup>97</sup> Compared to December 2013, interest rates on term denar and foreign currency deposits of non-financial companies are lower by 0.6 and 0.4 percentage points, respectively.

<sup>98</sup> Banks' operating costs include: Operating costs of banks include staff costs, depreciation, general and administrative expenses, deposits insurance premiums and other operating expenses, excluding extraordinary expenses.

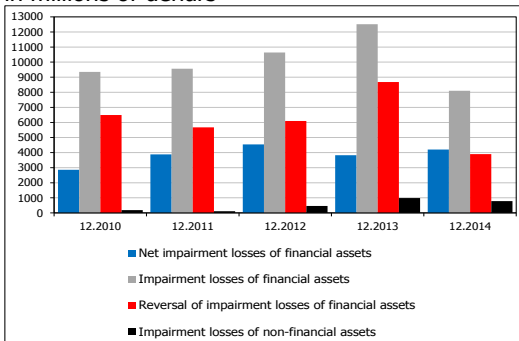
<sup>99</sup> On 1 June 2014, the rate of deposit insurance premium was cut by 0.2 percentage points and equals 0.5% p.a.

Chart 118 Banks' efficiency ratios in %



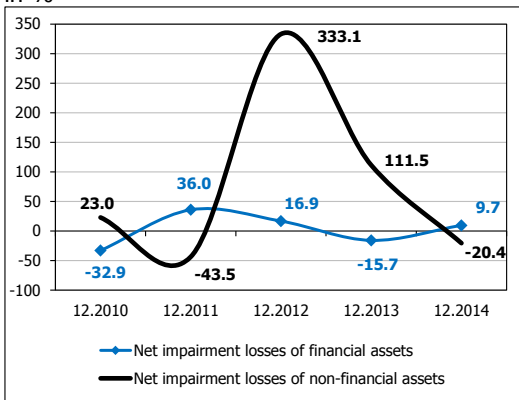
Source: NBRM, based on the data submitted by banks.

Chart 119 Impairment of financial and non-financial assets in millions of denars



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

Chart 120 Annual growth rate of impairment cost in %



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

**Banks' operational efficiency that began in 2012 kept on improving in 2014.** Amid annual decline of banks' cost, despite the increase in total regular income, the amount of total regular income used to cover operating costs significantly reduced. Other ratios between different types of costs and total regular income also went down, thus confirming the improved operational efficiency of banks.

Except net interest income and operating costs, which increased banks' profitability compared to the previous year, the remaining components of the banks' profitability acted towards its reduction. Thus, in 2014, **net impairment recognized by banks for impairment of financial assets (loans and other similar claims)** reached Denar 4,200 million, which is an annual increase of Denar 372 million, or 9.7%<sup>100</sup>. Accordingly, the portion of net interest income used to cover impairment of financial assets increased from 31.5% in 2013 to 32.1% in 2014. Growth in net impairment is due to the substantially decreased released impairment, which is mostly due to the high comparison base<sup>101</sup>. Gross impairment of financial assets was declining in all four quarters of 2014 (compared to the same periods of 2013).

The multiyear uptrend of **impairment of non-financial assets (foreclosed property)** was interrupted in 2014. Namely, it decreased by Denar 200 million, or 20.4%, and reduced to Denar 781 million at the end of 2014. The decrease results from the significant amount of released impairment due to the sale of assets foreclosed by two banks in the country.

**Increased profit of the banking system in 2014 had a positive impact on the main indicators of banks' profitability.** Rates of return on assets and equity increased by 0.2 percentage points and 1.7 percentage points,

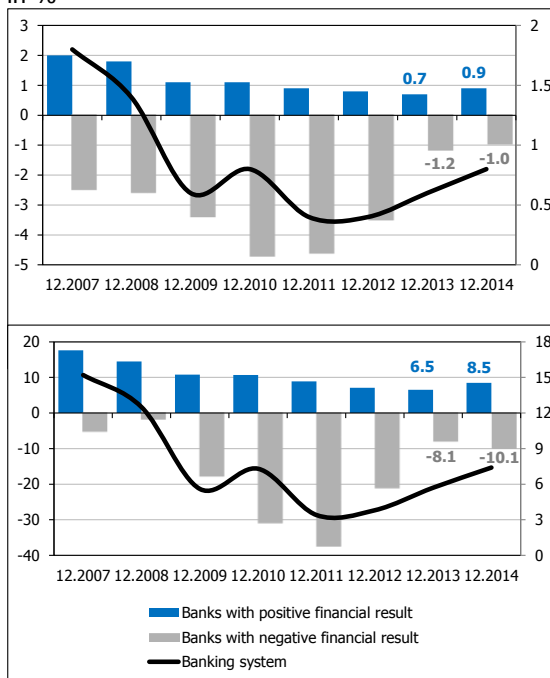
<sup>100</sup> For purposes of comparison, in 2013, net impairment of financial assets (loans and similar claims), decreased by Denar 711 million, or by 15.7%, on an annual basis.

<sup>101</sup> In 2013, released impairment of financial assets of the banking system registered an annual increase of Denar 2,585 million, or 42.4%, which is almost solely due to the derecognition of non-performing claims by a bank in the country. If we exclude the effect of the significantly increased release of impairment in this bank in 2013, net impairment of financial assets of the banking system in 2014 would decrease, and therefore, its impact on the profitability of the banking system would be positive.



Chart 121

Rates of return on assets - ROAA (up) and equity - ROAE (down), by (positive/negative) financial result in %



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

respectively, compared to the previous year. Improvement was registered in banks' profit margin<sup>102</sup> (by 3.7 percentage points) as well as in all indicators calculated on the basis of items influenced by net interest income.

**In 2014, productivity of the banking system improved**, indicating better utilization of resources. Compared to previous year, profit per employee and total income per employee increased by Denar 0.1 million, while operating costs per employee decreased.

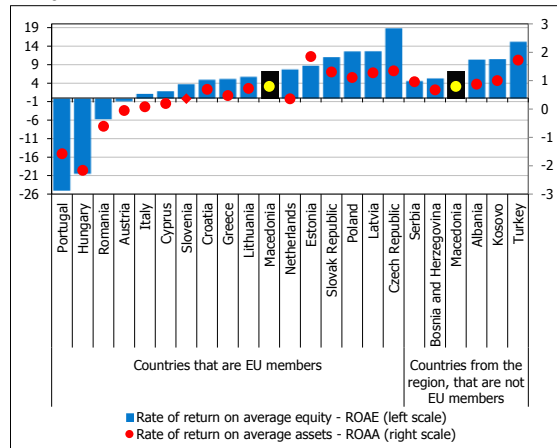
Table 5 Profitability and efficiency ratios of the banking system in %

| Indicators   | 12.2013 | 12.2014 |
|--|---------|---------|
| Rate of return on average assets (ROAA)                                      | 0.6     | 0.8     |
| Rate of return on average equity (ROAE)                                      | 5.7     | 7.4     |
| Cost-to-income ratio   | 60.6    | 55.5    |
| Non-interest expenses/Total regular income                                   | 66.6    | 61.8    |
| Labor costs /Total regular income  | 23.3    | 22.0    |
| Labor costs /Operating expenses  | 38.4    | 39.6    |
| Impairment losses of financial and non-financial assets /Net interest income | 39.5    | 38.1    |
| Net interest income /Total regular income                                    | 65.9    | 67.4    |
| Net interest income /Non-interest expenses                                   | 99      | 109.2   |
| Non-interest income/Total regular income                                     | 40.1    | 38.8    |
| Financial result/Total regular income  | 12.5    | 16.2    |
| Number of employees  | 6,048   | 5,988   |
| Financial results per employee (in millions of Denars)                       | 0.4     | 0.5     |
| Total income per employee (in millions of Denars)                            | 3.1     | 3.2     |
| Operating costs per employee (in millions of Denars)                         | 1.9     | 1.8     |

Source: NBRM, based on the data submitted by banks. Indicators by group of banks are presented in Annex 38.

<sup>102</sup> Profit margin = operating profit (loss) to total regular income ratio.

**Chart 122**  
Return on assets and return on equity, by country  
in %

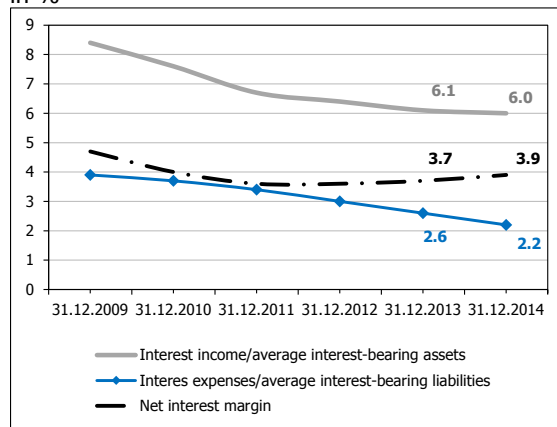


Source: NBRM, based on data submitted by banks, websites of IMF and central banks

Note: Data refer to September 2014, with the exception of Macedonia, Croatia (December 2014), Kosovo (July 2014), Portugal, Italy, Cyprus, Greece, Lithuania, Netherlands, Czech Republic and Albania (June 2014).

Rates of return on assets and equity place the banking system of the Republic of Macedonia in the middle of the list, as compared with the banking systems in the region and some EU member states.

**Chart 123**  
Net interest margin  
in %

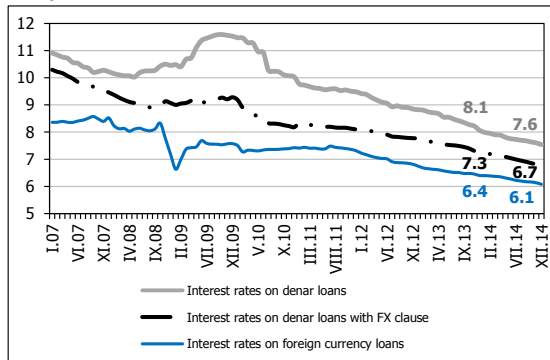


Source: NBRM, based on the data submitted by banks.

**The annual increase in net interest margin<sup>103</sup>** reflects the more pronounced annual growth of net interest income (by 7.6%) than the growth of average interest-bearing assets (of 1.6%). In fact, the main driver for the increased interest margin is the reduction in interest expenses, which also contributed to annual decrease in the expense per unit of interest-bearing liabilities. On the other hand, cutting lending interest rates have caused a slight decrease in interest income per unit of interest-bearing assets. Analyzing by bank, eight of fifteen banks reported a higher net interest margin compared to the net interest margin of the overall banking system, which as of 31 December 2014 equaled 3.9%.

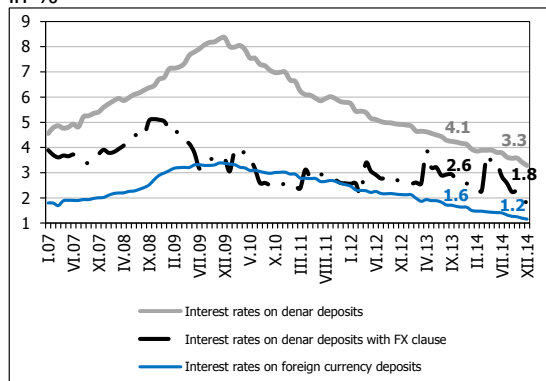
<sup>103</sup> Net interest margin is a ratio between net interest income and average interest-bearing assets. Average interest-bearing assets is an arithmetic mean of the amounts of interest-bearing assets at the end of the current year and at the end of the previous year.

Chart 124  
Lending interest rates  
in %



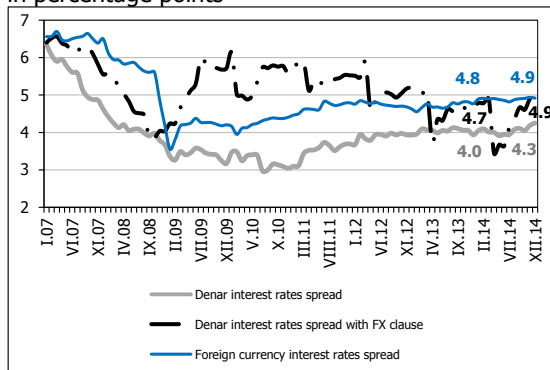
Source: NBRM, based on the data submitted by banks.

Chart 125  
Deposit interest rates  
in %



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

Chart 126  
Interest rate spread, by currency  
in percentage points



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

Note: Calculations do not include loans based on overdrafts and credit cards.

## 5.2 Interest rates and interest rate spread

**Lending and deposit interest rates of banks continued going down in 2014**, although the National Bank's policy rate remained unchanged<sup>104</sup>. Compared to December 2013, the decline was mostly pronounced in interest rates on Denar deposits and Denar deposits with FX clause (of 0.8 percentage points), while the smallest decrease was made in interest rates on foreign currency loans (of 0.3 percentage points).

The first half of 2014 experienced greater variability of interest spreads, despite their stable level throughout the second half of the year. However, amid relatively even cuts of lending and deposit interest rates, interest rate spreads in almost all currencies are stable, without major changes compared to the level of December 2013, except for the interest rate spread in Denars, which increased as a result of the faster decrease in interest rates on Denar deposits (0.8 percentage points), versus the somewhat slower decline in interest rates on Denar loans (0.5 percentage points).

<sup>104</sup> Throughout 2014, interest rate at CB bill auctions remained at the level of the last change in July 2013 (when it was cut to 3.25%).

## **V. ANNEXES**