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**National Bank of the Republic of Macedonia**

Supervision, Banking Regulation and Financial Stability Sector  
Financial Stability and Banking Regulation Department



***FINANCIAL STABILITY REPORT FOR THE REPUBLIC  
OF MACEDONIA IN 2014***

October 2015



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## SUMMARY

The Macedonian financial sector remained stable in 2014. It was significantly due to the cautious behavior of individual segments of the financial system and timely taking of all necessary prudential measures and activities by the responsible regulatory and supervisory authorities, in particular by the National Bank, to support financial stability as one of the its prime objectives.

The global environment remained vulnerable, accompanied by high uncertainty and risks about the expected economic growth. For the first time in two years, the euro area recorded an increase in economic activity, while the economic growth in the EU, as our major trading partner, accelerated. However, the economic recovery of the EU member states is slower, compared with other developed economies, which stems from the uncertainty of the developments in Greece over the reforms related to obtaining additional financial support, but also by the geopolitical turmoil, primarily related to the events in Ukraine.

Amid still present risks in the global environment, the real growth of the Macedonian economy (3.8%) registered a solid acceleration and remarkably rebounded from the growth of our major trading partners. The economic recovery is mainly supported by exports, investments and reducing unemployment, primarily owing to the new production facilities with foreign capital, part of the traditional domestic industry, and the fiscal stimulus for infrastructure projects and the monetary easing and nonstandard measures taken by the monetary authority.

Companies and households are the most important "business partners" of financial institutions, on whose behavior, needs, habits, financial education etc. the types of financial services offered by the institutions and consequently, the composition and structure of the financial system largely depend on. Additionally, performances of the corporate and the household sectors, particularly their financial potential, the level of income they generate and the level of indebtedness, have direct impact on the performances of financial institutions. Credit risk arising from the ability of the corporate sector and households for regular servicing of liabilities remains significant for the risks to the domestic financial system.

The total indebtedness of the corporate sector to both domestic banks and foreign creditors continued to grow and reached around 64% of GDP. Yet, the assessment of the sector solvency remains positive, given that in 2014, most of the corporate debt indicators remained relatively stable. The growth of non-performing loans to this sector slowed down partly due to the growth of claims written-off by banks and the loan restructurings made in the past few years. However, after two consecutive years of positive trends, the profitability indicators of domestic corporate sector somewhat deteriorated, reducing the coverage of financial expenses with operating profit of this sector. In addition, domestic enterprises still register low turnover and consequently have the modest level of liquidity. Given the almost complete absence of market financing of corporate activities, the capacity of the corporate sector to absorb new loans and to find ways to enhance the growth of its activities will remain one of the crucial determinants of financial stability.

The favorable developments in the labor market, accompanied by improved labor productivity, contributed to accelerating growth of financial assets and disposable income of households, as



well as savings rate. The total indebtedness of the households continued to grow (yet stopping at a moderate level of 21% of GDP), with the banks being their main creditor. The solvency and liquidity ratios of the household sector are satisfactory. However, the growth of non-performing loans to households, registered for the first time in a longer period, amid rapid growth in lending to this sector, signals possible growing risks in the period ahead. Thus, further indebtedness of the households and regularity of debt servicing should be monitored carefully, given the speed of growth of new loans, primarily long-term and consumer loans.

Currency features of the corporate and household debt with significant share of FX component debt clearly indicate that the currency risk is extremely relevant for the stability, performance and financial potential of the private sector. Hence, the policy of stable exchange rate of the denar against the euro is an essential prerequisite for the sustainability of the debt of the corporate sector and households. Additionally, the high share of loans with adjustable interest rates in the total debt of these two sectors is yet another important feature of the debt that can be considered a potential source of risk in the future period. In fact, given the historically low level of interest rates on the domestic and international financial markets, in the medium run, they are more likely to increase, which may adversely affect the capacity of domestic companies and households for debt servicing and increase their vulnerability.

The financial system of the Republic of Macedonia has a relatively simple structure with negligible interdependence of the activities of the individual segments and absence of complex financial instruments and services. Financial system stability is determined by the stability of the banking sector as its dominant segment, where savings of the non-financial sector are concentrated. Ownership relations between individual institutions of the financial system, and the amount of interbank loans and bank loans to non-banking financial institutions are relatively small, and hence, the risk of contagion through these channels is limited. However, deposits of other financial institutions, although almost insignificant in the deposit base of banks are especially significant for some financial institutions as they are one of their major investments. Thus, brokerage houses and insurance companies, including investment funds, hold most of their assets as deposits with banks whose stability is vital to the stability of these non-deposit financial institutions.

The banking system maintained its soundness and stability in 2014, as confirmed by the results of the analyzes and stress tests, reporting double-digit annual growth rates of deposits and loans to non-financial entities. Hence, its assets reached 76.1% of GDP, and as a dominant segment occupied 86.8% of the total assets of the financial system. Stable and high liquidity and solvency of the banking system are the main factors of its stability and satisfactory resilience to shocks. Additionally, profitability of the banking system have been increasing significantly over the past few years, which allow internal capital creation in the absence of recapitalization by way of issuing new shares. The revival of economic activity and the increase in the growth rate of the Macedonian economy have contributed to the slowing growth rate of non-performing loans to non-financial sector, which in 2014 was two times lower than the growth rate in 2013. Because of the higher prudence of banks and the regulation, non-performing loans are highly covered with impairment. Furthermore, given the historically low levels of interest rates on deposits and reduced space for greater cuts, maintaining high profitability will be a considerable challenge for banks in the future.



Fully funded pension insurance has emerged as the second largest segment in the financial system (with share of 7.3% in the financial system assets and 6.4% of GDP), achieving significantly faster growth compared to the banking system and the insurance sector. Its significance as an important "player" in the domestic financial markets and broadly in the financial system will increase in the future, bearing in mind the continuous accumulation of new funds based on contributions paid by the relatively young members, and simultaneous absence of major cash outflows for pensions. The reliability and the result of the investments of pension funds are especially important for the future disposable income and social security of households, which is additional source of relevance of this segment to the financial stability of the country. Pension companies are successful in managing funds' assets, taking into account the relatively high and stable rates of return on pension funds, amid historically low levels of interest rates on the domestic and international financial markets. Most of the pension funds' assets (roughly 60% of compulsory and 44% of voluntary pension funds) is placed in securities issued by the Republic of Macedonia, which points to a fairly high rate of concentration of the investments of the pension funds' assets which gradually impose themselves as important creditor of the state. In recent years, investments in shares of foreign investment funds have increased, bearing moderately higher risk compared to investments in debt instruments, but higher yield.

The insurance sector is the third largest segment of the financial system, accounting for 3.6% of total assets of the financial system and 3.1% of GDP. Despite the continued growth in assets and expanding the range of products of insurance companies, as well as the development of distribution channels used to offer insurance services, their activities remained modestly developed, particularly life insurance products. The insurance sector is marked by high solvency, and full coverage of technical reserves with corresponding assets indicates a solid liquidity position. In 2014, the profitability of these companies slightly improved, although far from a satisfactory level, which at higher damage, cost and debt rates largely stems from the increased rate of return on investments of insurance companies, amid low interest rates. About 30% of the insurance sector's assets are invested as deposits with domestic banks and in government securities, indicating somewhat higher concentration of assets of the insurance companies.

The other segments of the financial system have small, even declining, relevance to the financial system. Investment funds are exceptions, whose assets, although still small (share of merely 0.2% in the financial system assets), show permanently high growth rates and impose themselves as significant investment alternative, which, for now, brings alluring returns for investors, especially amid reduced interest rates on bank deposits. On the other hand, a significant portion of investment funds' assets are placed as deposits, thus slowly becoming an important depositor in some domestic banks. Despite the low impact of other segments of the financial system on the financial stability in the country, risks some of them may pose during their operations are not excluded.

The impact of the financial markets in Macedonia on the financial stability in the country is lower than the impact typical for the financial markets in developed economies, but their relevance should not be neglected.

Given the high openness of the Macedonian economy, foreign exchange market is the most important segment of the domestic financial markets. The turnover of this market was



dwindling in 2014. Still, its amount is quite high and exceeds 80% of GDP. This market developments were stable in 2014, and the National Bank intervened to overcome the occasional mismatch between supply and demand of foreign currency, using only 0.25% of the foreign reserves. The depreciation of the euro against other world currencies on the international currency markets has no significant influence on the stability of the financial system, given the strategy of maintaining a stable exchange rate of the denar against the euro and the dominance of this currency in financial institutions' positions with FX component.

The National Bank and the Ministry of Finance are the most active issuers of securities on the primary markets in the country, thus enabling the implementation of open market operations to achieve the monetary policy objectives, and accordingly, to manage public debt. On the other hand, financial institutions (mainly banks and pension funds, as well as the Deposit Insurance Fund) are major investors in securities issued in these markets. In order to avoid the so-called "crowding out effect" of the availability of loans to the private sector, given the higher demand for CB bills by banks than the amount offered, and amid same level of interest rate of this instrument, in September 2014, the National Bank revised the mechanism for transmission of higher demand for CB bills over the potential deposit to seven-day deposit facilities, and in 2015, it introduced a mechanism to limit the demand for CB bills, thus redirecting the banks' excess liquidity to the non-financial private sector. In 2014, at the primary market of government securities, a change was made in the maturity structure of issued instruments i.e. issue of securities with greater maturities, but the demand for government bonds generally corresponded with the offered amount of securities, even at lower interest rates, indicating the absence of major imbalances in this market. The corporate sector is almost absent in the primary market of securities and does not use market financing, which is a limiting factor for the significant growth of the scope of this sector's activities.

Unsecured interbank deposits market becomes increasingly important and according to the amount of turnover, it exceeds the Macedonian Stock Exchange (MSE). The market's turnover increased in 2014, as its amount exceeded 10% of GDP, and is about twelve times greater than the total turnover of the secondary capital market of the Republic of Macedonia, and the interest rates at which banks lend among each other are at the historically lowest level. However, banks in this market are mainly oriented towards intraday transactions, where the borrowed deposits do not linger long in their balance sheets and hence, the total interbank claims/liabilities is still quite low, which in turn, limits the risks of spillover of potential liquidity problems from one bank to another.

OTC markets are underutilized in terms of secondary trading in debt securities and repo transactions among banks, thus having little potential impact on the financial stability of the country. The turnover of this market grew in 2014, most due to the concluded repo transactions among banks, but its amount is still quite modest at around 1% of GDP. The low turnover on the OTC market is yet another confirmation of the high liquidity of banks, which hold debt securities to maturity and do not require a premature sale to overcome potential liquidity pressures. Turnover on the secondary capital market (MSE) in 2014 is even lower than the volume of trading on the OTC market, which confirms the significantly reduced and already marginal role of this market in the domestic economy, despite the rising price levels in the past two years.





## I. MACROECONOMIC ENVIRONMENT

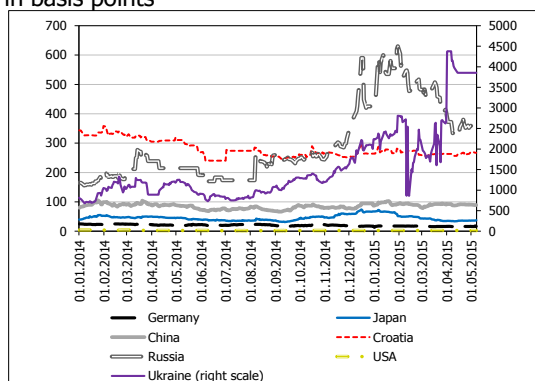
### 1. International environment

During 2014, the global environment remained vulnerable, accompanied by high uncertainty and risks about the expected economic growth<sup>1</sup>. Despite expectations for reduced pressure from fiscal consolidation and completion of the process of financial deleveraging of the private sector, its performance was weaker than projected. Unbalances present in several sectors, accumulated in the pre-crisis period and the period of global crisis, continued to restrict growth, indicating that their remedy will take longer than expected. Additional risk includes the geopolitical turmoil, primarily related to the Russian-Ukrainian conflict and developments in Greece over reforms related to obtaining additional financial support. As a result, during the year, the global economic growth in 2014 was revised downwards due to the downward revision of growth in the euro area, as the major trading partner of the Republic of Macedonia.

The measures taken by the ECB combined with the comprehensive analysis of the EU banks and the stress tests had a positive impact on the terms of funding, the confidence in the banking system, and the strengthening of banks' balance sheets. However, the combination of cyclical and unfavorable structural factors is a reason behind the low profitability of the banking sector in many EU countries. Thus, profitability stands out as the main risk to the financial stability, especially in conditions of low economic growth rates, flat yield curves and slow resolution of problem assets of the EU banks. The improving economic conditions are expected to decline the unfavorable cyclical factors. The main challenge for banks is the further adjustment of strategies and business models in order to improve profitability in the long run, thus encouraging the generation of capital by banks.

Chart 1

Credit risk premiums by country of the group of advanced, emerging and developing countries  
in basis points



Source: Bloomberg

In 2014, the economic activity of the major trade partners<sup>2</sup> of the Republic of Macedonia and the leading economies continued to recover gradually, at a similar pace as in the previous year. In 2014, the global economic growth rate equaled 3.4%, with prospects of moderate improvement in the next two years. In 2014, the main feature of the global economy was the "decoupling" of the process of economic recovery among developed economies. The US economy reported best performances, prompted by the growth of private consumption, amid further reduction in unemployment, and accommodative monetary policy and neutral fiscal policy. Positive

<sup>1</sup> Source of this analysis: IMF (World Economic Outlook), April 2015, Global Financial Stability Report, April 2015, European Commission (European Economic Forecast), spring 2015.

<sup>2</sup> EU is the major trading partner of the Republic of Macedonia with a share of around 70% in the total foreign trade. Observed by country, the share of Germany, Great Britain, Greece, Serbia, Italy, Bulgaria and Turkey is considerable.



developments were observed in the UK, influenced by the improved property market conditions and increased lending activity. On the other hand, for the first time in two years, the euro area exited recession, but the recovery in 2014 was very slow compared to the US and the UK, which reflects the still present implications of the debt crisis.

In 2014, **the economic growth in the EU as our major trading partner** and in the euro area equaled 1.4% and 0.9%, respectively. The economic activity, according to the latest indicators, is expected to strengthen in 2015 and 2016, primarily due to the effects of structural reforms<sup>3</sup>, improving labor market policies, economic growth supporting policy and improved financing conditions as a result of the implementation of accommodative monetary policy. The expected acceleration of global trade and the depreciation of the euro will support EU exports. However, net exports will only marginally contribute to the GDP growth for this period, given that imports will also increase with the strengthening of domestic demand.

Table 1  
Economic growth  
in %

	Real annual GDP growth				
	2012	2013	2014	2015 projection	2016 projection
World	3,4	3,4	3,4	3,5	3,8
Developed economies	1,2	1,4	1,8	2,4	2,4
USA	2,3	2,2	2,4	3,1	3,1
EU	-0,4	0,1	1,4	1,8	1,9
Euro area	-0,8	-0,5	0,9	1,5	1,6
Emerging and developing economies	5,2	5,0	4,6	4,3	4,7
Central and Eastern Europe	1,3	2,9	2,8	2,9	3,2
Important trade partners					
Germany	0,6	0,2	1,6	1,6	1,7
Greece	-6,6	-3,9	0,8	2,5	3,7
Italy	-2,8	-1,7	-0,4	0,5	1,1
Bulgaria	0,5	1,1	1,7	1,2	1,5
United Kingdom	0,7	1,7	2,6	2,7	2,3
Turkey	2,1	4,1	2,9	3,1	3,6
Serbia	-0,1	2,6	-1,8	-0,5	1,5

Note: The euro area, excluding Lithuania.

Source: IMF (World Economic Outlook Database, April 2015).

Table 2  
Inflation  
in %

	Inflation				
	2012	2013	2014	2015 projection	2016 projection
World	4,2	3,9	3,5	3,2	3,3
Advanced economies	2,0	1,4	1,4	0,4	1,4
USA	2,1	1,5	1,6	0,1	1,5
EU	2,6	1,5	0,5	0,0	1,2
Euro area	2,5	1,3	0,4	0,1	1,0
Emerging and developing economies	6,1	5,9	5,1	5,4	4,8
Central and Eastern Europe	6,0	4,3	3,8	2,7	3,7
Important trade partners					
Germany	2,1	1,6	0,8	0,2	1,3
Greece	1,5	-0,1	-1,4	-0,3	0,3
Italy	3,3	1,3	0,2	0,0	0,8
Bulgaria	2,4	0,4	-1,6	-1,0	0,6
United Kingdom	2,8	2,6	1,5	0,1	1,7
Turkey	8,9	7,5	8,9	6,6	6,5
Serbia	7,3	7,7	2,1	2,7	4,0

Note: The euro area, excluding Lithuania.

Source: IMF (World Economic Outlook Database, April 2015).

Both emerging economies and developing countries reported a lower than projected annual growth, as a result of the weaker export performance of oil-exporting countries, political uncertainty and structural problems, as well as the tightening of monetary and fiscal policy in some of them.

**Global inflation further slowed down** and stood at 3.5% (3.9% in 2013), amid continuing decline in oil prices, underutilization of production potential and stable inflation expectations. Moreover, developed countries reported an inflation rate of 1.4%, while in the emerging economies and developing countries, the inflation equaled 5.1%. The downtrend of

<sup>3</sup> Structural reforms were mainly aimed at increasing economic growth and reducing unemployment. Thus, measures have been taken to increase economic growth aimed at: 1) privatizing state-owned companies, 2) adopting stricter competition laws 3) reducing barriers to entry of professional services. Measures to reduce unemployment were focused on: 1) simplifying dismissal procedures 2) increasing flexibility of business hours regulations, and 3) increasing companies' flexibility regarding wage regulations.

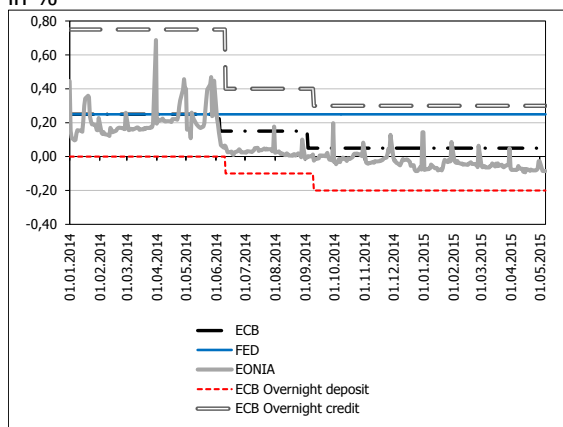


Table 3  
Unemployment rate  
in %

	Unemployment rate				
	2012	2013	2014	2015 projection	2016 projection
<b>Advanced economies</b>	8,0	7,9	7,3	6,9	6,6
USA	8,1	7,4	6,2	5,5	5,2
EU		10,9	10,2	9,6	9,2
Euro area	11,3	12,0	11,6	11,1	10,6
<b>Important trade partners</b>					
Germany	5,4	5,2	5,0	4,9	4,8
Greece	24,4	27,5	26,5	24,8	22,1
Italy	10,6	12,2	12,8	12,6	12,3
Bulgaria	12,4	13,0	11,5	10,9	10,3
UK	8,0	7,6	6,2	5,4	5,4
Turkey	8,4	9,0	9,9	11,4	11,6
Serbia	24,6	23,0	19,7	20,7	22,0

Source: IMF (World Economic Outlook), April 2015, except for the EU, the source is European Commission, spring 2015.

Chart 2  
Key interest rates (ECB, FED and European interbank market)  
in %



Source: Bloomberg and ECB.

inflation rate in the EU continued, driven by lower prices of primary commodities, especially energy and food prices, as well as appreciation of the euro.

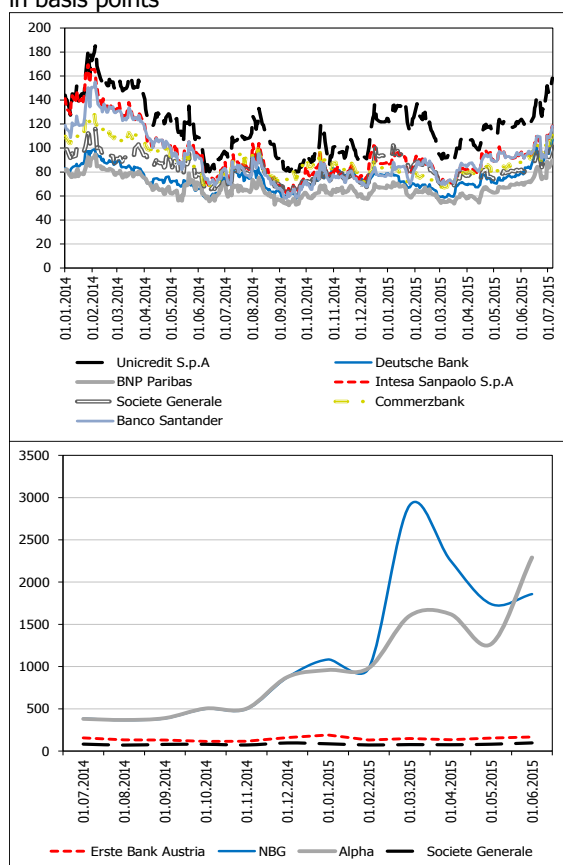
**The labor market in the EU has been recovering, but is being suppressed by the weak economic activity.** The unemployment rate in 2016 is expected to decrease to 9.2% in the EU and to 10.6% in the euro area, from 10.2% and 11.6% respectively in 2014.

**In 2014, changes in the setup of the monetary policy of the central banks of major developed countries were diverging.** Thus, in line with the improved performance of the US economy, the Fed responded through non-standard measures aimed at gradual reduction of the monetary stimulus<sup>4</sup>. The practice for reinvestment of matured debt in new assets continued in order to maintain favorable conditions of financing. The Fed's policy rate has not undergone changes, when it was estimated that it will be maintained for a long time, and its increase and the gradual normalization of monetary policy will depend on the future improvement the economic prospects of the United States.

**ECB takes more measures for further monetary easing in order to support the process of economic recovery and reverse the inflation to the target level of around 2% over the medium term.** Analyzing interest rate policy, the ECB cut the interest rate on the main refinancing operations twice in 2014, when it hit a record low of 0.05%. Accordingly, the interest rate on overnight credit facility was cut (to 0.30%), and a negative interest rate on deposit facility (-0.20%) was introduced. **Besides standard monetary measures, a series of unconventional measures were undertaken aimed at stabilizing inflation expectations and increasing credit**

<sup>4</sup> The monthly purchase of mortgage bonds and long-term government bonds continued to gradually reduce during 2014 until October, when the purchase was terminated, marking the end the third phase of the program of quantitative easing.

Chart 3  
Credit risk premiums for some leading banks (up) and banks with subsidiaries in the Republic of Macedonia (down)  
in basis points



Source: Bloomberg

**activity<sup>5</sup>**. In January 2015, the ECB announced a new expanded asset purchase program in the euro area (EAPP<sup>6</sup>), which includes the purchase of securities issued by public sector, i.e. by the member states of the euro area and certain European institutions. This measure of quantitative easing tends to significantly increase the ECB's balance sheet in order to reach the level of the beginning of 2012, thus providing a strong economic stimulus by stabilizing inflation expectations, maintaining real long-term interest rates low and improving corporate financing. Estimates show that the measures undertaken by the ECB have an important role in maintaining price stability and preserving financial stability in the euro area.

**The overall assessment of EU banks had a positive impact on the terms of funding** which was performed by the ECB within the process of establishing a single supervisory mechanism. Also, the results of stress testing and the evaluation of asset quality have proved relatively favorable, thus increasing the confidence in the banking system in the euro area. It helped alleviating the risks for financing and declining banks' risk premiums. Yet, the developments in Greece and its strong debt crisis have adverse effects on the Greek banks. Thus, the premium, or the cost of insurance against credit risk, expressed through credit risk swaps recorded a sharp rise for the Greek banks that have subsidiaries in the Republic of Macedonia (reaching several thousand basis points).

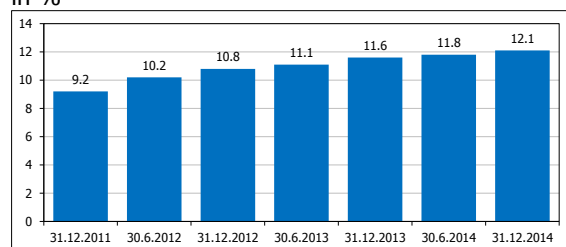
**EU banks continued to generate steady progress in addressing the implications of the financial crisis, with simultaneous adjustment to the new regulatory and prudential standards<sup>7</sup>.** The

<sup>5</sup> Two of the announced eight targeted longer-term refinancing operation were implemented in September and December, which enables long-term lending to the banks in the euro area. In the last quarter of 2014, two programs were launched, namely asset-backed securities purchase programme and the third covered bond purchase programme).

<sup>6</sup> Expanded Asset Purchase Programme.

<sup>7</sup> In the past few years, national financial regulators and international financial organizations have taken significant measures to strengthen the financial system and increase its resistance. Among them, the activities of the Basel Committee on Banking Supervision are of particular importance. Since the emergence of the crisis to date, the Committee has worked out several suggestions for improving the existing capital framework and strengthening prudential standards. The amendments to the Basel

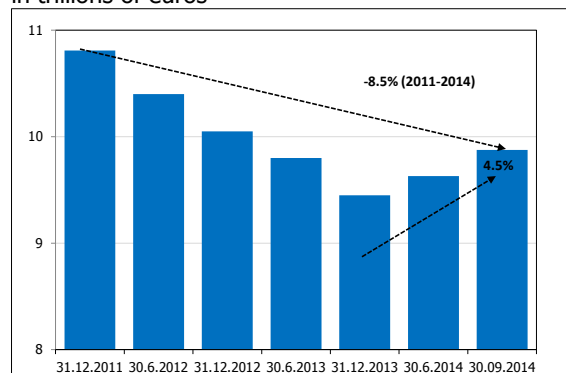
Chart 4  
Solvency – CET 1 ratio\*  
in %



Source: Risk Dashboard, Q1, 2015, European Banking Authority (EBA).

\* Common equity Tier 1 capital ratio, weighted average for 55 EU banks.

Chart 5  
Risk weighted assets of EU banks  
in trillions of euros



Source: Joint Committee Report on Risk and Vulnerabilities in the EU financial system, EBA, March 2015.

challenges ahead are still significant, and the progress of their overcoming remained uneven. Banks continued making efforts to strengthen their stability, and since being focused to the deleveraging and reducing risks in previous years, in 2014, they sought to increase equity. In the second half of 2014, equity grew at a faster pace than risk-weighted assets, which caused the rate of high-quality capital base to reach 12.1%, a similar level to the rate of major US banks. Some banks have announced further strengthening of capital to improve their capital position and complement the shortage of capital, as determined by a comprehensive assessment conducted by the ECB.

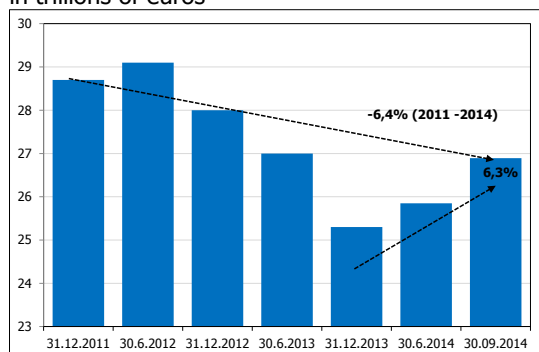
**Although there is still concern regarding the quality of the EU banks' assets, the dynamics of its deterioration significantly slowed down.** A comprehensive assessment of the ECB helped accelerating the improvement of banks' balance sheets through prudent valuation of assets and recognition of higher credit losses. Furthermore, the disclosure of the results of the comprehensive analysis and stress tests increased transparency regarding the banks' asset quality and confirmed that many of the most important banks in the euro area have good mechanisms in place to withstand the effects of the difficult economic crisis. Further cleaning of banks' balance sheets should be supported nationally by removing legal obstacles to the timely resolution of nonperforming loans. In the EU, non-performing loans continued to grow, although at a slower pace, in the vulnerable economies<sup>8</sup>. However, a comprehensive assessment determined that non-performing exposure of the group of significant banks of the euro area makes up 9% of its GDP (end of 2013). Although the aggregate indicator of the rate of non-performing exposure was 6.6% at the end of 2014, there is significant heterogeneity

Capital Accord, known as Basel III achieve this objective, as well. In order to implement the Basel standards in the European Union, the Regulation of the European Union no. 575/2013 and the Directive of the European Union no. 2013/36 - Capital Requirement Regulation / Capital Requirement Directive IV (CRR / CRD IV) were adopted.

<sup>8</sup> Vulnerable economies include Greece, Spain, Italy, Portugal, Cyprus and Slovenia. Source: ECB, Financial Stability Review, May 2015.

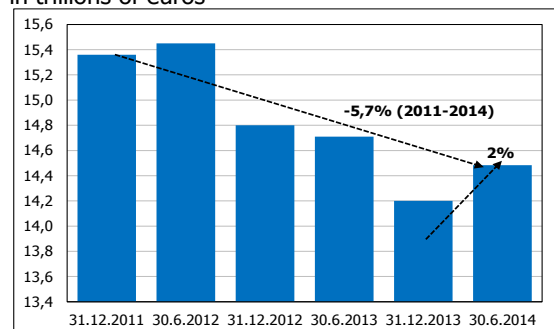


Chart 6  
EU banks' assets  
in trillions of euros



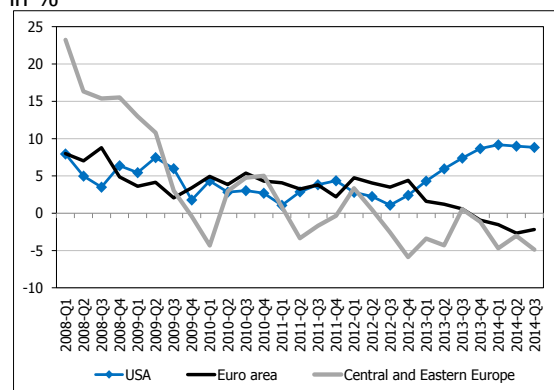
Source: Joint Committee Report on Risk and Vulnerabilities in the EU financial system, EBA, March 2015. Risk assessment of the European Banking System, EBA, December 2014.

Chart 7  
Loans to EU banks  
in trillions of euros



Source: Risk assessment of the European Banking System, EBA, December 2014.

Chart 8  
Credit growth  
in %



Source: BIS Quarterly Review, Mart 2015.

analyzed by individual banking systems, whereas the share of non-performing to total exposure ranges from 4% to 57%<sup>9</sup>. The high share of non-performing loans in the individual banking systems in the EU remains a serious macro-prudential challenge, which indicates vulnerability and potential macroeconomic implications in the long term. First, it shows that households and non-financial companies are significantly indebted and poor, which reduces consumption and investment, and consequently contributes to the delay of economic recovery. Second, it indicates that the banking sector still seeks to address consequences of the crisis and cannot be fully committed to support new investment projects. Thus, for a period of two and a half years, total loans of EU banks dropped by almost 6%. This extends the period of low economic activity and further increases the challenges associated with non-performing loans in the banking system and the economy.

**The reduced lending activity is a consequence of the low growth rates of loans to non-financial companies, mainly due to anemic demand for credit and limited terms of lending.** Further ease of restrictions on the supply of bank loans and the resolution of non-performing loans should contribute to improving terms of lending, with a particularly important role of the standard monetary measure and most of the unconventional measures of the ECB which should improve access to finance, which is essential for the economic growth.

**Despite the efforts to strengthen the balance sheet, the combination of cyclical and structural unfavorable factors is the reason behind low profitability of the banking sector in several countries in the euro area.** The meaning of profitability for the stability of the banking sector is twofold. First, banks' capital is the frontline for unexpected shocks and losses. Second,

<sup>9</sup> Source: ECB, Financial Stability Review, May 2015.



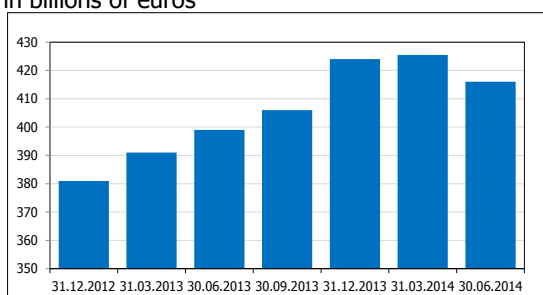


continuous low profitability may encourage banks to take unreasonable greater risks in order to generate higher rates of return, which could increase financial vulnerability.

An important factor for the reduced profitability of individual banks amid low economic growth and flat yield curves are the increased loan loss provisions. The improving economic conditions are expected to decline any unfavorable cyclical factors. Moreover, there is an increasing need for further adjustment of banks' strategies and business models in order to improve profitability in the long term.

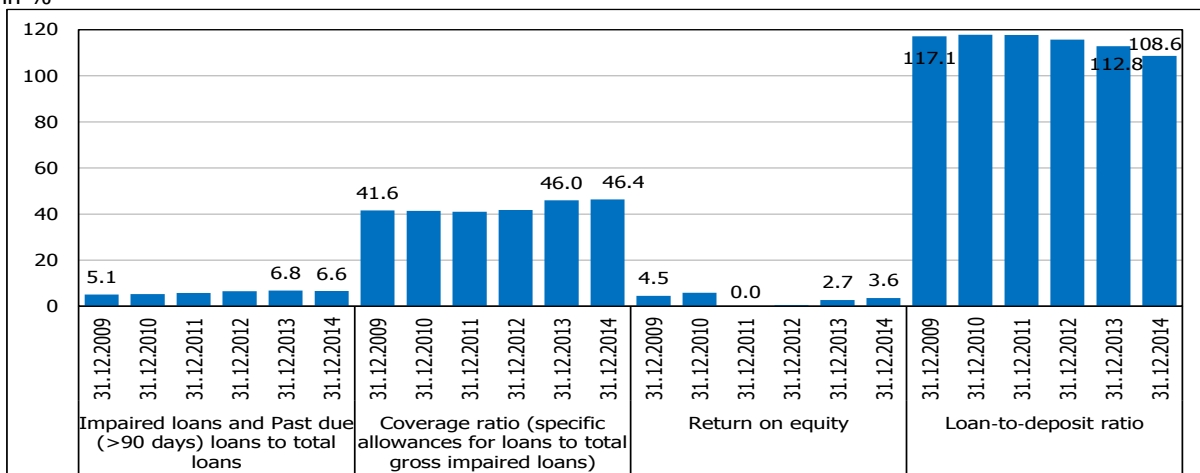
**However, the sustainability of economic growth and stable conditions for financing in the EU are largely determined by the risks associated with geopolitical turmoil, primarily the Russian-Ukrainian conflict, as well as the developments in Greece over reforms related to obtaining additional financial support.**

Chart 9  
Loan impairment of EU banks  
in billions of euros



Source: Risk assessment of the European Banking System, EBA, December 2014.

Chart 10  
Non-performing growth rate, ROE, non-performing loan coverage and loans/deposits of the EU banking system  
in %



Source: Source: Risk Dashboard, Q1, 2015, European Banking Authority (EBA).



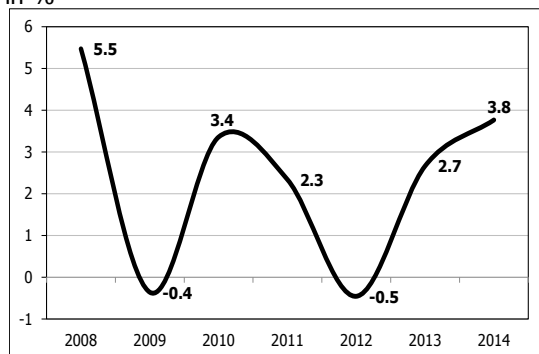
## 2. Domestic environment

Domestic macroeconomic environment was favorable for the operations of financial institutions and for preserving financial stability. Despite the still present risks intrinsic to the international environment and the slow pace of recovery of foreign demand, in 2014, the Macedonian economy continued to recover with a solid real GDP growth of 3.8%<sup>10</sup>. The growth was mainly generated by domestic factors, primarily investments and exports-supporting structural changes. Also, there is a further gradual decline in the unemployment rate, as well as slower inflation rate. The level of foreign reserves and indicators for their adequacy during the year remained appropriate, and fiscal policy continued stimulating and supporting the economic recovery. The support was financed by additional borrowing, primarily external, thus further increase of external debt.

Economic growth is expected to continue in 2015. Such projections are backed by foreign export-oriented investment and public infrastructure investment, and further effects of monetary and macro-prudential measures taken by the monetary authority, which should improve the expectations of economic agents and further encourage banks to take risks, and to greater lending to the corporate sector.

However, in 2015, the performance of the Macedonian economy is affected by increased risks because of the political turmoil in the country and the developments in Greece over the reforms related to obtaining additional financial support. No significant direct adverse effects on the domestic financial system are expected nor there are direct channels for the negative effects. Yet, there is a risk of adverse effects on the banking system due to the materialization of the reputational risk.

Chart 11  
GDP (annual real growth rates)  
in %



Source: State Statistical Office.

Note: GDP data for 2013 are preliminary, and data for 2014 are estimated.

**In 2014, the Macedonian economy continued growing with higher intensity than in 2013.** The improvement in the external environment and the positive spillover effects from the activity of new export-oriented production facilities improved the business environment in the domestic economy, where all economic sectors had a share in increasing the value added in the economy. In 2014, GDP growth was driven by gross capital formation and export of goods and services. The gross investments registered a real growth of 13.5% as a result of the public sector investments in infrastructure and the private sector investments (including companies operating in the technological industrial development zones and industrial zones). In the same period,

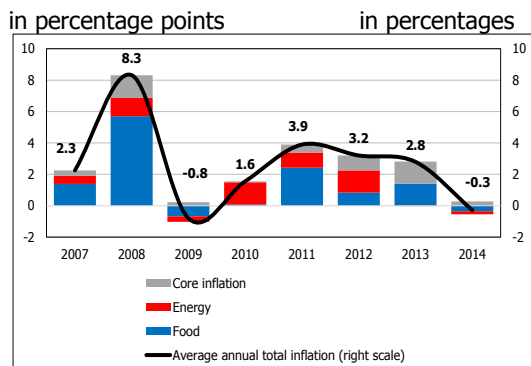
<sup>10</sup> More information on the domestic macroeconomic environment is given in the "Annual Report for 2014" of April 2015.





Chart 12

Average annual inflation and annual contributions of variables (food and energy) and the long-term component of inflation



Source: SSO and NBRM calculations.

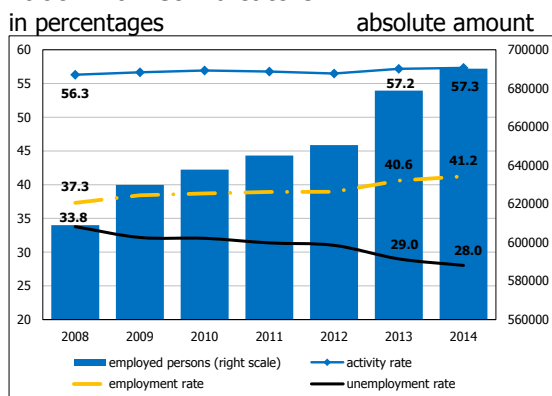
export of goods and services, as a component with the highest individual contribution to the growth, experienced a real growth of 17.0%. On the other hand, imports registered a real growth of 14.5%.

During 2014, the National Bank continued to implement accommodative monetary policy and took a series of monetary and macro prudential measures<sup>11</sup>, mainly aimed at supporting lending to the corporate sector, which, in turn, continued to give positive effects on the economic developments, expecting similar effects in 2015.

The trajectory of domestic prices in 2014 was mostly influenced by the movement of prices of primary commodities on the world market, which were generally decreasing in the last year. An additional factor is the slower increase in the prices of imported products for private consumption or foreign effective inflation<sup>12</sup>. Such shifts in the global environment, in the absence of domestic demand pressures, **reduced the general price level in the Macedonian economy to minus 0.3% annually, on average.**

Chart 13

Labor market indicators



Source: SSO and NBRM calculations.

**The favorable developments in the real sector in 2014 were followed by generally positive trends in the labor market.** For several years now, the improvement of some of the key labor market indicators has been associated with the operations of the new facilities in the technological industrial development zones, as well as with the influence of the fiscal policy through active employment measures<sup>13</sup>, publicly financed infrastructure projects as well as agricultural subsidy policies. Consequently, the number of employees in 2014 increased by 1.7%<sup>14</sup>.

<sup>11</sup> More details on the undertaken monetary and other measures see the *Annual Report for 2014*, of April 2015.

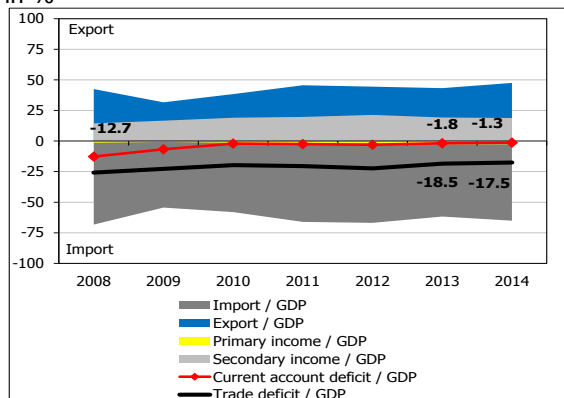
<sup>12</sup> For more details on the foreign effective inflation and its calculation method see the *Annual Report for 2014*, of April 2015.

<sup>13</sup> In 2014, the Government of the Republic of Macedonia, through the Ministry of Labor and Social Affairs and the Employment Agency continued implementing active measures and programs designed to increase employment, such as self-employment programs, financial support to micro and small enterprises and craftsmen for opening new jobs, subsidized employment programs, work-readiness programs, community service programs, etc.

<sup>14</sup> For more details about the (un)employment see the *Household* section.

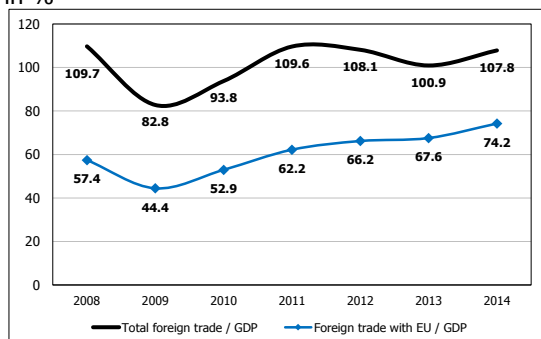


**Chart 14**  
Significance of import and export of goods, trade balance and current account balance for the Republic of Macedonia in %



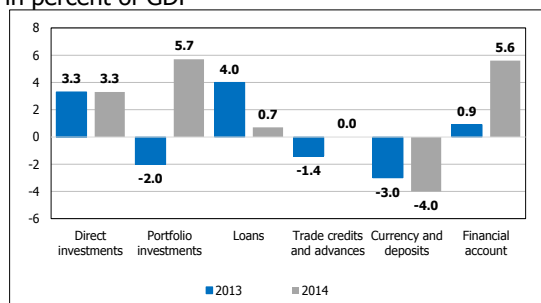
Source: NBRM

**Chart 15**  
Level of trade openness of the Macedonian economy in %



Source: NBRM

**Chart 16**  
Financial account components in percent of GDP



Source: NBRM

Note: Financial account excluding foreign reserves.

In 2014, the movements in the current account of the Republic of Macedonia were favorable. **The current account deficit continued to narrow and reduced to the lowest level in eight years.** Significant contribution to these positive shifts was made by the improving trade balance in goods, amid slight deterioration in the secondary income and services.

In 2014, the **trade deficit** amounted to Euro 1,498 million, at almost the same level as in 2013, with faster growth in exports (15.6%) than the growth of imports of goods (10.9%).

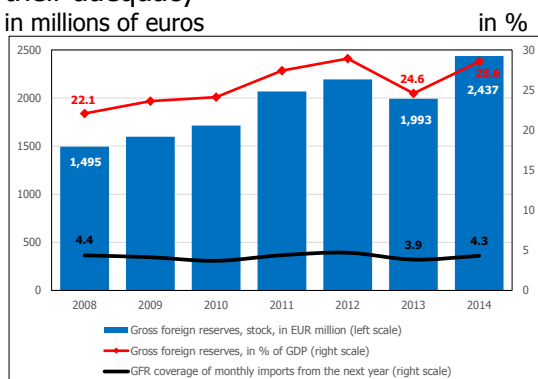
The Macedonian export is mainly directed towards the EU as a major export destination, where 76.6% of the Macedonian export was exported in 2014, with the largest contribution of the exports to Germany.

**The level of trade openness of the Macedonian economy is generally high**, at about 100% in recent years, with a moderate slowdown in 2012 and 2013, reflecting the reduced trade during the second wave of the global economic crisis and the fall of domestic GDP in 2012. After economic recovery in 2013 and 2014, the degree of trade openness of the economy is expected to gradually increase in the future, which besides competitiveness also increases susceptibility to external shocks.

**In 2014, the most significant contribution to the financial account inflows was made by net inflows from government borrowing abroad through the issuance of the Eurobond (5.4% of GDP) and foreign direct investment (FDI).** In the third quarter of 2014, amid favorable developments on the international financial markets, the government borrowed on the international financial markets through the issuance of the third Eurobond<sup>15</sup> in the amount of Euro 500 million, resulting in a rise in the government liabilities on portfolio investments,

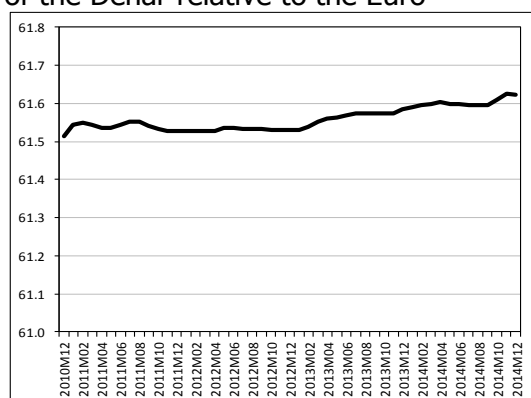
<sup>15</sup> The Eurobond maturity is 7 years (until July 2021) and annual interest rate of 3.975%.

Chart 17  
Gross foreign reserves and indicators for their adequacy  
in millions of euros



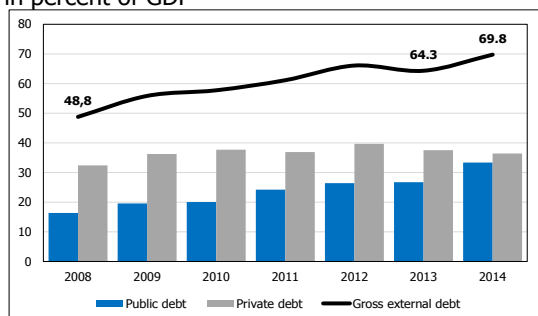
Source: NBRM

Chart 18  
Average monthly nominal exchange rate  
of the Denar relative to the Euro



Source: NBRM

Chart 19  
Gross external debt, by debtor  
in percent of GDP



Source: NBRM

Note: Excluding repo transactions from the debt of monetary authority.

simultaneously causing high accumulation of foreign reserves, i.e. growth of net assets<sup>16</sup>. Thus, at the end of 2014, the gross foreign reserves stood at Euro 2,437 million, which is an increase of 22.3% compared to the end of 2013. **Foreign reserves are maintained at an adequate level, providing average import coverage of 4.3 months.**

Foreign direct investments equaled 3.3% of GDP, largely in the form of loans from the parent companies, with a smaller contribution of equity and reinvested earnings. Current developments in Greece, especially after the referendum at the beginning of July 2015, will very likely have an adverse impact on investors' risk perceptions, despite the growth of the domestic economy.

**Overall, in 2014, the foreign exchange market was stable,** and the NBRM intervened to overcome the occasional mismatch between supply of and demand for foreign currency. Moreover, the exchange rate of the domestic currency remained stable, which is critical for the stability of the real sector and consequently for the financial stability, given that a significant portion of the debt of households and companies to banks is in foreign currency or is denominated in foreign currency (with a currency clause, mainly Euro).

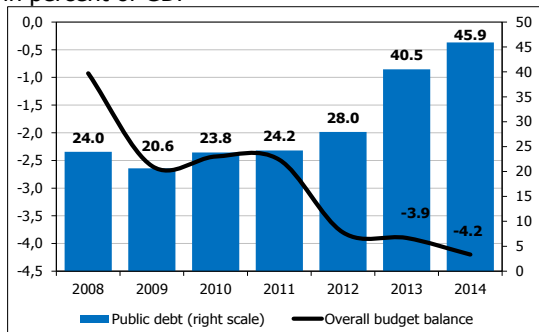
**At the end of 2014, the share of gross external debt to GDP ratio increased by 5.4 percentage points compared to 2013.** The growth of gross external debt stems solely from increased public debt, amid annual drop of private sector debt.

The growth of the external debt of the public sector mainly results from the net government borrowing abroad based on the issued Eurobond, with simultaneous contribution of the growth of debt based on long-term financial loans to public companies,

<sup>16</sup> Net external debt that includes debt instruments only, at the end of December 2014, amounted to 21.2% of GDP, which is 2.6 percentage points higher than the share at the end of 2013. The growth of net external debt is lower than the growth of gross debt, given the growth of foreign reserves due to the inflows of external borrowing.



Chart 20  
Public debt and overall budget balance  
in percent of GDP

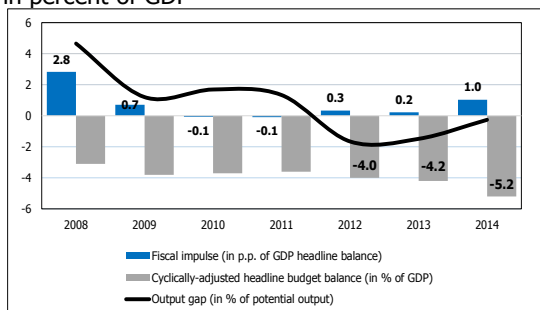


Source: Ministry of Finance of the Republic of Macedonia and NBRM calculations.

mostly for construction of road infrastructure. According to the external debt to GDP ratio, the external debt<sup>17</sup> of the Republic of Macedonia is high, while the indicators of the ratios between the gross external debt, debt service and interest repayment to the export of goods and services, individually, indicate a low level of indebtedness. According to the projection of the financial account for the period 2015-2017, the first three indebtedness indicators are expected to improve in the next three years, given the expected acceleration of exports, mainly as a result of the new companies with foreign capital. Observing maturity, long-term debt is expected to remain prevalent.

**In 2014, the budget deficit continued to rise and reached 4.2% of GDP, with the risk arising from public finances being more pronounced compared to 2013.** Fiscal policy in 2014 continued to support domestic economy under the current economic cycle, given the negative output gap. Thus, the cyclically adjusted budget deficit, i.e. structural deficit<sup>18</sup> increased by 1 percentage point compared with 2013, to 5.2% of GDP.

Chart 21  
Fiscal indicators  
in percent of GDP



Source: Ministry of Finance of the Republic of Macedonia and NBRM calculations.

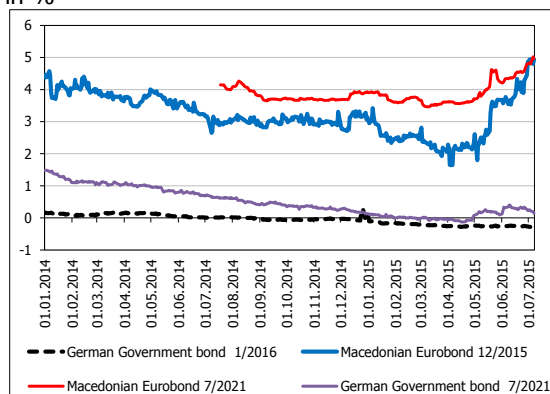
**Budget needs were financed through foreign and domestic sources,** primarily through the issuance of the above Eurobond (which provided funding for 2014 and 2015), through regular disbursement of credit lines for certain projects, as well as borrowing of the Republic of Macedonia from the World Bank's Second Programmatic Competitiveness Development Policy Loan. In 2014, the government provided funds through borrowing on the domestic financial market. However, annually, larger repayments of the existing domestic debt were made<sup>19</sup>. Also, in 2014, the structure of government securities continued

<sup>17</sup> Source: National program of economic reforms, 2015, Ministry of Finance of the Republic of Macedonia. The analysis is tailored using the World Bank method, where the calculation of the indicators uses year moving averages of GDP and exports of goods and services, as denominators. The methodology also defines criteria of indebtedness, as reference values for indebtedness level.

<sup>18</sup> Cyclically adjusted budget deficit, i.e. structural deficit is obtained by adjusting budget revenues and expenditures for the effect of the deviation of the potential from the actual GDP, where the adjustment is made at the aggregate level.

<sup>19</sup> The overall performance of the primary government securities market halved in 2014 and amounted to 10.5% of GDP, compared to 21.3% in 2013, which was solely due to the reduced issuance of treasury bills.

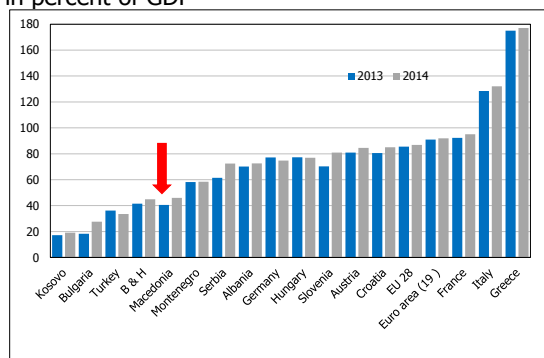
Chart 22  
Rates of return on Eurobonds issued by the RM and on comparable German government bond  
in %



Source: Bloomberg

improving in terms of increasing maturity of new issues. Internal political turmoil in the Republic of Macedonia, and generally, the negative image for the countries of the region created by the uncertainty about the Greek developments, exacerbated the risk perceptions taken by foreign entities when investing in securities issued by the Republic of Macedonia. Thus, in late April and early May 2015, the rates of yield on Eurobonds issued by the Republic of Macedonia started to grow and at the end of June, reached a level of around 5%, which is higher than the interest rate at which these bonds were issued.

Chart 23  
Public debt, by country  
in percent of GDP



Source: IMF (World Economic Outlook Database, May 2015) and Eurostat, May 2015.

**In 2014, the higher budget deficit increased the total public debt<sup>20</sup> to GDP of 40.5% in 2013 to 45.9% in 2014.** Such public debt dynamics mainly results from the increased government debt<sup>21</sup>, particularly the increased external debt of the central government<sup>22</sup> (considering that the domestic government debt registered a minor fall), and less from the growth of external guaranteed debt of public enterprises and joint stock companies in state ownership. Analyzing these two public debt components, government debt and guaranteed debt accounted for 83.2% and 16.8%, respectively. According to the residential structure of public debt, the external public debt to GDP ratio rose by 6.3 percentage points compared to 2013 and reached 31.9%, while the domestic debt ratio decreased for the first time after several years to 14% (14.8% in 2013). A comparison with selected sample of countries (including the aggregate data for the member states of the EU and the euro area) shows **that the Republic of Macedonia is moderately indebted country, but the**

<sup>20</sup> Total public debt includes government and guaranteed debt. The public debt is defined under the Law on Public Debt (Official Gazette of the Republic of Macedonia No. 165/14), as a sum of the government debt and the debt of public enterprises established by the state or municipalities, municipalities within the city of Skopje and the city of Skopje, and companies that are entirely or predominantly owned by the state or by the municipalities, the municipalities within the city of Skopje and the city of Skopje, for which the Government has issued a state guarantee.

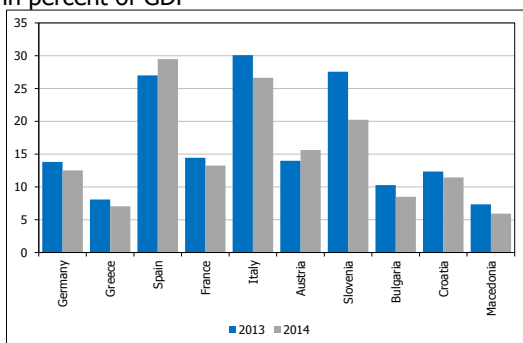
<sup>21</sup> Government debt is defined as a sum of debts of the central and the local government. In 2014, central government debt registered an annual growth of 17.8%, increasing its share in GDP from 34.2% in 2013 to 38.2% in 2014.

<sup>22</sup> This debt arose from the issued Eurobond, and in order to take advantage of favorable conditions for securing funds for pre-financing of liabilities that fall due in 2015.



**speed of public debt growth should be carefully monitored.**

Chart 24  
Share of investments in domestic government securities  
in percent of GDP



Source: ECB (Statistical Data Warehouse), Eurostat, Ministry of Finance and NBRM (for Macedonia).

**Banks still have the largest share in the structure of government securities** despite the reduced investment in these instruments<sup>23</sup>. Thus, as of 31 December 2014, banks have invested Denar 31,153 million in government securities<sup>24</sup>, constituting 47.1% (2013: 56.2%) of the total amount of government securities. The reduced interest of banks is associated with the higher lending and banks' investments in instruments with higher yields, which is in line with measures taken by the NBRM as a support to lending activity. The reduced CB bill issue and the determination to reshape the supply of government securities also had their effect in order to increase their maturity, for which banks did not expressed larger interest. Next largest investors in government securities according to the share of securities are pension funds (28.8%) and the Deposit Insurance Fund (with a share of around 17%). Insurance companies registered the fastest annual growth of 55.7%, but still their share is about 6%. This shows that there is a concentration of investments in the larger segments of the financial system of one creditor, thus underlining the importance of the government for the stability of the overall financial system, although these investments are usually treated as risk free.

<sup>23</sup> Compared to December 2013, the amount of government securities invested by banks decreased by Denar 5,530 million, or 15.1%.

<sup>24</sup> Source: website of the Ministry of Finance.

## **II. NON-FINANCIAL SECTOR**

### **1. Household sector**

**Risks to financial stability generated by households in 2014 remained under control and are not high. Despite the increase of the debt in recent years, the level of household indebtedness is still low, while the solvency and liquidity indicators of this sector are satisfactory. This, together with the solid creditworthiness of households (seen through the low probability of default), leaves room for further growth in household debt. Yet their future indebtedness and debt repayment regularity should be carefully monitored, given the speed of growth of new loans, primarily long-term and consumer loans. Non-performing debt to banks increased, but its share in the total debt is low.**

**The household debt is still mostly to banks. In 2014, banks provided a solid credit support to households as a result of further improvement of their expectations and assessments of the risk profile of the credit demand amid still low indebtedness of this sector and favorable labor market developments. Interest rates cut by the banks additionally stimulated credit growth and accordingly, increased household debt.**

**Household disposable income, financial power, financial soundness are in general largely determined by the scope of activities and performances of the corporate sector and its efficiency to manage risks. The favorable labor market developments, accompanied by improved labor productivity, contributed to accelerating the growth of disposable income and the rate of savings.**

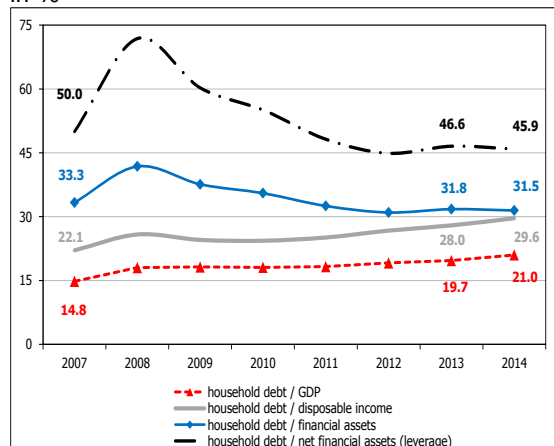
**Households' exposure to interest rate and currency risks remains a potential risk that may affect the amount of their debt and their creditworthiness. Households are the most important creditor of the banking system and any risk materialization can have negative effects on the liquid and stable operations of domestic banks. Alternative options for placing funds and for generating yields are still underdeveloped, but the falling deposit interest rates could make some households shift their resources to other saving options, such as investments in voluntary pension funds, life insurance policies, stocks in open investment funds etc.**





## 1.1 Household debt level

Chart 25  
Indicators for household debt  
in %



Source: NBRM, based on data submitted by banks and savings houses, MF, CSD, MAPAS, SEC, ISA and SSO.

**Although household indebtedness indicators signaled some increase in the level of debt in 2014, yet, the solid creditworthiness of this sector and the high level of its financial assets show that credit growth is not exhaustive, and that there is room for further indebtedness of households.** The growth of household debt in 2014 caused an increase in its share in the gross domestic product and in the disposable income. Amid moderate acceleration of growth in disposable income, the higher household consumption was underpinned by greater lending to this sector. The faster debt increase compared to the increase of disposable income caused some deterioration in the liquidity position<sup>25</sup> of the sector. However, the liquidity position of households is satisfactory, resulting from relatively low level of their indebtedness. The annual growth rate of debt lags behind the growth of financial assets which means slight improvement in the ability of households to repay their entire debt (as measured by debt to financial assets ratio) and also increases the possibility for further indebtedness (as measured by debt to net financial assets ratio<sup>26</sup>). The downward shift in debt to net financial assets ratio at the same time confirms the solid solvency<sup>27</sup> of households.

<sup>25</sup> For more details see the box Household Sector Vulnerability Indicators.

<sup>26</sup> Net financial assets represent the difference between financial assets and household debt.

<sup>27</sup> For more details see the box Household Vulnerability Indicators.





## Household Vulnerability Indicators

Household vulnerability is determined by the change of three individual indicators, namely liquidity risk, insolvency risk and the "snowball" effect risk, as an aggregate indicator of systemic risk. The indicators of household vulnerability is calculated using the following formulas:

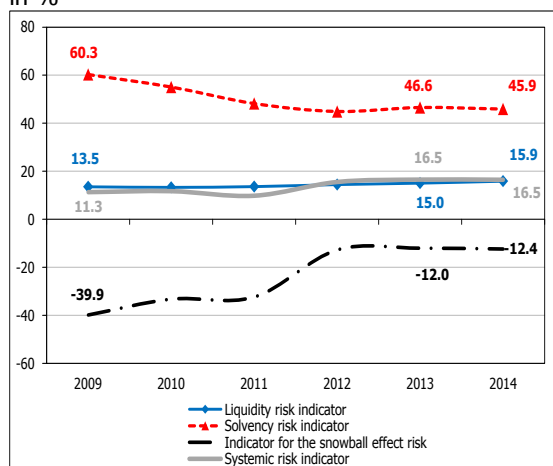
$$\text{Liquidity risk ratio}_t = 0,5 * \frac{\text{Debt}_t}{\text{Disposable income}_t} + 0,5 \frac{\text{Interest payment}_t}{\text{Disposable income}_t}$$

$$\text{Insolvency risk ratio}_t = \frac{\text{Debt}_t}{\text{Net financial assets}_t}$$

$$\text{Snowball effect risk ratio}_t = \frac{\text{Interest payment}_t}{\frac{\text{Debt}_t + \text{Debt}_{t-1} + \text{Debt}_{t-2} + \text{Debt}_{t-3}}{4}} + \left( \frac{\text{Disposable income}_t}{\text{Disposable income}_{t-4}} - 1 \right)$$

The aggregate indicator of systemic vulnerability of households is calculated as a simple average of the three indices.

Chart 26  
Household Vulnerability Indicators  
in %



Source: NBRM, based on data submitted by banks and savings houses, MF, CSD, MAPAS, SEC, ISA and SSO.

The dynamics of liquidity risk ratio for households indicate some deterioration in their liquidity position. This is due to the stronger increase of debt and interest payments relative to the increase of disposable income due to which the household debt absorbs most of the disposable income.

The decrease of debt to net financial position ratio confirms the solid solvency of households and thus their ability to repay debt and further borrowing.

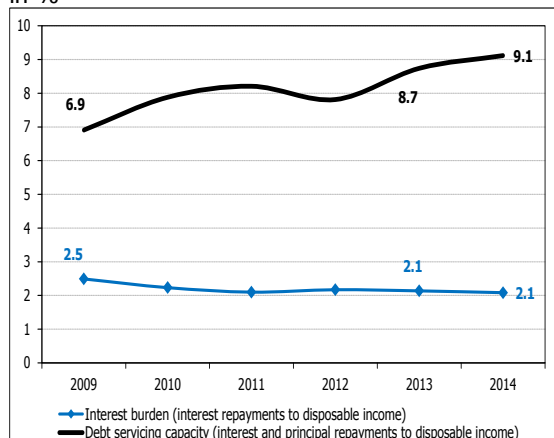
The snowball effect indicator with which the rate of cost of funds received as debt is compared with the rate of change of household disposable income is negative due to the faster growth of disposable income compared to the share of interest repayments in the average debt for the last four years. Negative value of the indicator for the snowball effect risk shows that this indicator does not show risks in the household sector in the

Republic of Macedonia. Potential switching of its value in the positive zone will mean actualization of the risk of the snowball effect for households. In such a case, the share of interest repayments in the average debt for the last four years would have exceeded the growth rate of disposable income for the last four years.

In 2014, the systemic vulnerability of households remained almost unchanged, i.e. registered slight downward movement as a result of the absence of risk of the snowball effect and favorable movement of the household solvency ratio, with a slight deterioration in their liquidity position. Low vulnerability of households confirmed their solid solvency and the possibility for further borrowing.



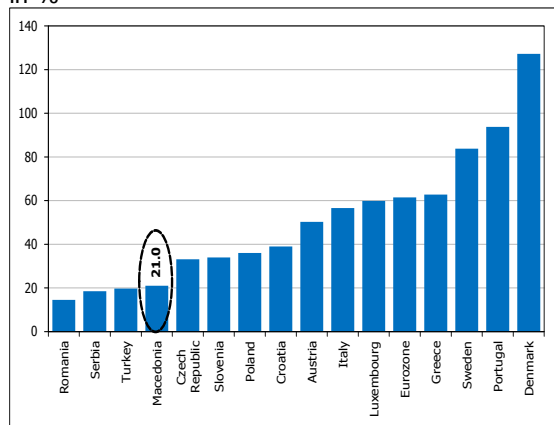
Chart 27  
Household debt repayment indicators  
in %



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

**The ability of households to repay interest and principal in 2014, marginally worsened.** Namely, the ability to repay interest only slightly improved, but the ability to repay interest and principal<sup>28</sup> together, deteriorated by 0.4 percentage points, mainly due to the weaker pace of growth of disposable income compared to the faster rate of growth of liabilities based on interest and principal together<sup>29</sup>. Although these trends indicate that most of disposable income in 2014 was used for repayment of interest and principal, the level of this indicator is still low since repayments account for less than 10% of disposable income. The high level of financial assets improved the ability of households to repay the entire debt, despite the increased burden for repayment of this sector. However, one should not overlook the possible high indebtedness of households segments with lower incomes.

Chart 28  
Household debt to GDP ratio, by country  
in %



Source: Source: NBRM, based on data submitted by banks and savings houses, SSO, MF and IMF (Financial Soundness Indicators) and web sites of central banks.

**The low level of household debt particularly comes to the fore in the comparative analysis of the share of debt in GDP in selected countries.** This is partly a reflection of the historically weak financial support to households in our country, with the same effect of the relatively low level of disposable income among certain household segments compared to developed countries, which leaves no room for larger borrowing.

<sup>28</sup> Repayment of principal is calculated as the sum of the balance of the loans at an earlier date and the amount of new loans in the relevant year, reduced by the balance of the loans at the date to which the analysis refers, written-off loans during the year and accounting closed loans by the means of foreclosure. This is the closest approximation of principal collected for the relevant year.

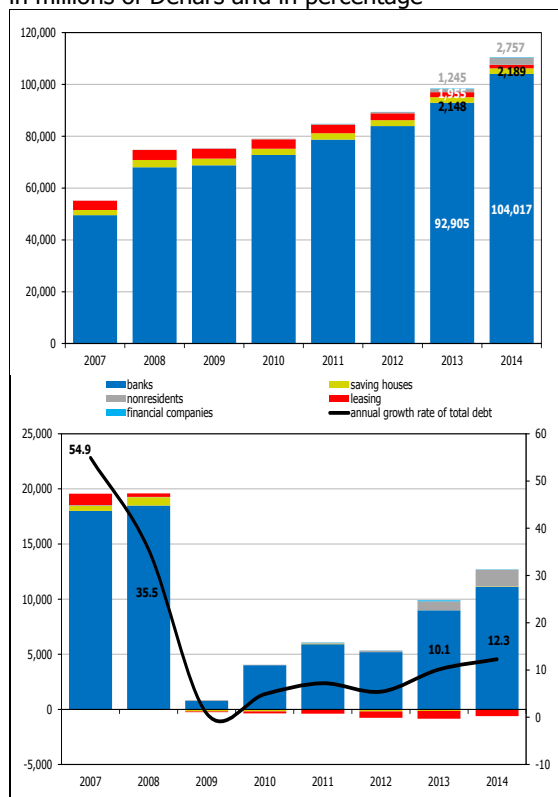
<sup>29</sup> Disposable income rose by 5.9%, while repayment liabilities increased by 10.5%.



## 1.2 Structure and movement of household indebtedness

Chart 29

Total household debt (up) and annual growth by component (down)  
in millions of Denars and in percentage



Source: NBRM's Credit Registry, based on data submitted by banks, savings houses and the MF.

Given the positive developments in the domestic economy and signs of private sector recovery, the indebtedness of households<sup>30</sup> registered the highest growth after 2008 when the domestic economy experienced the initial effects of the global financial crisis. The growth in 2014 is actually a continuation of last year's trend of rapid growth of household debt and is mostly due to the debt to banks. 2014 registered higher growth of household liabilities to non-residents as a result of two major credits from abroad. However, the share of debt to nonresidents in the total debt is still small. The debt based on leasing has been continuously decreasing over the last six years, thus reducing its share in total debt. This is the only debt component that registered a negative annual growth. Since the debt with the banks accounts for 94.1% of the total household debt, the analysis of the debt of this sector is based on this portion of the debt.

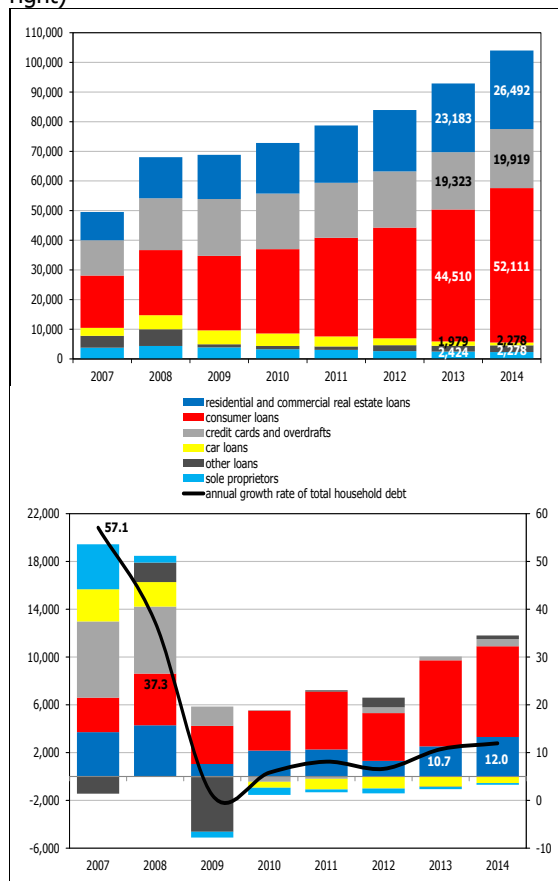
In 2014, household debt with banks recorded the highest growth after a period of credit expansion (2007-2008), due to the further strengthening of credit support to the banking system to this credit market segment. Yet, the growth of household debt in 2014 is five times lower compared to the growth registered in the pre-crisis 2007, but is significantly higher compared to the modest growth registered in the crisis year 2009, followed by certain stabilization of growth. During the crisis (particularly obvious in 2009), the dynamics of household debt was affected by changes in lending terms made by

<sup>30</sup> For the needs of this analysis, the total household debt includes: debt based on loans, interest and other claims of banks and savings houses, total external liabilities of households (non-residents), the value of active leasing contracts and indebtedness based on active contracts with financial companies.



Chart 30

Household debt to banks by type of loan product (up) and annual growth (down) in millions of Denars and in percentage (down, right)



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

banks, as a prudent response to the deteriorating economic conditions, changes in credit strategies of some banking groups present in the country, but also to the macro-prudential measures in the area of foreign reserves taken by the National Bank. Household recovery from the global crisis has proceeded faster compared to the corporate sector, where the banks' perceptions of the risk of lending to households stabilized in late 2011.

**Debt based on consumer loans and loans for the purchase and renovation of residential and commercial properties registered the largest increase** and almost fully (98.2%) determined the growth of the household debt with banks. The largest portion of household debt to banks (72.3%) was debt for consumption<sup>31</sup>.

**The acceleration of lending to households was followed by further easing of terms of lending to this sector**, but at slightly slower pace compared to the previous year<sup>32</sup>. Faster net easing was registered in terms of lending for housing loans. Net easing of terms of lending for housing loans was mostly made through the interest rate and fees and charges related to loans, and facilitating the application for coverage of the loan with collateral. In consumer loans, net

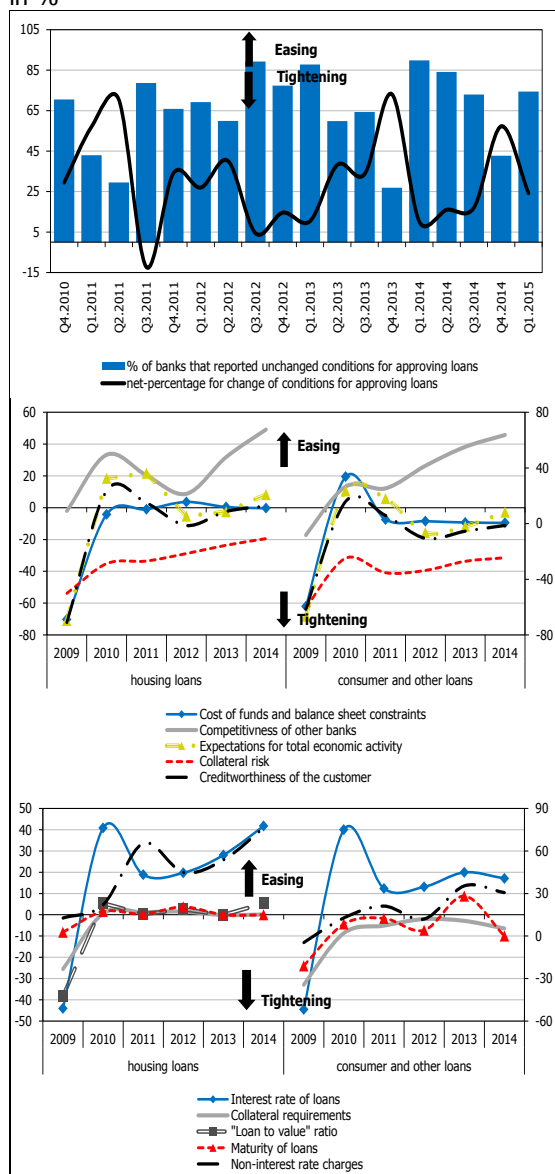
<sup>31</sup> Consumer loans, which make up half of the total debt, overdrafts and credit cards with a share of 19.1%, other loans with 2.2%, loans to retailers with 2.2% and car loans accounting for only 0.9% of the total debt.

<sup>32</sup> Source: Bank Lending Survey, April 2015. In 2014, about 26%, on average, of the banks reported easing of the lending conditions, versus 40% in the previous year.



Chart 31

Banks' assessment of lending conditions to households (top), net-percentage for the effect of individual factors (middle) and net-percentage for change of individual lending condition (bottom) in %

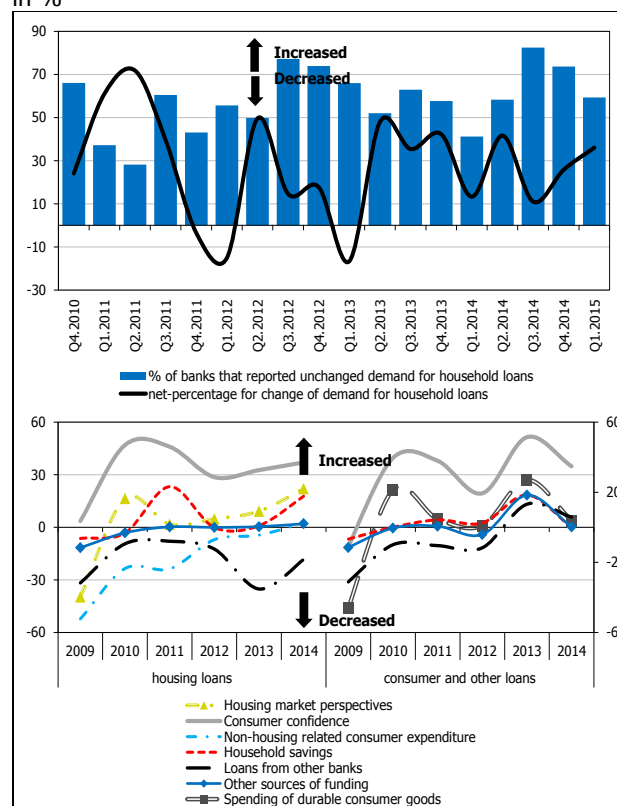


Source: NBRM, based on data in Bank Lending Surveys.  
Note: The percentage of banks is weighted by the share of each bank in total household loans on each date.  
Net percentage is the difference between banks that have reported easing of the lending conditions and banks that have reported tightening of the lending conditions for households.

easing of terms of lending was with lower intensity compared to the previous year. The terms of lending were eased under the influence of competition in the banking system and the favorable expectations for the overall economic activity. Amid easing of the lending terms, according to banks, the changes in reserve requirements and in the decisions on liquidity and credit risk management<sup>33</sup> gave an additional incentive for the increase of lending activity.

Chart 32

Banks' assessment of demand for household loans (up) and net-percentage for the effect of individual factors (down) in %



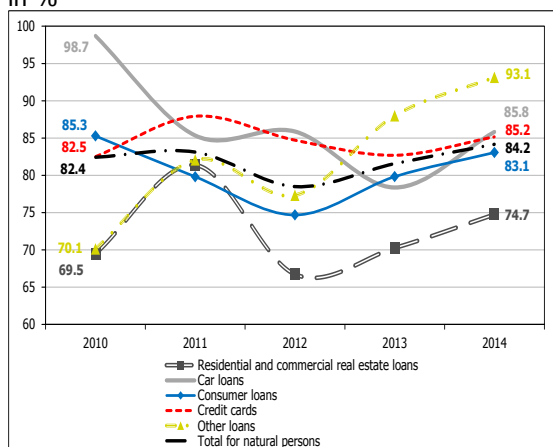
Source: NBRM, based on data in Bank Lending Surveys.  
Net percentage is the difference between banks that have reported increased demand for loans and banks that have reported reduced demand for loans by households.

<sup>33</sup> Based on the banks' assessments about the impact of changes in reserve requirements (January, June and November 2013) and the amendments to the decisions on liquidity and credit risk management on the movement of lending and lending interest rate.



**Demand for loans recorded a steady increase in 2014**, though with lower intensity than in the previous year. Increased demand for loans by households is associated with the further strengthening of consumer optimism about the prospects of the economy and the amount of their income

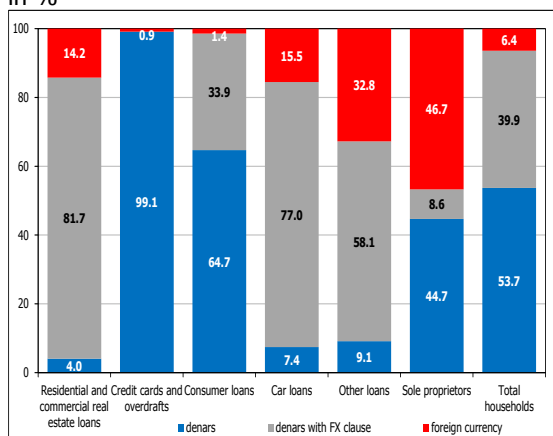
Chart 33  
Share of accepted in received loan applications of households, by credit product in %



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

**Increased credit support to households is reflected through increased permeability of credit requirements with banks (increased share of accepted in received loan applications), which is also indicative of easing terms of lending for households.** The growth of share of approved in total received loan applications, is in fact a continuation of last year's positive trend, after the downtrend in 2012. This trend is present in all types of credit products, with the rate of approved loan applications (of the total number of received applications) being the lowest for housing loans, which corresponds to the "strictness" of the requirements for approval of these loans. The number of loan applications received for products intended for households shows the greatest interest in consumer loans, followed by credit cards.

Chart 34  
Currency structure of household debt by type of credit product in %

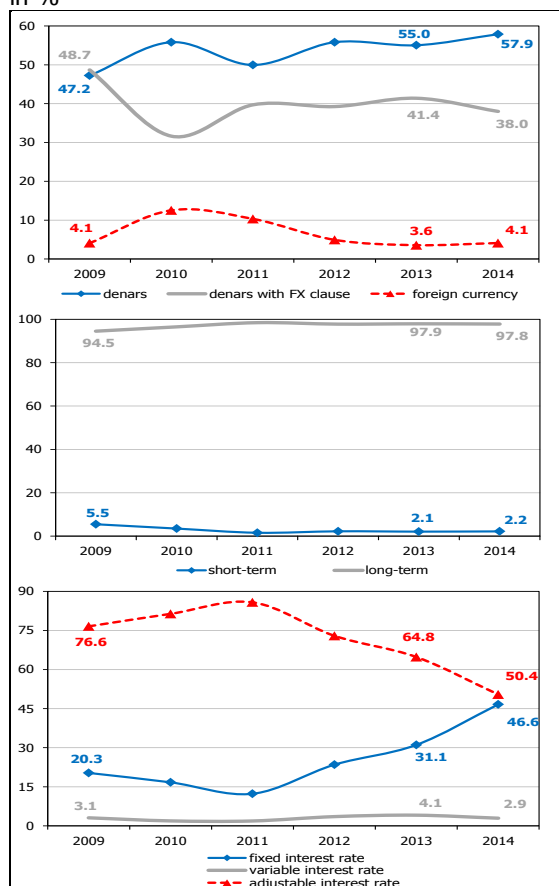


Source: NBRM's Credit Registry, based on data submitted by banks.

**The exposure of households to interest rate and currency risks is a major source of risk, which may affect their ability to repay debt, and consequently the stability of their creditors.** In 2014, the currency structure of the sources of funding for banks changed by further reducing the currency component, due to the increased interest of depositors to hold deposits in domestic currency<sup>34</sup>, which consequently led to change in the structure of loans. **The new loans show that credit growth is primarily in the**

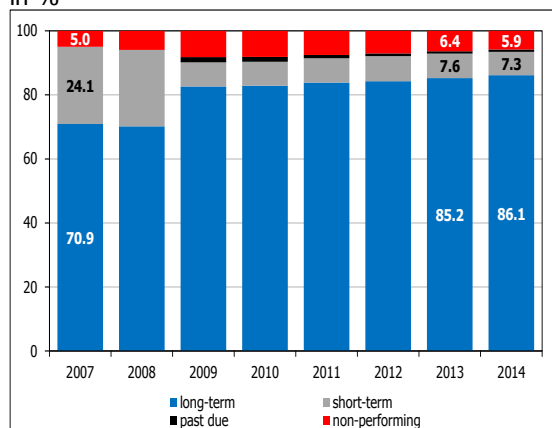
<sup>34</sup> Deposit denarization, despite the public confidence in the domestic currency and the domestic monetary policy, is also fueled by higher interest rates on deposits denominated in domestic currency, as well as the differentiated reserve requirement rates that depend on the currency of deposits.

Chart 35  
Structure of newly approved loans to households  
in %



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

Chart 36  
Currency structure of household debt  
in %



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

**domestic currency.** Although the share of debt with FX clause in the total indebtedness of households is shrinking, the fact that households mainly generate income in the domestic currency, underlines the **importance of the stability of the Denar exchange rate for the maintenance of the ability of households to repay debt.**

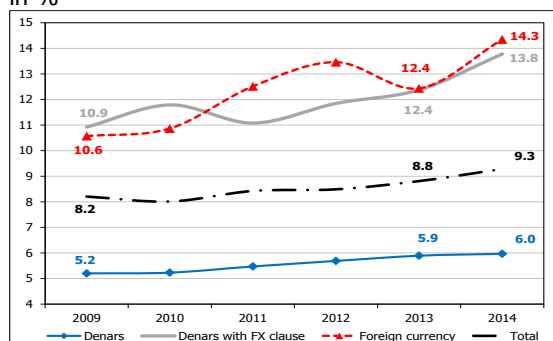
**The increase in the long-term debt also enhances the sensitivity of households to interest rate and currency risks.** In fact, new loans are almost entirely (97.8%) long-term, thus highlighting the propensity of households to borrow in the long run in conditions of relatively low monthly payments, despite the fact that in recent years some banks have eased the requirement for the ratio between credit exposure and the monthly income of borrowers when approving new loans. Long maturity of new loans to households confirms the readiness of banks to take risks in the financing of this sector, as well as their expectations for lower risks of this sector as a whole. **The average maturity of total newly granted loans to households**





Chart 37

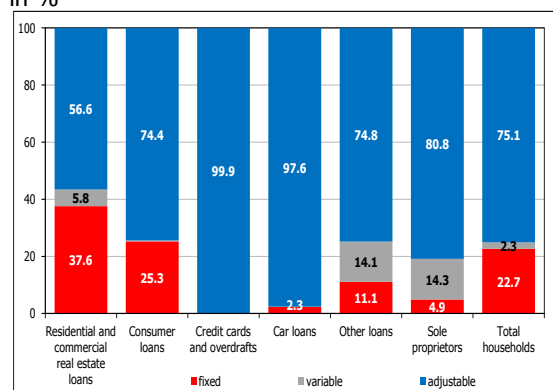
Average contractual maturity of newly extended loans to households, by currency  
in %



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

Chart 38

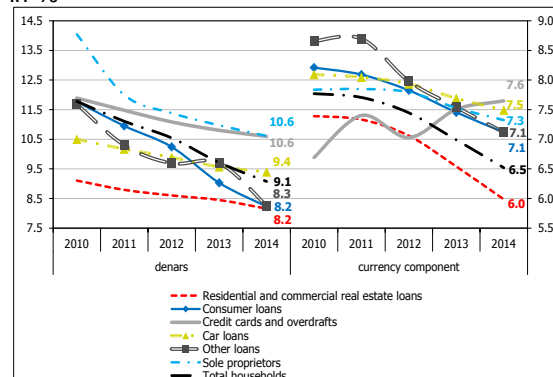
Structure of household debt, by type of interest rate  
in %



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

Chart 39

Average interest rate on household loans, by type of credit product  
in %



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

**at the end of 2014 increased by six months** to about nine years and three months. This upward trend results from the extension of the maturity of new loans with currency component for more than a year. The extension of maturity, particularly of consumer loans should be closely monitored. Moreover, banks should adequately adjust their credit policies for the timely identification of any risk.

**Loans with adjustable interest rate still dominate the structure of newly extended loans and total loans by type of interest rate, although with a lower share.**

With the ability to adjust the level of interest rates, banks transfer the interest rate risk on borrowers. This increases the vulnerability of households in case of higher bank interest rates, because of the unpredictable costs of repayment of loans used.

**In 2014, the average interest rates on new loans to households kept on decreasing.** The average interest rate on new loans in 2014 decreased by 0.8 percentage points compared to the previous year, and reduced to 6.7%. The downward trend of interest rates equally applies to new loans observed by currency, unlike the previous year when the two times higher reduction in new denar loans brought closer the interest rate on these loans to the level of interest rates on loans with a currency component.

**Falling interest rates on new loans was followed by reduction of the price of total loans approved by banks.** Thus, in 2014, the decrease of average interest rate on credit products to households continued, thus the cost of total loans reaching the lowest level in the post-crisis period.

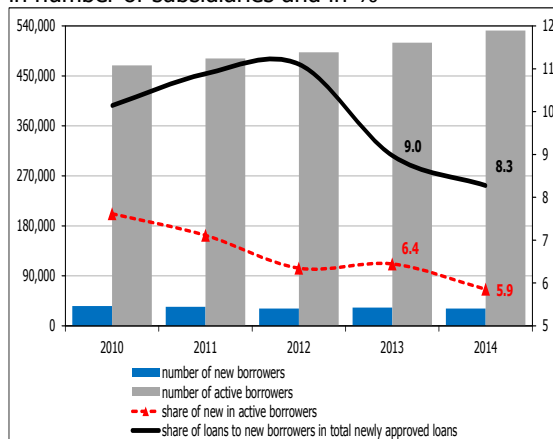
**New borrowers are important with respect to the creditors, since these customers have no credit history, and carry a higher risk of default. The number of new borrowers in the banking system in 2014 was below the average for the**





Chart 40

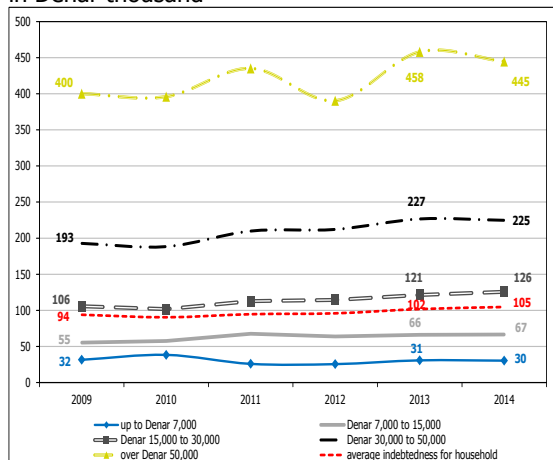
New borrowers of the household sector and share of loans to these clients in total newly approved loans to this sector in number of subsidiaries and in %



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

Chart 41

Average debt by household and by monthly income in Denar thousand



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

**past five years.** The favorable credit market and labor market developments (which include lower interest rates, eased terms of lending and eased banks' requirement for minimum ratio between credit exposure and monthly income of borrowers, reducing unemployment, increasing average nominal net wages) contributed to the emergence of new borrowers in the banking system and accordingly, higher number of active borrowers. Yet, this did not increase the number of new borrowers in 2014<sup>35</sup>, which remained below the average of the number of new borrowers in the previous four years, and is smaller than the number of new borrowers registered at the end of 2013. Thus, in 2014, the share of the number of new borrowers in the total number of active borrowers kept on decreasing. Given the declining portion of new lending to new borrowers, it seems that credit growth to households, in addition to the new customers, stems more from new lending to existing borrowers. Banks need to pay particular attention to the new debt to the existing borrowers, primarily in terms of the risk of exhausting their financial strength to repay higher debt.

**Two-thirds of household debt to banks are persons with monthly income of up to Denar 30,000<sup>36</sup>.** Yet, they have the **lowest average debt per household.** These persons account for 71.9% of the household consumer debt and 60.4% of the total household debt. Banks make appropriate adjustments to the amount of debt against the monthly income of natural persons. Analyzing by person, natural persons with monthly incomes above Denar 50,000 are the most indebted (average debt of Denar 445 thousand per person). The indebtedness of the persons in the categories with lower monthly income is significantly lower.

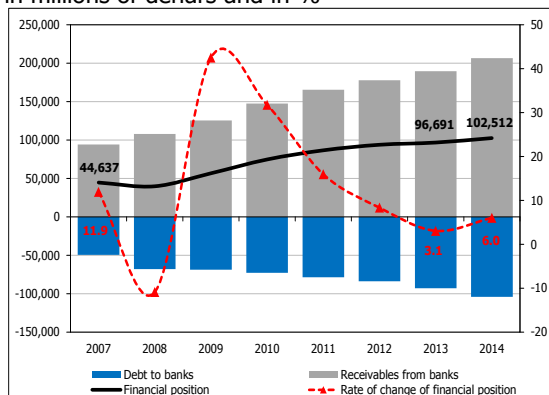
<sup>35</sup> The number of new borrowers is defined as the number of new households not registered as borrowers in the banking system at the end of the previous year. 2014: 31,120 clients

<sup>36</sup> According to the type of credit product, persons with monthly income of above Denar 30,000 account for 75.7% of the debt based on housing loans, while persons with monthly income of up to Denar 30,000 constitute most of the debt based on consumer loans, and credit cards and overdrafts (73.8% and 71.6%, respectively).



Chart 42

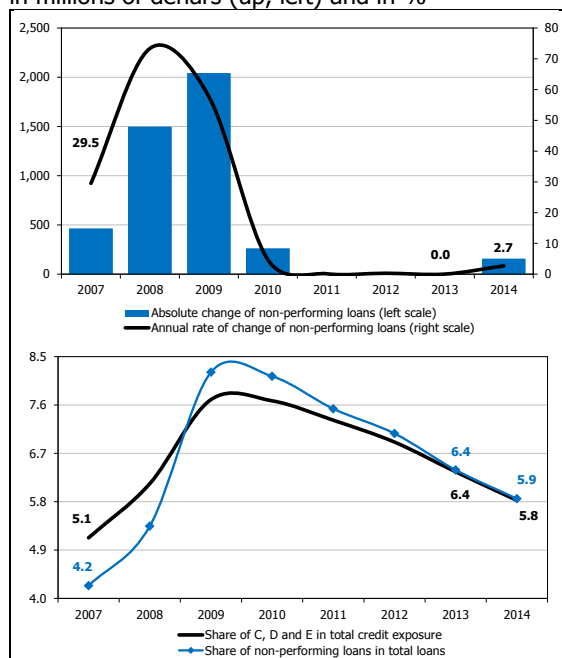
Dynamics of household financial position components and its growth rate in millions of denars and in %



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

Chart 43

Growth of non-performing loans (up) and share of non-performing loans in total loans and of higher risk exposure in total exposure (down) of households in millions of denars (up, left) and in %



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

<sup>37</sup> At the end of 2014, interest rates on denar and foreign currency household deposits equaled 3.3% and 1.3%, respectively. Comparatively, at the end of 2007, the interest rates on Denar and foreign currency deposits equaled 5.7% and 1.9%, respectively. In the peak of the crisis, interest rates reached the highest level, climbing to 8.7% for denar deposits and 3.6% for foreign currency deposits of households. The interest rates started decreasing in 2010 with the gradual exhaustion of the negative effects of the crisis, and continued to the latest available data for 2015, when the level of interest rates hit a record low.

<sup>38</sup> In 2014, non-performing housing loans went up by 11.2% (2013: 12.4%), and non-performing consumer loans increased by 3.2% (2013: 2.8%).

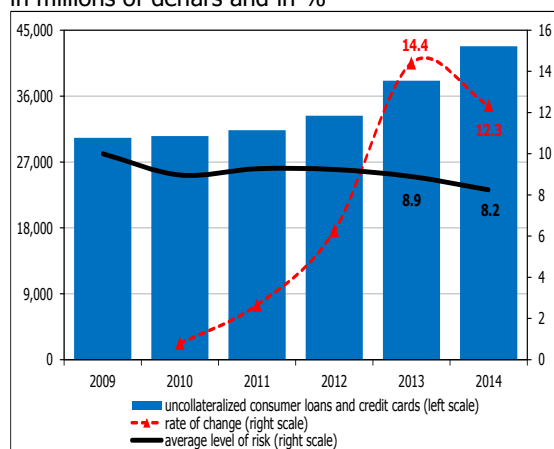
**Stronger growth of deposits compared to the debt of households improved the positive financial position** of this sector. In 2014, household deposits grew at an accelerated pace due to the increase of Denar deposits, underlining the confidence of households in domestic currency and domestic monetary policy and the desire for higher yields. Amid reduced and relatively low interest rates<sup>37</sup> and expectations for further credit borrowing, one can expect future narrowing of the financial position of households. Relatively low interest rates can encourage households to seek alternative ways of saving, such as investments in voluntary pension funds, life insurance policies and shares in open-end investment funds.

### 1.3 Quality of household debt to banks

**Household debt preserved its quality.** The increase of household debt indicators did not deteriorated the household financial soundness, which is also confirmed by the slight increase in non-performing loans of this sector. After the stable level in the previous three years, non-performing loans to households saw a slight upward movement in 2014. However, this increase was insignificant and did not affect the rate of non-performing loans. In the face of mounting debt, the share of non-performing loans in total loans to households shows a continuous decrease in the post-crisis period and at the end of 2014 reduced to 5.9%, representing the record low since 2008.

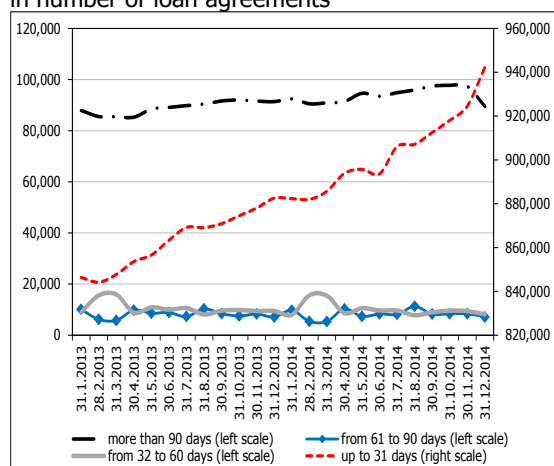
**Analyzing credit products, non-performing housing and consumer loans increased,** but at growth rates that do not vary significantly compared with 2013<sup>38</sup>. They increased in the period of easing of the terms of

**Chart 44**  
Uncollateralized consumer loans and credit cards  
in millions of denars and in %



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

**Chart 45**  
Monthly dynamics of the number of credit agreements of households, by days of delay  
in number of loan agreements



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

lending for housing loans and less pronounced easing of terms of lending for consumer loans. Despite the increase in non-performing loans, their share in total housing (3.0% as of 31 December 2014 and 3.1% as of 31 December 2013) and consumer loans (5.4% as of 31 December 2014 and 6.2% as of 31 December 2013) declined as a result of the pronounced growth of total housing and consumer loans. Along with the decline in the share of non-performing to total loans, the average level of risk of these loans decreased to 2.9% for housing loans (3.1% as of 31 December 2013) and 5.7% for consumer loans (6.3% as of 31 December 2013). Uncollateralized consumer loans and credit cards are a potential risk for increasing non-performing loans of households<sup>39</sup>. These loans account for about two thirds of total consumer loans and credit cards, and 41.6% of total loans to households. In 2014, uncollateralized consumer loans and credit cards recorded a slight slowdown in the pace of growth, after the last year's pronounced acceleration of growth. The risk of uncollateralized consumer loans and credit cards is confirmed by their low coverage with impairment, which has seen a downward trend in the post-crisis period. An additional indicator of the risk of these loans is the rate of non-performing credit cards<sup>40</sup>, which equals 10.2% and exceeds the rate of total non-performing loans of households (5.9%)<sup>41</sup>.

**Solid solvency of households is confirmed by the dynamics of the number of credit agreements by category of days of delay<sup>42</sup>.** The last two years have seen a continuous increase in the number of credit agreements with a delay of 31 day, amid simultaneous continuous reduction of credit agreements with a delay of 61 to 90 days. This leads to the conclusion that households better settle due installments and migrate back to the

<sup>39</sup> Uncollateralized consumer loans and credit cards include credits that are not covered by any collateral, but the loans are guaranteed by guarantors and bills of exchange.

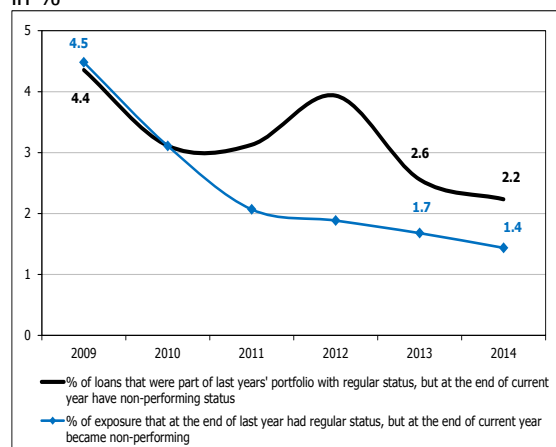
<sup>40</sup> The rate of non-performing loans is a share of non-performing loans in total loans.

<sup>41</sup> The rate of non-performing consumer loans is 5.4% and is below the rate of total non-performing loans of households.

<sup>42</sup> Credit agreements are arranged in four groups according to the days of delay, as follows: 1) to 31 days, 2) from 32 to 60 days, 3) from 61 to 90 days and 4) above 90 days.

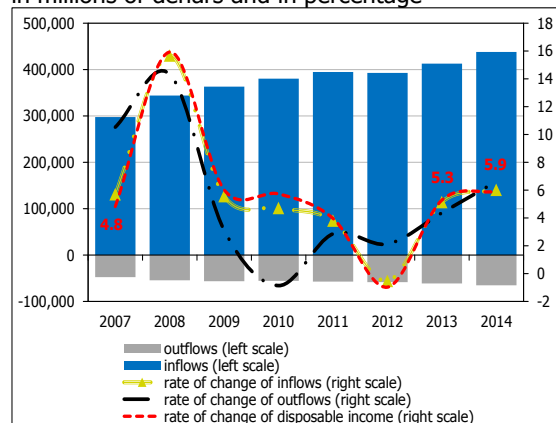


**Chart 46**  
Estimated probability of default of households to the domestic banking sector  
in %



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

**Chart 47**  
Dynamics of inflows and outflows of disposable income, and annual growth rate  
in millions of denars and in percentage



Source: NBRM's calculations, based on data from SSO, MF and CSD.

category with the lowest delay. The number of credit agreements with non-performing status generally shows no major shifts in the observed two-year period, but their decrease in the last two months of 2014 reduced the number of credit agreements with delay of more than 90 days per year. This movement corresponds to the lower share of non-performing loans in total household loans.

**The probability of household default<sup>43</sup> to domestic banks improved compared to the previous year, being at its lowest level in six years.** The years after the crisis registered a steady decrease of the part of household debt to banks that receives non-performing status in a year. The low and declining probability of default on contractual obligations of households indicates solid creditworthiness of clients in this sector. Along with the dispersion of debt among many borrowers, the threat of spillover of risks from this sector to the banking system in terms of (lack of) debt service is not great. However, given the speed of growth of new loans, primarily consumer loans, amid eased terms of lending, there is a need for greater vigilance in monitoring these loans and early detection of potential repayment challenges.

#### 1.4 Savings rate, disposable income and private consumption of the household sector<sup>44</sup>

**In 2014, disposable income<sup>45</sup> grew rapidly and increased by Denar 20,811 million, or 5.9%.** Analyzing the individual components of disposable income<sup>46</sup>, employees'

<sup>43</sup> This is an estimated probability of default on contractual obligations of households, which is determined as: 1) percentage of regular credit agreements that receive non-performing status in a year and 2) percentage of regular credit exposure that becomes exposure with non-performing status in a year.

<sup>44</sup> In this section, some of the conclusions are drawn from the Annual Report of the National Bank for 2014.

<sup>45</sup> Due to lack of data on disposable income in the official statistics, since 2007 the National Bank has been creating time series of the disposable income of households in the Republic of Macedonia, which is updated annually. For some of the components of disposable income for which there is no official data, estimates are made, so that disposable income so recognized may not be comprehensive and may lack other components in its structure.

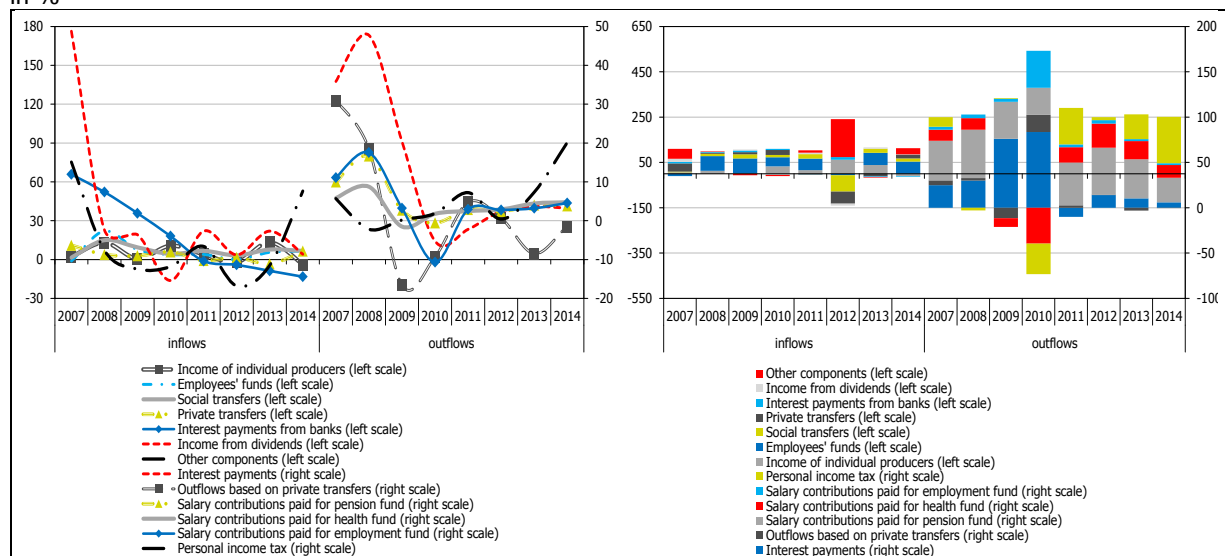
<sup>46</sup> Disposable income is the difference between inflows (funds of employees, income of individual producers, social transfers (pensions, social welfare, unemployment benefits, sick pay), private transfers, interest payments from banks, dividend income, royalties, income from property and property rights, capital gains, inflows from denationalization bonds, revenue from gains from games of chance and other prizes, inflows based on old foreign exchange savings and denationalization, interest payments from treasury bills and workers compensations from abroad) and outflows (interest payments, wage contributions for the Pension Fund,



assets, private and social transfers, as well as income from games of chance and other prize games made the highest contribution to the growth of total inflows of households, while the growth of total outflows is mainly based on personal income tax and total contributions. Outflows from personal income tax increased due to the higher household income. The higher growth rate of outflows relative to inflows of households prevents higher disposable income growth. In general, the growth in disposable income results from the wage and pension bill and inflows from private transfers from abroad. Thus, the real growth of average paid wages, coupled with the higher employment brought about higher wage bill in the economy.

Chart 48

Annual growth rate of components of inflow and outflow of disposable income (left) and their contribution to the growth of available income (right) in %



Source: NBRM's calculations, based on data from SSO, MF and CSD.

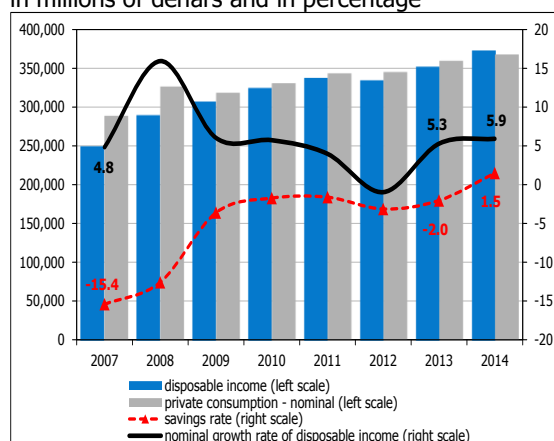
**The dynamics of disposable income determines the capacity of household savings,** as set by the saving rate of households, which is defined as the gap between disposable income and consumer spending. At the end of 2014, disposable

Health Insurance Fund and Employment Fund, outflows based on private transfers and personal income tax) of households. All components of disposable income are in nominal terms.



Chart 49

Disposable income, private consumption and savings rate of households in millions of denars and in percentage



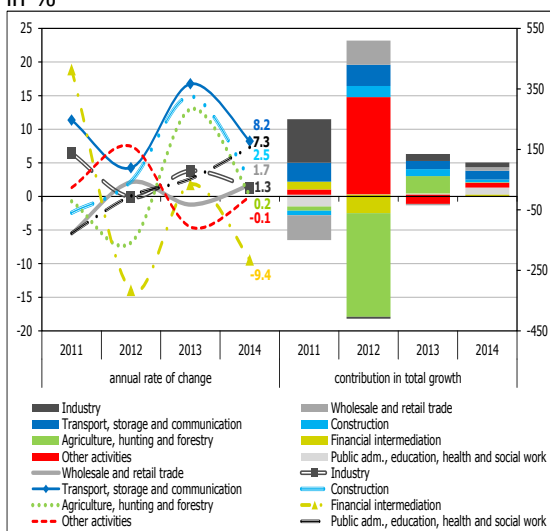
Source: SSO and NBRM's calculations based on data from SSO, MF and CSD.

income<sup>47</sup> is sufficient to cover fully the household consumption due to the faster pace of growth of disposable income compared to the growth of private consumption, which also determines the positive value of the saving rate<sup>48</sup>.

Maintaining positive trends in the labor market corresponds to the favorable real sector developments. For several years now, the improvement of some of the key labor market indicators has been associated with the operations of the new facilities in the technological industrial development zones, as well as with the fiscal policy aimed towards increasing economic activity and employment through active employment measures, publicly financed infrastructure projects as well as agricultural subsidy policies. After the intense growth of employment last year, the pace of growth of the number of employees slowed down in 2014 to 1.7%.

Chart 50

Annual growth rate of the number of employees by activity (left) and their contribution to the total growth of the number of employees (right) in %



Source: SSO (State Statistical Office).

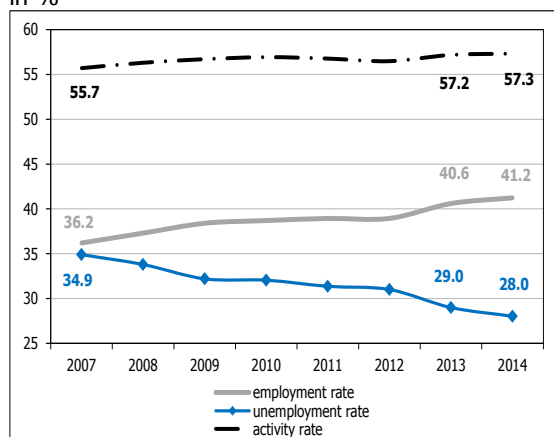
**The growth in demand increased labor supply.** Thus, in 2014, the number of total active population went up by 0.3%, which given the identical decline in the inactive population, brought about slight upward movement in the activity rate to 57.3%. Faster growth in demand relative to that of labor supply contributed to the downward movement in the unemployment rate of 28.0%, which reached the historically lowest level. On annual basis, the number of unemployed decreased by 8,410 persons, or 3.0%. Employment decreased mainly due to the lower unemployment of the group of 25 to 49 years of age, which constitute above 60% in the total number of unemployed persons. An increase was registered also in the employment rate, which equaled 41.2% in 2014. These developments are in line with the increase in the number of borrowers in the banking system, considering the banks' criteria

<sup>47</sup> The components of disposable income, for which no official data are available, are estimated by the National Bank, so that disposable income so recognized may not be comprehensive and may lack other components in its structure that affect the rate of savings.

<sup>48</sup> The rate of household saving is the ratio of the difference between disposable income and private consumption to disposable income.

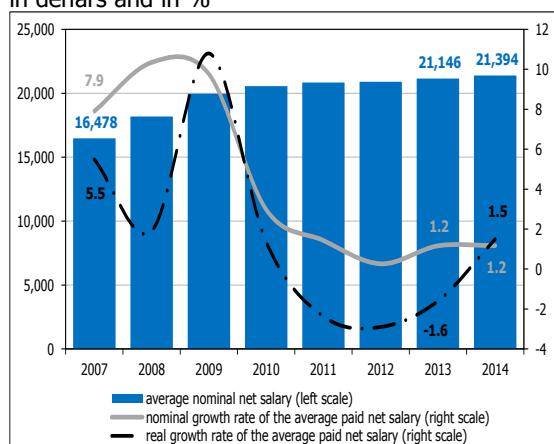


Chart 51  
Selected labor market indicators  
in %



Source: SSO (State Statistical Office).

Chart 52  
Average nominal net wage and its  
nominal and real growth rate  
in denars and in %



Source: SSO (State Statistical Office).

for granting loans only to persons who are permanently employed and who earn regular monthly income, or pension recipients.

Job Vacancy Survey confirms the positive developments in the employment<sup>49</sup>. Namely, the number of vacancies, as an additional indicator of the movement of labor demand was 6,104 in the fourth quarter of 2014, which is an annual growth of about 315 jobs, or 5.4%. This can be interpreted as a signal for further employment growth in the future. Observed by sectors, most of the vacancies are in the manufacturing industry.

**In terms of labor cost, 2014 recorded a nominal growth of the average wages paid, with identical dynamics as in the previous year.** For the first time in three years of decline, wages increased in real terms, as well. The average nominal net wage for 2014 amounted to Denar 21,394, which is by 1.2% higher compared to last year. Also, nearly all activities registered positive trends<sup>50</sup>. The sustainability of nominal wage growth amid downward adjustment in the general level of consumer prices has contributed to real growth of net wages by 1.5%. The continued growth in average wages paid, amid increased demand for loans by households, may signal further household borrowing.

<sup>49</sup> Source: State Statistical Office.

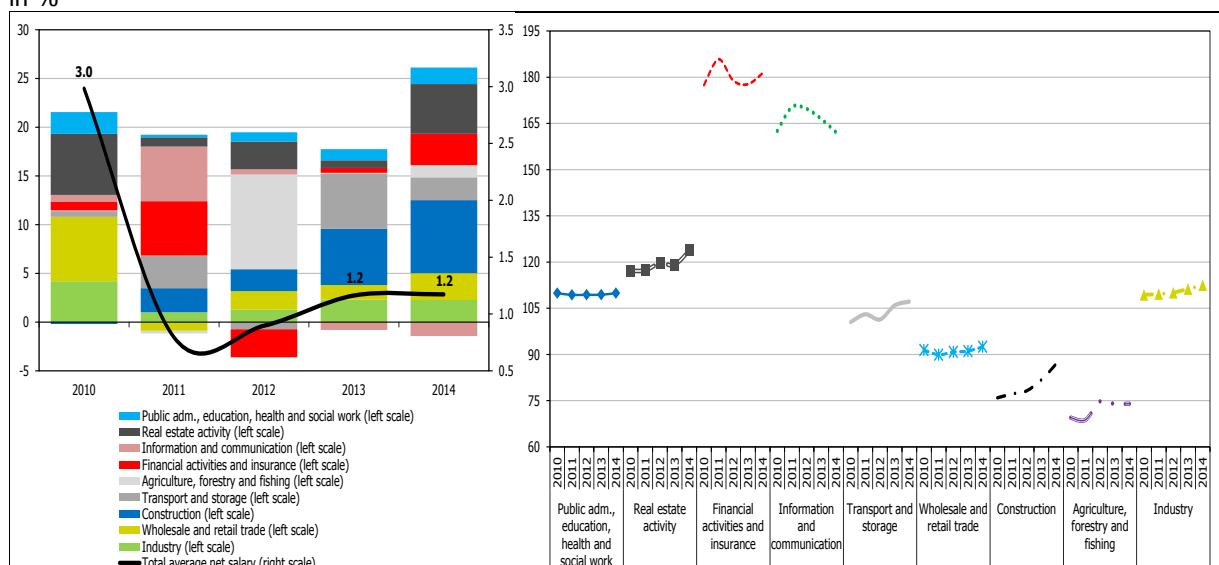
<sup>50</sup> With the exception of information and communications, and hotels and restaurants.





Chart 53

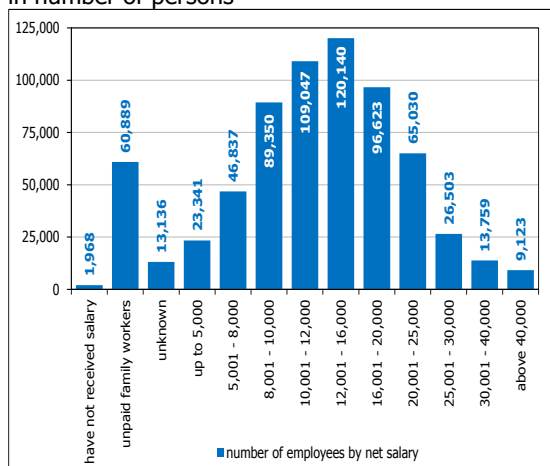
Annual growth rate of average nominal net wage, by activity (left) and the ratio between wages by activity and total average net wage (right) in %



Source: SSO (State Statistical Office).

Chart 54

Distribution of employees, by category of average net wage in number of persons



Source: SSO (State Statistical Office).

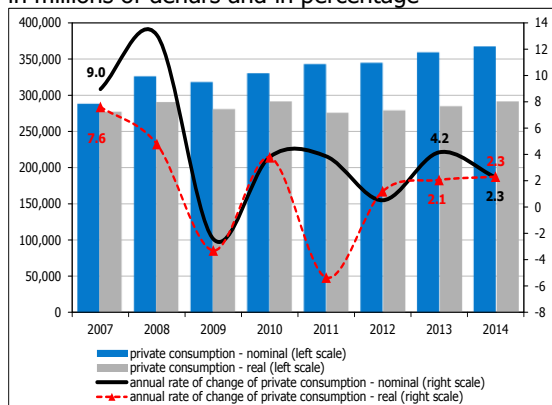
According to the amount of the average net wage, 60% of employees receive a net wage<sup>51</sup> of Denar 8,000 to 20,000<sup>52</sup>, which is below the average net wage for 2014. In contrast, only 17.0% of the employees receive wage equal to or greater than the average monthly net wage, more than half of which are employed in administration, education and industry. Along with the growth of average monthly wage, the number of persons receiving a monthly wage of Denar 12,000 to 25,000 increased, at the expense of the number of persons registered in the lower categories of monthly income. Moreover, about half of total household debt to banks is concentrated among households with a monthly income below the average monthly net wage for 2014. Only 1.4% of the total employees fall in the highest monthly income category (above Denar 40,000).

Amid faster growth in economic activity compared to the employment growth, **labor productivity** grew by 2.0%, for the first time

<sup>51</sup> Source: Labor Survey for 2013, SSO.

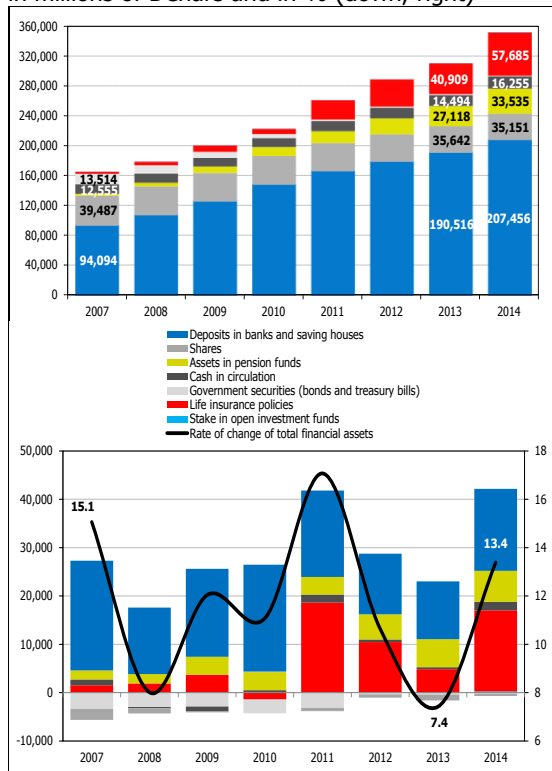
<sup>52</sup> Of the total number of persons with such incomes, 27.9% are employed in industry, 16.6% in wholesale and retail trade, 9.1% in agriculture, 8.6% in construction, 6.5% in transport and storage and 6.1% in the activities of health and social care.

**Chart 55**  
Nominal and real private consumption and their annual growth rates  
in millions of denars and in percentage



Source: SSO (State Statistical Office).

**Chart 56**  
Financial assets of households (up) and annual growth of components (down)  
in millions of Denars and in % (down, right)



Source: NBRM, based on data submitted by banks and savings houses, MF, CSD, MAPAS, SEC, ISA and SSO.

in two years of constant maintenance in the negative zone. Improved productivity of the national economy is associated with increased utilization of new facilities and access to credit lines with subsidized interest rates intended for development projects in the manufacturing industry and increased competition in trade<sup>53</sup>.

**In 2014, household consumption registered a solid annual growth of 2.9%, making the highest contribution among all domestic demand components in the overall GDP growth.** The growth of private consumption corresponds to the increase of available funds, given the growth in the main components of disposable income. Hence, the positive shift in the consumption arises from the real growth of the average paid wages and pensions. Despite the growth of the main components of the disposable income, the growth in lending to households, mainly in the form of consumer loans that are additional source of funding, supported household spending in 2014.

### 1.5 Financial assets of the household sector

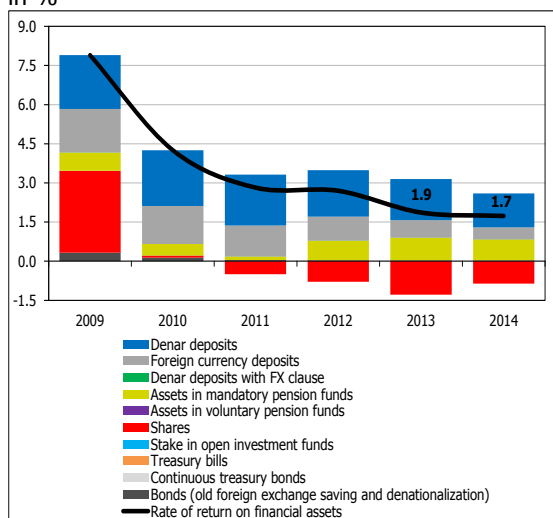
**In 2014, the financial assets<sup>54</sup> of the household sector grew at an accelerated pace and achieved twice as high growth compared to the previous year.** This movement interrupted the slowing pace of financial assets present in the previous two years. The pace of growth of financial assets is almost identical as in pre-crisis 2007, but lags behind the highest growth registered in 2011, which witnessed the first significant investment of households in life insurance policies. In conditions of simultaneous solid recovery of the growth of domestic economy, the share of financial assets in GDP rose by 4.8 percentage points and reached 66.8%. Most of

<sup>53</sup> According to the results from the business tendency surveys in trade. Source: State Statistical Office.

<sup>54</sup> Note: For the purposes of this analysis, based on the NBRM estimations, 70% of cash in circulation (outside banks) are included in the financial assets of households. The shares are the sum of shares listed at the stock exchange, at par value, life insurance is shown by the amount of contracted insured amounts and annual installments (including profits) of life insurance policies.



Chart 57  
Weighted yield of financial assets and contribution of individual components in total yield  
in %



Source: NBRM, based on data submitted by banks and savings houses, MF, MAPAS, CSD and Macedonian Stock Exchange.

the growth of financial assets (40.9%) was triggered by investments in household deposits in domestic banks and savings houses and investments in life insurance policies (40.5%). The contribution of household deposits is lower compared to the previous year due to the increased importance of other financial assets components, while the investment of households in life insurance policies is the fastest growing component of financial assets whose absolute growth corresponds to the growth of household deposits. The remaining growth of financial assets arose from the household assets in private pension funds (contribution of 15.5%).

In 2014, household deposits in banks and savings houses grew at an accelerated pace and rose by Denar 16,940 million, or 8.9%. Amid lower readiness to take risks and further strengthening of the confidence of households in the domestic banking system, deposits in banks and savings houses have kept the place of the most significant component of financial assets. This growth was mainly due to the long-term savings, which highlights the households' stable expectations and increased propensity to save in the long run, as a more yield-bearing form of placing available funds. Given that household deposits occupy about half of the sources of funding for banks, this sector is a significant creditor of the banking system and the possible materialization of risks to households can have adverse effects on the domestic banks' operations.

**In 2014, the yield on financial assets slightly decreased** as a result of capital losses<sup>55</sup> on securities<sup>56</sup> and the further reduction of weighted average interest rates on deposits. Denar deposits, household assets invested in mandatory pension funds and equity investments have the greatest impact on the average return on financial asset. Thus, the lower interest rate on Denar deposits reduced

<sup>55</sup> The annual rates of capital gain/loss are calculated on the basis of the annual change in the market capitalization of securities.

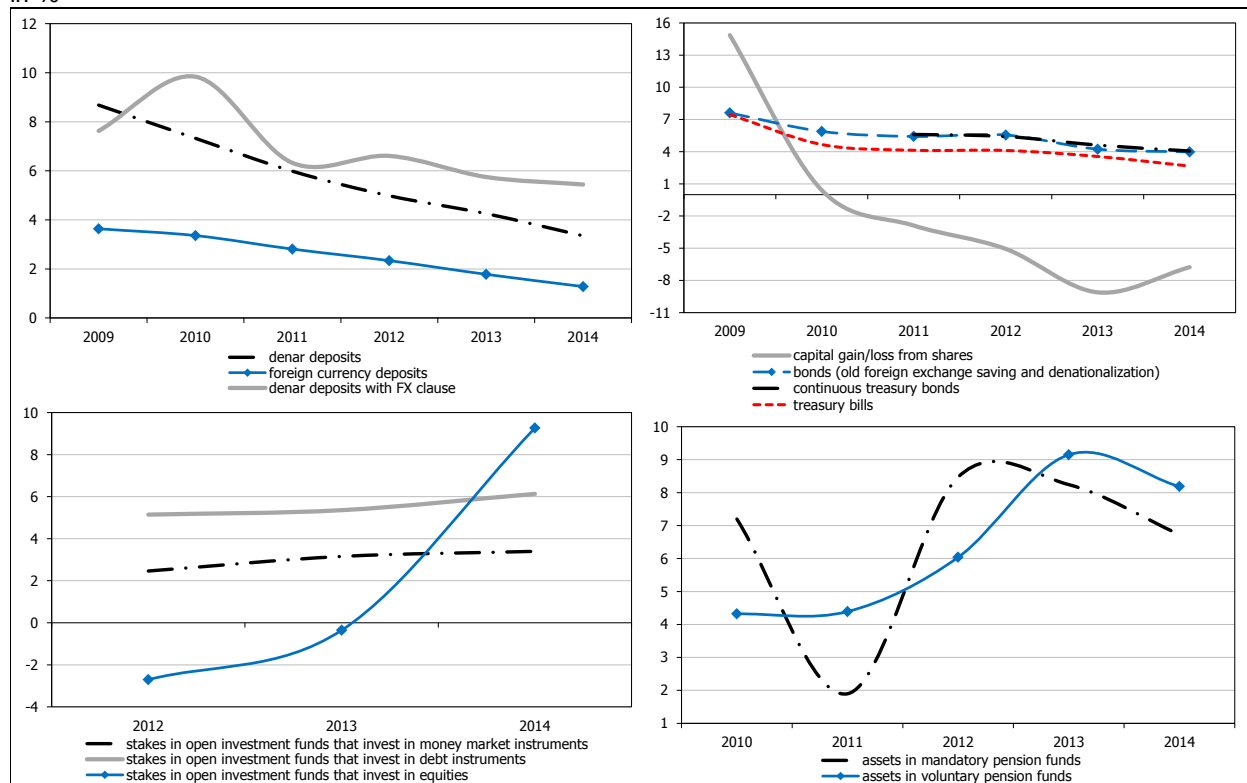
<sup>56</sup> For the purposes of this analysis, securities denote shares and bonds traded on the official market and shares traded on the market of shareholding companies subject to special reporting requirements.



the average yield on financial asset. Looking at individual instruments, the highest annual yield was registered in shares of households in open-end investment funds and funds invested in mandatory and voluntary pension funds<sup>57</sup>.

Chart 58

Annual yield, by instrument of financial assets  
in %



Source: NBRM, based on data submitted by banks and savings houses, MF, MAPAS, CSD and Macedonian Stock Exchange.

## 2. Corporate sector

In 2014, the positive contribution of the corporate sector to GDP, demonstrated through the growth of value added in the domestic corporate sector, continued in all sectors. The growth of value added was accompanied by positive changes in the competitive ability of the corporate sector. In 2014, the corporate sector had a positive contribution to the labor market developments, contributing to the formation of household disposable income through the increase in the number of employees and average monthly wage.

Performance indicators of the corporate sector indicate that the corporate sector is exposed to significant risks, which may be a limiting factor for the growth

<sup>57</sup> The annual nominal rate of return of mandatory and voluntary pension funds is calculated on the basis of weighting the rate of return of the individual pension funds to their net assets.



and performance of the financial sector. Namely, in 2014, there was a certain deterioration of profitability indicators of domestic corporate sector. This is particularly evident among the largest group - micro entities, which in general, operated at a loss in 2014. As a result of reduced profitability, 2014 registered a decrease in the coverage of financial expenses with operating profit, which may pose a risk to the sustainability of the corporate sector debt, which can be a source of adverse effects on banks as its major creditors. However, other debt indicators remained relatively stable, which enables a positive assessment of the solvency of the corporate sector. Besides, the domestic corporate sector is still characterized by modest level of liquidity. It is noticeable that there is a connection between low liquidity and operating losses, so micro-size companies, as the most numerous group, operate at a loss and have the lowest indicators of liquidity, which leads to the conclusion that the liquidity is unevenly distributed among individual companies. The relatively low turnover of assets induce relatively long periods of "tying" funds in the companies' businesses and occurs as a factor that determines the modest level of liquidity of the corporate sector.

The total indebtedness of the corporate sector continued to grow in 2014, and as a ratio to GDP is at the highest level ever. The growth of debt was equally determined by the debt to foreign creditors and the debt of domestic banks. Currency composition of the domestic corporate debt, and the short net currency position of this sector, clearly demonstrate that currency risk is extremely important for its stability and performance and that the policy of a stable exchange rate of the Denar against the Euro, is an essential prerequisite for the sustainability of the debt of the corporate sector as a whole. Most of the corporate debt to the domestic banking system is in the form of loans with adjustable interest rates, with which banks actually transfer the effects of the financial markets developments on companies as their borrowers. Given the historically low level of interest rates on domestic and international financial markets, in the medium run there is more likely that changes in interest rates will be upwards, as a possible source of harder conditions for debt service due to higher expenses for financing, which would ultimately increase the corporate sector vulnerability.

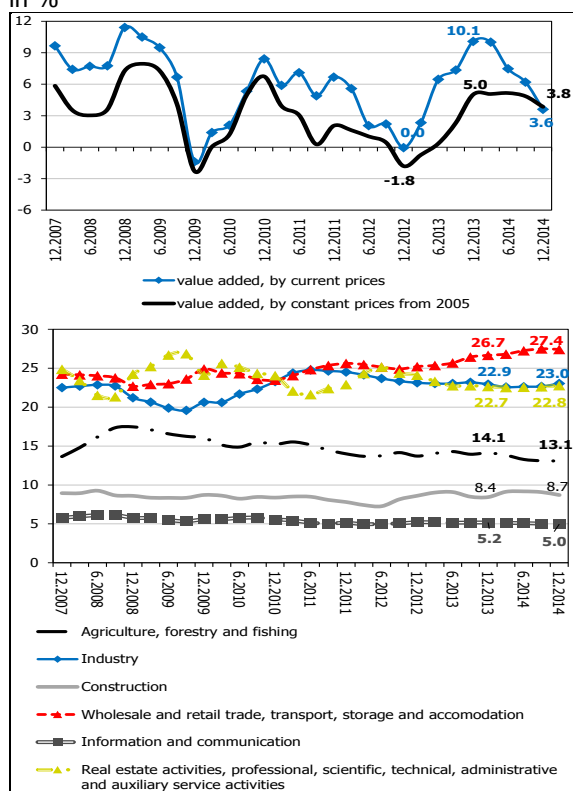
Credit risk arising from the corporate sector ability for regular debt servicing remains critical among the risks for the domestic banking system. In 2014, the growth of non-performing loans to the corporate sector slowed down, which was partly due to the growth of written-off claims by banks and the restructuring of loans made in the past few years. Interest rates on loans extended by banks to the domestic corporate sector continued its downward trend, but the changes in spreads (margins) that banks incorporate in these interest rates are changing slowly, and even increase for Denar loans. This points to the slow transmission of financial markets developments to the cost of financing of the domestic corporate sector, as well as to the increase in risk premiums or profit margins of banks. The capacity of the corporate sector to absorb new loans and to enhance its activities will remain one of the most important determinants of the financial stability. Hence, there is a need of permanent monitoring of the risks to the corporate sector by the banks as one of its main creditors.



## 2.1 Analysis of the performances of the corporate sector<sup>58</sup>

Chart 59

Annual change rate (up) and structure by current prices (down) of corporate sectors' value added  
in %



Source: SSO (State Statistical Office) Added value data annual.

**The value added<sup>59</sup> of the corporate sector in 2014 registered positive growth rates, but the pace of its growth was slowing down during 2014.** Thus, at the end of 2014, the value added of the corporate sector in real terms grew annually by 3.6%, which is considerably slower compared to the growth of 10.1% in 2013. Given the negative growth rates in domestic prices at the end of 2014, the value added of the corporate sector in real terms, i.e. at constant prices of 2005, went up by 3.8% at the end of 2014. In the structure of value added of the corporate sector, the greatest contribution was made by wholesale and retail trade, transport, storage and hotels and restaurants, followed by industry, and real estate activities, professional, scientific, technical, administrative and auxiliary services. The largest structural change in 2014 in the value added of the corporate sector is the trend of increasing the share of services, primarily wholesale and retail trade, transport, storage, and hotels and restaurants, at the expense of the decline in the share of agriculture, forestry and fisheries.

**During 2014, all activities included in the corporate sector reported continued real annual growth of value added.** It is noteworthy that this is happening for the first time in the past seven years, considering that at least one activity made a

<sup>58</sup> Corporate sector includes companies and sole proprietors whose main activity, according to the NCA, is industry (which includes entities with main activities of mining and quarrying, supply of electricity, gas, steam and air conditioning and water supply, sewerage, waste management and environmental recovery activities), wholesale and retail trade, and repair of motor vehicles and motorcycles, construction, agriculture, forestry and fishing, transport and storage, information and communications, accommodation and food services, real estate activities, professional, scientific and technical activities and administrative and ancillary services. The corporate sector does not cover legal entities whose main activity is finance and insurance; public administration and defense, compulsory social security; education; health and social care; arts, entertainment and recreation; other services; activities of households as employers; activities of households that produce different goods and perform various services for their own needs; and extraterritorial organizations and bodies.

<sup>59</sup> The Report uses preliminary data on the added value of the corporate sector for 2013, and estimated data on the added value of the corporate sector for 2014, disclosed by the State Statistical Office in March 2015. In 2014, the State Statistical Office, when disseminating GDP data and the contribution of individual activities to its creation, started applying ESA 2010 methodology, where wholesale and retail trade and repair of motor vehicles and motorcycles, transport and storage, accommodation and food services are published in aggregate and for the purposes of this report are presented as trade, transport, storage and hotels and restaurants. Furthermore, the scope of activities in the corporate sector through the publication of data on the added value of entities with main activities related to real estate, professional, scientific and technical activities, and administrative and support services.

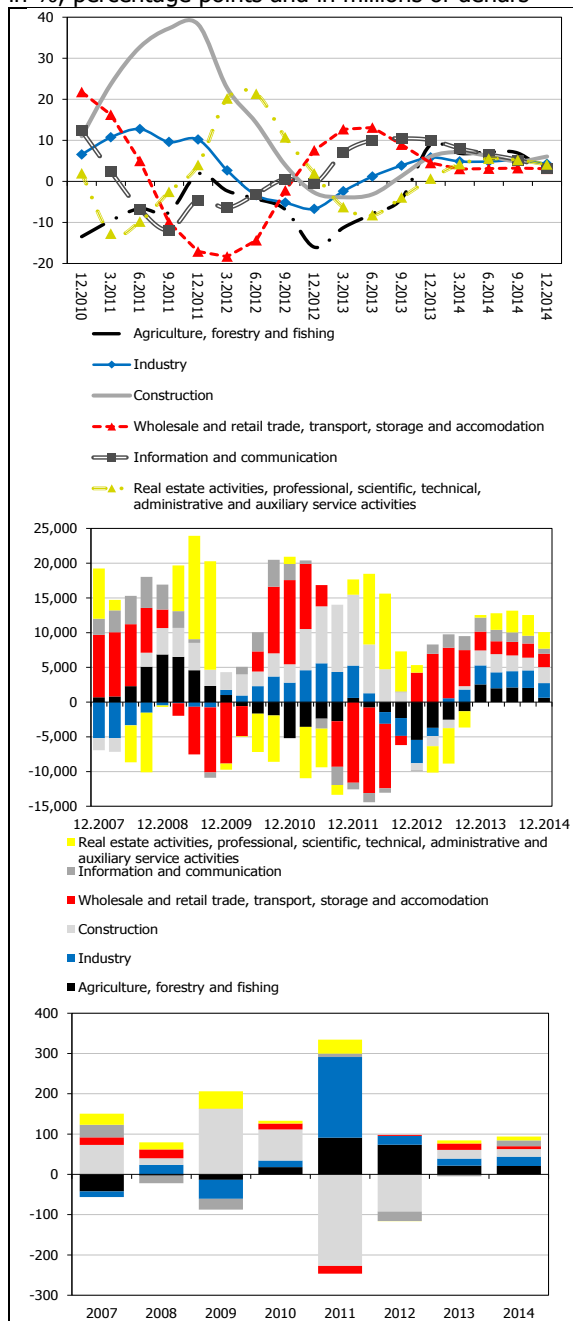




Chart 60

Annual change rate (up), absolute annual change (middle) and change decomposition (down) of value added of the corporate sector by activities, by constant prices from 2005

in %, percentage points and in millions of denars



Source: State Statistical Office.

Note: Added value data are annualized.

negative contribution to the overall annual change in the value added. The real annual growth rates also register a trend of convergence, as illustrated by the relatively even distribution of growth in the value added by activity, compared to previous years. At the end of 2014, the highest annual growth of value added expressed by constant prices of 6.1%, was registered in the construction, mainly due to the growth in the activities of construction of residential buildings. The value added of the industry grew by 4.3%, mainly resulting from the growth of the manufacturing industry. This growth was diversified in 2014, due to the larger utilization of new production facilities owned by foreign direct investors, and the enhanced activity of the existing facilities. Positive contribution in the formation of value added in 2014, but at slower pace compared to 2013, was also made by trade, transport, storage, and hotels and restaurants.

**The corporate sector performance is directly connected to the creation of jobs** and possible negative developments in the activities of this sector would be the main limiting factor for the movement of disposable income and the creditworthiness and debt sustainability of the households. The corporate sector has maintained the role of largest employer at the end of 2014, covering 77.4% of the total employed persons in the Republic of Macedonia. **The structure of employees in the corporate sector shows a relatively high concentration**, given that employees in three activities (industry, wholesale and retail trade, transport, storage and hotels and restaurants, and agriculture, forestry and fisheries) cover almost 83% of employees in this sector. At the end of 2015, the number of employees in the corporate sector rose by 1.5%. While this is a lower rate of growth compared to the previous two years, the increase in employees in the corporate sector accounted for about three quarters of the total annual employment growth in 2014. At the end of 2014, the largest contribution to the annual growth of employees in the corporate sector, of





Chart 61

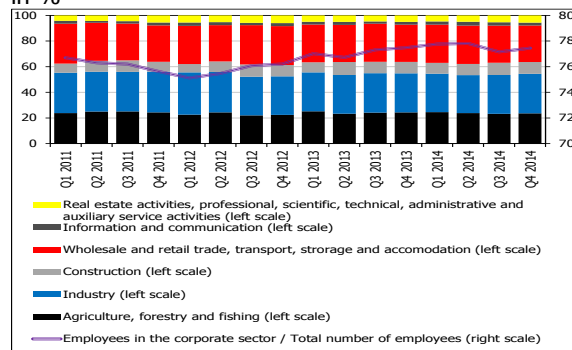
Annual growth rate of the number of employees and the average monthly net wage in the corporate sector in %



Source: State Statistical Office and estimations of the National Bank of the Republic of Macedonia.

Chart 62

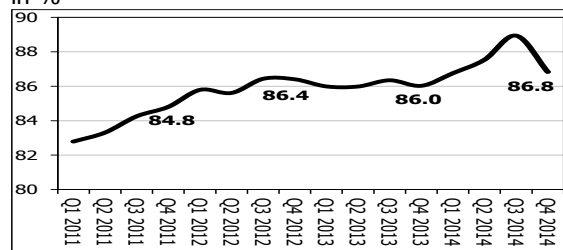
Structure of employees in the corporate sector, by activity in %



Source: State Statistical Office and estimations of the National Bank of the Republic of Macedonia.

Chart 63

Ratio between the average monthly net wage in the corporate sector and average monthly net wage in the country in %



Source: State Statistical Office and estimations of the National Bank of the Republic of Macedonia.

Note: Uses data on monthly net wages as a quarterly average.

just over 60%, was made by the industry, due to the enhanced volume of activities of companies in the manufacturing industry and the increase of employees in communal utilities. The weighted<sup>60</sup> average monthly net wage in the corporate sector during 2014 equaled Denar 18,722, which is still below the average net wage of all employees in the country for 2014 in the amount of Denar 21,394. The growth of average monthly net wage in the corporate sector accelerated in 2014, with the growth of net wages in construction being the main generator of this growth. The annual nominal wage growth in the corporate sector in 2014 of 4.0% is higher than the growth in the average net wage paid to all employees in the country (1.2%).

**The faster growth of value added compared with the annual growth in the number of employees caused acceleration in productivity growth in the corporate sector, which is crucial to boost its competitive ability.** Labor productivity, as measured by value added per employee, has seen an annual growth for the first time since 2010. Analyzed by sectors, the largest growth of productivity in 2014 was registered in the construction, while the largest decline was registered in information and communications. The difference between the activity with the highest value added per employee (activities related to real estate, professional, scientific,

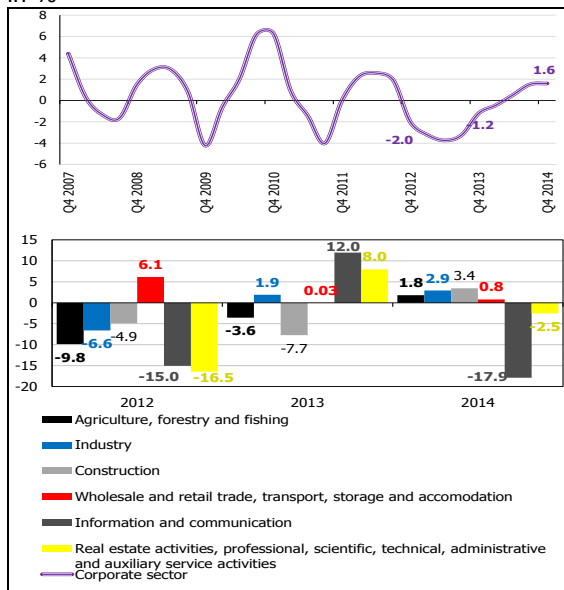
<sup>60</sup> The number of employees by individual activities that comprise the corporate sector is used as weight in the calculation.



Chart 64

Annual growth rate of added value by employee, of the corporate sector (up) and by activity (down)

in %

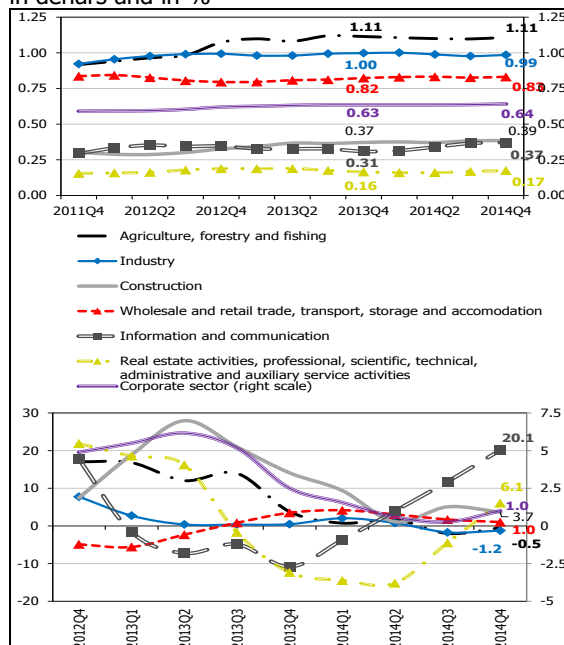


Source: State Statistical Office and estimations of the National Bank of the Republic of Macedonia.

Chart 65

Unit labor costs, movement (up) and annual growth rate (down)

in denars and in %



Source: SSO and estimations of the National Bank.

technical, administrative and support services) and the lowest value added per employee (agriculture, forestry and fisheries) in 2014 was about 9 times.

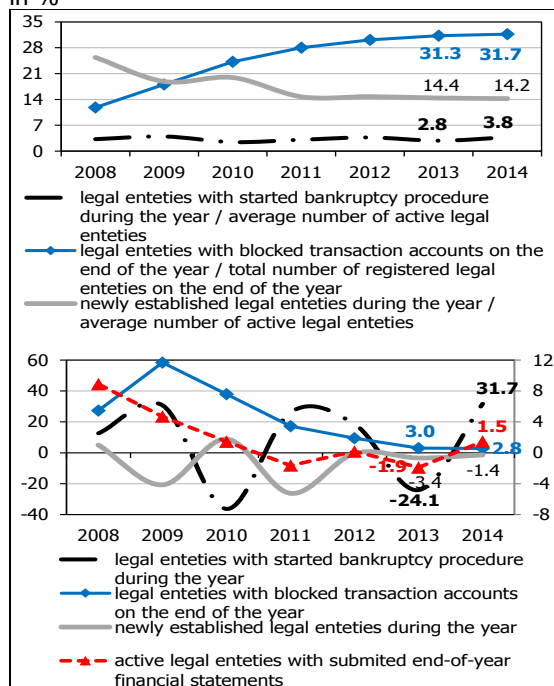
**One of the most important determinants of competitiveness of the domestic corporate sector is the movement of unit labor costs. For the entire corporate sector, in 2014, unit labor costs grew by a modest 1.0%.** This movement of unit labor costs leads to the conclusion that the labor cost, as a factor of production, did not act towards creating significant cost pressures in companies and thus retained the competitiveness of the corporate sector. However, the growth of unit labor costs is not distributed evenly among activities. Thus, the unit labor costs of industry, and agriculture, forestry and fisheries at the end of 2014 reduced modestly, while those of the information and communications, increased annually by over 20%. Limiting factor for the corporate sector competitiveness is the fact that the three activities that have the highest share in the total number of employees in the corporate sector (industry, wholesale and retail trade, transport, storage, hotels and restaurants, and agriculture, forestry and fisheries) also have higher unit labor costs than those of the overall corporate sector. **Given the importance of the domestic corporate competitiveness for its performance, and thus its ability to service liabilities, the main risks relate to the ability of the corporate sector to provide significant improvements in productivity and controlled growth or reduction of unit labor costs.**



Chart 66

Relative importance (up) and annual change (down) of newly incorporated, bankrupted and legal entities with blocked accounts

in %



Source: Central Registry of the Republic of Macedonia and NBRM for number of blocked accounts Note: Active legal entities in the year are considered those who submitted annual accounts to the Central Registry of RM.

**The downward trend of entrepreneurial initiative in the Republic of Macedonia continued in 2014.** Thus, the number of newly established legal entities have decreased for four consecutive years, and in 2014, decreased by 1.4%, which caused a slight decrease of their share in the total number of active legal entities. On the other hand, the crisis years without economic growth still have implications on the corporate sector, which is perceived both by the growth of legal entities under bankruptcy, and by the growth of the approximate bankruptcy rate<sup>61</sup>, which in 2014 equaled 3.8% or 1 percentage point higher than in 2013. The number of legal entities with blocked accounts continued to grow in 2014, but at a declining rate, a trend observed since 2009. At the end of 2014, 31.7% of legal entities registered in the Republic of Macedonia have blocked bank accounts regardless of the grounds for the blockade. Also, despite the fact that the amendments to the Law on Trade Companies that has been applying for two years, and prescribe the procedure for determining the status of inactive entity and the possibility of deregistration of such entities from the records of the Central Registry, there are still no significant effects of these legislative changes, due to which a discrepancy occurs between the total number of registered entities and the number of active entities that submit annual accounts and financial statements to the Central Registry of the Republic of Macedonia<sup>62</sup>.

**According to the size of trading companies<sup>63</sup>,** as of 31 December 2014, only 0.8% of the total number of corporate entities that have submitted final accounts to the Central Register are classified as large legal entities, while small and micro entities are by far the most numerous, covering 98.1% of the

<sup>61</sup> Bankruptcy rate is calculated as the ratio between the number of legal entities under bankruptcy during the year and the average annual number of active legal entities with annual accounts submitted to the Central Registry of the Republic of Macedonia.

<sup>62</sup> At the end of 2014, the total number of registered non-financial entities in the Central Registry of the Republic of Macedonia was 133,348, where only 57,906 entities have submitted annual accounts, where the corporate sector includes 51,692 trade entities.

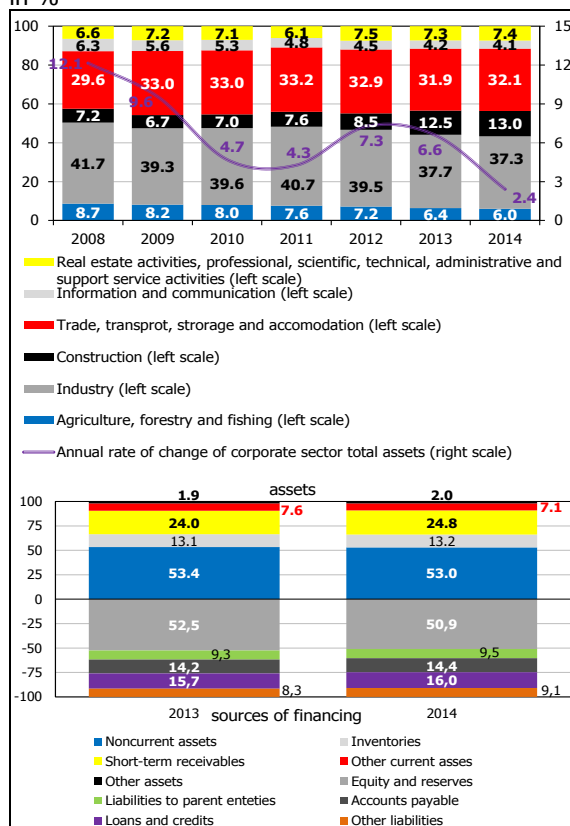
<sup>63</sup> The criteria for classification of entities into large, medium, small and micro legal entities are defined in Article 470 of the Law on Trade Companies.



Chart 67

Annual growth of corporate assets and their structure by activity (up) and structure of assets and funding sources of the corporate assets, by item (down)

in %



Source: Central Registry of the Republic of Macedonia - statement from the Registry of Annual Accounts

Note: The structure of assets by activity was obtained for each calendar year using data on entities that submitted annual accounts to the Central Registry of the Republic of Macedonia for the respective year, while the structure by items is obtained from the data in the annual accounts submitted to the Central Registry of the Republic of Macedonia for 2014.

legal entities that have submitted annual accounts (Annex 3). In contrast, the distribution of corporate assets is quite the opposite, with a dominant share of 48.7% of large entities, while small and micro entities together account for 37.0% of total assets.

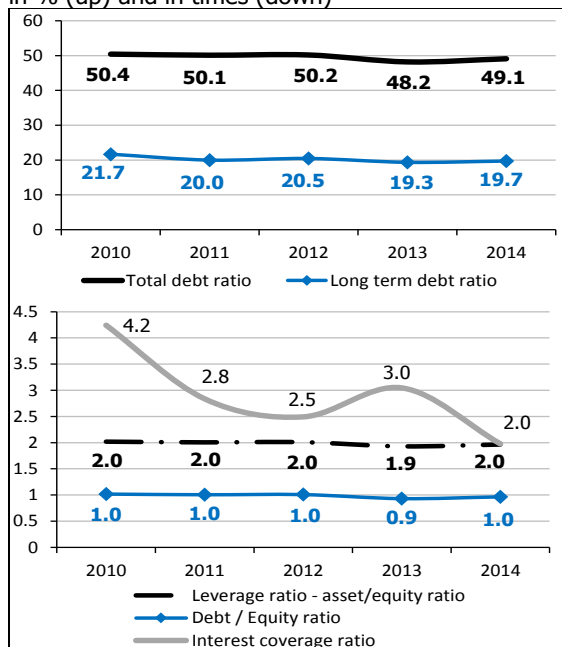
**The growth of total corporate assets in 2014 stood at 2.4%, which is the slowest growth rate in the past seven years.** Analyzed by individual activities, over 70% of the growth of the corporate assets is due to construction, as activity with the highest annual growth rate (7.1%) and trade, transport, storage and hotels and restaurants, as activity with the largest absolute annual growth. The structure of funding sources of the domestic corporate sector is dominated by equity and reserves, followed by loan and credit liabilities and trade payables. Market funding is not typical for domestic companies and therefore, there are no liabilities based on issued debt securities. Analyzing the structure of corporate assets, more than half are non-current assets<sup>64</sup>, followed by short-term claims, which with growth of 8.4% were the fastest growing assets component in 2014.

**Indebtedness indicators of the entire corporate sector manifest stability** which continued in 2014, despite the minimal increase compared to last year. Thus, at the end of 2014, the leverage ratios of the Macedonian corporate sector recorded a minor increase, along with the simultaneous slight increase in the indicators for the overall and long-term indebtedness. On the other hand, the lower coverage of financing expenses (including interest expenses) with the income from regular activities is significant<sup>65</sup> compared to the past few years. The change in this indicator to a lesser extent is due to the annual growth (9.2%) of the interest burden and other financial expenses in domestic enterprises in

<sup>64</sup> Non-current assets include tangible assets, intangible assets, property investment, long-term financial assets and long-term claims.

<sup>65</sup> Profit from regular activities is calculated as the difference between income and expenditures from the regular operations of the domestic corporate sector.

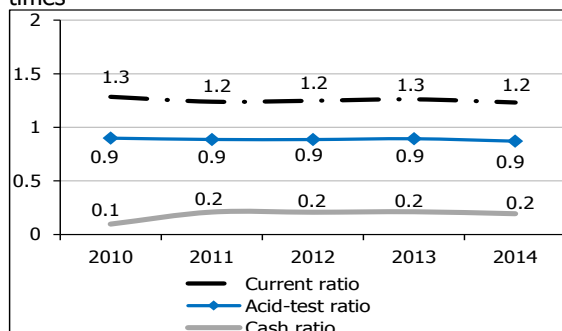
Chart 68  
Dynamics of corporate debt ratios  
in % (up) and in times (down)



Source: NBRM, calculations based on data from the registry of annual accounts with the Central Registry of the Republic of Macedonia, submitted for each of the relevant years for which the ratio is calculated.

2014, and to a much greater degree, to the annual decline in income from regular activities (29.1%), and thus, to the profitability of the corporate sector. Analyzed by activities<sup>66</sup>, in 2014, most industries have seen deterioration in indebtedness indicators. The largest annual increase in the indebtedness indicators was registered in the construction despite the fact that this sector has the highest rate of growth of equity and reserves. As in past years, 2014 also registered significant differences in the level of indebtedness indicators by activity. So, the indebtedness indicators of three activities (industry, construction and activities related to real estate, professional, scientific, technical, administrative and auxiliary services) are at the level that suggests limiting the possibility of financing their growth through new credit support, and also signals greater vulnerability to any adverse shocks. On the other hand, the indicators of overall and long-term indebtedness of the agriculture, forestry and fisheries are at noticeably lower level compared to other activities. Yet, this sector's profit from regular activities is not sufficient to allow full coverage of the total financial expenditures. Regarding the size of entities involved in the corporate sector<sup>67</sup>, the highest indebtedness was registered in micro entities, and the lowest among large entities.

Chart 69  
Liquidity ratios of the corporate sector  
times



Source: NBRM calculations based on data from the registry of annual accounts with the Central Registry of the Republic of Macedonia, submitted for each of the relevant years for which the ratio is calculated.

**Liquidity ratios are stable,** suggesting that the structure of current assets and current liabilities does not register significant changes. **However, liquidity indicators are below the level usually considered satisfactory** (1 for current liquidity, 2 for the current liquidity), indicating that one of the major challenges for the domestic corporate sector is liquidity management and finding sufficiently liquid assets. Analyzed by activity, there is an uneven distribution of liquidity within the corporate sector. Thus, highest liquidity indicators have been registered among trade, transport, storage and hotels and restaurants and

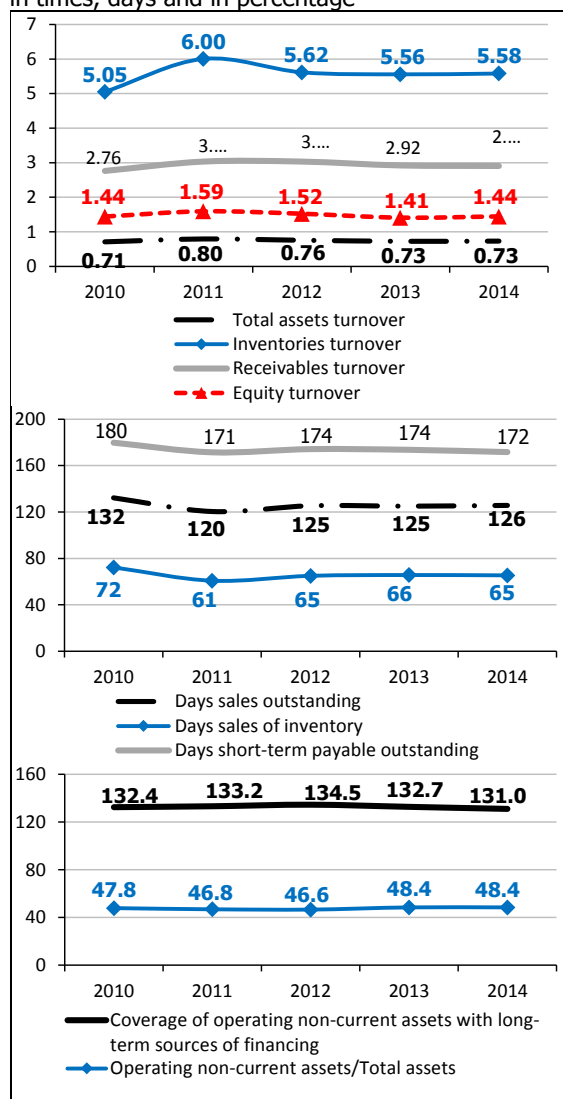
<sup>66</sup> Indicators by activity included within the corporate sector are presented in Annex 2.

<sup>67</sup> Indicators for the corporate sector by size of entities are presented in Annex 3.



Chart 70

Indicators of efficiency of utilizing the assets of the corporate sector in times, days and in percentage



Source: NBRM calculations based on data from the registry of annual accounts with the Central Registry of the Republic of Macedonia, submitted for each of the relevant years for which the ratio is calculated.

information and communication, while lowest liquidity have been registered among agriculture, forestry and fisheries and activities related to real estate, professional, scientific and technical activities, administrative and support services, which is also the only activity where the net working capital<sup>68</sup> registered a negative value. However, the overall corporate sector holds positive net working capital. Also, there is a clear link between liquidity indicators and financial position of companies<sup>69</sup>. Thus, corporate sector businesses operating at a loss have a negative net working capital and also significantly lower liquidity compared with the lucrative businesses. Hence, one can conclude that the lack of liquidity inevitably causes a decline in the volume of activity of companies and consequently leads to negative operating results. Low liquidity is typical for micro businesses, which compared with other entities, operate with negative net working capital and have the lowest liquidity indicators.

**The small volume of liquid assets available to the corporate sector is seen through the relatively high number of days needed for turnover of certain categories of assets.** Thus, the indicators for the days of "tying" funds shows that the corporate sector needs approximately six months for the payment of liabilities, about four months for collecting claim and just over two months to release tied supplies. Indicators of turnover of assets in 2014 remained similar as in the last several years, indicating a modest efficiency in the utilization of funds by the domestic corporate sector. At the same time, almost half of the funds of the corporate sector as a whole are operating non-current assets<sup>70</sup>, which are generally low yielding and low in turnover, and perhaps not even used for the execution of core business, which in turn leads to generally low turnover of total assets. Analyzing by activity, activity with the largest turnover of assets, fastest claim collection and

<sup>68</sup> Net working capital is defined as the difference between current assets and current liabilities.

<sup>69</sup> Corporate sector indicators, by companies' financial result are presented in Annex 4.

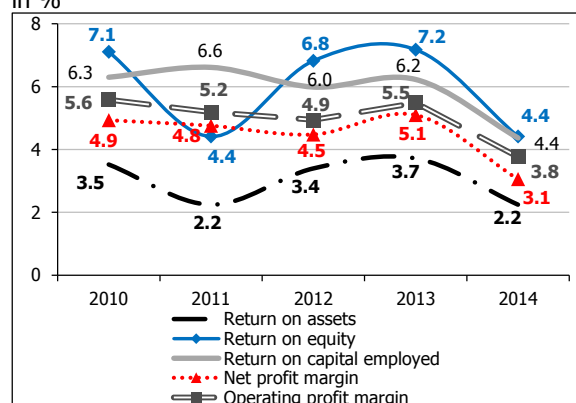
<sup>70</sup> The sum of tangible assets, intangible assets and investments in real estate is considered non-current working assets.





fastest payment of short-term liabilities is the activity of trade, transport, storage and hotels and restaurants, while stocks release at the fastest pace in the activity of information and communications. Regarding the size of the entities, identical to liquidity indicators, turnover indicators are the lowest in micro legal entities that register an extremely large number of days of tying funds.

Chart 71  
Profitability ratios of the corporate sector  
in %



Source: NBRM calculations based on data from the registry of annual accounts with the Central Registry of the Republic of Macedonia, submitted for each of the relevant years for which the ratio is calculated.

**The domestic corporate profitability in 2014 decreased.** Return ratios decreased compared to the previous two years, which was caused by the annual decrease of net profit after tax in 2014 by about 39%. For its part, the decrease in net profit is due to the faster growth in 2014, registered by total expenditures (5.2%) compared with the growth in total income (3.2%) of the corporate sector. Annual reduction of about 30% was also recorded in the operational income before financial expenses and taxes, which caused a decrease in the operating profit margin. Analyzed by activities in 2014, the highest return on equity and the highest return on the capital employed<sup>71</sup> was registered by entities with main activity of information and communications, although somewhat higher operating profit margin was observed in construction. On the other hand, the activity of agriculture, forestry and fisheries incurred loss in 2014. In 2014, about 37% of the corporations reported loss and their share in the total assets of all legal entities accounted for 32.7%. It is noticeable that their results have worsened compared to last year. Analysis of profitability indicators by size of entities shows increasing differences in the distribution of profits in the corporate sector, with businesses that generate losses being concentrated among micro entities. A factor that may reduce the profits of companies in 2014 is the new Law on Profit Tax (August 2014, applicable from 1 January 2015), where again the basis for calculating tax profit is the presented taxable profit increased by non-recognized expenses for tax purposes, instead

<sup>71</sup> Capital employed is the sum of capital and reserves, long-term liabilities and long-term provisions for risks and expenses.



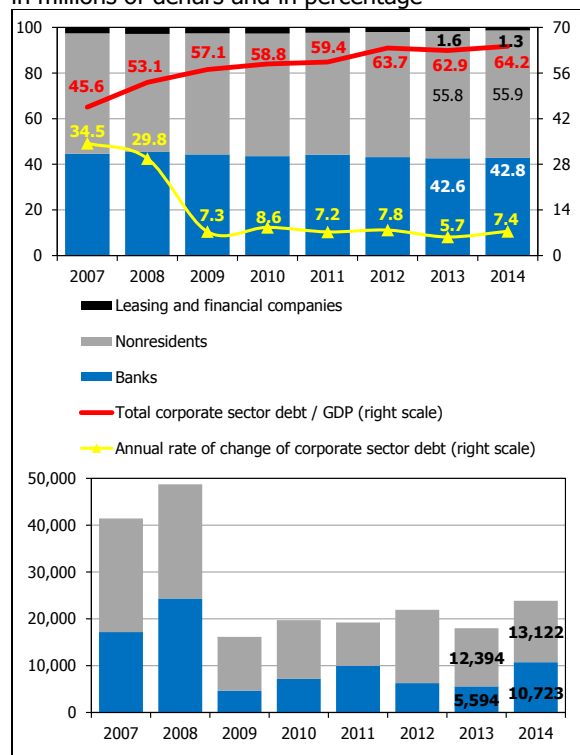


of the taxation of the amount of non-recognized expenses and deferred income.

## 2.2 Indebtedness of the corporate sector

Chart 72

Structure (up) and absolute change (down) of corporate debt, by type of creditor in millions of denars and in percentage



Source: National Bank of the Republic of Macedonia, Ministry of Finance and State Statistical Office

\*Note: External corporate debt data and GDP data for 2013 are preliminary data, and GDP data for 2014 is estimated data.

**The moderate growth of the debt of the Macedonian corporate sector, typical for the period after the great global financial crisis continued in 2014.** Thus, the total debt of the corporate sector<sup>72</sup>, in 2014 grew annually by 7.4%, and thus its share in the gross domestic product of about 64%, hit a record high. The pace of growth of total debt of the corporate sector in 2014 corresponds with the fall in profitability, the low turnover of assets and the modest level of liquidity. Moreover, unlike the past two years when foreign creditors had dominant contribution to the annual growth of debt in the domestic corporate sector, in 2014, there was **increased contribution of domestic banks to the growth of debt**, which results from the strengthening of banks' preferences to take credit risk and the financial support of domestic companies in 2014. More than half of the corporate debt is to non-residents, somewhat less than half is to domestic banks, with insignificant share of other segments of the domestic financial system in financing the activities of this sector.

**The indebtedness of the corporate sector to non-residents at the end of 2014 amounted to Euro 3.1 billion** and grew annually by 7.5% (i.e. Euro 215 million). Thus foreign debt to GDP ratio<sup>73</sup> is around 36%<sup>74</sup> (35% in 2013). On the other hand, the total claims of the domestic corporate sector on non-residents at the end of 2014 amounted to Euro 1.2 billion and recorded an annual decline of 5.5% (i.e. Euro 71 million). Analyzing the structure of liabilities to non-residents, the

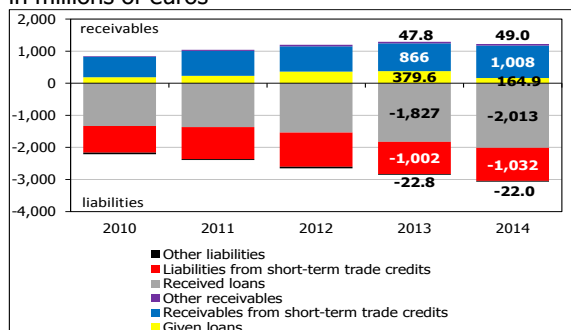
<sup>72</sup> For the needs of this analysis, the total corporate debt includes debt based on loans, interest and other claims of banks, total external liabilities of corporate sector (non-residents), value of active lease contracts and indebtedness based on active contracts with financial companies.

<sup>73</sup> GDP data for 2013 is estimated

<sup>74</sup> If we exclude liabilities based on short-term trade credits, the debt of the corporate sector to non-residents makes up 24% of GDP (23% in 2013).

Chart 73

Structure of claims and liabilities of the domestic corporate sector to nonresidents, by instrument  
in millions of euros

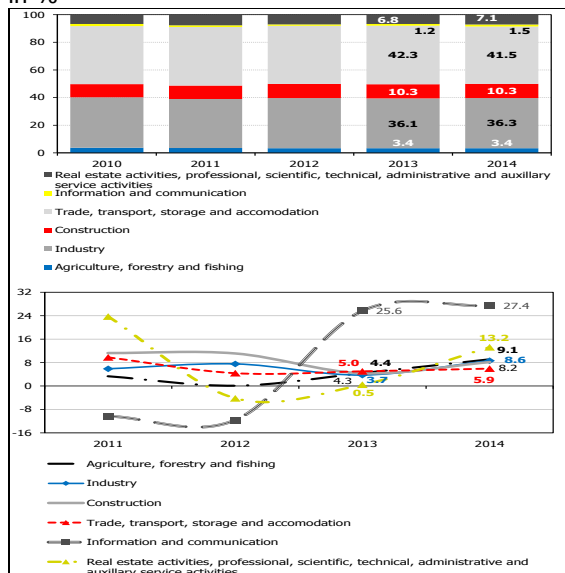


Source: National Bank of the Republic of Macedonia

\*Note: Data for 2013 are preliminary, while for 2014 they are estimated

Chart 74

Structure of corporate debt to domestic banking system (up) and growth rates (down), by activity  
in %



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

highest share was registered in loan liabilities<sup>75</sup>, followed by liabilities based on short-term trade credits<sup>76</sup>, while most of the claims in their structure are claims on short-term trade credits. Moreover, in 2014, over 86% of the increase in the corporate sector liabilities to non-residents was due to the growth of received loans. On the other hand, the annual decline in claims on non-residents was caused by the lower approved intercompany loans.

The gradual acceleration of lending, followed by a gradual strengthening of domestic banks' preferences to take risks caused the **corporate sector indebtedness to domestic banks<sup>77</sup> in 2014 to grow by 8.0%**, which is an acceleration compared to 2013 (4.4%). The amount of new loans by banks to domestic companies increased by 8.5% during 2014 compared with 2013, which confirms the willingness of banks to finance corporate activities. The structure of corporate debt, by activity, is dominated by the debt of industry, trade transport, storage and hotels and restaurants. These two sectors accounted for over 70% of the annual growth of the corporate sector indebtedness to domestic banks. The fastest growth of debt to domestic banks was recorded by the debt of information and communication sector (27.4%), but its share in the total indebtedness of the corporate sector is the smallest compared to other activities. The banking system has provided support to the operations of the corporate sector in the form of off-balance sheet instruments<sup>78</sup>, which at the end of 2014 amounted to Denar 32,661 million and recorded an annual growth of 15.6%.

<sup>75</sup> Loans denote relations between residents and non-residents (claims or liabilities) arising from direct borrowing of funds from the lender based on credit or loan agreement.

<sup>76</sup> Trade (commercial) credits denote relations between residents and non-residents (claims or liabilities) arising from direct loan approval from the supplier (supplier) to the buyer (receiver) on the basis of trade in goods and services, advance payments for trade in goods and services or for performing works

<sup>77</sup> Corporate debt to the banking system includes debt based on credits, interests and other claims. More than 98% of the total domestic corporate debt to the banking sector is based on loans

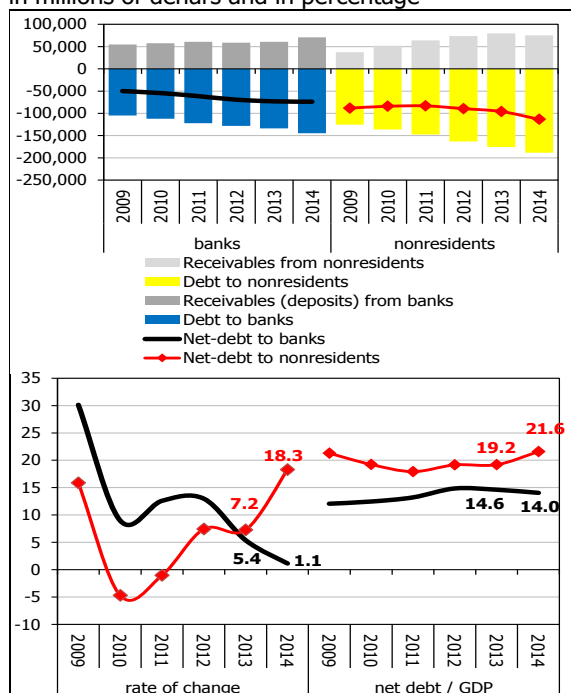
<sup>78</sup> Off-balance sheet exposure of banks to the corporate sector is not included in the corporate debt in the corporate debt analysis, and indicates potential future liabilities of the corporate sector to other creditors or potential additional borrowing from banks.



Chart 75

Components of corporate net-debt (up) and growth rates and net-indebtedness to GDP ratio (down)

in millions of denars and in percentage



Source: National Bank and State Statistical Office

**Net debt<sup>79</sup> of the domestic corporate sector in 2014 constituted 34.6% of GDP and grew by 10.9% on an annual basis.** The growth of net indebtedness of the corporate sector in 2014 was caused by the debt to non-residents, with a relatively modest increase in the net debt to domestic banks. Net external debt of the domestic corporate sector in 2013 increased by 18.3%, which is the highest growth rate in the past six years. The accelerated growth of net debt to non-residents is due to the growth of debt abroad (7.5%), and the reduction of claims of the domestic corporate sector on non-residents (of 5.6%), which is recorded for the first time in the past six years. **Increasing importance of external funding for the domestic corporate operation is yet another factor that increases its sensitivity to shocks from the external environment** and makes risk premium perceived by foreign creditors for the domestic economy more significant. Hence, the credit rating of the country is a very important factor that affects the access of the corporate sector to external sources of funding, and their price, i.e. the cost of funding. The slower growth of net corporate debt to domestic banks in 2014, resulted from the twice as high growth of deposits in the banking system (16.3%) compared with the growth of loans (8.0%). Also, in 2014, deposits of domestic companies in the banking system registered the fastest growth in the period after the global financial crisis. Demand deposits were generators of this growth, which grew annually by over 25%.

**The risks to the sustainability of the domestic corporate debt relate to its structural features.**

<sup>79</sup> Net debt of the domestic corporate sector shall be the difference between claims and debt of the corporate sector on and to domestic banks and non-residents.



Table 4  
Structure and changes to components of the domestic corporate debt

Type of debt		Structure (in %)				Absolute change (in millions of denars)			Relative change (in %)		
		2011	2012	2013	2014	2012	2013	2014	2012	2013	2014
currency	Denar debt	15.7	18.0	19.3	21.3	11,040	7,274	11,238	26.1	13.6	18.5
	Foreign currency debt	72.5	70.4	70.8	70.4	13,781	12,593	15,233	7.1	6.0	6.9
	Denar debt with FX clause	11.8	11.7	9.9	8.3	2,946	-3,581	-2,924	9.3	-10.3	-9.4
maturity	Short-term debt	36.4	36.5	34.0	34.7	7,997	-1,953	10,759	8.0	-1.8	10.1
	Long-term debt	57.8	57.3	59.1	58.1	10,850	14,962	10,229	6.8	8.8	5.5
	Other debt (past due and nonperforming)	5.7	6.2	6.9	7.2	2,657	3,277	2,559	16.8	17.8	11.8
type of interest rate	Debt with fixed interest rate	16.0	18.6	21.9	24.7	8,327	12,572	12,016	25.5	30.7	22.2
	Debt with variable interest rate	35.2	34.1	33.0	30.2	3,498	5,555	-43	4.9	7.4	-0.1
	Debt with administrative interest rate	45.6	44.2	41.9	41.5	4,488	5,177	8,449	4.8	5.3	8.2
	Other - non-interest bearing debt	3.2	3.0	3.2	3.6	230	1,233	1,722	3.5	18.4	21.7

Source: The National Bank on the corporate debt to banks and to nonresidents, the Ministry of Finance on the corporate debt to leasing companies and financial entities.

Note: The calculations for the period before 2014 does not include the corporate debt to financial companies, which as of 31 December 2013 was 0.06% of the total debt. In the maturity structure of the debt, the share of other (past due and non-performing) debt is obtained only debt to banks, due to unavailability of data on the non-performing debt to other creditors. The structure of debt, by type of interest rate, takes into account only the debt on the basis of principal on loans to the banking system and to nonresidents.

**Analyzing by contractual maturity, long-term debt has the largest share in the structure of debt,** although short-term debt registered somewhat faster growth. The annual growth of short-term indebtedness of the corporate sector is equally distributed among banks and non-residents, while about three quarters of the annual growth of long-term debt results from the growth of debt to domestic banks. The average maturity of newly approved loans to businesses by banks during 2014 was two years and seven months, which is about two months less than previous year. It is worth to note that the growth rate of non-performing<sup>80</sup> or past due debt has been decreasing, although the structural share of this component of the debt continues to grow.

**Major risks to the financial system arising from the corporate sector are actually related to its ability to service debt and to the trend of nonperforming debt.** The dynamics of non-performing debt determines the capacity of domestic companies to obtain new credit support and influence the assessment of the creditworthiness by creditors.

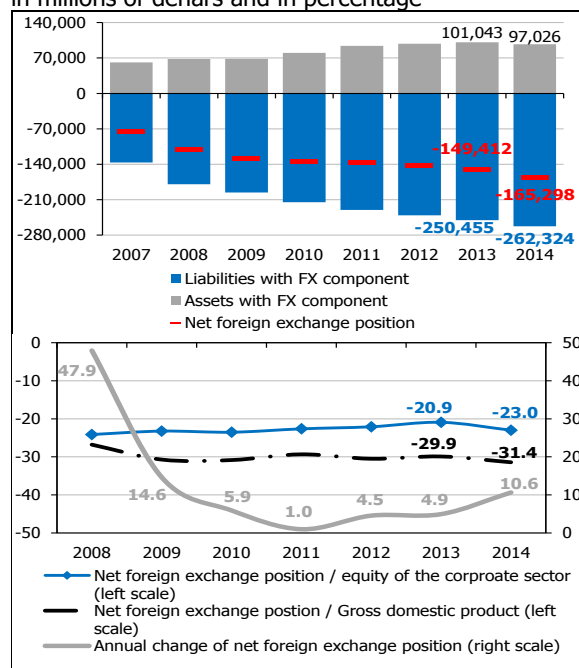
<sup>80</sup> Regarding the debt to non-residents, it cannot be identified how much of the debt is due or non-performing and therefore this data on the non-performing debt arises only from the debt of the domestic corporate sector to the banking system, which means that there is a risk of underestimation of the growth of this debt component.



Also, through its influence on the embedded risk premium, **the trend of non-performing debt determines the cost of debt**, i.e. the cost of financing paid by the domestic corporate sector. Given the unequal distribution of debt and liquidity among activities and individual companies, the banks' policy for managing troubled exposure to domestic corporate sector, especially activities aimed at debt restructuring are particularly important. It is equally important for banks, even when establishing credit exposures, to carry out an objective assessment of the creditworthiness of companies.

**In the currency structure of the corporate debt, foreign currency debt dominates, primarily due to the debt to non-resident creditors.** Also, in 2014, almost 86% of the growth of indebtedness of the corporate sector in foreign currency stems from the growth of its external debt. Changes in the other two components of the currency structure of the corporate debt are due to changes in debt to domestic banks, where the debt in denars with FX clause has been declining for the second consecutive year, while the denar debt is the fastest growing component of the debt. Namely, for the third consecutive year, more than half of the total newly approved loans to legal entities by domestic banks are in denars, partly due to changes in the currency structure of the banks' funding sources i.e. higher Denar savings. The share of debt with currency component in the total debt of the corporate sector equaled 78.7% at the end of 2014, registering a moderate annual growth (4.9%). In terms of individual currencies, most of the debt with currency component of the domestic corporate sector (over 90%) is expressed or indicated in Euros.

Chart 76  
Net currency position of the corporate sector  
in millions of denars and in percentage



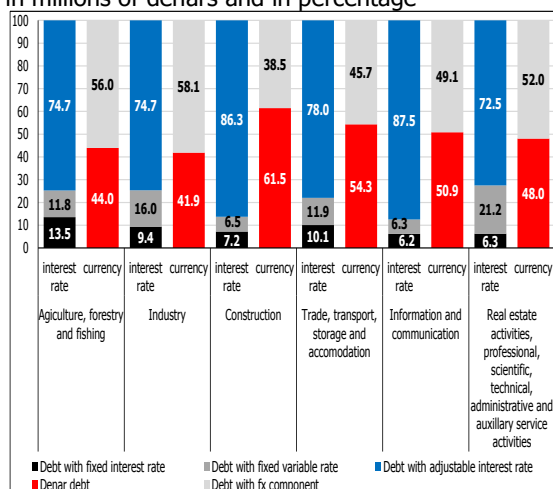
Source: National Bank of the Republic of Macedonia

<sup>81</sup> Net currency position is calculated as the difference between assets and liabilities with currency component of the corporate sector. If the difference is positive, i.e. the assets are greater than liabilities, it is a long net currency position, and vice versa, if

currency position of the corporate sector deepened compared to last year (10.6%), but its relative importance generally shows stability in the past few years. Thus, its share in GDP is just over 30% and about 23% in equity and reserves of the corporate sector. According to all this, the National Bank's policy to maintain a stable exchange rate of the denar against the euro is actually extremely important for the maintenance of the corporate performance and contributes to a stable level of indebtedness of the corporate sector, and thus, to the maintenance of its ability to service debt. Thus, the policy of maintaining a stable exchange rate restricts direct spillover to the corporate sector (and indirectly the loan portfolio of the banking system) of the possible adverse effects of the fluctuations in the capital movement globally and the volatility of the international foreign exchange market.

**The corporate sector is at risk of adverse movements in interest rates**, given the fact that 71% of loans are with floating (variable) or adjustable interest rate. In the structure of loans, less than a quarter constitutes loans with fixed interest rate, and almost 80% of this debt is to non-residents. As the cost of servicing is defined and known throughout the duration of the contract, this portion of the debt does not entail direct exposure of the corporate sector to movements in the domestic or international financial market. In 2014, the debt with fixed interest rates recorded the fastest growth. Second portion of the corporate debt which bears no exposure to interest rate risk is the interest-free debt, which is almost entirely due to the interest-free loans granted by foreign parent entities (which account for about 3.6% of the total corporate debt). On the other hand, debt with variable interest rate implies that the amount of the cost of financing is directly

Chart 77  
Structural features of corporate debt to banks, by activity  
in millions of denars and in percentage



Source: the National Bank

the liabilities with currency component exceed assets, it is a short net currency position. Assets with currency component include deposits with currency component, total claims on non-residents including cash on accounts abroad and investments abroad. Liabilities with currency component include: credits with a currency component from domestic banks and total liabilities to non-residents. The stock of investments abroad as of 31 December 2014 is based on data as of 31 December 2013, since the data for 2014 becomes available in the second half of the year.

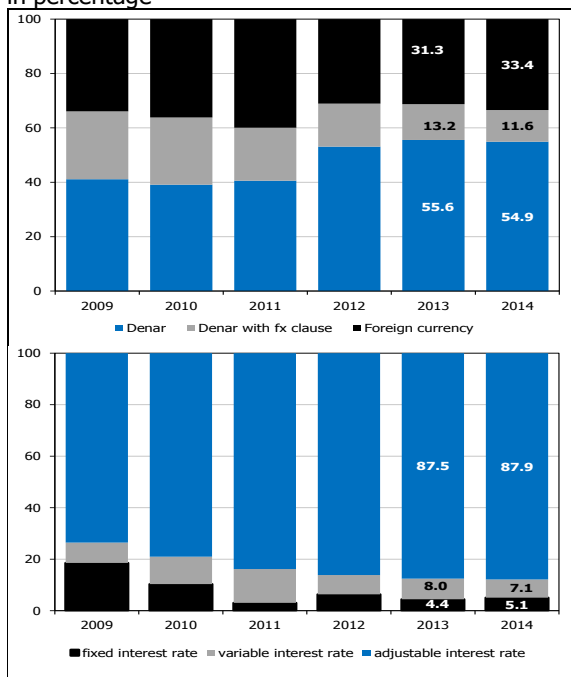




Chart 78

Currency structure (up) and structure by type of interest rates (down) on newly extended loans by banks to the corporate sector

in percentage



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

dependent on developments in the international financial markets, i.e. is determinable depending on fluctuations in policy rates on the domestic or international financial markets. In 2014, debt with variable interest rate recorded a modest decrease (0.1%), with three quarters of this debt to non-residents. The annual growth of debt with variable interest rate entirely results from credit activity of domestic banks, whereas in 2014, slightly less than 90% of newly extended loans to companies by the banks are with adjustable interest rates. Domestic banks have a practice in place of using clauses for adjusting interest rates at discretion of the bank's bodies and thus practically transfer risk arising from the financial markets developments to domestic borrowers. Hence, in the debt with adjustable interest rates, the cost of financing the corporate sector is not possible to be known or determined in advance. The modest presence of bank loans with fixed and variable interest rates, in fact shows that domestic banks in the establishment of credit exposures do not define clearly and transparently the amount of risk premium for financing companies, which also gives greater convenience when managing interest rate risk in their banking book. The use of adjustable interest rates, ultimately, may increase the cost of financing the domestic corporate sector, especially considering the fact that at the current historically lowest level of interest rates, at both domestic and international financial markets, there is greater likelihood of upward movement in the future. In such circumstances, the domestic corporate sector will be extremely vulnerable, especially entities that are financed through domestic banks or have access to funding from foreign parent entity.

**Throughout 2014, banks generally assessed demand for loans from domestic corporate sector as unchanged<sup>82</sup>.** The exception to this is the last quarter of 2014, when according to the banks' estimations, the demand for loans by domestic companies

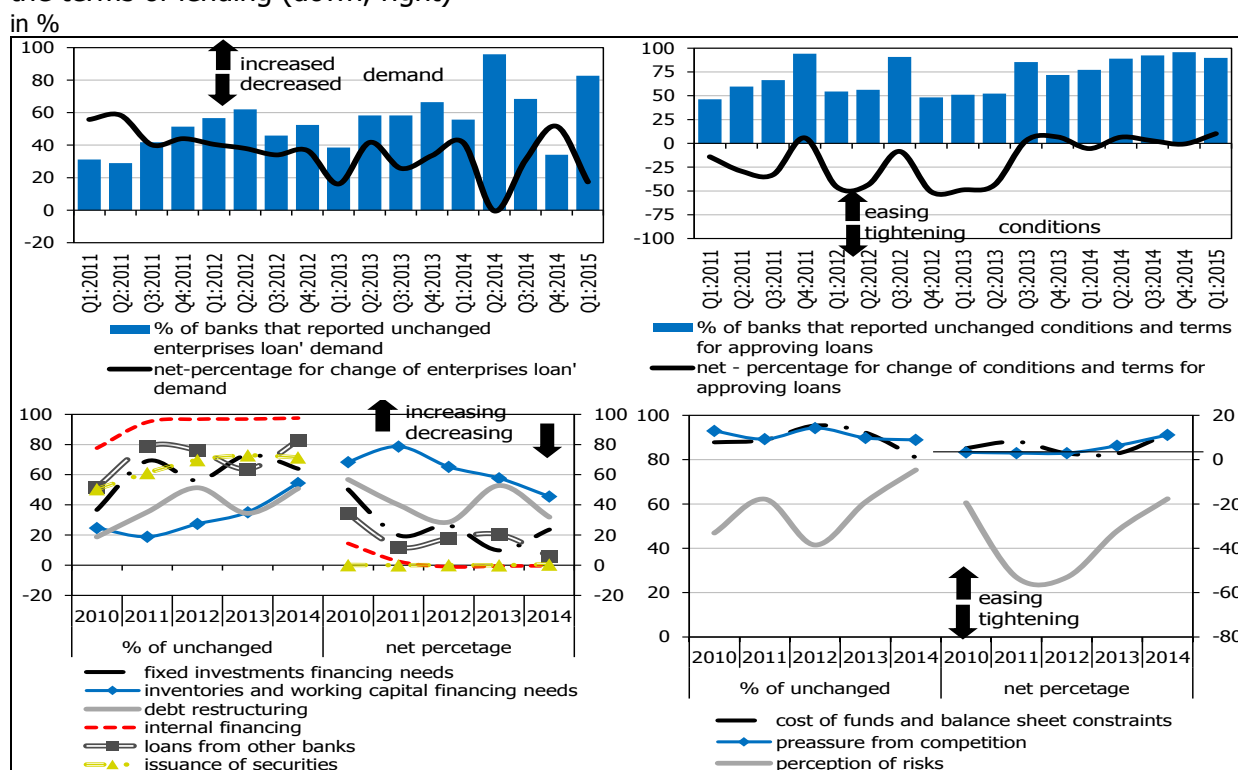
<sup>82</sup> Source: NBRM, based on data in Bank Lending Surveys.



increased. Also, banks reported that in 2014, no significant changes were made in their terms of lending to the corporate sector.

Chart 79

Results from Bank Lending Surveys are as follows: assessment of demand for loans by companies (up, left), assessment of the terms of lending to companies (up, right), assessment of the factors affecting demand for loans (down, left) and assessment of the factors that affect the terms of lending (down, right)



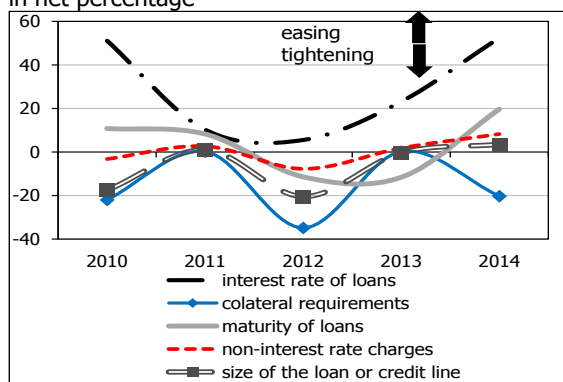
Source: NBRM, based on data in Bank Lending Surveys.

\*Note: The banks' percentage is weighted with the share of each bank in the total loans of corporations on specific dates. Assessment of the factors is presented as average percentage of banks that responded that the given factor maintains the level of demand unchanged in all surveys of the specific year. Net - the percentage is the difference between banks that reported increased demand and reduced demand for loans by companies, i.e. between banks that reported easing and tightening of the terms of lending to companies.

According to the individual factors affecting the demand for loans, banks assessed that, in 2014, the factors acted towards keeping the demand unchanged rather than towards its change. Factors that have changed the most in 2014, as reported by banks, were the need for investment in inventory and working capital and the need for restructuring corporate debt, but they still increase credit demand strongly compared to other factors. The impact on demand for loans, resulting from other banks'



Chart 80  
Banks' assessment for change in the terms of lending  
in net percentage



Source: NBRM, based on data in Bank Lending Surveys.

\*Note: The banks' percentage is weighted with the share of each bank in the total loans of corporations on specific dates. Assessment of the factors is presented as average net percentage of banks that responded that the given factor maintains the level of demand unchanged in all surveys of the specific year.

competition, financing through borrowers' internal sources or issuing of securities is assessed as low.

In 2014, there was a gradual positive change in the banks' risk perceptions associated with borrowers<sup>83</sup>, **aimed towards relaxation of the terms of lending to the corporate sector**. However, there is still negative net-percentage for this factor, indicating that some banks are still vigilant on the credit market in establishing new credit exposures to domestic corporate sector. According to the banks, identical as in the past five years, the cost of financing and the limits of their balances<sup>84</sup>, and the pressure of competition<sup>85</sup>, mainly acted towards keeping the terms of lending to companies unchanged. Analyzing by individual term of lending, in 2014 compared to last year, banks reported the largest easing in interest rates, which can be explained by downward changes in interest rates by the NBRM in 2014. The banks reported somewhat more modest easing in the maturity of approved loans, while the terms for collateralization of loans to the corporate sector were tightened.

**The cut of interest rates on loans approved by domestic banks to the corporate sector continued in 2014, reaching a record low of interest rates at which banks approve loans to the corporate sector.** Thus, the average interest rate on total loans to the corporate sector approved by the banks at the end of 2014 equaled 6.7%, registering an annual decline of 0.4 percentage points. The interest rates were cut in both Denar loans and loans with FX clause.

Along with the downward movement of interest rates on loans to the corporate sector, **the average spread (which includes risk premium and/or profit margin) embedded**

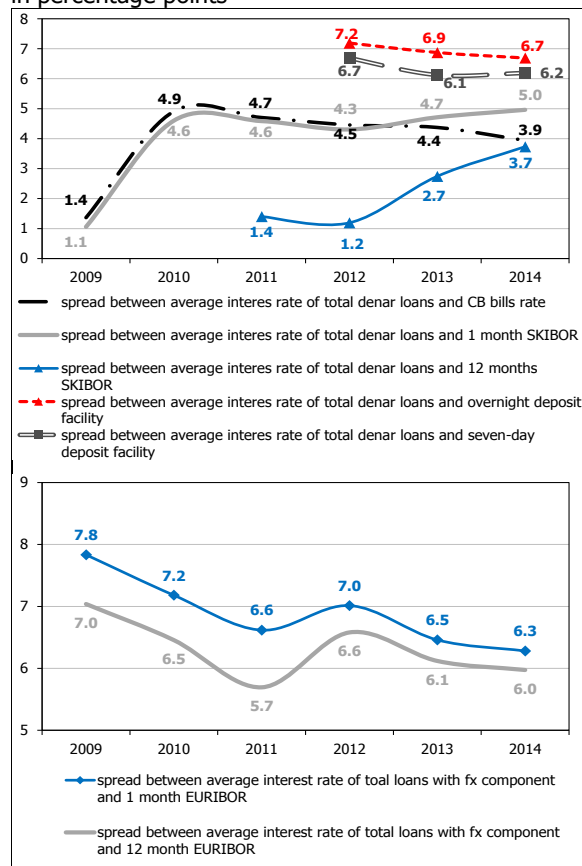
<sup>83</sup> This group includes expectations for total economic activity, expectations for the perspectives of individual industries and corporations and risk associated with the provision of loans.

<sup>84</sup> This group includes bank's capital position, bank's access to market financing and bank's liquidity position.

<sup>85</sup> This group includes competition from other banks, competition from non-banking sector and competition from market financing.

Chart 81

Margin above policy rates embedded in the average interest rate of total regular loans in percentage points



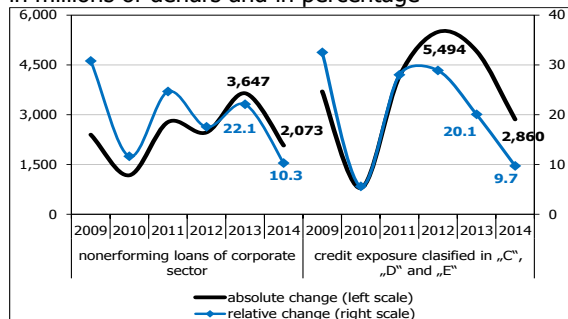
Source: NBRM's Credit Registry, based on data submitted by banks and NBRM calculations.

**in interest rates on loans also declined** but at slightly more modest pace. Thus, in loans with FX clause, the spread over interbank interest rates in the euro area (EURIBOR) recorded a modest decline. On the other hand, the spread of Denar loans is marked by different movement depending on the interest rate used to make the comparison. Thus, analyzing the Denar interbank interest rates, the spread increased, since during the year SKIBOR decreased significantly for various maturity segments. However, the spreads of interest rates on the NBRM monetary instruments mainly decreased. Moreover, for the loans with FX clause over interbank rates for euro, it is significantly higher compared to the spread on domestic currency loans over the interest rates on the domestic interbank market, which suggests that banks incorporate greater compensation for the taken risk in loans with FX clause, making them more yielding instrument compared to Denar loans and consequently, have a higher relative share in the formation of net interest margin of banks. Divergent movements in these spreads are actually a consequence of the limited function of the domestic money market for the operations of the domestic banks and consequently, the minor spillover effects of the decline of interest rates on the interbank interest rates on banks' loans. In addition, the weak presence of loans with floating (variable) interest rates, and massive use of clauses to adjust interest rates, provide more space to banks, by slow and gradual change in the interest rate policies of movements in financial markets and change in the set risk premium depending on the dynamics of meeting its profit targets. These differences in the movement of interest rates and in the average spreads are embedded in the Denar loans and loans with FX clause, and are generally observed in activities (Annex 6). In fact, in most of the activities at the end of 2014, average interest rates on loans are reduced compared to last year, but the average spread over interbank interest rates on loans with FX clause registered a modest decline, while denar loans increase. Although differences



**Chart 82**  
Growth of higher risk debt and nonperforming loans of domestic corporate sector to banks

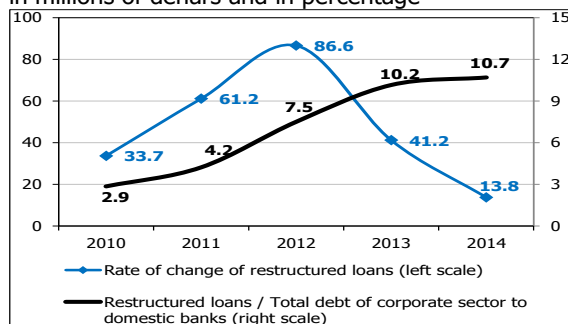
in millions of denars and in percentage



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

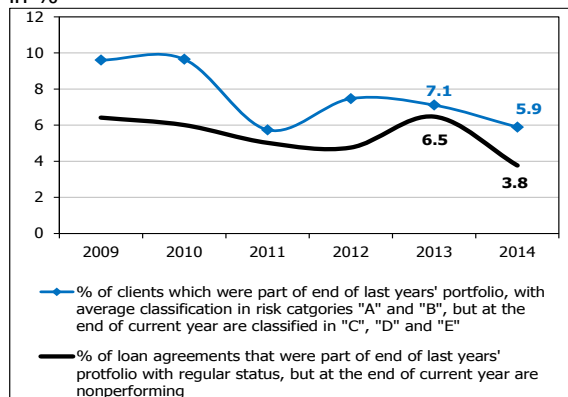
**Chart 83**  
Relative importance and annual growth of restructured corporate loans by domestic banks

in millions of denars and in percentage



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

**Chart 84**  
Estimated default rate of the corporate sector to the domestic banking system in %



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

in the average spread by activity are relatively small, it is worth mentioning that at the end of 2014, the highest spread was recorded in loans to construction companies.

Despite the decrease in profitability and the modest volume of liquid assets available to the domestic corporate sector, **in 2014, there was a significant slowdown in the materialized credit risk from the exposure of banks to the corporate sector.** Thus, the annual growth rates of non-performing loans arising from the corporate sector and the higher risk exposure in 2014 dropped more than double compared with 2013. The slowdown in the growth of non-performing loans in 2014 was partly due to the increase in the banks' written-off claims on the corporate sector, by 1.5 times compared to 2013. One of the main determinants of the future movement of non-performing loans to the corporate sector is the success with which banks restructure corporate loans and help them overcome their financial challenges. Such loans that have been restructured and that might have received non-performing status if the terms of lending had not been changed, increase annually by 13.8%, comprising 10.7% of the total debt of the corporate sector to domestic banks. Also, this is the smallest growth rate of restructured loans in recent years. Accordingly, in 2014, the estimated rate of default of the corporate sector to domestic banks decreased. Thus, the share of clients who migrated from A and B risk categories to C, D and E risk categories on an annual basis throughout the year fell by 1.2 percentage points and at the end of 2014 equaled 5.9%. The intensification of lending and the gradual recovery of the global economic environment, amid changes in the production structure of the corporate sector due to launching of the capacities owned by foreign investors may further improve the performance of the corporate sector, especially the large and medium-size entities. However, the poor performance of micro entities remain a risk factor which will require increased efforts by banks to make appropriate changes in the



terms of lending, additional restructuring of repayment schedules and to improve the process of managing credit exposures where the credit risk has already materialized.

### III. FINANCIAL SECTOR

#### 1. Structure and concentration level in the financial sector of the Republic of Macedonia

In 2014, the assets of the financial sector grew rapidly, mostly determined by the banking sector, followed by pension funds and insurance companies. Banks account for most of the financial system, followed by the two segments that have great potential for further growth, pension funds and insurance companies. On the other hand, the scope of activities of the savings houses, brokerage houses and leasing companies continue to decline, resulting in a further reduction of their importance to the overall system. The role of financial companies and investment funds is also marginal, although their share in the assets of the financial system has doubled.

Table 5  
Structure of total assets of the financial sector in the Republic of Macedonia  
in millions of denars

Type of financial institution	Total assets (in millions of denars)		Structure in %		Change 31.12.2014/31.12.2013		Number of institutions	
	2013	2014	2013	2014	Absolute change	In percent	2013	2014
<b>Depository financial institutions</b>	<b>372,404</b>	<b>403,176</b>	<b>88.3</b>	<b>87.5</b>	<b>30,772</b>	<b>8.3</b>	<b>20</b>	<b>19</b>
Banks	369,505	400,281	87.6	86.8	30,776	8.3	16	15
Saving houses	2,899	2,895	0.7	0.6	-4	-0.1	4	4
<b>Non-depository financial institutions</b>	<b>49,422</b>	<b>57,772</b>	<b>11.7</b>	<b>12.5</b>	<b>8,350</b>	<b>16.9</b>	<b>93</b>	<b>101</b>
Insurance companies	13,883	16,416	3.3	3.6	2,533	18.2	15	15
Insurance brokers	n/a	n/a	n/a	n/a	n/a	n/a	26	30
Insurance agents	n/a	n/a	n/a	n/a	n/a	n/a	9	11
Leasing companies	5,990	4,311	1.4	0.9	-1,679	-28.0	10	8
Pension funds	27,137	33,580	6.4	7.3	6,443	23.7	4	4
- Mandatory pension funds	26,819	33,074	6.4	7.2	6,256	23.3	2	2
- Voluntary pension funds	319	506	0.1	0.1	187	58.7	2	2
Pension fund management companies	628	508	0.1	0.1	-120	-19.1	2	2
Brokerage companies	247	178	0.1	0.0	-69	-27.9	7	6
Investment funds	752	1,950	0.2	0.4	1,198	159.3	10	13
Investment fund management companies	21	33	0.0	0.0	12	57.1	4	5
Private equity fund management companies	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Financial companies	764	796	0.2	0.2	32	4.2	6	7
<b>Total</b>	<b>421,826</b>	<b>460,948</b>	<b>100.0</b>	<b>100.0</b>	<b>39,122</b>	<b>9.3</b>	<b>113</b>	<b>120</b>

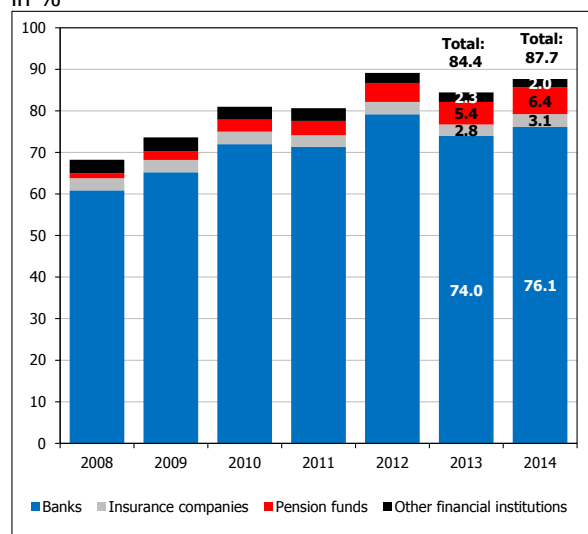
Source: For each institutional segment, the competent supervisory authority (the NBRM, the SEC, the MAPAS, the ASO and the Ministry of Finance.

\*The amounts refer to total gross assets.

Note 1: According to the regulation, private funds and private fund management companies have no obligation to provide data on the value of their assets and net assets. In accordance with the Law on Supervision of Insurance, insurance brokerage houses and insurance agents are not required to submit financial reports to the Insurance Supervision Agency.

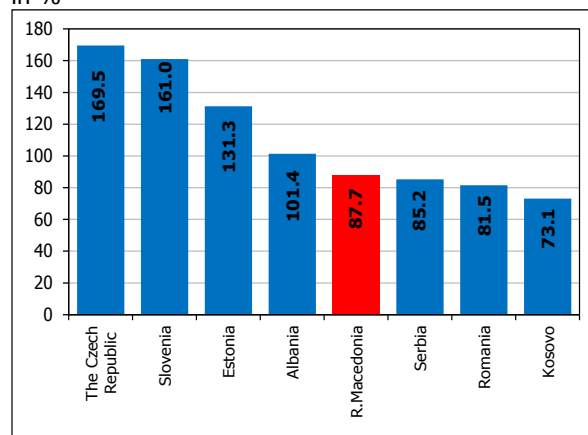


Chart 85  
Financial sector assets to GDP ratio  
in %



Source: For each institutional segment, the competent supervisory authority (the NBRM, the SEC, the MAPAS, the ASO and the Ministry of Finance).

Chart 86  
Total financial sector assets to GDP ratio, by country  
in %



Source: Websites of central banks of countries.

Note: The data for Macedonia and Albania refer to December 2014. The data for other analyzed countries refer to December 2013.

In 2014, the total assets of the financial sector of the Republic of Macedonia registered a rapid growth compared to the previous year<sup>86</sup>, mainly due to the rapid growth of assets of the banking system and the mandatory pension funds and insurance companies. Assets of leasing companies, brokerage houses and pension funds management companies registered negative growth rates, but it did not hinder the rapid growth in the total assets of the financial system.

Banks remain dominant segment in the financial system, although their share in total assets decreased by 0.8 percentage points at the expense of the increased share of pension funds and insurance companies.

The accelerated growth of assets of the financial system further increased its importance for the national economy, reaching 87.7% of GDP (3.2 percentage points more than the previous year). Compared to the analyzed countries of the region and the European Union, the degree of financial intermediation in the domestic financial sector is among the lower.

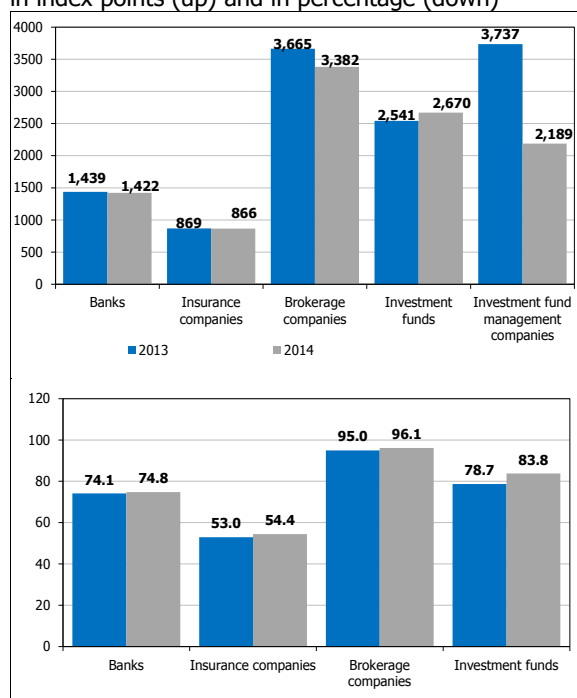
The concentration measured by the Herfindahl index is high in most of the sectors in the financial system. The concentration in banks and insurance companies is acceptable, which is not the case with other segments. Although in some of them the concentration of activities has been reducing, yet, it is still high. This is the case with the investment fund management companies and brokerage houses. In addition, only two of the six brokerage houses occupy

<sup>86</sup> The growth of assets of the financial system in 2014 equaled 9.3% (2013: 5.8%).



Chart 87

Herfindahl index and CR5 index for the total assets, by segment of the financial system in index points (up) and in percentage (down)



Source: For each institutional segment, the competent supervisory authority (the NBRM, the SEC, the MAPAS, the ASO and the Ministry of Finance).

81.1% of the total assets of this sector (80.6% in 2013). Also, the already high market share in three of thirteen investment funds rose by 7.1 percentage points to 73.6%. According to the Herfindahl index, the concentration is the highest in savings houses due to their small number, where 62.2% of total assets is concentrated in only one savings house.

**Foreign capital predominates in most segments of the financial system, except for savings houses<sup>87</sup>, brokerage houses and financial companies.**

Table 6  
Ownership structure of financial institutions in %

Owners	Banks	Saving houses	Insurance companies	Brokerage companies	Leasing companies	Pension fund management companies	Investment fund management companies	Financial companies
<b>Domestic shareholders</b>	<b>23.5</b>	<b>100.0</b>	<b>7.7</b>	<b>75.5</b>	<b>2.1</b>	<b>49.0</b>	<b>28.5</b>	<b>54.2</b>
Nonfinancial legal entities	8.7	90.3	0.8	34.8	1.3	0.0	0.0	0.7
Banks	0.1	0.0	0.0	7.0	0.8	49.0	20.3	0.0
Insurance companies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other financial institutions	0.6	0.0	0.3	0.0	0.0	0.0	4.4	0.0
Natural persons	8.1	9.7	6.6	33.7	0.0	0.0	3.8	53.5
Public sector	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Foreign shareholders</b>	<b>76.2</b>	<b>0.0</b>	<b>92.3</b>	<b>24.5</b>	<b>97.9</b>	<b>51.0</b>	<b>71.5</b>	<b>45.8</b>
Natural persons	2.5	0.0	0.1	15.3	0.0	0.0	0.3	0.0
Nonfinancial legal entities	9.0	0.0	0.0	0.0	4.0	0.0	9.9	42.0
Banks	57.1	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Financial institutions	7.6	0.0	92.2	7.4	94.0	51.0	61.3	3.8
<b>Unclassified</b>	<b>0.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total</b>	<b>99.7</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: For each institutional segment, the competent supervisory authority (the NBRM, the SEC, the MAPAS, the ASO and the Ministry of Finance).

Note: The share of domestic and foreign capital in the ownership structure refers to shareholder capital (core capital) of the financial institutions.

<sup>87</sup> The regulation allows only Macedonian nationals to be owners of savings houses.





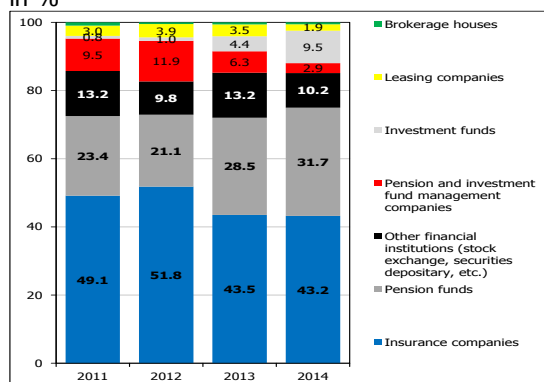
## 2. Cross-sector relation, "contagion" channels and their impact on financial stability

The financial system of the Republic of Macedonia has a relatively simple structure with minimal interdependence and dependence of activities of individual segments. Financial infrastructure in the country allows uninterrupted payment operations through the payment system in real time<sup>88</sup>, which is highly complied with the international payment system standards. Deposit Insurance Fund has accumulated a substantial amount of liquid assets, ensuring 5.55% coverage of the insured deposits of households.

The financial system stability is determined by the stability of the banking sector as its dominant segment, which also has great significance for some of the other segments of the system. Deposits of other financial institutions are almost insignificant in the deposit base of banks, but are particularly important for some financial institutions since they are one of their major investments. Since the savings of the non-financial sector are concentrated in the banking system, the importance of the stability of the banks to the stability of other segments of the financial system and the overall financial stability is undoubted. The National Bank is committed to its statutory objective to maintain price stability and support the stability of the financial system as a target subordinated to the main objective.

The banking system is stable and resistant to internal and external factors and influences. The connection or interdependence between banks themselves, and between all segments of the financial system is small, the risks associated with important sectors are monitored and controlled, so that there is insignificant threat of spillover of risks from one bank to another and from one institutional segment to another, limiting the risks of disturbing the financial stability in the country through this channel.

Chart 88  
Deposits of financial institutions with banks, structure in %

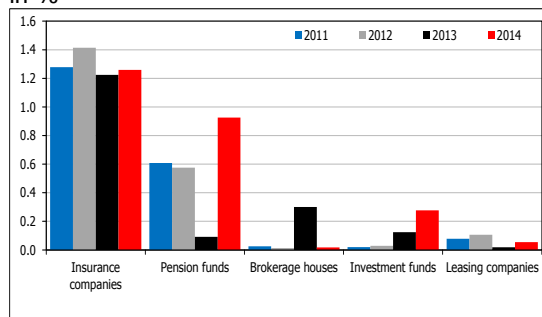


Source: NBRM, based on data submitted by banks.

**Financial stability in the Republic of Macedonia is primarily determined by the stability of the banking sector, i.e. its solvency and liquidity**, on the one hand, since the banks are the largest segment of the financial system, and on the other hand, since the assets of non-financial sector, and individual financial institutions are placed with banks. One reason for this is the underdeveloped financial markets and weak alternatives to austerity and fertilization of assets of economic entities, which further pronounces their relevance to the financial stability. Although there is a certain connection of banks with non-deposit institutions, yet it is very small and insignificant to pose risks to the stability of the financial

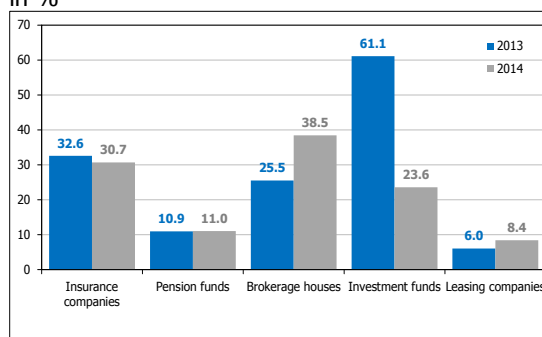
<sup>88</sup> For more details about the payment systems in the Republic of Macedonia please see the *Annual Report of the National Bank of the Republic of Macedonia for 2014*.

Chart 89  
Share of deposits of non-deposit financial institutions in the total assets of the banking system in %



Source: NBRM, based on data submitted by banks.

Chart 90  
Share of deposits of non-deposit financial institutions in banks in their total assets in %



Source: NBRM, based on data submitted by banks.

system as a whole. Deposits<sup>89</sup> of other financial institutions<sup>90</sup> are insignificant for banks (occupying only 3.8% of the total deposit base and 2.9% of the total banks' assets), so that any decreased liquidity of these segments and withdrawing their deposits from banks will not affect the stability and liquidity of banks. However, the breakdown by individual bank shows that shares of deposits of other non-banking financial institutions in the total deposit base range from 1.3% to 25.7%, suggesting that other financial institutions are important depositors of banks.

Deposits of non-financial sector, primarily households, are extremely important for banks because they are the principal funding sources for their activities and their consistency is the cornerstone of banks' stability. These risks are well controlled such that Macedonian banks maintain fairly stable and satisfactory liquidity whose liquid assets cover around 60% of household deposits at any time.

**On the other hand, the stability of banks as the most developed segment of the financial system is vital for the stability of some of the non-deposit financial institutions.** Brokerage houses and insurance companies in particular, including investment funds keep most of their assets as deposits with banks.

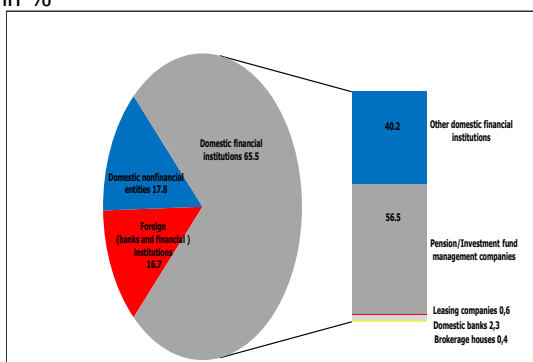
**The threats of spillover of risks due to the ownership connection among segments of the financial system are also small.** Banks' capital investments in other financial institutions make up only 0.4% of their assets. Over 65% of these investments are investments in domestic financial entities, predominated by stakes in pension and investment fund management companies, as well as other domestic financial institutions (MSE, CSD, KIBS, CaSys). Two banks are owners of pension fund management companies, which is currently a potential

<sup>89</sup> Deposits also include transaction account assets of other institutional segments in the banks.

<sup>90</sup> Deposits of insurance companies and investment funds have the largest share in the deposits of other financial institutions.



Chart 91  
Structure of banks' investments in financial institutions in %



Source: NBRM, based on data submitted by banks.

channel for spillover of any reputational risk from one segment to another.

The ownership connection between individual banks was marginal in 2014. Compared to the previous year, it decreased by 25.8 percentage points and accounted for only 2.3% as a result of the acquisition of Post Bank AD Skopje by Eurostandard Bank AD Skopje, which owned two-thirds of the Post Bank AD Skopje.

**Interbank loans and loans that banks approve to non-banking financial institutions are yet another channel of potential spillover of risks among different financial institutions. However, the risk of contagion through this channel is limited.** Banks are not very present on the interbank deposit market, and the amount of loans they have approved to other financial institutions is less than 1% of total loans. The exposure of Macedonian Bank for Development Promotion AD Skopje to the contagion risk is the highest (although unlikely to materialize given the extremity of the assumption that all other banks will not return the funds to the bank), because of its main activity to market the loans from international financial institutions through domestic banks. Additionally, it is worth to mention the relatively high share (over 20%) of disbursed bank loans in total sources of financing of leasing companies.



### **3. Deposit institutions**

#### **3.1 Banks**

**The banking system stability<sup>91</sup> was maintained also in 2014, amid almost double-digit annual growth of loans extended to non-financial entities. Favorable movements on the domestic credit market were 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. Increased credit growth was appropriately supported by deposits, which registered double-digit annual growth rate. Denarization in the banks' balance sheets continued in 2014.**

**The significance of the risks in the banks' operations remained unchanged. Credit risk prevails, while the risks associated with changes in market variables remained small. The loan portfolio quality remained almost unchanged, with a share of non-performing in total loans to the non-financial sector of 11.3%. The growth of non-performing loans during the year was quite variable. On annual basis it slowed down, entirely as a result of the twice lower annual growth of the non-performing loans to companies. However, the growth of non-performing loans to households, which has been registered for the first time in a longer period, amid rapid growth in the lending to this sector, signals possible growing risks in the period ahead. However, the risks for banks' solvency coming from the non-performing loans is minimized, given their high coverage with impairment, which limits the possible negative effects on the banks' capital positions. Additionally, the total credit exposure to non-financial entities is characterized by high coverage with collateral, which reduces the rate of expected losses from credit exposure.**

**The most significant factors for the stability and resilience of the banking sector to internal and external shocks are its stable and high liquidity and solvency. Banks are very conservative in terms of the volume of liquid assets they hold, which account for one third of the total assets and cover about 60% of household deposits and over 90% of the liabilities with residual contractual maturity up to 30 days.**

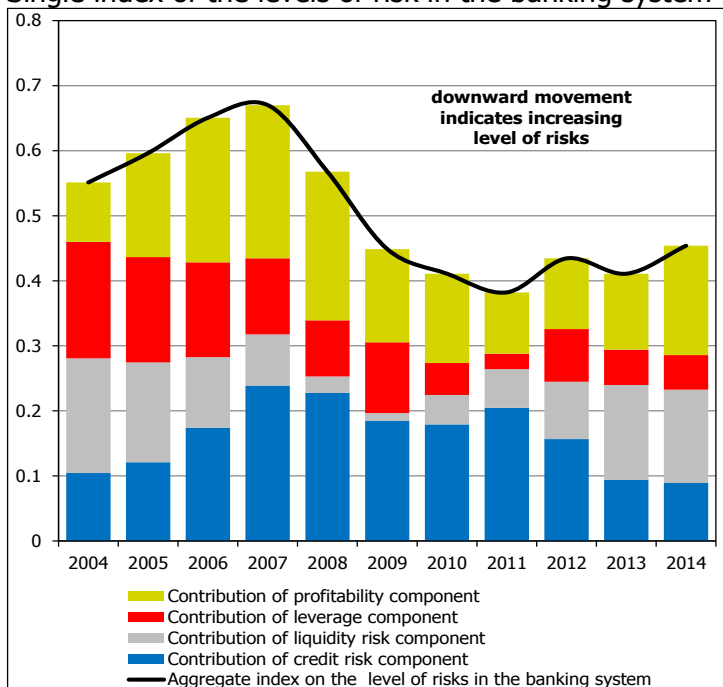
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<sup>91</sup> On a regular quarterly basis, the National Bank prepares Reports on the risks in the banking system of the Republic of Macedonia, where more details on the situation, activities and the exposure of the banking system to individual risks are presented. The reports are published on the website, under "Publications" or "Banking Supervision".



Chart 92

Single index of the levels of risk in the banking system\*



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

\* Note: The single index of the levels of risk in the banking system is a composite index comprising four indicators - sub-indices (indicators of credit risk, liquidity risk, leverage and profitability), and is calculated for a quarterly time series of fifteen years.

By applying the method of statistical normalization, realized values of each of the indicators are transformed into normalized values (whereby their movement is registered on a scale from 0 to 1).

In the aggregation of the four sub-indices into a single composite index of the levels of risk in the banking system, it is presumed that they have an equal impact on the movements of the composite index, and they are included in the calculation with an equal weight of 0.25. Downward movement of the index points to a higher level of risk in the banking system, while upward movement indicates a decrease in the level of risk in the banking system.

**reducing the credit channel impairment, which would in return affect profitability, capital stability and liquidity of banks.**

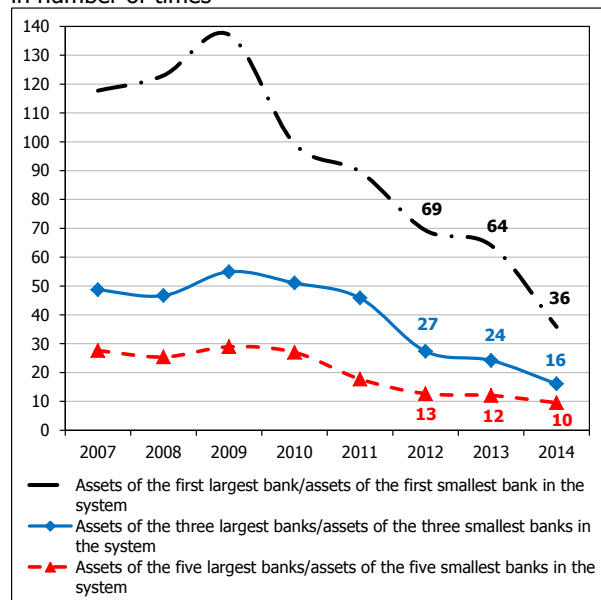
**As of 31 December 2014, the capital adequacy ratio was almost twice the legally prescribed minimum and equaled 15.7%. Profit is the main source of strengthening the banks' capital position, which underlines the importance of profitability, not only for the stability of the banking system, but also for increasing the banks' activities. In 2014, again there was an improvement in the profitability of the banking system relative to the previous year, mainly due to lower interest expenses, and cost-efficiency also improved due to the lowering of the operating costs, after a longer period. Amid a continued reduction of deposit interest rates, which generally drives the improved profitability of banks, but also the existing risk of a gradual exhaustion of the room for continuation of this trend, the banks face a strong challenge to maintain profitability.**

**Also, the main challenge for banks in the period ahead will be to maintain optimal credit support for the non-financial sector simultaneously**

Chart 93

Indicators of concentration in the banking system and level of activity among smaller banks

in number of times



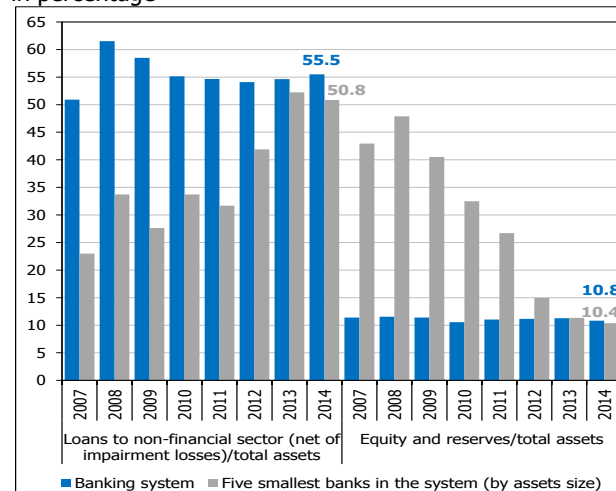
Source: NBRM, based on the data submitted by banks.

**Concentration in the banking system is relatively high, although there is a continuous downward trend.** Due to high concentration there are several systemically important banks, whose performances play a crucial role for the overall banking system and domestic economy. In 2014, one bank was acquired by another (third acquisition in the last six years), which coupled with the accelerating growth of the activities of the smaller banks in the system reduced, to some extent, the still high differences between individual banks in the system. These developments enabled bringing the structure of assets and sources of funding for smaller banks closer to the structure of the activities common for the overall banking system. However, smaller banks still do not create sufficiently high and stable income that would provide positive financial results and long-term prospects for survival. Hence, some of them are very likely to face the need of changing the business model or the operating strategy.

Chart 94

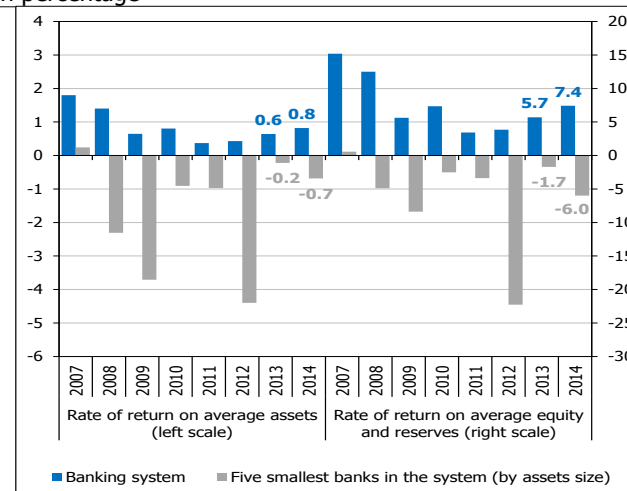
Total banking system vs. five smallest banks in the system

in percentage



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

in percentage



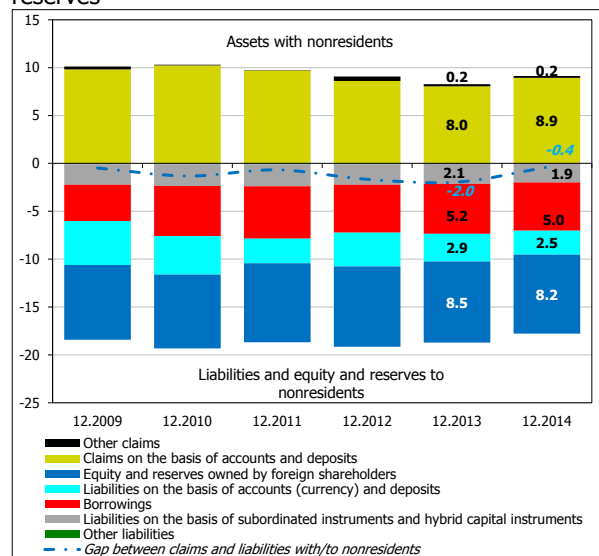
**Foreign shareholders are predominant in the ownership structure of banks (in 2014 this share was 76.2%).** Seven Macedonian banks are subsidiaries of foreign banks, five of which are based in the

Seven Macedonian banks are subsidiaries of foreign banks, five of which are based in the



Chart 95

Shares of claims and funding sources originating from non-residents in percentage of assets/liabilities and equity and reserves



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

Table 7

Selected indicators of foreign banks that have subsidiaries in Macedonia, as of 31 December 2014

in percentages, except credit rating

Bank	Assets of the Macedonian subsidiary/assets of the foreign bank	Credit rating (the last published, according to Fitch)	Equity and reserves/ total assets	ROAE	Loans/ deposits	Average level of risk (refers to loans)
NBG S.A. Athens	1.7	CCC; C	10.6	-5.1	118.4	16.7
NLB d.d. Ljubljana	11.9	BB-/negative; B/negative	13.6	7.0	106.3	14.9
Steiermärkische Bank und Sparkassen AG Graz	2.1	-	7.2	0.6	117.7*	4.2*
Alpha bank S.A. Athens	0.1	CCC; C	10.1	-0.8	133.3	13.8
SocGen S.A. Paris	0.05	A/negative	3.2	0.1	86.2	1.3
ЦКВ АД София	6.4	-	8.7	0.2	49.7	1.8
Halkbank A.S. Ankara	0.8	BBB-/stable; BBB/stable	10.6	1.5	99.1	2.4

Source: Internet sites of banks.

\*Note: The data marked with an asterisk (\*) are calculated for the banking group. All other data are calculated for the parent bank.

Euro area (market share of subsidiaries of foreign banks based in the Euro area is 50.6%). Analyzed by country of origin of the foreign bank, the highest is the market share of the Macedonian banks owned by banks based in Greece. Although this neighboring country is facing severe debt crisis and banks there face problems and significant outflows of deposits, it did not affect the stability of the Macedonian banks, which are separate and independent legal entities established in the Republic of Macedonia, with their own capital and management bodies.

**Despite the predominant share of foreign shareholders in the ownership structure, the domestic banking system registered modest scope of activities with non-residents, where it is a net debtor. In addition, the Macedonian banks are not at all dependent on using loans from their parent entities the amount of which declined in the past two years.** In the past period, the funds placed with non-residents represent 8% to 11% of the total assets of the banking system, while on the liabilities side, this share of the liabilities to non-residents is usually greater, and ranges from 10% to 12%. However, liabilities to non-residents registered a moderate growth of less than 1%, but the claims on non-residents increased more (about 20%), mainly due to the higher amount of funds on correspondent and deposit accounts in foreign banks. These developments resulted in a significant decrease in the net debt of the domestic banking system to foreign entities (by 78%), making its share in total assets reduce to 0.4%. Analyzed by individual bank<sup>92</sup>, the share of activities with non-residents is significantly higher with individual banks, compared with the aggregate share at the level of the banking system. Thus, as of 31 December 2014, in one large bank, claims on non-residents represent more than 20% of total assets, while in another bank of the group of medium banks, liabilities

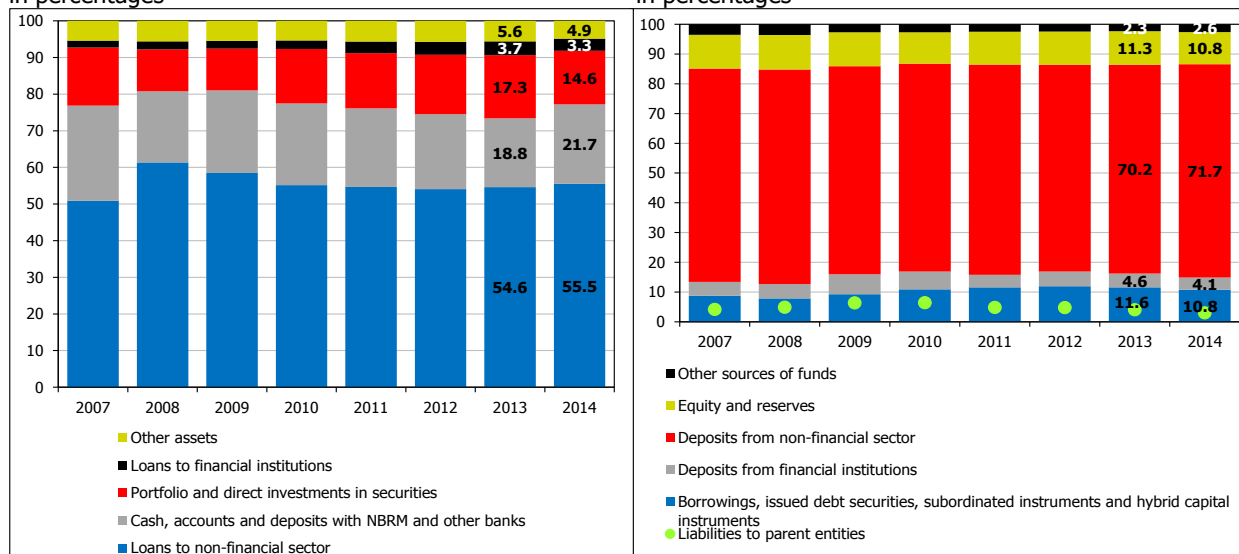
<sup>92</sup> The analysis by individual bank excludes the Macedonian Bank for Development Promotion AD Skopje, which due to the specific nature of activities has high amounts of liabilities to non-residents (usually to the international financial institutions), which are then placed through other domestic banks.





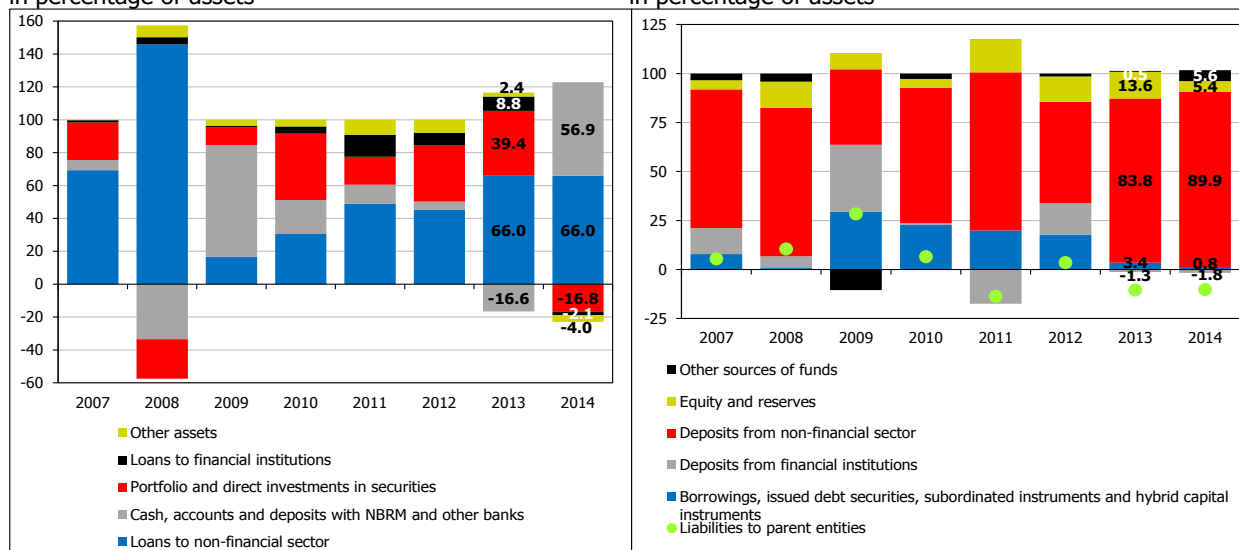
to non-residents reach one fourth of the total sources of funding.

Chart 96  
Structure of assets (left) and liabilities (right)  
in percentages



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

Chart 97  
Structure of annual changes in assets (left) and liabilities (right)  
in percentage of assets



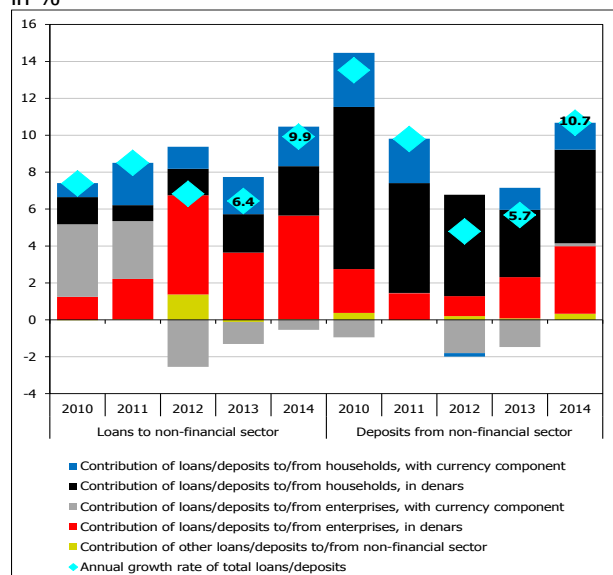
Source: NBRM, based on the data submitted by banks.



Chart 98

Contribution of individual components to the annual growth of total loans and deposits of nonfinancial entities

in %

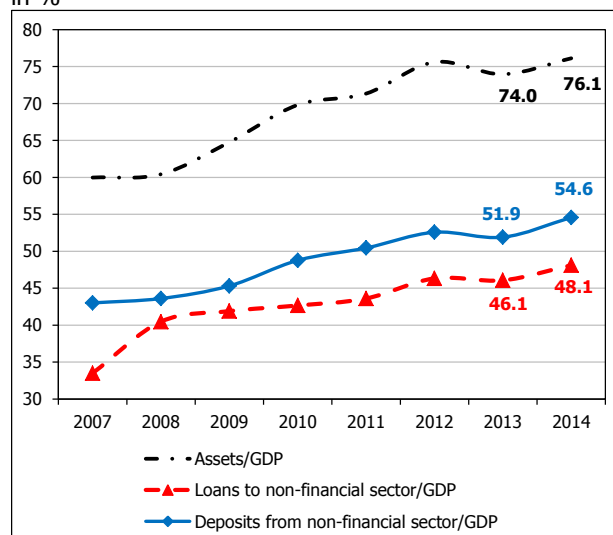


Source: NBRM, based on the data submitted by banks.

Chart 99

Level of financial intermediation

in %



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

Note: GDP data for 2012 are preliminary, and data for 2013 are estimated

**Amid solid economic performance and private sector recovery, the main role of the banks - mediation between depositors and borrowers from the non-financial sector 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 contribution of the two sectors to the annual growth of loans to non-financial entities is almost equal). 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 are also due to the monetary loosening and the non-standard measures taken to strengthen the credit support to the private sector. The fast growth of credit activity increased the ratio between the amount of loans to non-financial entities and GDP to a level which, as of 31 December 2014, is slightly higher than the long-term trend<sup>93</sup> calculated for this ratio (48.0%). Thus, for the first time since 2009, the gap between the loans to non-financial entities/GDP ratio and the calculated long-term trend for this ratio is positive. Analyzed by sectors, this gap is still negative (although significantly reduced) in the loans to enterprises/GDP ratio, while in the lending activity with the households sector, the gap between the realized ratio to GDP and its long-term trend shifted into positive, starting from the third quarter of 2014.

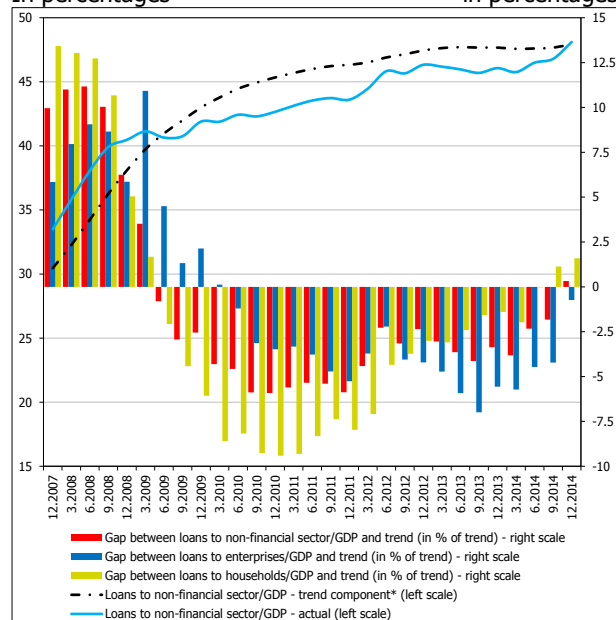
**In 2014, deposits of non-financial entities registered a double-digit annual growth rate (10.7%),** which is almost twice higher compared to the growth rate achieved in 2013. Deposits of companies grew at an annual

<sup>93</sup> Trend component of the ratios between the amount of loans and GDP is determined by using a one-sided Hodrick Prescott filter and covers a period of 15 years.

Chart 100

Deviation of the actual ratio between loans and GDP from the long-term trend\*

In percentages in percentages



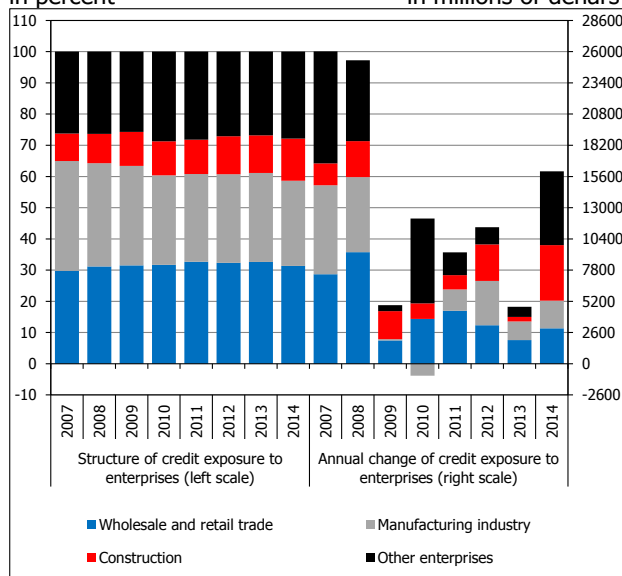
Source: NBRM, based on the data submitted by banks.

\*Note: Trend component of the time series is determined by using a one-sided Hodrick Prescott filter and covers a period of 15 years.

Chart 101

Structure and annual growth of credit exposure to companies

in percent in millions of denars



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

rate five times higher than the growth in 2013, which was mostly due to the Denar sight deposits of corporate customers, as a segment of the deposit portfolio of banks with the highest absolute growth in 2014. Traditionally, however, households are the most important depositor in the banks, which in 2014 were mostly oriented toward Denar savings in the long run, but deposits for transaction purposes also registered a significant growth.

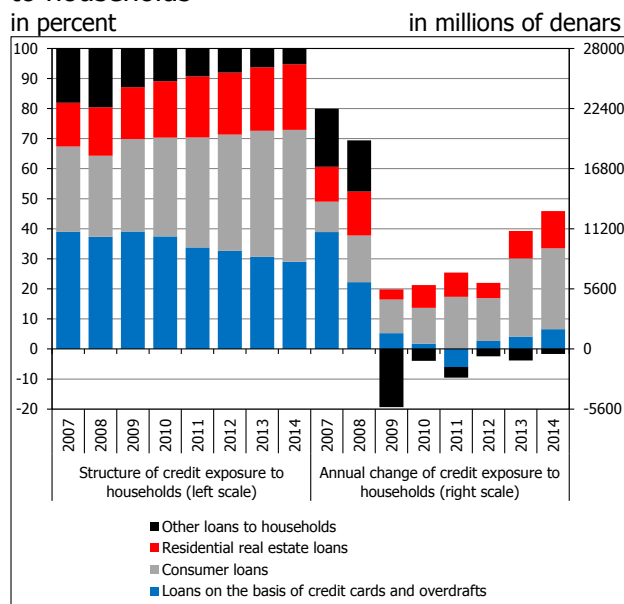
**Most of the credit support is aimed at companies from three sectors: "manufacturing industry", "wholesale and retail trade" and "construction" whose performances are key to the quality of banks' credit portfolios.** The performances of the manufacturing industry determine the quality of about thirty percent of the credit exposure to companies. This capital but also labor-intensive industrial activity covers several branches whose performances are rather import dependent and vulnerable to external shocks, i.e. determined by the developments in some economies and the fluctuations in world markets for certain products. Credit exposure to commercial companies occupies more than 30% of the corporate loan portfolio of banks. It is a service activity that is usually characterized by a somewhat lower level of investment and entrepreneurial spirit, and its achievements are of procyclical nature, depend on global trade flows, but also on the developments in the domestic environment. Extremely pro-cyclical and seasonal character is observed in the performances of companies in the construction, whose possible adverse outturn in many countries is usually associated with impaired financial stability. So far, the credit exposure of banks to construction companies is under control, and it is around 10% of total credit exposure to the corporate sector and 5.8% of total credit exposure of banks.

**An increasing number of banks alter their strategic goals and focus on lending to households, so due to the greater dispersion of loans, the risks are**



Chart 102

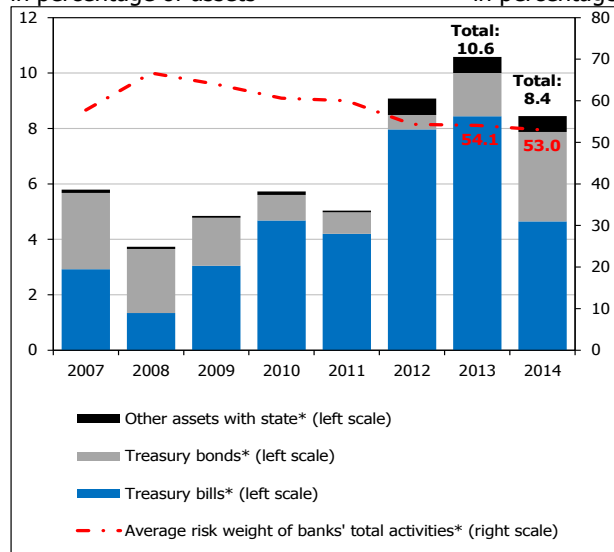
Structure and annual growth of credit exposure to households



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

Chart 103

Share of claims on the government\* and average risk weight of banks' total activities\*\* in percentage of assets



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

Note: \* In the calculations of shares, claims on the government are included according to their net book value.

\*\* The average risk weight is calculated as a ratio between risk weighted assets and total banking system balance and off-balance sheet exposure.

**also smaller compared with the lending to the corporate sector.** More than 70% of household loans are used to finance the (non-earmarked) consumption of natural persons. In addition, the accelerated growth of long-term consumer loans, amid more relaxed lending conditions, signals the need for intensified monitoring of these loans. In the last few years growth in home purchase loans was registered also.

**Banks' claims on the government registered an annual decline, following the more substantial increase in the past few years.** Thus, in 2014, placements in government securities declined by 14.8%, mainly due to the deleveraging of the government to domestic banks, based on treasury bills. The decline in the placements in government securities was followed by a simultaneous significant change in the structure of these placements, where there is a growing share of the placements in (long-term) government bonds, mainly due to the changed strategy of government borrowing. These developments resulted in a decline in the share of government claims in total assets to 8.4%, which is the lowest level in the past three years, but significantly higher than in the pre-crisis and crisis period. In 2014 and 2015, international rating agencies confirmed the credit rating of the country from the previously made assessments of its creditworthiness.

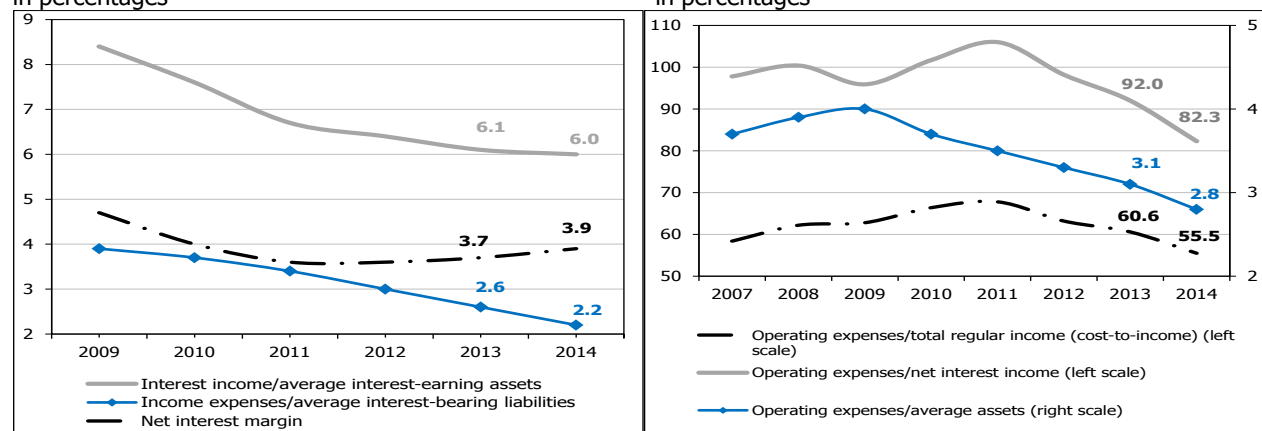
**Net interest income that banks earn in the process of financial intermediation i.e. the net interest margin, went up to 3.9% at the end of 2014, which was sufficient to significantly improve the overall profitability of the banking system.** Amid declining interest rates, banks have made a larger cut in deposit than in lending interest rates, thus shortening the interest expenses amid almost the same level of interest income and increased their profits by more than 36%. 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 banks' operating costs and the average assets or certain income categories. These ratios have been at a minimum level in the past eight years. In the absence of significant amounts of recapitalizations, banks are mostly oriented toward reinvestment of realized gains in equity funds, i.e. toward internal capital creation, which underscores the importance of profitability for solvent position of the banks, but also for support of their activities.

Chart 104

Net interest margin (left) and operational efficiency indicators (right)  
in percentages

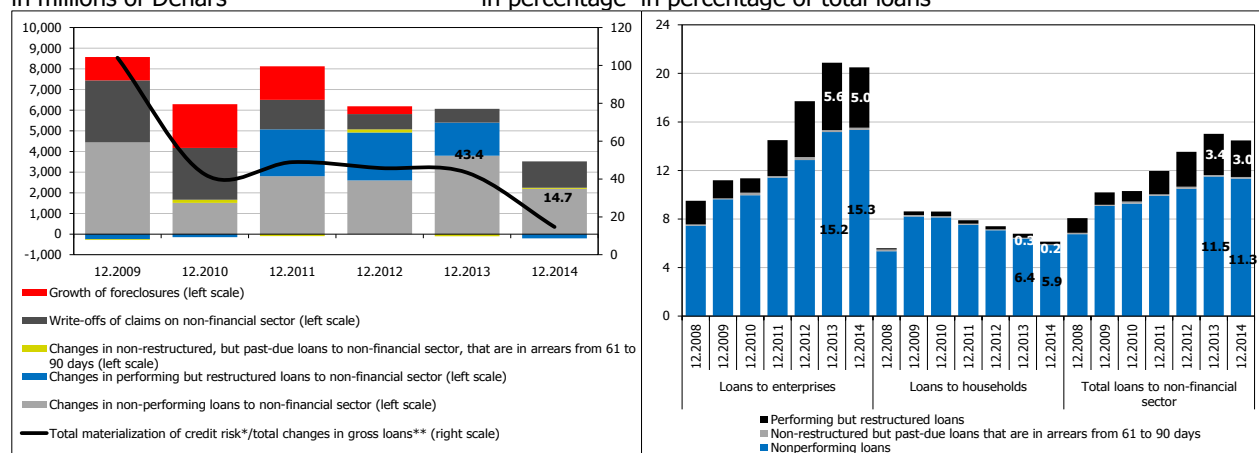


Source: NBRM, based on the data submitted by banks.

Chart 105

Materialization of credit risk in banks' balance sheets

in millions of Denars in percentage in percentage of total loans



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

Note (left chart): \*The total materialization of the credit risk is calculated as the sum of actual write-offs of claims, the annual growth of foreclosures based on outstanding claims and the annual change in non-performing loans, regular restructured loans and non-restructured loans overdue from 61 to 90 days.

\*\* The total change in gross loans refers to the annual change in gross loans including claims written off for the year and the annual growth of foreclosures based on outstanding claims.

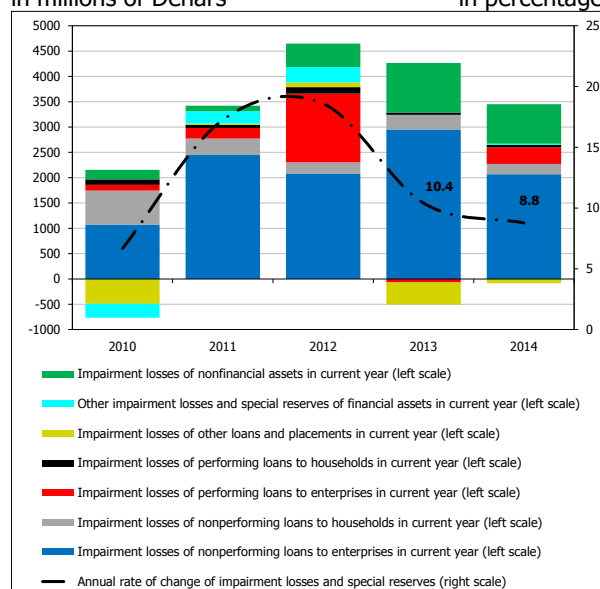


Chart 106

Structure of the annual change in impairment and special reserve

in millions of Denars

in percentage



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

**The banks' credit channel impairment continued in 2014, but at a slower pace.** In fact, nearly 15% of the

growth in the loans of the banking system in 2014 (compared to around 43% in 2013) are the result of some form of materialization of credit risk in banks' portfolios. Non-performing loans continue to grow, but at twice lower and single digit annual rate (8.3%), whereby, given the significant credit growth, their share in total loans (11.3%) registered a certain annual decline. Twice lower annual growth of non-performing loans to companies (9.9%) contributed fully to the slower annual growth in the total non-performing loans, whereby the share of nonperforming loans in the corporate portfolio has stabilized at a level of 15.3%, stopping the trend of continuous fast growth of this share, which started back in 2009. Analyzed by activity, more significant slowdown in growth in 2014, was recorded in the non-performing loans to construction companies (by three times), while the non-performing loans to customers from the manufacturing industry registered an annual decline (in 2013 they grew at a rate higher than 20%). Non-performing loans to households registered some growth in 2014 (2.7%), after a few years of almost unchanged level, but their share in total loans (5.9%) continues to show continuous decline since 2010. The total impairment of assets also continues to grow, but at a lower and a single digit annual rate of change (8.8%).

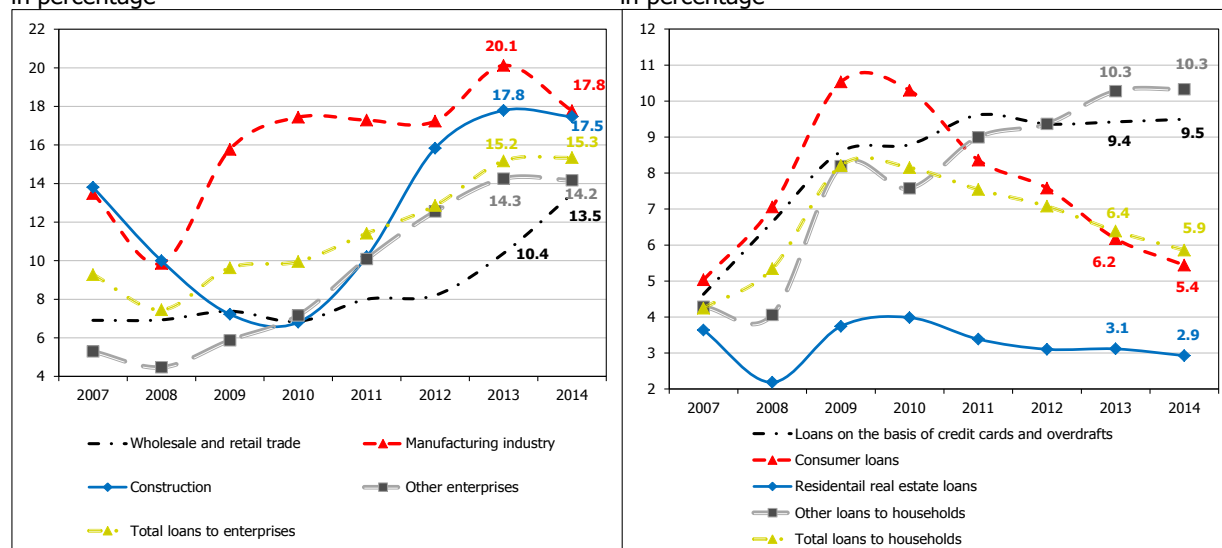




Chart 107

Share of non-performing in total loans to companies - by activities (left) and to households - by credit products (right)

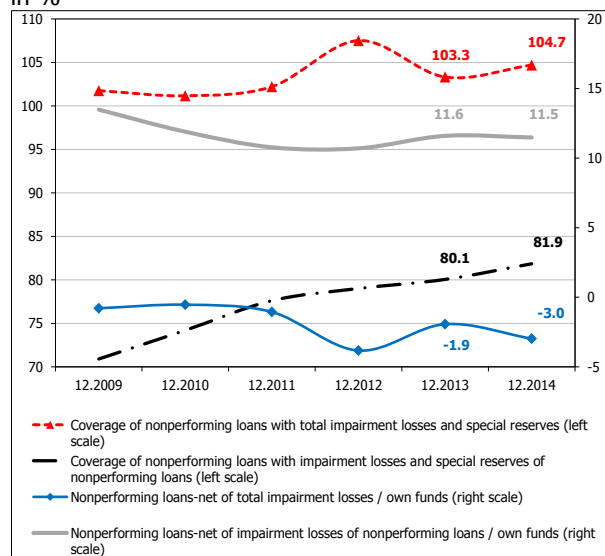
in percentage



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

Chart 108

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.

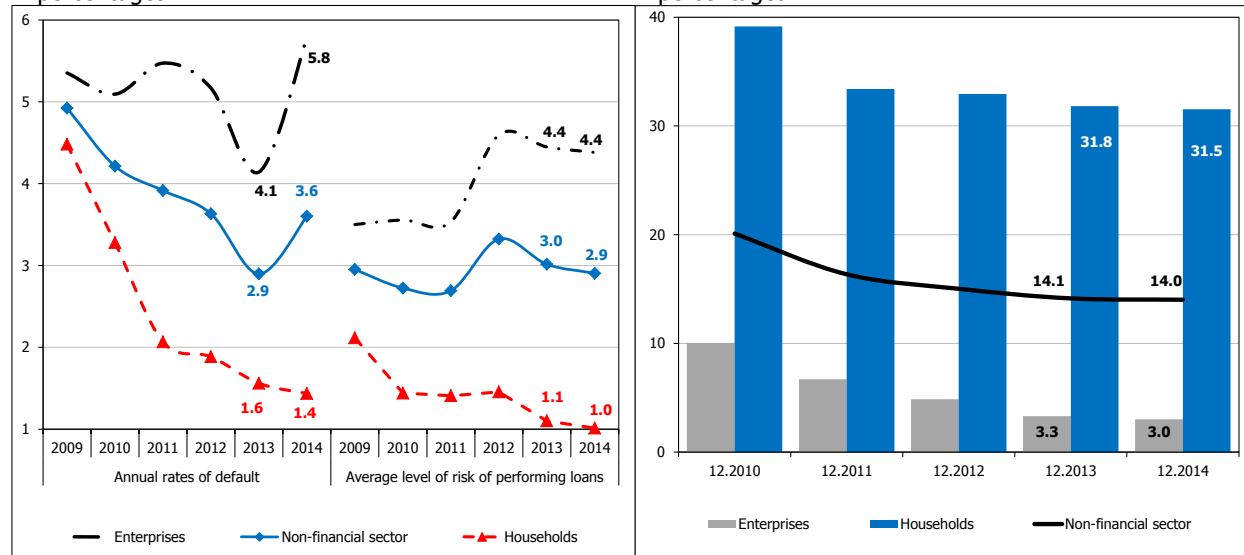
**The negative effects of a possible complete default on non-performing claims on banks' capital are limited,** given the high coverage of these loans with impairment (81.9%). Thus, the non-collateralized part of the non-performing loans absorbs only about 11% of the total own funds of the banking system, which would cover unexpected losses given a hypothetical extreme case of a complete default on these loans. Also, in 2014, banks were more engaged in resolving the "bad" loan portfolio, which is evident from the twice higher amount of written-off loans and more substantial annual decline (11.3%) of the foreclosed property based on uncollected claims, due to selling of part of this property. However, it should be borne in mind that the majority of the sold property, previously foreclosed on the basis of outstanding claims was sold by approving loan to the buyer, which means establishing new credit exposure for the bank.



Chart 109

Annual credit exposure default rates\* and average risk level of regular loans by specific sectors (left) and share of non-collateralized exposure in the total credit exposure to non-financial entities and to individual sectors (right)

in percentages



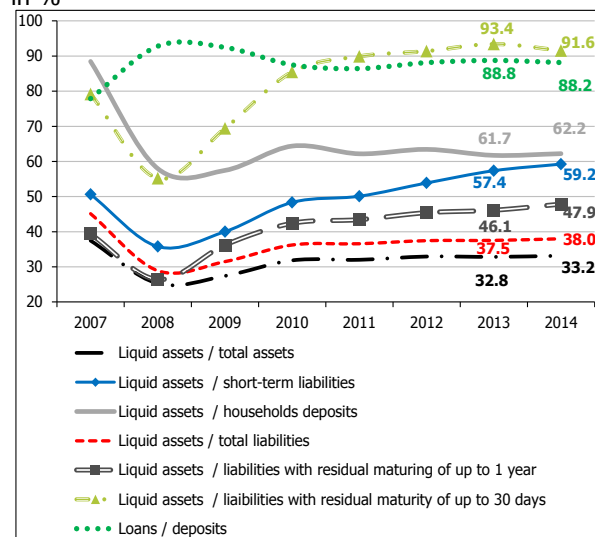
Source: NBRM, based on the data submitted by banks.

\*Note: The annual rate of default is calculated as a percentage of credit exposure with regular status, which for a period of one year transforms into exposure with non-performing status.

Chart 110

Banking system liquidity ratios

in %

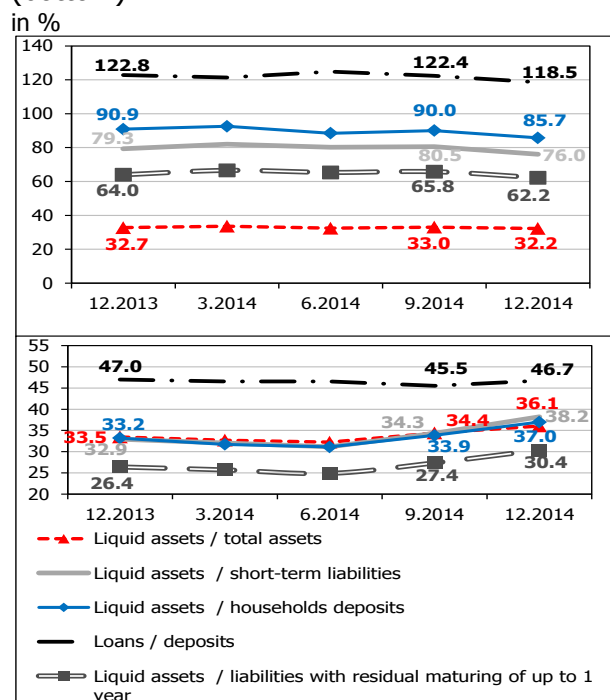


Source: NBRM, based on the data submitted by banks.

**In accordance with prudential regulations, banks in the Republic of Macedonia are obliged to allocate impairment also for the performing loan portfolio. Coverage of regular loans with impairment is usually relatively low, but it is mostly under the realized annual rate of default on credit exposure with regular status.** Namely, in 2014, the average risk level of regular loans to non-financial entities, declined further and reduced to the level (2.9%), which is slightly lower than the realized annual rate of default on credit exposure with regular status (3.6%). However, one should bear in mind the relatively high share of credit exposure covered by collateral in the total credit exposure (86%), which reduces the rate of expected losses from the credit exposure with regular status and subsequently "mitigates" the level of credit risk assumed by banks.

Chart 111

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

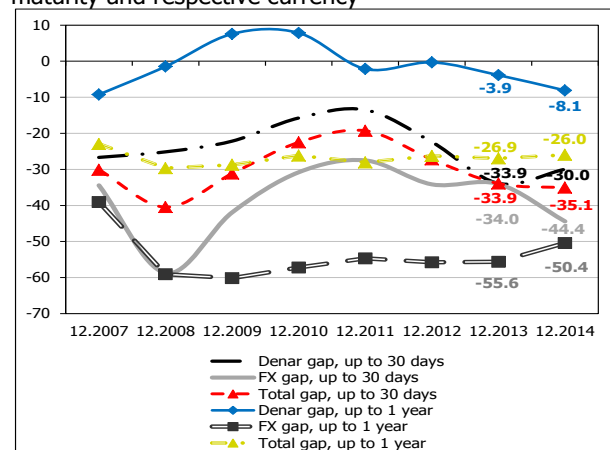


Source: NBRM, based on the data submitted by banks.

Chart 112

Gap between banks' assets and liabilities that mature in the next 30 days and in the coming year

a percentage of liabilities with respective residual maturity and respective currency



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

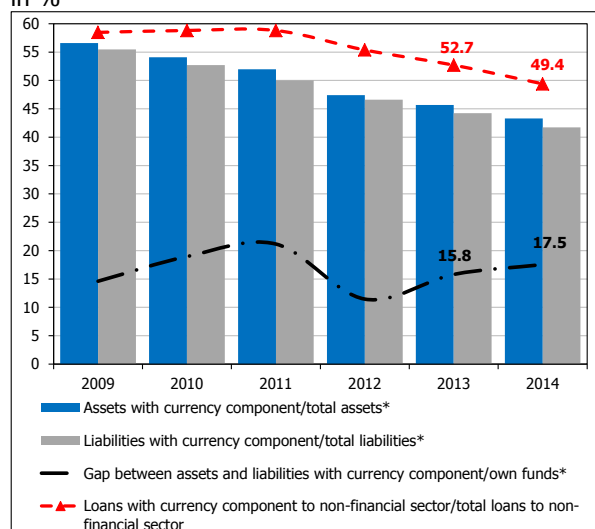
**The high liquidity of domestic banks is one of the main pillars of the banking system stability. Typically, banks maintain a high amount of liquid assets<sup>94</sup>, which represent about one third of their total assets, covering about 60% of short-term liabilities and more than 90% of the contractual liabilities with residual maturity up to 30 days.** Liquid assets continued to grow in 2014, at a rate (9.8%) which is three times higher than that registered in 2013, mainly due to the increased placements in deposits with the National Bank and with foreign banks. In 2014, there was also a more substantial growth of foreign liquid assets, which contributed to some improvement in the external liquidity indicators of banks. However, the analysis by currency indicates further significantly lower coverage of foreign currency liabilities with foreign currency liquid assets, which in turn indicates more pronounced vulnerability of banks to larger foreign exchange outflows and subsequent risk of creating a more significant pressure on the domestic foreign exchange market amid possible crisis episodes. So far, foreign reserves of the NBRM are at a level which allows quick and timely interventions in order to eliminate any imbalances in the foreign exchange market.

**The maturity mismatch between banks' assets and liabilities is high and in certain maturity buckets and currencies it additionally increased in 2014.** Namely, more than one third of the banks' liabilities falling due (maturing) in the next 30 days are not covered by assets that have the same residual contractual maturity (up to 30 days), and this gap, although smaller, is still significant also in the maturity bucket of up to 1 year (just over a quarter of the liabilities with residual contractual maturity of up to 1 year are not covered by assets from the same maturity

<sup>94</sup> According to NBRM's internal methodology, liquid assets include: cash and assets on the accounts with the National Bank, CB bills of the National Bank, correspondent accounts and short-term deposits with foreign banks and investments in securities issued by the government. For the purposes of liquidity analysis, assets and liabilities in denars with foreign exchange clause are considered as denar assets and liabilities.

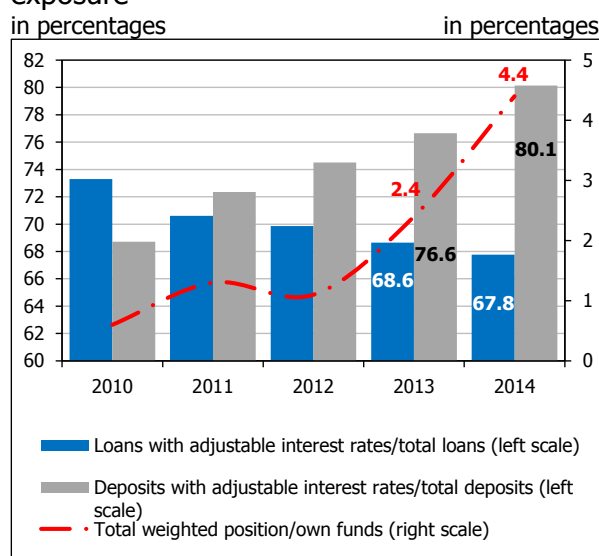


Chart 113  
Exposure to currency risk and indirect credit risk  
in %



Source: NBRM, based on the data submitted by banks.  
Note: \*Data on Macedonian Bank for Development Promotion AD Skopje are not included in the calculation of assets and liabilities with FX currency component and the gap between them.

Chart 114  
Exposure to risk of change in interest rates in the banking book and indirect credit risk exposure  
in percentages



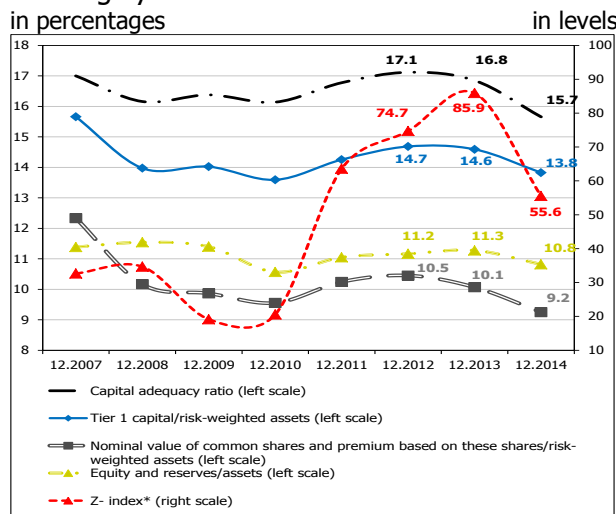
Source: NBRM, based on the data submitted by banks.

bucket). However, the significance of the risks from these gaps declines if one has in mind the expected residual maturity, according to which the gap between assets and liabilities of banks is positive, in all analyzed maturity segments (according to banks' expectations) and in the maturity segments up to 30 and 180 days (according to the expectations of the NBRM<sup>95</sup>).

**Direct exposure of the banking system to the movements in market financial variables increased in the past two years, but its importance is small for the time being, given the low probability of materialisation of currency risk and the still small direct exposure to the risk of changing interest rates in the banking portfolio. However, indirect exposure to these risks, i.e. potential exposure to credit risk arising from the presence of loans with currency component and loans with adjustable interest rates in the banks' portfolios is high, though decreasing.** Denarization in banks' balance sheets continued in 2014, but it is still more pronounced on the liabilities side, which caused higher share of the gap between assets and liabilities with currency component in the total own funds (17.5% as of 31 December 2014). 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 a stable exchange rate of the denar against the euro and the dominance of this currency in banks' items with currency component. Increased long-term banks' funds with fixed interest rates caused higher ratio between the total weighted value of the banking book and own funds (4.4% as of 31 December 2014), but it is still relatively low. The application of the clauses for adjustability of interest rates in credit agreements expose banks to indirect credit risk whose materialization would be realized in case of

<sup>95</sup> According to the Decision on the banks' liquidity risk management ("Official Gazette of the Republic of Macedonia" No. 126/11, 19/12 and 151/13), banks are required to calculate and meet regulatory liquidity ratios, in the maturity segments of up to 30 and 180 days.

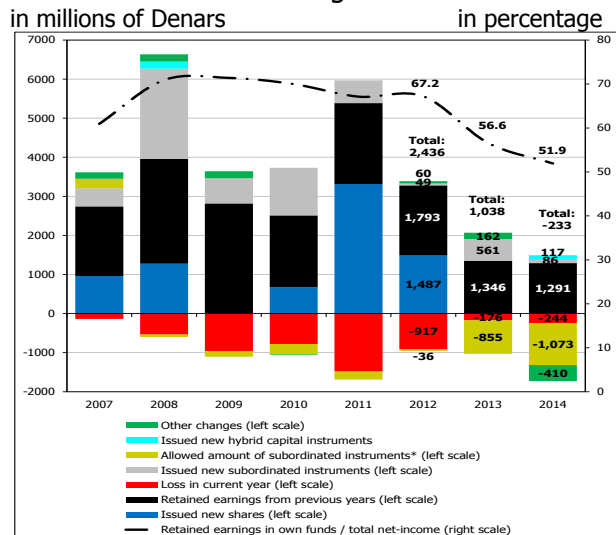
Chart 115  
Indicators of solvency and stability of the banking system  
in percentages



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

Note: 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.

Chart 116  
Structure of annual changes in own funds  
in millions of Denars



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.

significant upward movement in interest rates. Additionally, the application of such clauses, not only for loans but also on the deposit side, exposes domestic banks to legal and reputational risk.

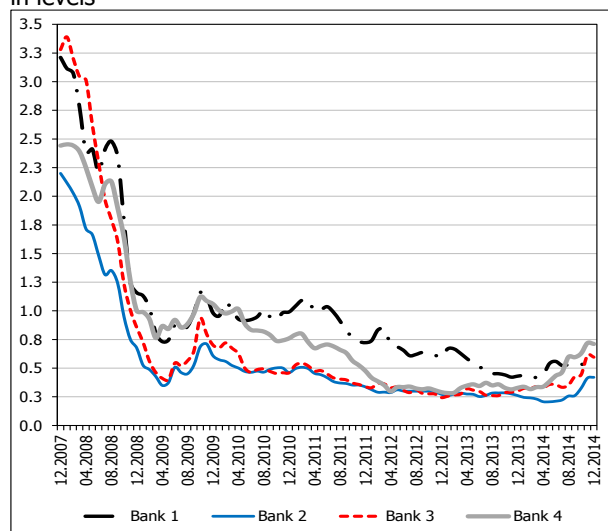
**The solvency of the banking system remained high, despite the imminent reduction in solvency indicators and capitalization in 2014. In the absence of more significant amounts of recapitalization, the banks were mainly oriented towards internal capital creation.** After the maximum achieved in 2013, the Z Index registered some decline in 2014, resulting from the reduction in the rate of capitalization of the banking system, but also from the somewhat greater volatility of bank profits in 2014 (measured by the standard deviation of the rate of return on average assets). The capital adequacy ratio registered a downward change of 1.1 percentage points, but its level (15.7%) is almost twice higher than the legally prescribed minimum. The decline in the capital adequacy results from the annual decline in own funds in whose structure the largest is the depreciation of certain subordinated instruments in accordance with regulations<sup>96</sup>. Retained earnings in equity funds of banks are the most stable source of increase of capital in recent years, and some of the relatively high profits achieved in 2014 are expected to increase the own funds in 2015. The structure of own funds is dominated by the equity (87.5%), which indicates high quality of the banks' regulatory capital. More importantly, only half of the own funds are used to cover the individual risks, i.e. nearly half of them are free (or a surplus) to cover unforeseen losses.

<sup>96</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 117

Ratio between the market price and the book value of the shares of the four largest banks in the system  
in levels

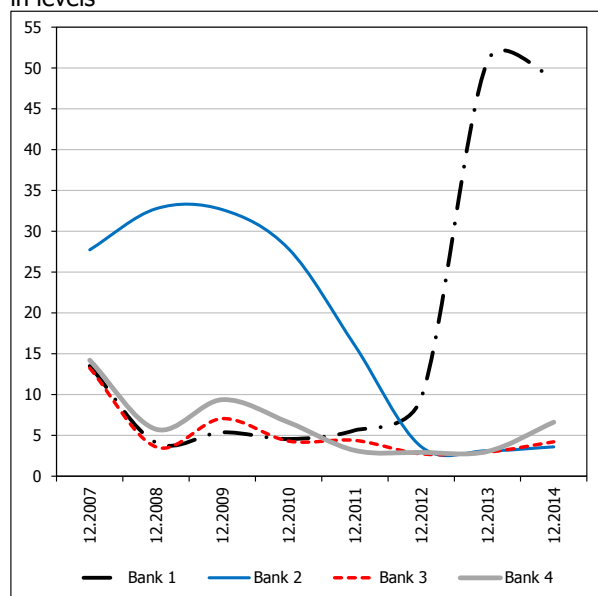


Source: MSE and NBRM' based on data submitted by banks.

**Market indicators for the cost of banks' capital point to a reduction in the cost of capital (required rate of return to investors in the shares of banks) in 2014, in two of the four largest banks in the system, while in one of them it came close to the annual yield to maturity of bonds listed on the MSE.** At the end of 2014, the market price of the shares of the four largest banks in the system is lower from 20 to 50% than the corresponding book value per share, and investors in the shares of these banks, with the exception of one bank, are willing to pay only about 5 denars for every denar profit per share (for comparison, at the end of 2007, market prices of the shares in these four banks were about 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).

Chart 118

Ratio between the market price of the share and the profit per share for the four largest banks in the system  
in levels



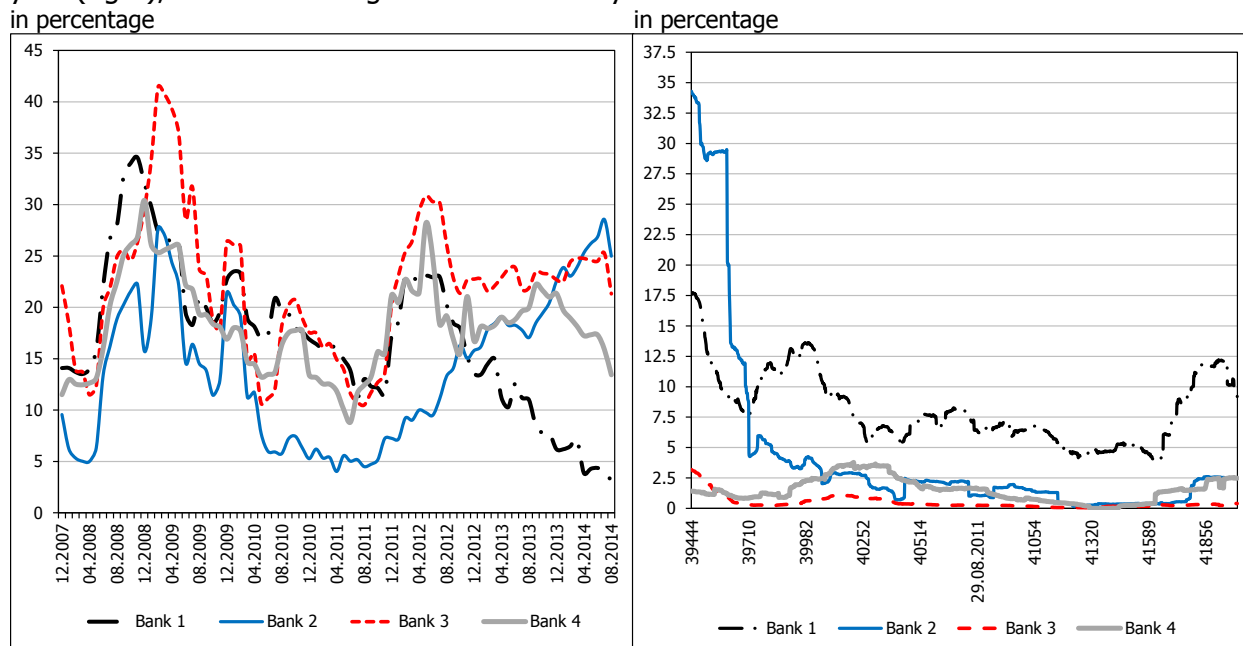
Source: MSE and NBRM' based on data submitted by banks.





Chart 119

Cost (price) of capital\* (left) and percentage of total issued shares that were traded in the past year (right), for the four largest banks in the system



Source: MSE and NBRM<sup>97</sup> based on data submitted by banks.

\* Note: Average of the cost of capital obtained using two different methods for determining the cost of the capital: "Capital-Asset Pricing Model" (CAPM) and "Earnings Yield" (EY). By applying the 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 the risk-free rate. When applying EY, the cost of capital is determined as the ratio between profit per share and the market price of the share.

### 3.2 Savings houses

The importance of the savings houses for the financial system of the Republic of Macedonia is small, as shown through their marginal share<sup>97</sup> in all segments of operations of deposit institutions. Savings houses perform limited scope of activities, which are aimed at collecting Denar deposits from households, lending to natural persons and, in a limited scope, to legal entities.

By regulating the possibility for status change - transformation of a savings house into a financial company in early 2013, to date the number of savings houses has been reduced from seven to four<sup>98</sup>. Basically, the three largest savings houses remained to operate on the market, whose volume of activities is bigger than that of some of the smaller banks. In 2015, regulatory requirements for savings houses in the area of risk management and internal audit became similar to the requirements for banks.

<sup>97</sup> Within the depository institutions (banks and savings houses), the share of savings houses equals only 0.6 % of total assets, 0.4% of the total household deposits and 0.8% of the total loans to non-financial entities.

<sup>98</sup> On 31 December 2014, the savings house "Alkosa" DOO Stip still operated as a savings house, with almost no activities and with fully paid deposits due to the commenced proceedings for transformation into a financial company, which ended up in the first quarter of 2015. Thus, the number of savings houses was reduced to three.

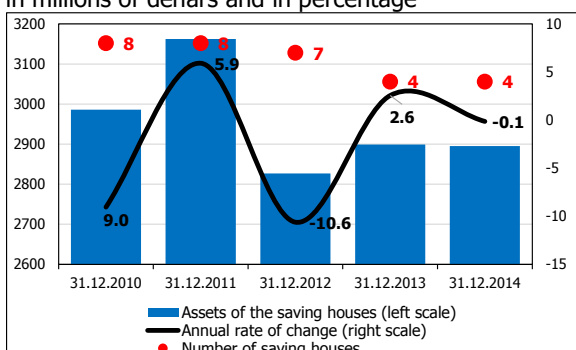


Although at this point savings houses are an extremely small segment of the financial system, their stability is important for the financial stability given the fact that they are institutions which collect deposits from the public. Risks resulting from savings houses are minimized given the high liquidity and high capitalization of these institutions, as well as the full coverage of the deposits they collected with the funds of the Deposit Insurance Fund.

### 3.2.1 Main developments in 2014

Chart 120

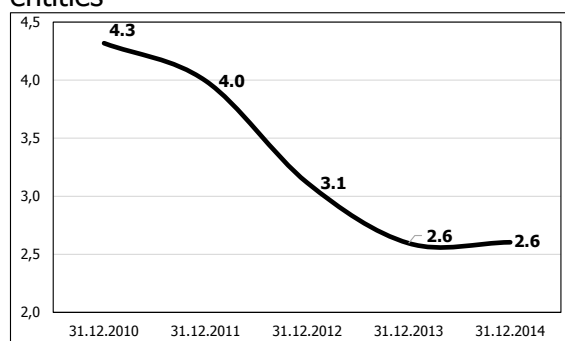
Assets of savings houses and annual relative change  
in millions of denars and in percentage



Source: National Bank, based on data submitted by the savings houses.

Chart 121

Gross loans / deposits of non-financial entities



Source: National Bank, based on data submitted by savings houses.

In 2014, the number of savings houses remained unchanged compared to the previous year, while their assets registered a minimal annual decline of 0.1 percentage points. This, coupled with the faster growth in other segments of the financial system led to a further reduction in the share of savings houses in the total assets of the financial system<sup>99</sup>. The reduction in the assets of savings houses is mainly due to the reduction of borrowings (by 3.4% as a result of payment of due liabilities based on a credit line from abroad, used through a domestic bank), but it is also due to the reduced volume of activities as a result of the finalized transformation of one savings house into a financial institution. Within assets, a more significant reduction was registered in the investments in government securities, by 49.5%.

Mirroring the small changes in total assets, lending and deposit activity of savings houses also registered little change (Annex no. 10 and 11). Loans<sup>100</sup> and deposits<sup>101</sup> of non-financial entities increased by only 1.1% and 0.8%, respectively.

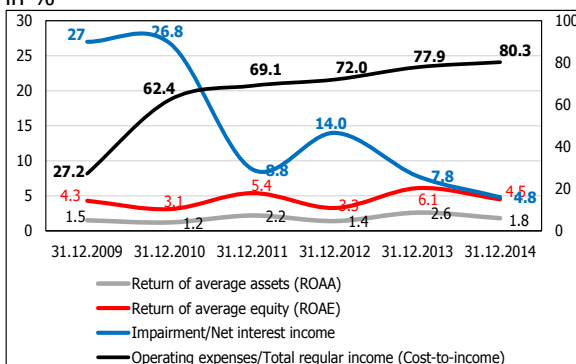
Unlike banks where deposits are the dominant source of financing the activities, in the savings houses they represent only 32% of total liabilities. Household deposits in savings houses account for only 0.4% of total household deposits with

<sup>99</sup> Compared with other European countries: in Serbia, Bulgaria, Greece, Romania and Turkey there are no savings houses, in Slovenia there are three savings houses (which at the end of 2013 occupied about 1.3% of the financial system assets), in Croatia - five savings houses (in 2013 - 1.4% of the financial system assets) in Germany - 417 savings houses (in 2013 - 15.6%) and in Austria - 49 savings houses (in 2013 - 6.2%).

<sup>100</sup> Most of gross loans are long-term (78.9%) and denominated in denars (75%).

<sup>101</sup> All deposits with savings houses come from the household sector, the majority (or 64%) are long-term, and almost entirely (93%) are in denars.

Chart 122  
Profitability ratios  
in %



Source: National Bank, based on data submitted by the savings houses.

banks and savings houses. Savings houses finance most of their operations with their own capital, but borrowings are also a significant source of funding (used credit line from abroad, through a domestic bank, which represents 22.4% of total liabilities).

**Same as banks, savings houses are deposit-taking institutions, and possible risks with them are a potential threat of spillover (possible distrust) on the banks.** But the fact that these deposits represent about 8% of the liquid assets of the Deposit Insurance Fund, reduces the risks from savings houses for the overall financial stability.

**Savings houses operate with a positive financial result.** In 2014 they had a profit of Denar 53 million, which compared to the previous year is lower by Denar 21 million (or 28.6%). The lower profit led to a decrease in profitability ratios. The main reason for the decline in profit is lower interest income due to the lower interest rates, and the lower amount of released impairment of loans (Annex no. 12).

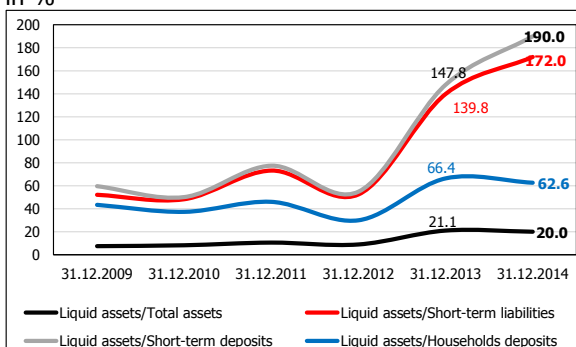
### 3.2.2 Risks in the operations of savings houses

**The risks that savings houses are exposed to in their operations are small.**

**Savings houses have high liquidity,** although in 2014, liquid assets decreased by 4.9% (due to the sale of the treasury bills). Loans are 2.6 times higher than their deposits, but still it is not an indicator of poor liquidity. This is due to the smaller share of deposits as a source of funding.

Also, although the share of liquid assets in total assets is quite lower than the share characteristic of the banking system, yet in itself it is not an indicator of poor liquidity, since those liquid assets are sufficient to cover short-term liabilities of savings houses in full and over 60% of the deposits in the savings houses.

Chart 123  
Liquidity ratios  
in %

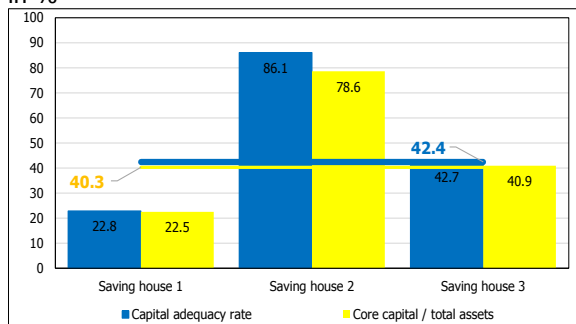


Source: National Bank, based on data submitted by the savings houses.



Chart 124

Indicators of insolvency risk, at the level of a savings house and total  
in %



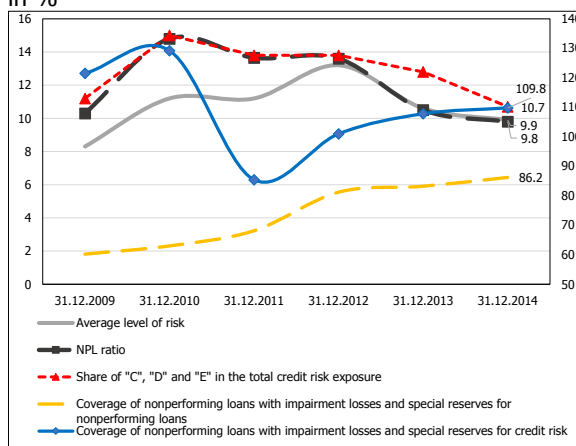
Source: National Bank, based on data submitted by the savings houses.

\* The chart does not include the savings house "Alkosa" DOO Stip.

Chart 125

Credit risk indicators

in %



Source: National Bank, based on data submitted by the savings houses.

**Nearly half of the funding sources of savings houses in the Republic of Macedonia are capital and reserves.** It is the main factor contributing to the high capitalization and solvency<sup>102</sup> of this segment, although indicators registered minimal decline<sup>103</sup> mainly due to higher lending activity<sup>104</sup>.

**Credit risk is the main risk the savings houses are exposed to throughout their operations, which declined in 2014.** It is evident from the reduction in non-performing loans (by Denar 29 million or 10.9%)<sup>105</sup>, and the improved average level of risk (which decreased by 0.8 percentage points due to the decrease in impairment and special reserve for credit risk by Denar 22 million or 7.6%). The reduction in non-performing loans is due to written off claims, but also to collection. The share of non-performing loans in total loans with the savings houses is higher compared with the banking system for the household sector (9.7%).

**Same as banks, savings houses also have high coverage of non-performing loans with allocated impairment, which given the high capitalization, indicates satisfactory capacity of savings houses to absorb possible future credit losses.**

<sup>102</sup>The Decision on amending the Decision on the terms and the manner of operation of savings houses ("Official Gazette of RM" no.74/15) brought the standards for the operation of savings houses closer to the risk management domain (capital adequacy and currency risk) and the manner of organization of the internal audit. The amendments to the Decision introduced a higher rate of capital adequacy which savings houses have to meet - 20%. Also, savings houses are obliged to establish a system for managing currency risk (due to conducting banking activities in denars with foreign currency clause), to set internal indicators of exposure to currency risk, and appropriately allocate capital for covering this risk.

The period of adjustment of savings houses with the provisions of this Decision is until 31 December 2015.

<sup>103</sup> On 31 December 2014, the capital adequacy ratio fell by 0.6 percentage point, risk weighted assets increased by 2.8%, while the savings houses' own funds increased by 1.4%.

<sup>104</sup> Credit risk weighted assets increased by 4.3%, compared to the decrease of 10% in 2013.

<sup>105</sup>Non-performing loans to the household sector declined by Denar 25 million or 10.8%, while non-performing loans to the enterprise sector declined by Denar 3 million or 11.2%.



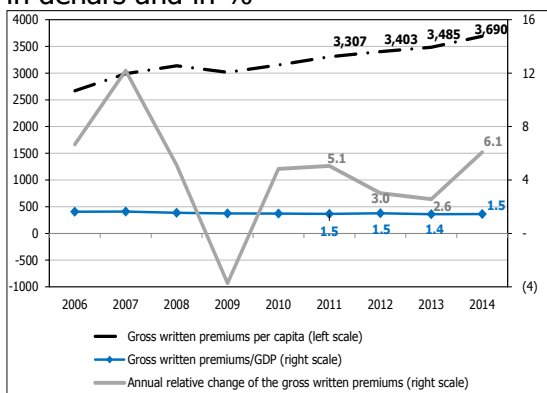
#### 4. Insurance sector

In 2014, the insurance sector retained the third position in the overall financial system according to asset size, with continued growth in the gross written premium. As a result of the increased activities of the insurance companies, the insurance sector assets grew, the coverage of technical reserves increased, profitability improved, and insurance companies consolidated their already high solvency position. Considering the economic recovery, the upward trend in disposable income of households, the increasing financial literacy in the country as well as the enriched offer, the insurance market has the potential for further development, particularly in the life insurance segment. The threat of risks spillover from the insurance sector as a possible channel of contagion through the segments of the financial system is low. Also the threat of spillover of risks from other segments of the system to the insurance sector is small, but the stability of banking system is important for the stability of the insurance sector as a segment in which insurance companies keep one third of their assets in the form of deposits.

##### 4.1 Development of the insurance sector

Chart 126

Insurance sector development indicators in denars and in %



Source: Insurance Supervision Agency of the RM and NBRM's internal calculations

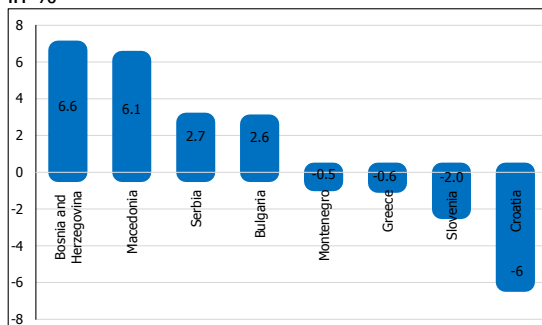
In 2014, growth in the insurance sector was evident<sup>106</sup>. The density (gross premiums written per capita) increased by 5.9% (2.4% in 2013), and the degree of penetration (share of gross premiums written in GDP) registered minimal changes. The dominant contribution to the growth of the total gross written premium is that of non-life insurance with 63.7% (mostly the class of compulsory MTPL), while life insurance is slowly penetrating the Macedonian insurance market (Annex no. Structure of premiums).

<sup>106</sup> At the end of 2014, the insurance sector in the Republic of Macedonia consisted of: 15 insurance companies (11 non-life insurance companies, of which one company performs activities of reinsurance additionally to the non-life insurance and 4 companies for life insurance), 30 insurance and brokerage companies (4 new compared to 2013), 11 insurance agencies (2 new compared to 2013) and 1 bank - life insurance agent (in 2015 it is expected two more banks to obtain a license for insurance agent).



Chart 127

Annual relative change in the total gross written premium in the countries of the region in %



Source: Insurance Supervision Agency of the RM, NBRM's internal calculations and [www.xprimm.com](http://www.xprimm.com)

**The structure of the Macedonian insurance sector is similar to the structure of this sector in the neighboring countries.** In all analyzed countries the non-life insurance segment covers over 60% of the structure of gross written premiums, and the share of life insurance is smaller. This general characteristic of the region suggests potential for growth and development of the insurance markets.

**The growth of the insurance sector in the Republic of Macedonia, measured by the movements in the gross written premium is significantly faster compared to most countries in our neighborhood.**

Table 8

## Concentration level

Assets	Herfindahl index				
	2010	2011	2012	2013	2014
Insurance sector	1,320	1,078	896	869	866
non-life	1,576	1,363	1,173	1,151	1,150
life	3,677	3,075	2,966	3,178	3,238
Assets	CR5 (in%)				
	2010	2011	2012	2013	2014
Insurance sector	69.9	60.4	55.0	53.0	54.4
non-life	74.2	69.7	66.1	65.5	66.7
life	-	100.0	100.0	100.0	100.0
GWP	Herfindahl index				
	2010	2011	2012	2013	2014
Insurance sector	1,237	998	951	892	878
non-life	1,250	1,136	1,104	1,056	1,060
life	4,777	4,095	3,732	3,818	3,740
GWP	CR5 (in%)				
	2010	2011	2012	2013	2014
Insurance sector	69.8	60.3	57.6	54.4	53.5
non-life	73.1	65.0	63.0	60.5	60.5
life	-	100.0	100.0	100.0	100.0

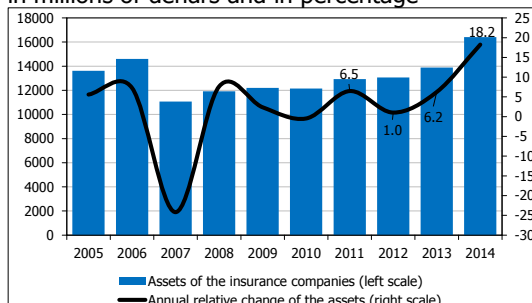
Source: Insurance Supervision Agency of RM

**The insurance market for non-life insurance in the Republic of Macedonia is moderately concentrated,** which is a result of the dispersion in non-life insurance companies. However, **the small number of companies (four) performing activities of life insurance is the reason for the high concentration on the life insurance market.** There is high concentration also within these four companies, because in 2014, in two of them, 85.1% of the gross written premium of life insurance companies were concentrated.

**Increased activities of insurance companies affected the amount of their assets, which as of 31 December 2014 reached Denar 16,416 million and grew by Denar 2,533 million or 18.2%.** The growth was mostly generated by non-life insurance companies whose assets increased by Denar 1,924 million (or 17.1%). The relative growth of the assets also of life insurance companies was high in 2014, and stood at 23%. The highest share in the structure of the assets of the entire sector was that of financial investments (mainly in government securities and deposits with banks), which increased by 15.2% annually. (Annex no. BS).

Chart 128

Total assets of the insurance sector and annual relative change in millions of denars and in percentage

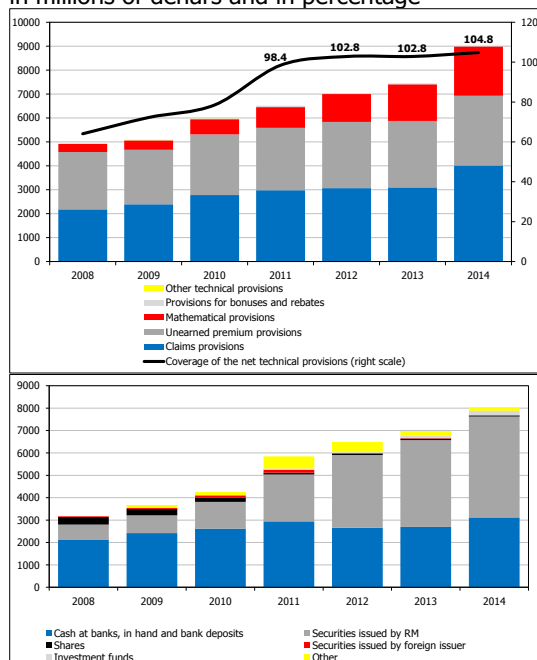


Source: Insurance Supervision Agency of the RM and NBRM's internal calculations

Chart 129

Technical reserves of insurance companies and their coverage (top) and structure of assets used to cover technical reserves (bottom)

in millions of denars and in percentage



Source: Insurance Supervision Agency of the RM and NBRM's internal calculations

**The liabilities of insurance companies are dominated by gross technical reserves<sup>107</sup> which rose by 21.4% on an annual level.**

The upward trend in technical reserves in 2014 was followed by growth in the assets that cover the technical reserves<sup>108</sup> of insurance companies (14.9%). **Coverage of technical reserves with assets is over 100% at sector level in both insurance groups, whereby the legal minimum is fulfilled.** Assets covering technical reserves comprise government securities (with a share of 56.1%) as securities with fixed income and deposits with banks (with a share of 38.9%). The small share of investments in shares, which as instruments with variable (uncertain) income bring greater exposure to market risks, is indicative of the prudence of insurance companies in the investment of funds.

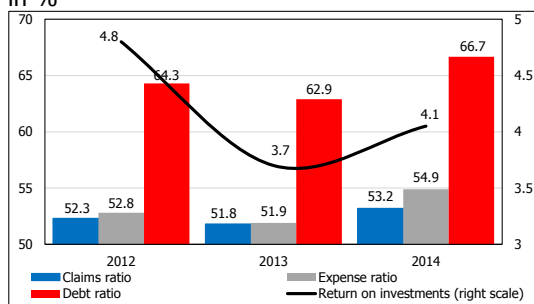
<sup>107</sup> According to Article 3 of the Regulation on minimum standards for the calculation of technical reserves ("Official Gazette of the Republic of Macedonia" no. 187/2013), insurance companies are required to allocate adequate technical reserves for permanent securing of the performance of liabilities under insurance contracts and possible losses for risks arising from their insurance operations. Companies are required to set up the following types of technical reserves: unearned premiums provisions, mathematical provisions, provisions for bonuses and rebates, claims provisions and other technical provisions. In 2014, most of the growth in technical reserves (or 57.9%) is attributable to the growth in claims provisions, and almost entirely in the non-life insurance group. Mathematical reserves also grew rapidly and with the annual growth of 23.8% they contributed with 32.8% to the growth of total technical reserves.

<sup>108</sup> Assets covering technical reserves are the assets of the insurance companies that serve to cover future liabilities arising from insurance contracts, and possible losses from the risks associated with doing insurance work. These assets should be at least equal to the value of technical reserves.



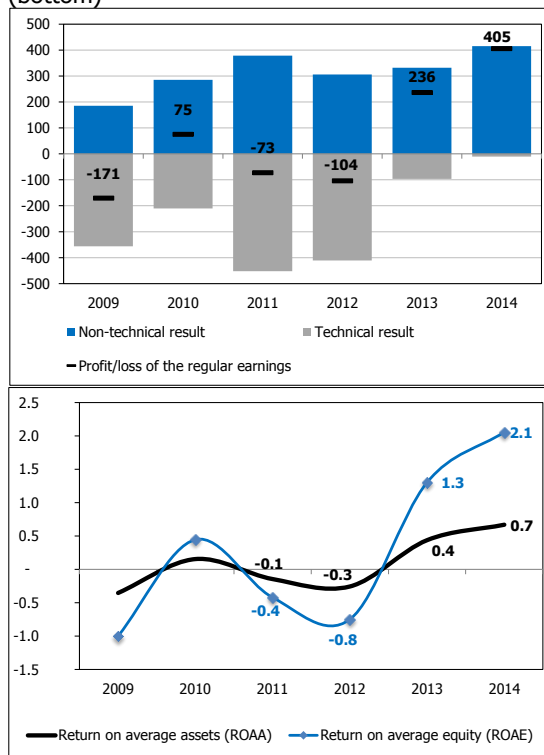


Chart 130  
Indicators of insurance companies' profitability and efficiency in %



Source: Insurance Supervision Agency of the RM and NBRM's internal calculations

Chart 131  
Indicators of insurance companies' profitability  
In millions of Denars (top) and in percentage (bottom)



Source: Insurance Supervision Agency of the RM and NBRM's internal calculations

**In 2014, there was some reduction in the operational efficiency of insurance companies.** That is evident from the increased costs ratio<sup>109</sup>, due to the more intensive growth in net costs for conducting insurance activities<sup>110</sup> (9.9%), compared to the growth of net - premiums written (6.1%).

Furthermore, growth is observed also in the debt ratio (the share of liabilities in the assets), which influenced by the growth of the gross technical reserves for claims, increased by 3.8 percentage points.

On the other hand, the rate of return on investments of insurance companies increased by 0.4 percentage points.

At the level of the insurance sector, in 2014 an increase was registered also in the net claims incurred (growth of 25.7%, as opposed to the reduction in 2013), which contributed to an increased claims ratio.

**In 2014, insurance companies registered profits of Denar 405 million which is almost twice higher compared to 2013.** The insurance companies registered a negative net technical result of Denar 10 million and a positive net non-technical result of Denar 415 million (Annex no. 15).

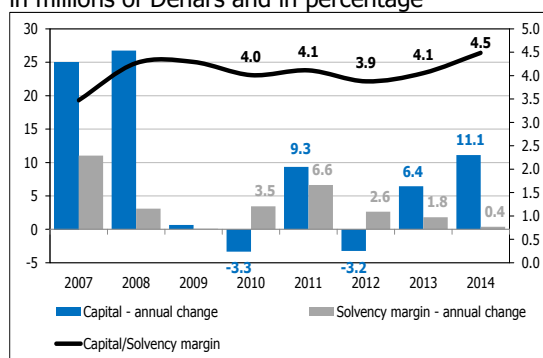
The profit in both groups of insurance (life and non-life) contributed to improving the rates of return on assets and equity.

<sup>109</sup> The claims coefficient is calculated as the ratio between net claims in the year and net - premium written, the expenditures coefficient as a ratio between the costs of the insurance and the premium, the debt coefficient as a ratio between total liabilities and total assets and the return on investments as a ratio between revenue less costs of investments and the amount of investments.

<sup>110</sup> The expenses for conducting the insurance include: staff costs, administrative costs, commissions paid and other expenses for conducting insurance.

Chart 132

Capital of the insurance companies and the required level of solvency margin in millions of Denars and in percentage



Source: Insurance Supervision Agency of the RM and NBRM's internal calculations

**The insurance sector has high solvency, which in 2014 was further strengthened.** The coverage of the solvency margin<sup>111</sup> with capital, as the main indicator of the stability of the insurance sector, is 4.5 times. The average value of this ratio per insurance company is 4, which means it is four times higher than the required minimum. The high solvency of the sector is an indicator of its stability and resilience.

## 4.2 Risks for the financial stability

**The threat of the insurance sector for creating spillover risks across the financial system of the Republic of Macedonia is small, primarily due to the weak links with the other segments of the system, but also due to the absence of complex financial instruments and services in this sector in our financial markets in general.**

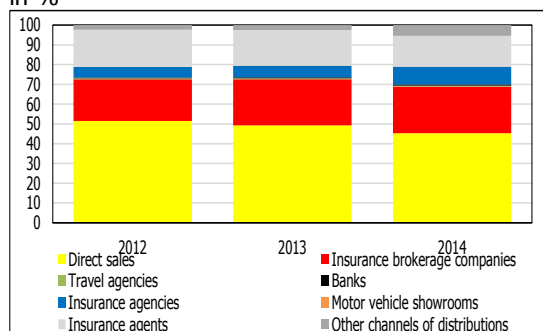
The links of insurance companies with banks are small. Cooperation (based on an agreement for representation in insurance) between banks and insurance companies, is currently very small, but in the near future it is expected to increase with new banks - agents. In 2014, gross premiums written through banks represented only 0.6%<sup>112</sup> of total premiums.

Also, banks are minimally exposed to the insurance sector, with just 0.01% of total credit exposure of the banking system.

**The threat of spillover of the risks from the banking sector to the insurance sector through the use of insurance policies in banking products is also low.**

Chart 133

Sales channels, according to gross premiums written in %



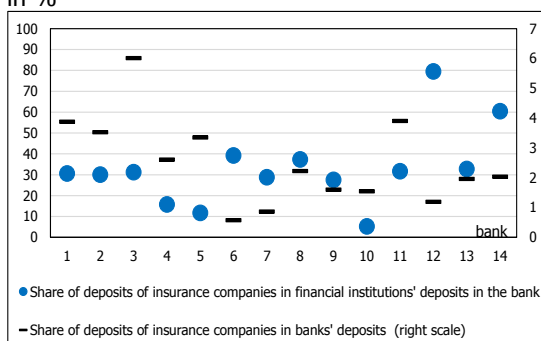
Source: Insurance Supervision Agency of the RM and NBRM's internal calculations

<sup>111</sup> The solvency margin represents the minimum level of capital that insurance companies should have at their disposal. Moreover, it is calculated by applying the method - premium rate or the method - claims rate, depending on which will give a better result.

<sup>112</sup> This percentage includes gross premiums written through those banks that do not have a license issued by the Agency for Insurance Supervision, but under the Law on Insurance Supervision they can sell policies from the segment of non-life insurance.



Chart 134  
Share of deposits of insurance companies  
in banks' deposits  
in %



Source: Insurance Supervision Agency of the RM and NBRM's internal calculations

Namely, in 2014, only three banks used life insurance policies as collateral in credit exposure to natural persons. Moreover, this credit exposure is small and accounts for only 0.6% of the total credit exposure and 1.6% of the banks' total credit exposure to natural persons. None of the insurance companies that are licensed for credit insurance wrote a premium, nor paid claims in this class of insurance.

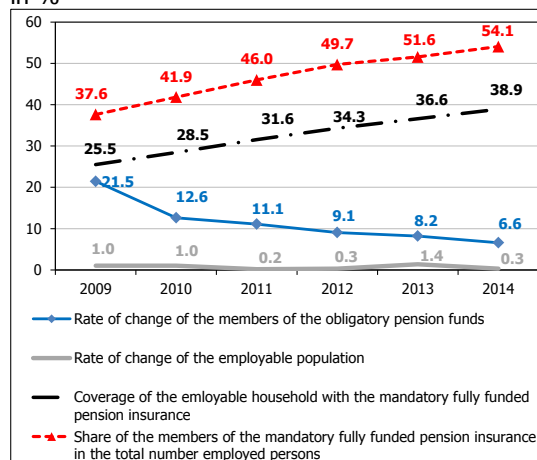
**Potential channel for spillover of the risks from the banking to the insurance sector may be the deposits of insurance companies placed with the banks.** These deposits have little relevance to the banking system, as they account for just 1.6% of the total deposits of the banking system (unchanged share compared to 2013). But they are important for insurance companies, because they occupy about 30% of their assets. Hence, stability and liquidity of the banks is an important factor for the stability of insurance companies.



## 5. Fully funded pension insurance

Fully funded pension insurance is the second largest segment in the financial system of the Republic of Macedonia. This sector does not create risks for the stability of the overall financial system in the Republic of Macedonia, given its relatively young membership and the absence of major outflows of funds for payment of pensions. However, its reliability and achieved result from the investments are particularly important for the future disposable income and social security of the household sector and consequently for the overall financial stability in the country. The influx of new members in the pension funds and the growth of their assets decelerated, which is quite expected, given the fact that the funds are entering the eighth year of their establishment and the initially high growth rates gradually "normalize". However, despite the slowing dynamics, this sector has registered a significantly faster growth compared to the banking and insurance sectors. Since their establishment, private pension funds have been applying a conservative investment strategy, which in conditions of very low interest rates on the international financial markets has registered a gradual change in the last two years, aimed at taking moderately higher risk when investing funds. Thus, there is a growing proportion of the total assets of the funds that is invested in equities, particularly in foreign investment funds units, while the share of debt instruments is reducing. Given that the foreign investment funds units are typically less risky than shares, but they are expected to bring greater yield than debt instruments, the pension funds management companies gradually increase the risk profile of assets, though still with a large degree of precaution. Given the high concentration of pension fund assets, there is room for their further diversification. The high concentration stems from the dominant position of government bonds in the structure of assets. Hence, quality management and public debt sustainability are very important factors that determine the future stability of the assets and the yield of private pension funds.

Chart 135  
Membership in fully funded pension insurance funds  
in %



Source: Agency for Supervision of Fully Funded Pension Insurance - MAPAS and SSO.

### 5.1 Mandatory fully funded pension funds

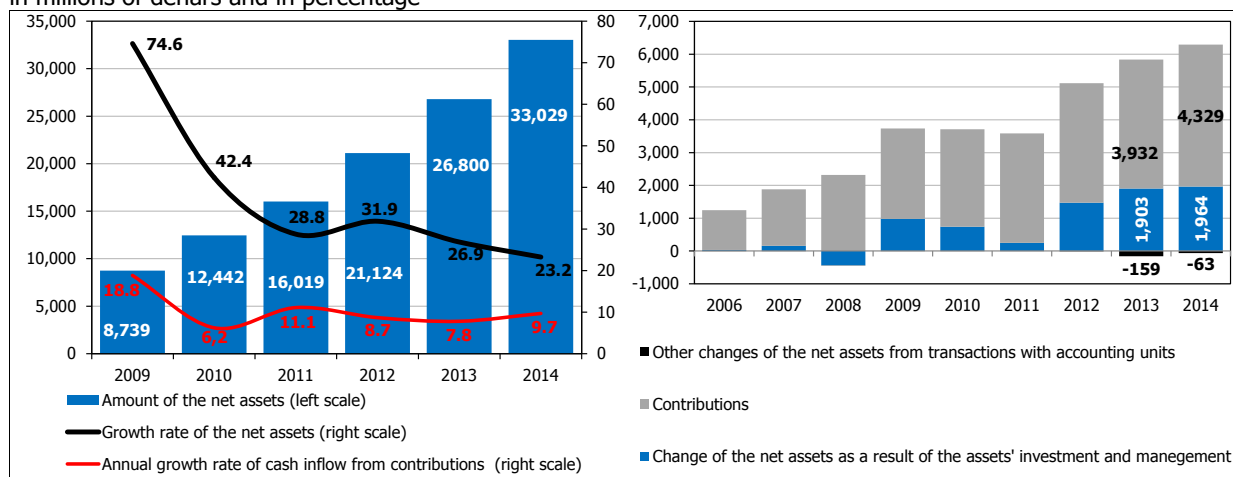
The number of members of the fully funded pension insurance funds at the end of 2014 was 373,151, which is an annual increase by 6.6%. The growth in the number of members of fully funded pension insurance funds decelerates, as expected, given the high growth rates in the initial years after their establishment and the steady increase in the coverage of the active population with the mandatory pension insurance. Thus at the end of 2014, 54.1% of the total number of employees were members of fully funded pension insurance funds, and nearly 40% of the active population is covered by private pension insurance. The relatively high level of coverage



of the employed population by the fully funded pension insurance funds is a logical consequence of pension reforms, i.e. the obligatory membership of new employees in any of the mandatory private pension funds. The membership is still young, with most of the members of the fully funded pension insurance funds being aged 31 to 35.

Chart 136

Movement and growth of net assets (left) and breakdown of the structure of the growth of net assets (right) of fully funded pension insurance funds in millions of denars and in percentage



Source: State Statistical Office, MAPAS and audited financial statements of fully funded pension insurance funds.

**In 2014, net assets<sup>113</sup> of fully funded pension insurance funds continued to increase at a fast pace, registering an annual growth of 23.2%, i.e. Denar 6,229 million.** At the end of 2014, the net assets of fully funded pension insurance funds accounted for 6.3% of GDP, which is 0.9 percentage points more compared with the end of 2013. Paid contributions accounting for nearly 70% of the total annual growth are still the main driver of their growth. However, compared to the first years of the establishment of these funds, the share of the inflows from contributions paid to the total growth of the net assets of the funds registers a decreasing trend. On the other hand, the change in net assets due to the investment

<sup>113</sup> Net assets of the pension fund are determined as the difference between the value of the assets and the net liabilities of the pension fund.



and management of funds' assets<sup>114</sup>, is generally increased.

**Pension funds management companies apply a conservative policy of investing the assets of fully funded pension insurance funds. However, in recent years, it is notable that the investments in instruments with higher risk (equity instruments) registered faster growth compared to the growth in less risky instruments (deposits and bonds).**

Such movements have gradually changed the structure of the investment portfolio of funds in recent years, towards increase in the share of investments in equity instruments, at the expense of a reduction in the share of deposits in banks and relative consistency in the share of debt securities. The change in the regulatory framework in 2012, prevented the fully funded pension insurance funds from investing in Eurobonds issued by the Republic of Macedonia. This caused significant changes in the structure of assets in the past three years, aimed at replacing investments in Macedonian Eurobonds with investments in government securities issued in the domestic market. Hence, although in 2011 nearly two thirds of the assets of fully funded pension insurance funds were invested abroad, at the end of 2014, this part of the assets is only about a quarter. Positive price movements on international capital markets and global currency markets also influenced the accelerating growth of the equity instruments, given that all assets invested abroad were placed in equity instruments.

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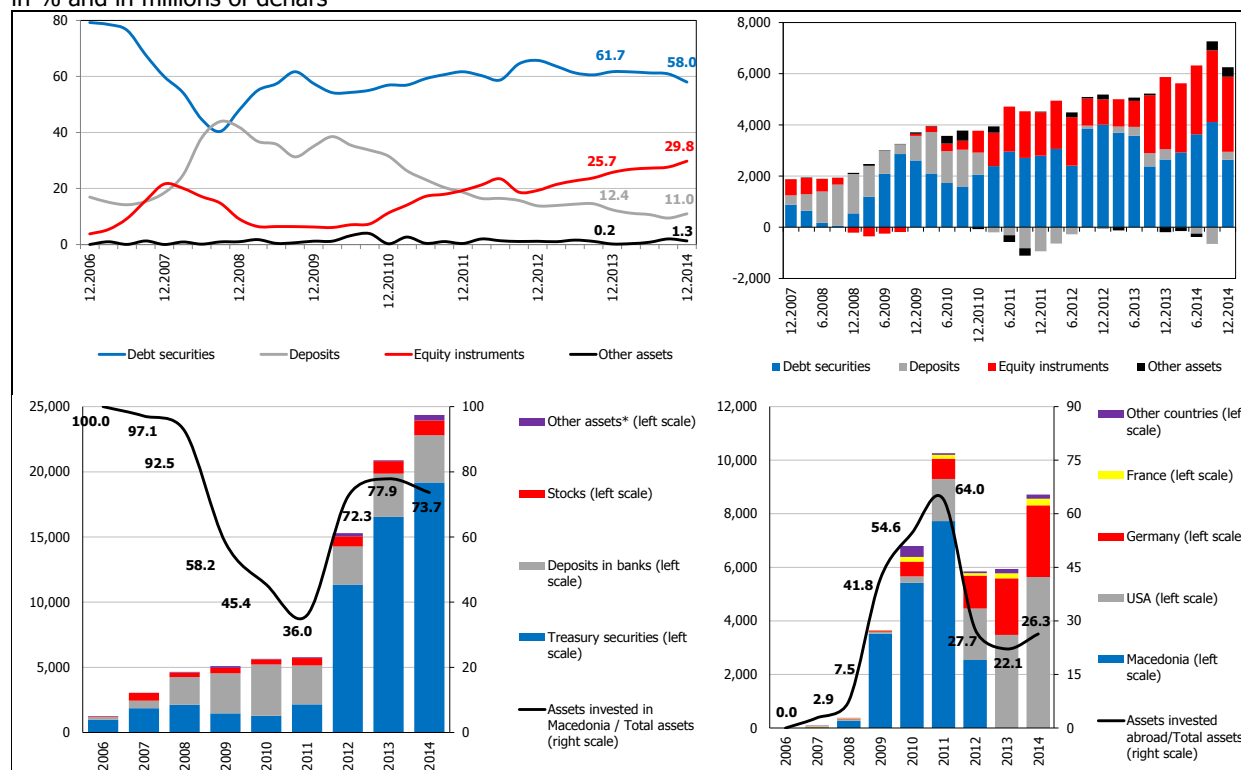
<sup>114</sup> The change in the net - assets as a result of management and investment include net gains/losses from investments, the total unrealized gains/losses from investments in securities and revaluation of securities available for sale.



**Given the young membership, pension funds face a negligible risk of outflows of funds for payment of pensions and the main challenge boils down to the need to ensure adequate return on the investment of funds.** Due to the absence of a major need for liquidity, pension funds could avoid the materialization of the assumed risk by delaying the sales of assets with unrealized losses and make capital gains from the sale of the instruments at some favorable moment in the future. Because of their long-term investment horizon, even amid possible materialization of risks by adverse price movements, funds would have enough time to reinvest the assets and realize a certain return on the investments.

Chart 137

Structure of investments of fully funded pension insurance funds by individual instruments (top left), annual absolute change of individual instruments (top right), movement of investments in the Republic of Macedonia (bottom left) and structure of investment abroad, by country of origin of the issuer (bottom right) in % and in millions of denars



Source: MAPAS and audited financial statements of fully funded pension insurance funds.

\* The other assets include cash and claims of funds.

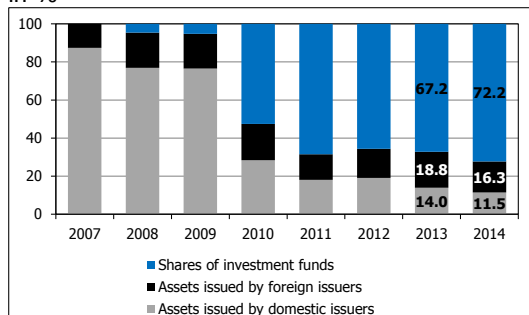




Chart 138

Structure of equity instruments in which fully funded pension insurance funds invested

in %



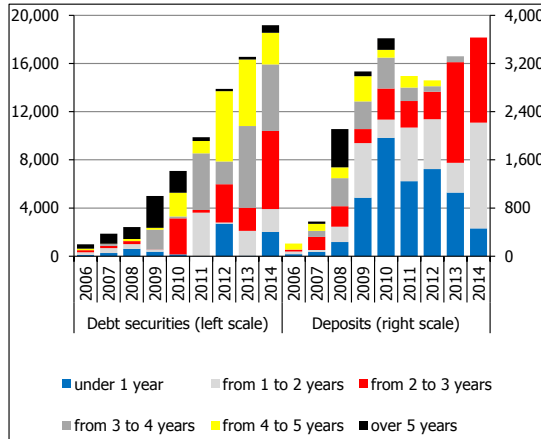
Source: MAPAS (Agency for supervision of fully funded pension insurance)

**The structure of the equity instruments in which fully funded pension insurance funds have invested is dominated by foreign investment funds units with a share of over 70%.** Although the investment funds units are considered riskier than bonds, bills and deposits, they are usually less risky than investments in individual shares<sup>115</sup>. In this way, pension funds, on the one hand, increase their investments in instruments with higher expected yield, while on the other, they diversify the risk of the investments in shares of individual issuers. With this in mind, the fully funded pension insurance funds have room for further diversification of their assets, within the prescribed limits<sup>116</sup>. Direct investment in foreign shares is registered only in one of the funds, indicating some differences in the risk tolerance in the investment of assets in equity instruments. Investments in domestic shares further reduce their share in the structure of assets.

Chart 139

Structure of the debt instruments in which fully funded pension insurance funds invested, according to the remaining term to maturity

in %



Source: MAPAS and audited financial statements of fully funded pension insurance funds.

**Most of the debt instruments of the fully funded pension insurance funds have a residual maturity of up to three years.** The reorientation of pension funds toward the domestic market of government securities after 2012, when with amendments to the legislation they were prevented from investing in Eurobonds issued by the Republic of Macedonia, triggered a trend of reducing the residual maturity of the portfolio of the pension funds invested in bonds. Government bonds with a residual maturity of two to four years increased in the last two years and had the greatest share in the structure of purchased bonds from pension funds according to the contractual residual maturity. This shows that companies that manage fully funded pension insurance funds do not expect significant changes in the level of domestic interest rates in the next two years, which in turn indicates risk of reinvesting the funds in this time horizon. Namely, in case

<sup>115</sup> Investment funds include more financial instruments in their assets and thus achieve a degree of diversification, which is why the risk in these investments is usually smaller compared to investing in a single share of a particular company.

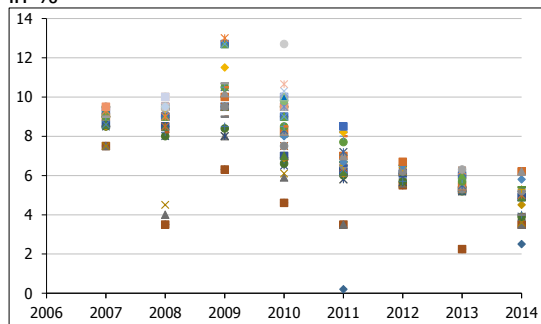
<sup>116</sup> Under the Law on the Fully Funded Pension Insurance, funds have a right to invest up to 30% of the assets in securities issued by non-government foreign companies, banks or investment funds.



Chart 140

Movements in interest rates on deposit agreements of fully funded pension insurance funds, according to the years of signing the agreement

in %

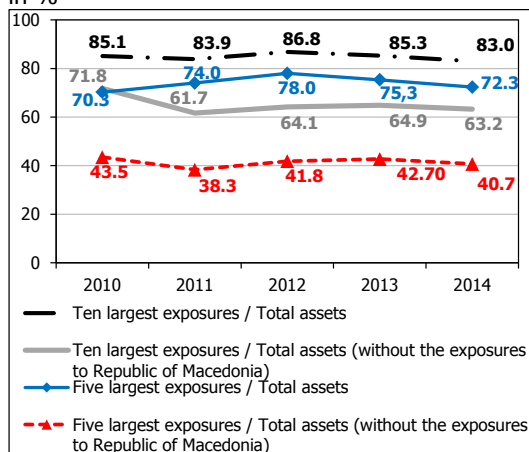


Source: MAPAS (Agency for supervision of fully funded pension insurance)

Chart 141

Concentration of assets of fully funded pension insurance funds by issuer

in %



Source: MAPAS (Agency for supervision of fully funded pension insurance)

Note: The exposure towards the Republic of Macedonia includes the Eurobonds in which pension funds could invest as of end 2012.

of possible upward change in the domestic interest rates in this period, fully funded pension insurance funds would realize a loss from the instruments with residual maturity greater than two years. **Deposits of fully funded pension insurance funds in domestic banks showed significant changes in their structure according to the residual maturity.** Namely, deposits with longer residual maturity reduced significantly in recent years and at the end of 2014 deposits with residual maturity over three years were completely absent. In addition, the interest rate that pension funds receive on the deposits in the banking system has registered a downward trend. Therefore, in parallel with the reduced interest of pension funds in placing assets in domestic banks, there was a decline in the maturity of newly placed deposits and their yield. These changes in the maturity structure of deposits are, on the one hand, a result of the changes in legislation relating to investments in this type of assets<sup>117</sup>, but on the other hand, they are due to the gradual change of the investment policies of the companies that manage fully funded pension insurance funds toward greater investments in equity instruments.

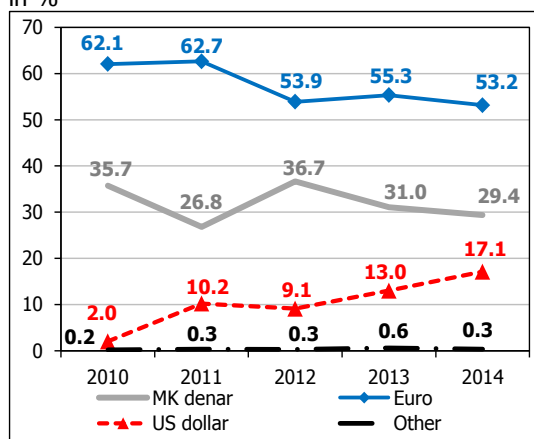
Fully funded pension insurance funds register **a high degree of concentration of their assets.** This is caused by the dominant position of government bonds in the structure of funds' assets, whose share at the end of 2014 was 58.0%. Because of this, the share of the five and ten largest exposures in the total assets of the pension funds is 72.3% and 83.0%, respectively. If in the calculation of this indicator the exposure to the Republic of Macedonia is excluded (securities issued by the government), the share of the five and ten largest exposures of funds is still high at about 40% i.e. 63% of the remaining assets

<sup>117</sup> Amendments to the Law on Mandatory Fully Funded Pension Insurance ("Official Gazette of RM" no. 50/2010), reduce the proportion of assets of pension funds that can be invested as deposits in banks (from 60% to 30%). In addition, up to 3% of the assets of fully funded pension insurance funds can be invested in deposits and certificates of deposit of one bank, and up to 2% for deposits and certificates of deposit in a bank which is the custodian of the fully funded pension insurance funds.

Chart 142

Currency structure of assets of fully funded pension insurance funds

in %



Source: Audited financial statements of fully funded pension insurance funds

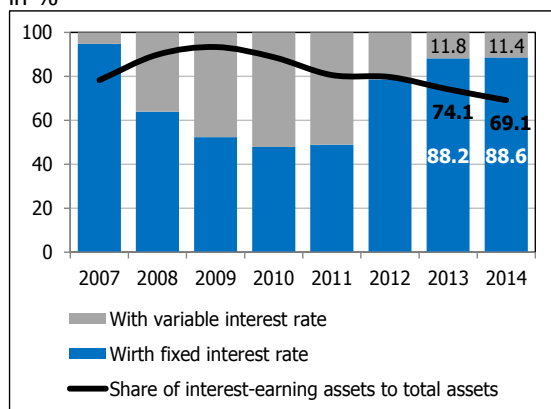
(excluding the exposure to the government). Although in the last two years there was some reduction in the assets concentration indicators, however, they are relatively high, indicating that there is room for its further reduction through diversification of assets. Also, **the high exposure to the Republic of Macedonia, leads to the conclusion that the state of public finances and the sustainability of public debt levels is an extremely important factor for the stability of pension funds.**

**In the currency structure of the mandatory pension fund assets in euros still dominate,** although in 2014 they decreased. The highest growth was recorded in the assets in dollars, which increased their share by 4.1 percentage point. These changes in the currency structure result from the increased investments of pension funds in equities in the USA, but they are also due to the appreciation of the dollar against the euro during 2014 (by over 13%).

Chart 143

Structure of interest bearing assets of fully funded pension insurance funds, by type of interest rates

in %



Source: Audited financial statements of fully funded pension insurance funds.

**The assets of fully funded pension insurance funds that carry fixed interest rates occupy a dominant part (over 61%) of the structure of assets by type of interest rate.** With these assets, the yield is in a specific amount until their maturity. Accordingly, the pension funds are exposed to possible risk of reinvestment of these assets. However, this risk is relative because of the historically lowest levels of interest rates on the domestic and international financial markets and the expectations that their future changes will be in the direction of growth. Effective interest rates<sup>118</sup> on the pension funds' assets with fixed interest rates are relatively high, mainly due to the assets invested in the past years, when interest rates in the domestic financial market were higher. Assets whose

<sup>118</sup> The effective interest rates on the pension funds' assets that are with fixed interest rate, at the end of 2014 ranged from 5.27% to 5.58% for denars, i.e. from 4.98% to 5.27% for euros. For comparison, at the recent auctions in the domestic financial market, held on 23 December 2014, the denar treasury bills with contractual maturity of one year reached an interest rate of 1.7%, while government bonds in denars with long-term maturity of two years, were issued with a coupon rate of 2.2% (Source: Audited financial statements of the fully funded pension insurance funds and the National Bank of the Republic of Macedonia for auctions of government bonds).



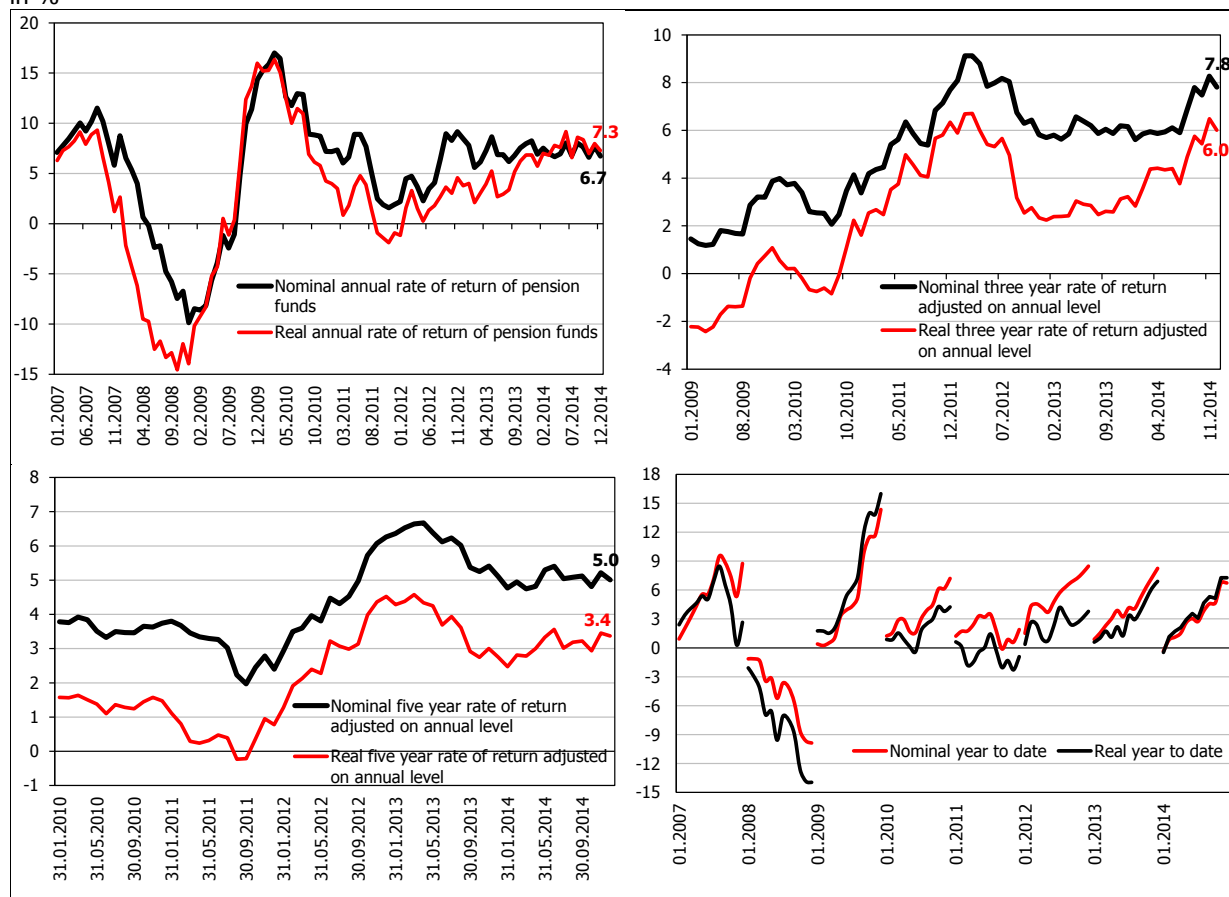
yield depends directly on the fluctuations in the financial markets (assets with variable interest rate) account for about 8% of pension funds' assets.

**The yield of pension funds has registered fluctuating movements.** Volatility in global financial markets and increased inflationary pressures in the domestic

Chart 144

Rates of return of the fully funded pension insurance funds

in %



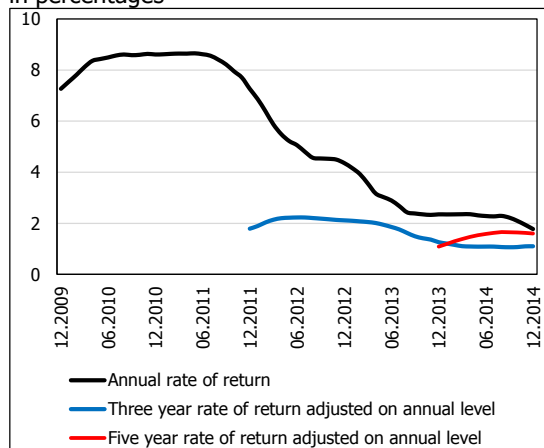
Source: MAPAS, NBRM

Note: The nominal yield is calculated by the percentage change in the value of the accounting unit between two consecutive accounting periods, converted into an equivalent annual rate when the accounting period is greater than one year. The real yield is calculated when the nominal yield will be corrected by the cumulative inflation rate (consumer price index) for the relevant accounting period, expressed on an annualized basis.

economy in late 2007 and throughout 2008, along with the fall of the domestic stock market in this period had a negative impact on the yield of the assets of the funds. With the stabilization of the financial markets (2009-2010), as well as deflationary developments in the domestic



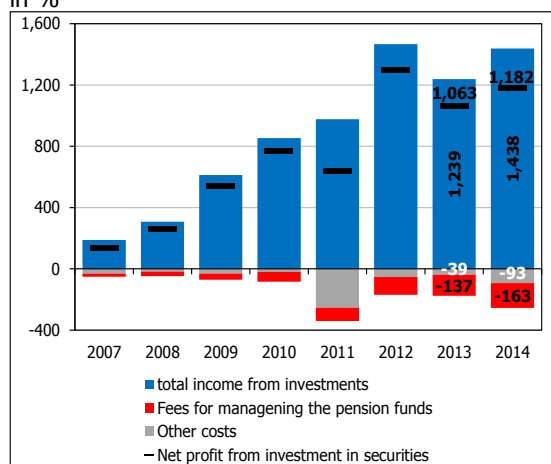
Chart 145  
Standard deviation of the nominal rate of return  
in percentages



Source: MAPAS, NBRM

Standard deviation of rates of return is calculated from a series of data on the respective rates of return with a monthly frequency for a reference period of past 36 months.

Chart 146  
Change in the investment income, expenses and income from investments of fully funded pension insurance funds  
in %



Source: Audited financial statements of fully funded pension insurance funds.

economy in 2009, the yields of funds recovered. Positive trends in the yields in this period were aided by a reclassification of certain financial instruments<sup>119</sup>, which caused growth in revenues and in net assets of the funds. Positive price movements of the Eurobonds issued by the Republic of Macedonia also contributed to the high rates of return, particularly in 2010. After these developments, the yield of the funds over the period from 2011 until the end of 2014, stabilized, registering continuously positive growth rates and minor changes. Annual nominal and real rates of return came closer to each other, which was especially evident in 2014 due to the low, even negative rate of inflation. In the three-year rates of return, the effects of the global crisis and unfavorable economic trends in the Republic of Macedonia came with a delay, due to the longer period of coverage. However, after 2012, multi-year return rates (three-year and five-year) also stabilized. Compared with the interest rates on household deposits, the yield from funds' assets is higher, which is of great importance for the future disposable income of households. Hence, after nearly a decade of its implementation, the systemic reform in the pension system can be assessed as positive.

**The total income from investments of fully funded pension insurance funds** amounted to Denar 1,438 million in 2014, and **on an annualized basis they increased** by Denar 200 million, i.e. 16.1%. The most significant income of the fully funded pension insurance funds is interest income<sup>120</sup> forming over three quarters of total income, followed by income from dividends (share of 13.1%). At the same time, interest income makes the largest contribution to the annual growth of total income (59.8%), followed by realized capital gains and income from dividends, with a

<sup>119</sup> In 2009, the Eurobonds issued by the Republic of Macedonia owned by the pension funds were reclassified from the category "financial instruments held to maturity" in the category "financial instruments available for sale" which led to an increase in the yield of the funds realized during that year.

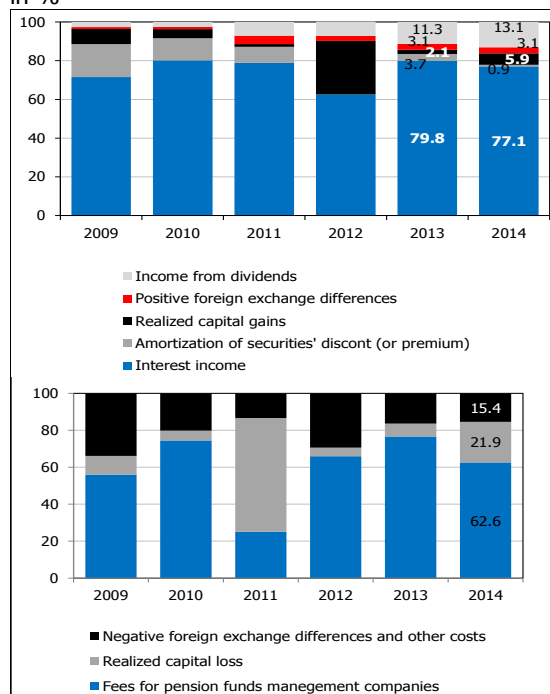
<sup>120</sup> Interest income from investments in domestic government bonds accounted for 83.1% of the interest income of the fully funded pension insurance funds, while 16.9% are interest rates from deposits in domestic banks.



Chart 147

Structure of revenues (top) and expenses (bottom) of the fully funded pension insurance funds

in %



Source: Audited financial statements of fully funded pension insurance funds.

contribution of 29.6% and 24.2%, respectively. The highest annual growth was registered in the realized capital gains, which in 2014 were more than three times higher than in 2013.

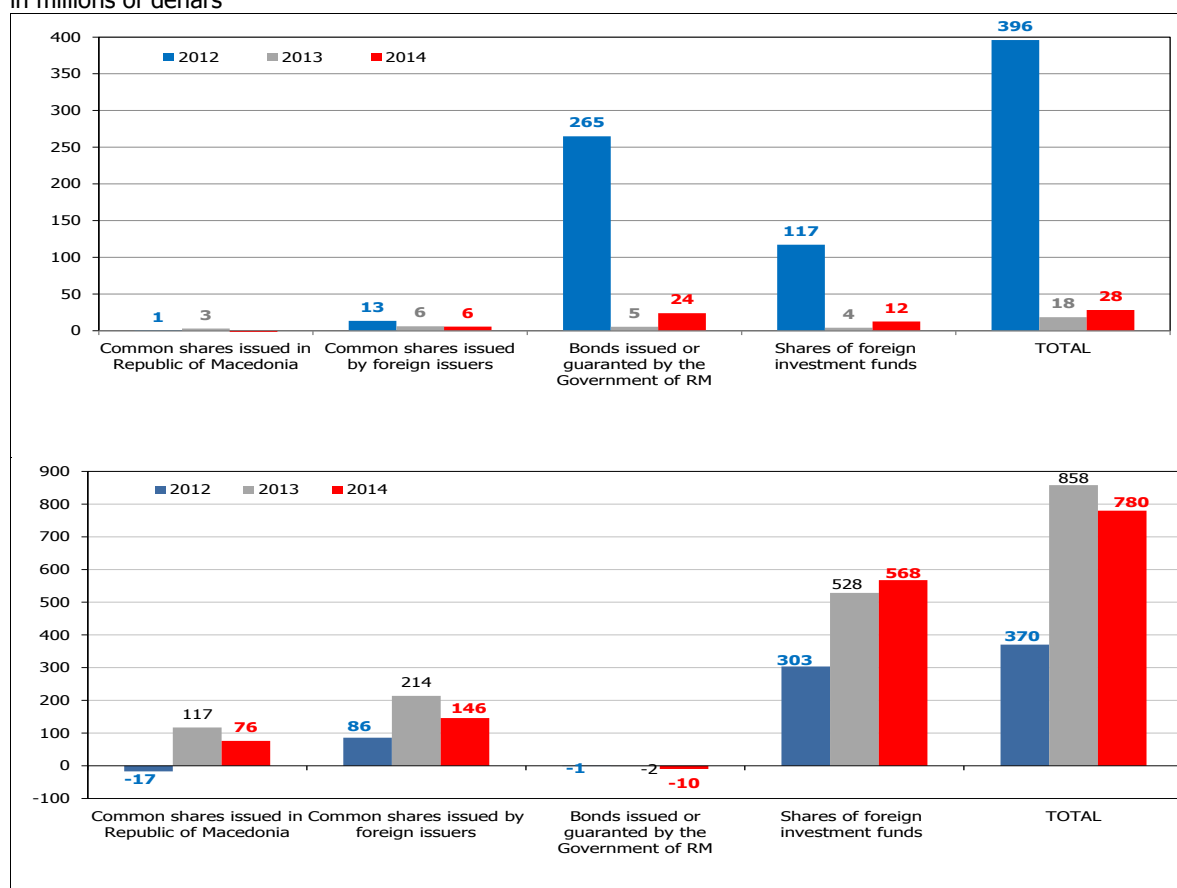
**Total expenditures of the fully funded pension insurance funds also increased** compared to the previous year, by Denar 80 million, or by 45.6%. Their growth is mostly due to the realized capital losses (contribution of 54.8%), followed by the cost of operations of the management companies that are borne by the funds (contribution of 31.8%)<sup>121</sup>. Despite their reduced share, these costs remain the largest component of the funds' total expenditures.

<sup>121</sup> According to Article 98 of the Law on the Fully Funded Pension Insurance, the pension company may collect the following fees borne by the Fund: reimbursement from contributions paid, monthly fee of the Pension Fund management and fee for the events of transfer of funds of a member from one to another pension fund, if the member who is being transferred was a member of the existing fund less than 24 months.



Chart 148

Net realized (top) and net unrealized (bottom) capital gains/losses by individual instruments of the fully funded pension insurance funds in millions of denars



Source: Audited financial statements of fully funded pension insurance funds for 2014.

Note: The calculation of net capital gains includes the exchange rate differences, while interest and dividends are not included.

**Net realized capital gains of the pension funds increased by 54.5% compared to the previous year** and are primarily a result of transactions with bonds issued by the Government of the Republic of Macedonia, followed by transactions with units of foreign open-end investment funds<sup>122</sup>. Funds realized a net loss from transactions with domestic shares<sup>123</sup>. This year again, the largest contribution to the net unrealized gains from funds' investments in securities was that of the units of foreign open-end investment funds

<sup>122</sup> The realized capital gains arising from investments in ISHARES funds, which follow the index of certain corporate bonds in the USA denominated in US dollars (Markit iBoxx USD Liquid Investment Grade Index), stock indices composed of shares traded primarily on the Madrid and Milan stock exchanges and the index of shares in the software sector in the USA and Canada.

<sup>123</sup> Sale of shares of Macedonian Telecom AD Skopje (95.9%) and Toplifikacija ad Skopje (4.1%).





(72.5%)<sup>124</sup>, while the common shares issued by foreign companies and banks<sup>125</sup> and the common shares of domestic issuers accounted for 14.7% and 9.7%, respectively. The largest contribution to the unrealized gains from equity instruments was that of the positive price movements in the international financial markets, but the appreciation of the dollar against the euro also had its share. After the downward movements in the first half of 2014, in the second half of the year, MBI-10 began to move upwards, and the prices of domestic shares as part of the assets of fully funded pension insurance funds also registered an upward trend.

Table 9

Rates of return on invested assets of fully funded pension insurance funds by type of instrument in %

Type of the instrument	2013			2014		
	Net realized gain	Net unrealized gain	Total gain	Net realized gain	Net unrealized gain	Total gain
Stocks issued by foreign issuers	0.6	8.9	9.5	0.4	10.1	10.5
Shares issued by foreign investment funds	0.1	8.3	8.4	0.2	9.7	9.9
Stocks issued by domestic issuers	0.3		0.3		7.3	7.3
Deposits			6.9			5.3
Bonds issued by domestic issuers	1.7		1.7	0.1		0.1

Source: Audited financial statements of fully funded pension insurance funds for 2014, the Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

Hence, the return on invested assets of fully funded pension insurance funds in shares of domestic issuers arises only from net unrealized gains from these shares. The decline on the return on deposits, which corresponds to the reduction of deposit interest rates of domestic banks, should also be noted.

**Indicators of realized results from investments** of fully funded pension insurance funds declined. Average net assets grow faster

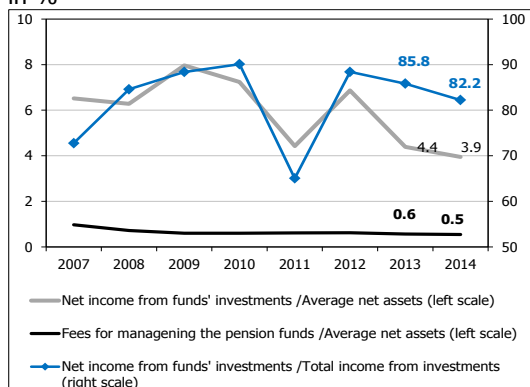
<sup>124</sup> Most of the total unrealized gains from the units arose from placements in several investment funds, whose investments and rates of return, according to their published investment policies, replicate the movements of certain stock exchange indices, i.e. follow the movement of the prices of shares of global companies in the technology sector, the services sector in the US, the index of liquid corporate bonds with an investment rating (iBoxx USD Liquid Investment Grade Index), the movement of stock prices that make up the index S&P 500 benchmark index which measures the returns on the investment in the total capital market in the USA, as well as the index composed of shares traded on the stock market in Tokyo. The stronger recovery of the US economy in 2014, had positive influence on both the US and on the part of the international capital markets, which was reflected positively on the value of units of investment funds in which domestic fully funded pension insurance funds had their deposits.

<sup>125</sup> The bulk of this gain (70%) arises from shares of companies based in the United States.



Chart 149

Indicators of the results from the investments of fully funded pension insurance funds in %



Source: Audited financial statements of fully funded pension insurance funds.

Note: Total revenues and net profit do not include unrealized gain.

(23.7%) compared with the growth of the net income from investments (11.2%), which in turn was mainly due to general conditions prevailing in the domestic and international financial markets, primarily the historically lowest levels of interest rates, and therefore limited opportunities for realization of higher yields to maturity from debt instruments. Average net assets recorded continuously higher growth rate compared with the management costs borne by the fund. Hence, the share of these costs in the net assets of the funds remained relatively low.

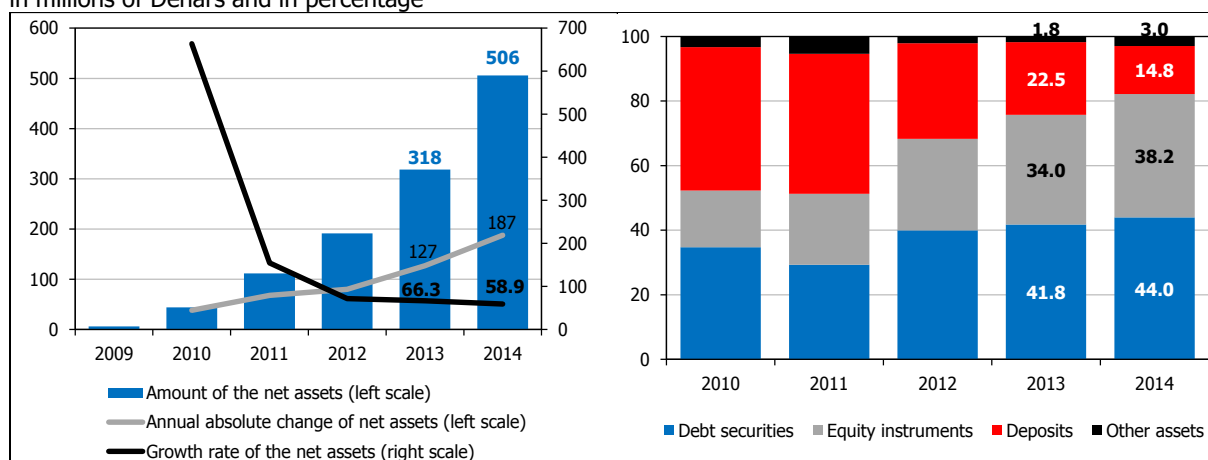
## 5.2 Voluntary fully funded pension funds

**In 2014, the number of members of the voluntary pension funds continued to grow** (by 1,909 new members or 10.3%) and at year-end these funds had 20,433 members in total, which is still less than a tenth of the membership of the fully funded pension insurance funds. Although the net assets of voluntary pension funds registered a fairly high rate of growth, their importance in the overall financial system is still insignificant, with a modest share in the gross domestic product of only 0.1%. The growth of net assets of voluntary pension funds in 2014 was primarily a result of the paid in contributions from members, which contributed around 85% of the annual growth in net assets.



Chart 150

Movement and growth of net assets (left) and structure of the assets (right) of voluntary pension insurance funds  
in millions of Denars and in percentage

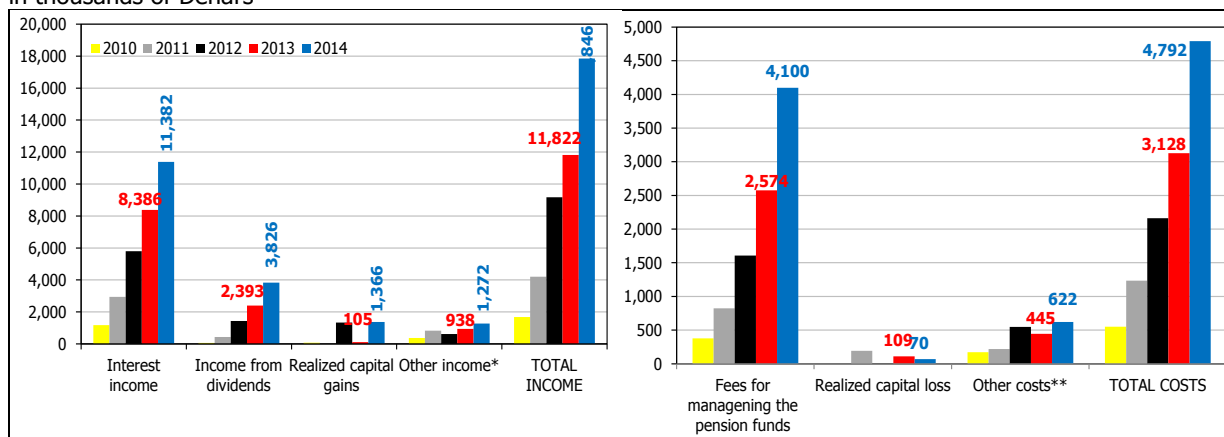


Source: MAPAS and audited financial statements of fully funded pension insurance funds.

Predominant in the structure of the assets of voluntary pension funds are bonds with a share of 44.0%, followed by foreign equities with a share of 26.6%. Also, government bonds make the greatest contribution to the growth of the assets of voluntary pension funds, followed by units of foreign investment funds.

Chart 151

Revenues (left) and expenditures (right) from the investments of voluntary pension funds  
in thousands of Denars



Source: Audited financial statements of voluntary pension insurance funds.

\*Other income includes positive exchange rate differentials and depreciation of discount or premium.

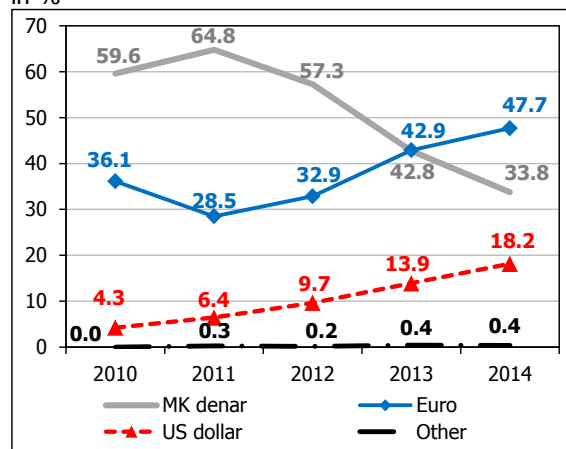
\*\*Other expenses include negative exchange rate differentials and other operating expenses for the funds.



Chart 152

Structure of the assets of voluntary pension funds by currency

in %



Source: Audited financial statements of voluntary pension insurance funds.

**The investment strategies of voluntary pension funds are very similar to the fully funded pension funds,** hence the structural characteristics of the revenues and expenditures show a great similarity.

As with the fully funded pension funds, assets in euros have the largest share in the currency structure of the total assets of voluntary pension funds. In the last three years, assets with currency component registered a continuous growth of the share at the expense of the reducing assets in denars. In 2014, there was an almost equal growth in the structural shares of the assets in euros and of the assets in US dollars.

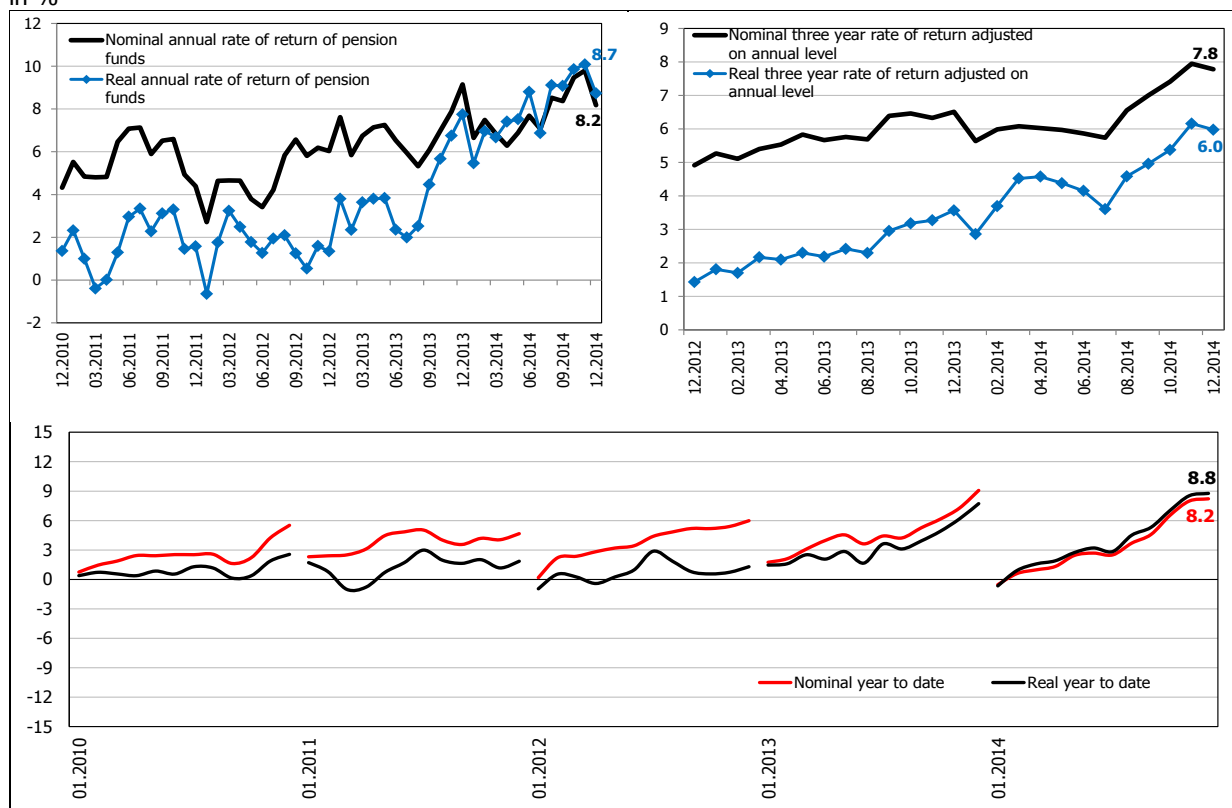
**In 2014, the yield of the voluntary pension funds maintained the trend of gradual increase.** Given that voluntary pension funds began operating in the second half of 2009, they mainly managed to avoid the effects of the global crisis and the unfavorable economic trends in the Republic of Macedonia. **Also, in terms of the return, 2014 was the best year for the voluntary pension funds since their establishment,** and their rates of return are higher than the corresponding rates for the fully funded pension insurance funds. At the end of 2014, the three-year nominal and real rate of return (reduced annually) amounted to 7.8% and 6.0%, respectively.



Chart 153

## Rates of return of the voluntary pension funds

in %



Source: Agency for supervision of fully funded pension insurance.

Note: The nominal yield is calculated by the percentage change in the value of the accounting unit between two consecutive accounting periods, converted into an equivalent annual rate when the accounting period is greater than one year. The real yield is calculated when the nominal yield will be corrected by the cumulative inflation rate (consumer price index) for the relevant accounting period, expressed on an annualized basis.

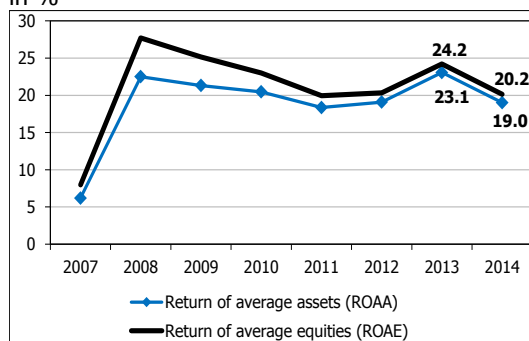
### 5.3 Profitability of pension funds

**Net profit of pension funds<sup>126</sup> was Denar 127 million and in the previous year it was lower by 3.0%,** leading to a reduction in the rates of return on assets and equity of these companies. Despite the decline in 2014, these rates are the highest compared with other segments of the financial system, which indicates satisfactory profitability and efficiency in the operation of pension funds.

<sup>126</sup> According to Article 3 of the Law on Mandatory Fully Funded Pension Insurance, the term pension company refers to: a company managing fully funded pension funds, a company managing voluntary pension funds and a company managing fully funded and voluntary pension funds. In the Republic of Macedonia there are two companies managing fully funded and voluntary pension funds.



Chart 154  
Pension funds profitability indicators  
in %



Source: Audited financial statements of pension fund management companies for 2014.

The increase in the expenditures of these companies in 2014 (by 14.4%) is higher compared to the growth in their income (by 7.6%). The growth in the expenditures of the companies is mainly due to higher amount of paid in income tax and higher costs for employees in the companies. On the other hand, income based on management fees charged by companies on pension funds increased by 19.7% and together with the income based on the contributions paid by the members<sup>127</sup> represent the main income of the companies (joint share of 90.3 % in their total revenues).

The indicators of profitability of pension funds and the satisfactory size of their income, suggest that the activity they perform enables self-sustainability of the pension companies. Hence, the pension funds management provides enough resources for the formation of their capital. Furthermore, management companies almost fully fund their activities from their capital and reserves.

## 6. Leasing

**Leasing sector increasingly loses its small role and significance for the domestic economic activity (0.8% of GDP). The scope of work of this sector decreased in the last three years. Additionally, due to the insignificant connection with the banking sector, and the absence of connection with the other segments of the financial system, this sector does not represent a risk that could undermine the stability of the overall financial system in the Republic of Macedonia.**

**In 2014, the number of leasing companies decreased by one, while assets recorded a further decline** of 28.0% compared to the previous year<sup>128</sup>. The claims based on financial leasing as the core business of these companies also declined, but at a slower pace compared to 2013 (7.8%)<sup>129</sup>. The largest decline was recorded in the loans and credits granted by leasing companies which

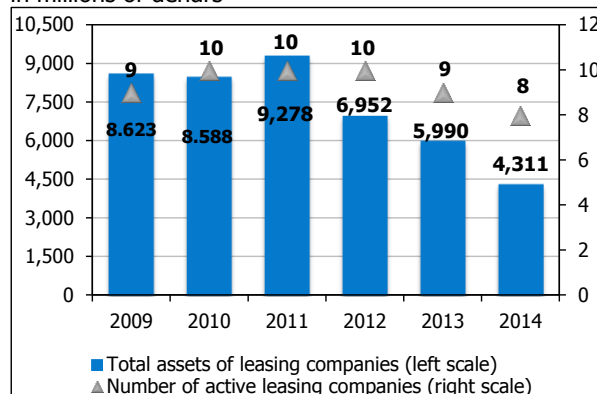
<sup>127</sup> According to Article 98 of the Law on Mandatory Fully Funded Pension Insurance management fee is calculated as a monthly percentage of the value of the net assets of fully funded or voluntary pension funds managed by the company, while the fee from contributions is calculated as a percentage of each contribution paid by members of the pension funds before turning assets into accounting units.

<sup>128</sup> During the previous year the assets decreased by 13.8%.

<sup>129</sup> In 2013 this decline was 20.2%.



Chart 155  
Assets of the leasing companies  
in millions of denars



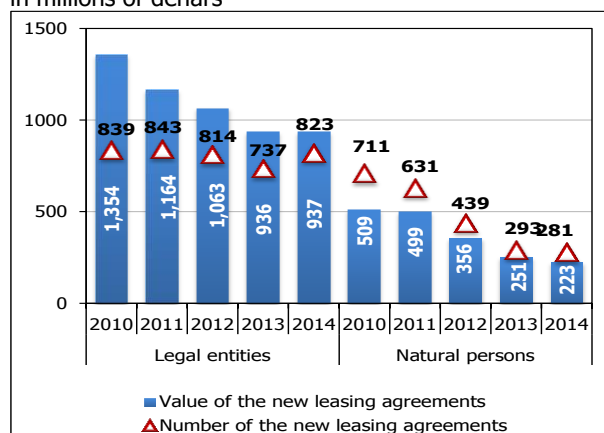
Source: Ministry of Finance.

Table 10  
Balance sheet of the leasing companies

Item	In millions of Denars		Structure in %	
	2013	2014	2013	2014
Claims for financial leasing	3,399	3,133	56.7	72.7
Fixed assets	872	702	14.6	16.3
Loan	983	0	16.4	0.0
Deposits	206	72	3.4	1.7
Other assets	530	403	8.8	9.4
<b>TOTAL ASSETS</b>	<b>5,990</b>	<b>4,311</b>	<b>100.0</b>	<b>100.0</b>
Borrowings	4,193	2,068	70.0	48.0
Reserves	1,260	1,165	21.0	27.0
Other liabilities	483	431	8.1	10.0
Equity and reserves	54	647	0.9	15.0
<b>TOTAL LIABILITIES</b>	<b>5,990</b>	<b>4,311</b>	<b>100.0</b>	<b>100.0</b>

Source: Ministry of Finance.

Chart 156  
Number and value of new leasing contracts  
in millions of denars



Source: Ministry of Finance.

were completely repaid this year. Companies have not undertaken new activities in this segment, in addition to the significantly reduced borrowings and loans on the liabilities side (decline of 50.7%).

**The leasing sector does not affect the overall financial stability as there is very little connection of this sector with the other sectors of the financial system.**

The deposits of these companies invested in banks occupy only 5.1% of the total assets of leasing companies and they have a marginal share of 0.1% in the total deposit base of the banking system. The only connection of this sector with the other segments of the financial system is through the insurance sector, as usually, the leased asset is insured<sup>130</sup>. In the absence of data on the quality of the receivables based on leasing, and considering the amount of assets of the leasing sector, which are four times smaller than the assets of the insurance sector, no major threat of spillover of the risks to the insurance sector is expected.

**In 2014, leasing companies operated at a loss** (Denar 4,738 thousand), which is mostly due to the faster growth in the expenditures from current operations (16.9%) compared with the growth in the income from current operations (10.8%).

Legal entities are predominant in concluded (80.8%) and active (76.1%) contracts. According to the subject of leasing, passenger vehicles still have the largest share in the total number of concluded and active contracts for movable items (76.2% and 72.6%, respectively).

There are no significant changes in the maturity (about 80% with maturity up to 5 years) nor in the currency (99.6% in denars with foreign currency clause) of the active leasing contracts.

<sup>130</sup> Due to the lack of official data, this conclusion cannot be supported by figures.



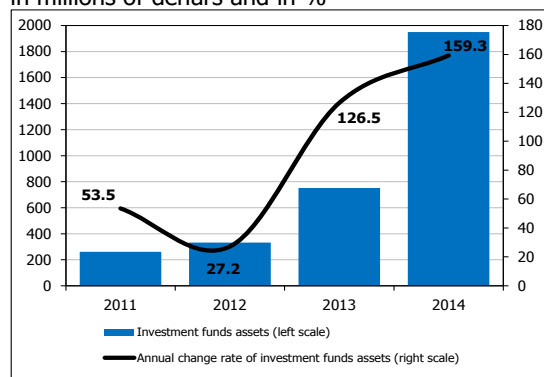


## 7. Investment funds

The significance of investment funds<sup>131</sup> for the financial system in the Republic of Macedonia and its stability is low, although the open-end investment funds showed significant growth rates, especially in the past few years with the opening of the cash funds. In 2014, the share of the assets of investment funds in the total assets of financial institutions has doubled, but it is still minimal at 0.4%. For the first time in the seven-year period of their existence, the weighted rate of return on investment funds had positive values during the entire year. Investment funds management companies continue to operate with a negative financial result.

Chart 157

Assets of the open-end investment funds in millions of denars and in %



Source: Securities and Exchange Commission (SEC)

In 2014, the assets of the open-end investment funds continued to grow at a fast pace and reached Denar 1,950 million, which is almost three times more compared with the previous year. In circumstances when the liabilities of investment funds are significantly reduced<sup>132</sup>, the growth of net-assets<sup>133</sup> also tripled and they amount to Denar 1,393 million, arising primarily (over 92% of the growth) from the new net investments of investors. The most part (70%) of the total value of assets of investment funds' assets accounted for cash funds<sup>134</sup>, which indicates an increasing interest of investors in investing their assets in these funds. Namely, these funds have attracted 86% of total net cash inflows from investors during 2014.

<sup>131</sup> The analysis in this section of the Report does not include private investment funds and private funds management companies, as according to the Law on Investment Funds ("Official Gazette of RM" No. 12/09, 67/10, 24/11 and 188/13), in the Republic of Macedonia supervision of private funds and of the companies authorized to manage private funds, or an obligation to submit regular reports to the appropriate authority, is not stipulated.

<sup>132</sup> In 2014, total liabilities of investment funds (liabilities on the basis of investments in securities, liabilities to fund management companies, liabilities to the depositary bank, liabilities on the basis of expenses of the fund, liabilities on the basis of sold stakes and other liabilities) amounted to Denar 21 million, which is by Denar 195 million or 90.2% less, compared with the last year.

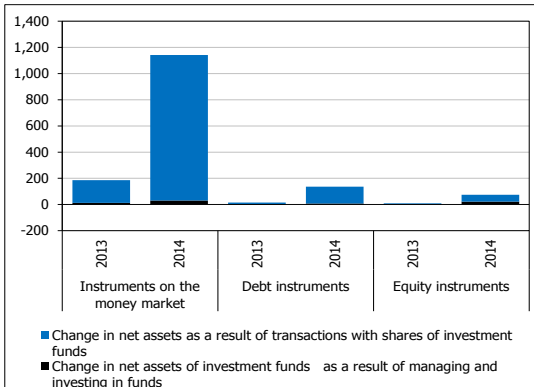
<sup>133</sup> Net assets of investment funds are obtained when the value of the fund's assets will be reduced by the value of its liabilities.

<sup>134</sup> Cash funds are open-end investment funds which invest funds in instruments that can quickly and easily be turned into cash, mainly deposits. Unlike share funds, these funds often place the assets in bank deposits in domestic banks, thus offering a level of risk which is the equivalent of the assets held on a transaction account or kept in a classic short-term deposit. The investment strategy of these funds suggests investing in the short term without a pre-defined period of investment. Owners of stakes in these funds may be domestic and foreign institutional and individual investors allowed to invest in accordance with the regulations, which means they are suitable replacement not only for the saving, but also for the transaction accounts that are usually without interest yield.



Chart 158

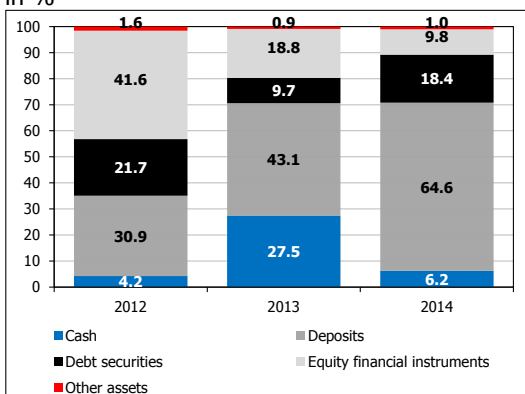
Annual change in net assets of investment funds by type of instrument in which they predominantly invest in millions of denars



Source: Web sites of the open-end investment funds.

Chart 159

Structure of the assets of the open-end investment funds in %

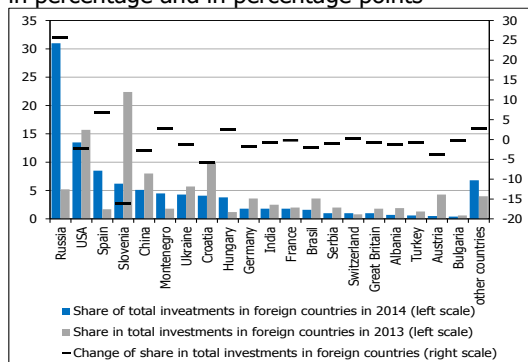


Source: The Securities and Exchange Commission of the Republic of Macedonia

**In 2014, investments in deposits with domestic banks registered the largest absolute annual growth (of Denar 935 million), and thus the largest share in the annual change in the assets of investment funds (of 78.1%).** This growth was entirely a result of term deposits with maturity up to one year. Apart from deposits, investments in debt securities also made a significant contribution to the total annual change in the assets of investment funds of 23.8%<sup>135</sup>, which grew almost fivefold on an annual basis, mainly due to investments in domestic government bonds, and in lesser extent, to the investments in foreign corporate bonds. The growth of the equity financial instruments (by 35.5%), was generally due to the increase in the shares issued by domestic and foreign shareholding companies, and their share in the growth of total assets of investment funds grew and reached 4.2% (0.8% in 2013). On the other hand, in 2014, funds were lower by 41.5%.

<sup>135</sup> For comparison, in 2013 the contribution of debt securities to the annual increase in the assets of investment funds accounted for only 0.1%.

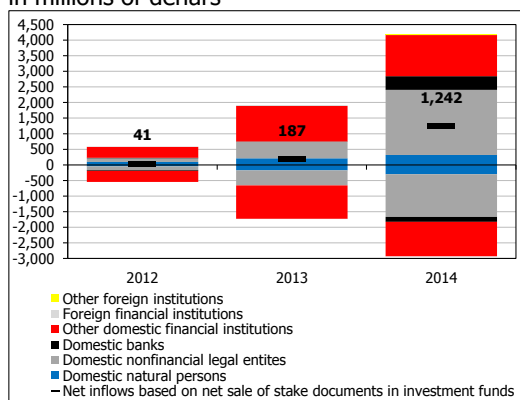
Chart 160  
Outward investments of the open-end investment funds  
in percentage and in percentage points



Source: Web sites of the open-end investment funds.

**At the end of 2014, funds' inward investments accounted for 86.6% of total assets of investment funds, which compared to 2013 increased by 9.7 percentage points.** Term deposits in domestic banks prevail in the structure of these investments (with a share of 74.4%). This reinforces the dependence of the stability of open-end investment funds on the stability and liquidity of the banking system. On the other hand, outward investments (which account for 13.2% of total assets of investment funds) are mostly comprised of investments in shares issued by foreign joint stock companies. Analyzed by country, in 2014, faster growth was registered in the share of invested assets in Russia and Spain. Investing in foreign financial markets means taking greater currency risk and country risk for the open-end investment funds, which in turn requires greater capacity of companies to identify, monitor and manage risks, particularly when investing in equities.

Chart 161  
Structure of inflows and outflows based on transactions with stake documents  
in millions of denars



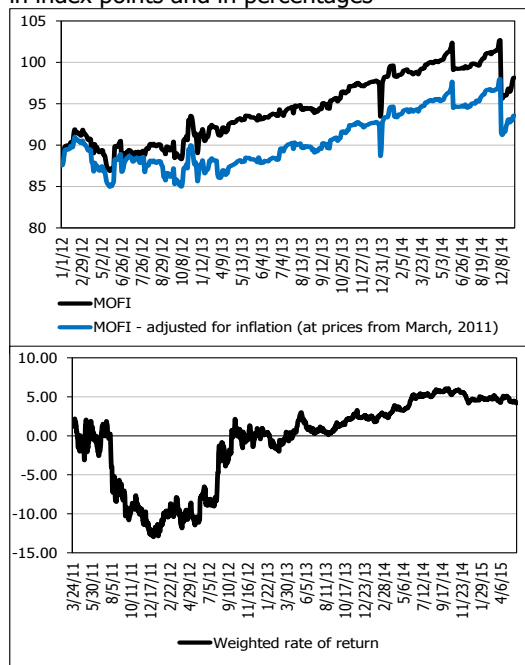
Source: The Securities and Exchange Commission of the Republic of Macedonia

**In 2014, there was a more significant growth in the inflows and outflows of assets based on the sale i.e. purchase of documents for stakes in investment funds.** The largest contribution to increased trading in documents for stakes in the investment funds was that of the domestic entities, primarily non-financial legal entities, which had high participation in both purchasing and selling of documents for stakes. Thus, net inflows based on net sales of documents for stakes in open-end investment funds reached Denar 1,242 million, which is more than a six fold increase on an annual level.



Chart 162

Movements in the MOFI index (top) and the weighted annual rate of return of open-end investment funds (bottom) in index points and in percentages



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

In 2014, the index for the movement in the prices of documents for stakes in open-end investment funds (MOFI)<sup>136</sup> continued to grow. As of 31 December 2014, its value was higher by 1.7% of the value achieved on the last day of the previous year and the value of the weighted annual rate of return of open-end investment funds also increased significantly, which for the first time in the past seven years was positive throughout the year.

Analyzed by individual funds, as of 31 December 2014, **shareholding funds and investment funds for bonds generated the largest nominal annual yield from net assets**, whose market share in the total value of net assets was 27.3%. Contrary to the investment funds in which most of the investments are in debt and/or equity financial instruments, cash funds ended the year with significantly smaller, but still positive rates of return<sup>137</sup>.

**Despite the dynamic growth in the assets of open-end investment funds, their assets are still far smaller than the level required for profitable operations of some of the open-end investment funds management companies.** However, the loss generated by the four investment funds management companies (totaling Denar 227 thousand) was significantly lower compared to the previous year<sup>138</sup>.

<sup>136</sup> The index for the movement in the prices of documents for stakes in open-end investment funds (MOFI) is designed by the National Bank, as a price index weighted by the value of the net assets of individual funds. MOFI is constructed as a weighted average of the value of the individual indices for the movement in the prices of documents for stakes in each of the investment funds. So calculated value of MOFI is corrected by a so-called correction factor, determined at each change in the number of funds, thus ensuring time comparability of the index. The base of MOFI, with value 100 is 25 March, 2011, when the data necessary for its calculation started to be available.

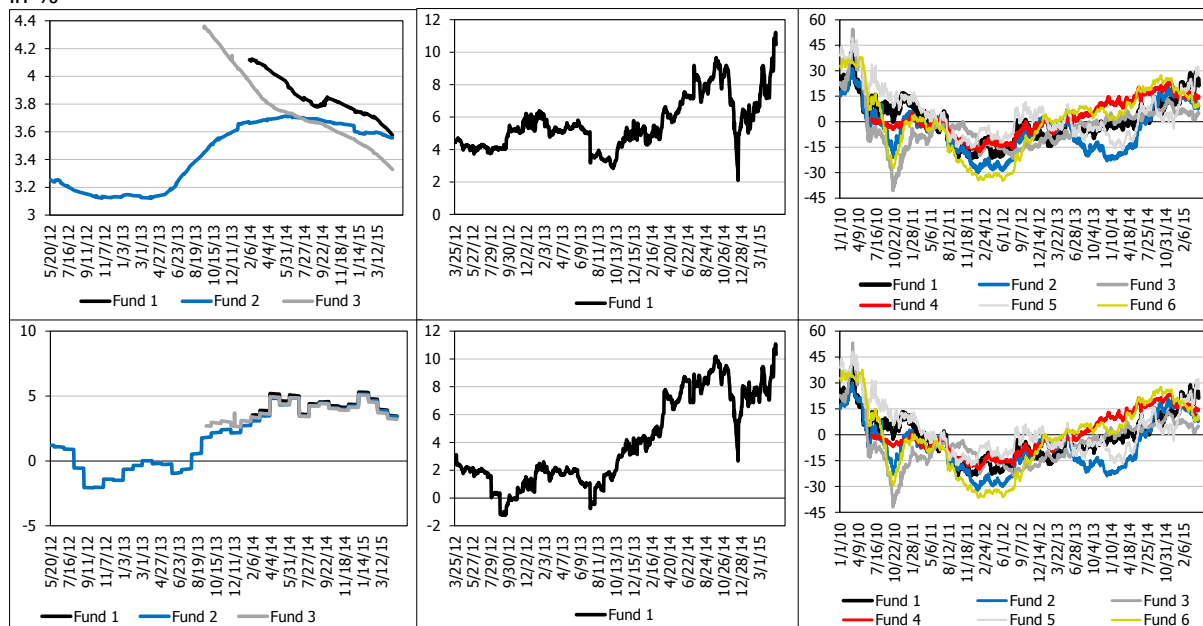
<sup>137</sup> The market share of these investment funds in the total value of net assets was 72.7%.

<sup>138</sup> For comparison, as of 31 December 2013, the four investment funds management companies generated losses amounting to Denar 8 million.

Chart 163

Annual nominal (top) and real rate of return (bottom), by individual investment funds according to the type of instrument in which they predominantly invest - instruments on the money market (left), debt instruments (middle) and equities (right)

in %



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Note: Covers investment funds, which as of 31 December 2014, operate for at least one year.

## 8. Domestic financial markets

### 8.1 Money and short-term securities market

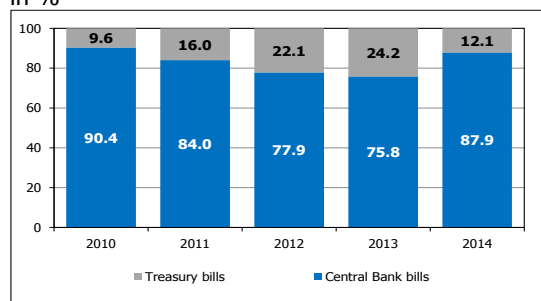
In 2014, the money markets in the Republic of Macedonia registered an increase in the trading volume, mainly due to the increased trading on the interbank market for non-collateralized deposits, which had the highest turnover in the last five years. On the other hand, activity in the secondary market of short-term securities was significantly reduced, while trading in the market of collateralized deposits (repo - market) showed signs of intensification. However, the overall money market in the Republic of Macedonia in 2014 still has a moderate effect on the financial system, and consequently on the financial stability in the country. The small range of instruments, moderate trading volume on the secondary market and the low level of integration into international financial flows are still the main features of this market. Despite the development of certain segments of the money markets in the past period, there is still a need for further improvement, which would lead to easily achieving the objectives of the central bank for price and financial stability through more effective implementation of monetary operations and the transmission of monetary signals to the financial and real sectors of the economy. The foreign exchange market registered a relatively high turnover (more than 80.0% of GDP) despite its decline compared to 2013.



Chart 164

Structure of the realization of the primary money market

in %



Source: NBRM

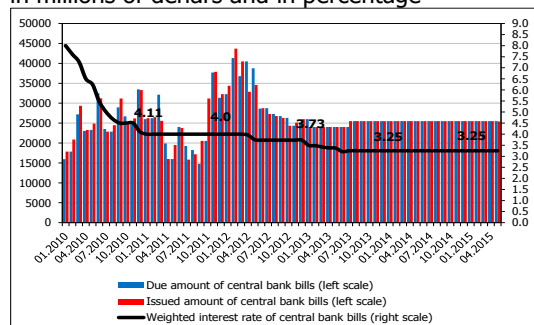
### CB bills are the most important instrument on the primary money market in the Republic of Macedonia.

During 2014, auctions of CB bills were conducted through a volume tender and limited amount offered, and throughout the year this amount was not changed. Namely, to the end of gradual recovery of the private sector and a stable price level, the National Bank maintained the amount of CB bills at the level of Denar 25,500 million. Thus, the realization of CB bills per year amounted to Denar 306,002 million, which is an increase of just 3.0% relative to the previous year. Against a background of solid domestic economic growth, which does not create imbalances through inflationary pressures or pressures for reduction of foreign reserves, the maximum interest rate on auctions of CB bills during 2014 remained unchanged (it remained at the same level of the last change in July 2013, when it was reduced to 3.25%).

Chart 165

Due and realized amount of CB bills and interest rate, by months

in millions of denars and in percentage



Source: NBRM

Despite the limited supply of CB bills, the demand of banks was high and averaged Denar 37,549 million, per month. Banks' interest in investing in CB bills particularly intensified in the second half of the year. In the absence of risk factors for the price and financial stability, and for the purpose of directing the banks' excess liquidity toward the non-financial private sector, in September 2014 the National Bank revised the mechanism for transmission of the higher demand for CB bills over the potential into a seven-day deposit facility<sup>139</sup>. However, in March 2015, this requirement was abolished and a new way of forming the banks' bids at the auctions of CB bills was introduced<sup>140</sup>, which limited the demand.

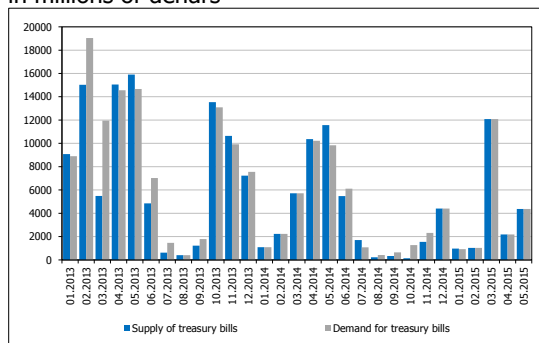
<sup>139</sup> The methodology of determining the potential demand for CB bills was introduced with the Decision on the CB Bills, "Official Gazette of the Republic of Macedonia" no. 166/2013) whereby if it is determined that there is a higher demand than the potential across the overall banking system, banks that bid higher amounts of their own liquidity potential were required to place this difference in seven-day deposits. The interest rate on these deposits was 0%.

<sup>140</sup> According to the Decision amending the Decision on the CB Bills ("Official Gazette of the Republic of Macedonia" no. 35/2015), the National Bank may determine the method of forming banks' offers according to the percentage share of bank's denar reserve requirement in the total denar reserve requirement of the banking system during the fulfillment period which begins on the date of the auction. In this case, the amount of each bank's offer shall be up to the amount calculated by applying its percentage share in the total reserve requirement less the amount of past due CB bills of the Macedonian Bank for Development Promotion AD Skopje, which according to the law is not obliged to allocate reserve requirement. In order to ensure transparency toward banks, before the auction the NBRM shall inform the banks on the maximum offer that can be submitted by each bank.



Chart 166

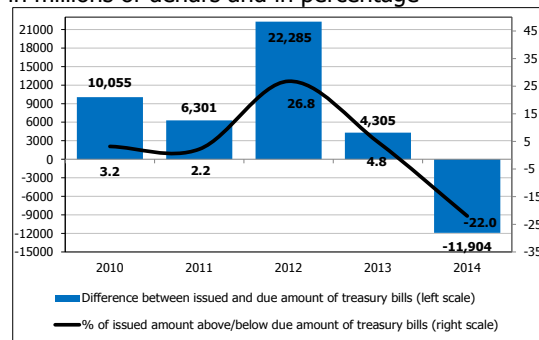
Supply and demand for treasury bills, by month  
in millions of denars



Source: NBRM

Chart 167

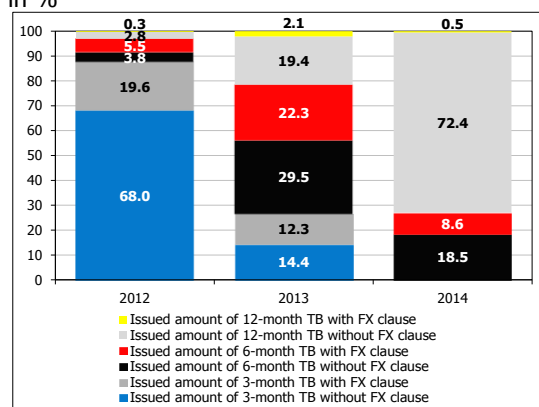
Issued amount above/below the due amount of treasury bills on an annual level  
in millions of denars and in percentage



Source: NBRM

Chart 168

Structure of treasury bills by maturity and currency  
in %



Source: NBRM

**The second most important instrument on the primary money market are treasury bills, whose supply in 2014 dropped significantly.** The total amount of treasury bills issued by the Ministry of Finance (totaling Denar 42,278 million) is more than twice as low compared to the volume registered in the previous year<sup>141</sup>, and considerably lower is also the difference between realized and due volume of treasury bills, which is negative for the first time in the past few years. Moreover, in 2014, the supply of treasury bills was restructured and was aimed at increasing their maturity, which significantly increased the share of treasury bills with a maturity of twelve months<sup>142</sup>. Thus, they took the main position in the structure of total treasury bills at the expense of the reduced structural share of treasury bills with a maturity of six and three months.

In terms of currency, in 2014, 90.9% of the total issued treasury bills were in domestic currency. In the past few years, auctions of treasury bills have been conducted through a volume tender with fixed interest rate, which in 2014 ranged from 3.6% to 1.7%, depending on the maturity and the currency component. Interest rates were lower than in 2013, influenced by the reduction in the interbank interest rates.

<sup>141</sup> For comparison, the total amount of treasury bills issued in 2013 amounted to Denar 94,669 million.

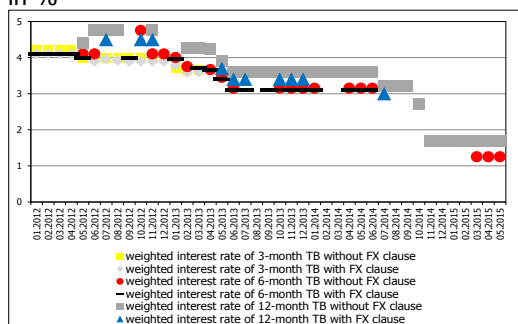
<sup>142</sup> The Ministry of Finance started issuing treasury bills with maturity of up to twelve months in May 2012.





Chart 169

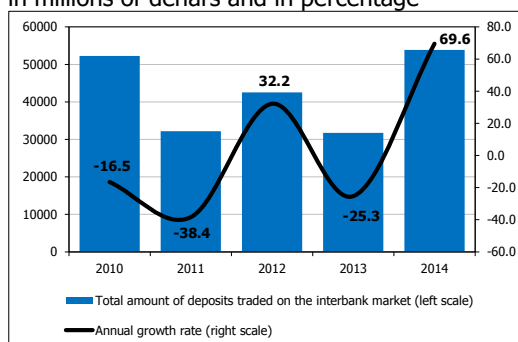
Interest rates on treasury bills, by maturity and currency in %



Source: NBRM

Chart 170

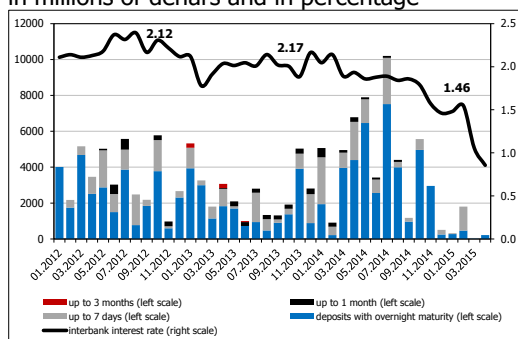
Trading volume on the interbank deposit market in millions of denars and in percentage



Source: NBRM

Chart 171

Maturity structure and interest rates on the interbank deposit market in millions of denars and in percentage



Source: NBRM

**The significance of the interbank market of non-collateralized deposits increased further in 2014.** The total turnover in this market grew by Denar 22,090 million or by 69.6% on an annual basis, reaching Denar 53,851 million. However, the increase was mostly due to the higher turnover of trading in deposits with overnight maturity (93.0%), while trading in deposits with longer maturities (up to 1 month and up to 3 months) decreased by 38.4%. Such developments indicate the propensity of banks to manage liquidity on a daily basis and reduced tendency for managing liquidity needs in the longer run.

In conditions of a stable liquidity of the banking system, increased turnover on the market of non-collateralized deposits contributed toward upward movement of the liquidity ratio on this market<sup>143</sup> and increasing its importance in the overall economic activity of the country<sup>144</sup>. However, this market segment did not register a significant growth in 2014. Given the satisfactory liquidity of banks, their interest in this market is small, so that it remains poorly developed, with small amounts of traded deposits. This in turn limits the risks of spillover of potential liquidity problems from one bank to another.

**The secondary market of treasury bills is very little used for liquidity management. It is rather used for generating yields from investments.** Trading in treasury bills on the secondary money and short-term securities market (OTC market), decreased significantly and reduced to Denar 1,054 million (which is a decline of 45.8% compared to the previous year). In 2014 there was no trading in treasury bills on the OTC market. **The reduced activity in the secondary market of short-term securities is confirmed also by the low value of the liquidity coefficient on the market,**

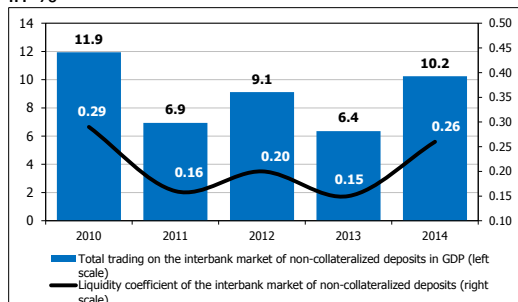
<sup>143</sup> The liquidity ratio on the market of non-collateralized deposits is the correlation between the average turnover on the interbank market of non-collateralized deposits and the average balance on banks' accounts with the National Bank.

<sup>144</sup> Source: Press Release of the State Statistical Office of the Republic of Macedonia from 13.3.2015. Data on GDP for 2013 are preliminary, and data for 2014 are estimated.



Chart 172

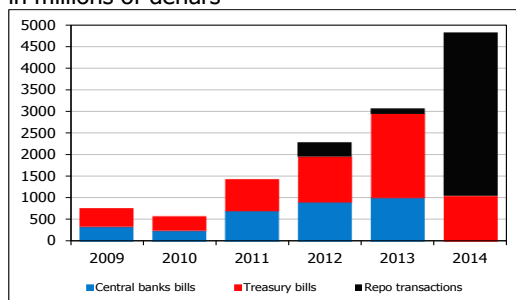
Liquidity ratio on the market of non-collateralized deposits and share in GDP  
in %



Source: NBRM

Chart 173

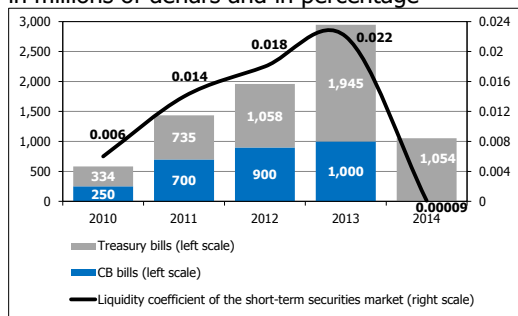
Turnover on the secondary money and short-term securities market, by instruments  
in millions of denars



Source: NBRM

Chart 174

Trading volume in the short-term securities market  
in millions of denars and in percentage



Source: NBRM

expressed as the ratio between the average daily turnover on the OTC markets and the average stock of the respective securities.

In 2014, in circumstances of a reduced frequency of auctions of treasury bills, the activity on the market of collateralized deposits (repo market) showed signs of intensification. Namely, the turnover of interbank repo transactions reached Denar 3,771 million (for comparison, the turnover in 2013 amounted to Denar 129 million). Thus, the share of the repo market in the total turnover on the secondary money and short-term securities market increased from 4.2% in 2013 to 78.2% in 2014.

But despite the increased activity, the market of collateralized deposits (repo market) is still characterized by a small volume of transactions and poor use of repo transactions by banks in events of short-term liquidity shortfalls<sup>145</sup>. Also, there are still no major positive effects from the changes in the operational framework of the monetary policy in May 2012 (introduction of regular auctions of seven-day repo operations with the National Bank) and the introduction of the 0% reserve requirement for repo transactions in local currency.

In 2014, in circumstances when the economic recovery of the Euro area is still slow (although for the first time in two years it exited the zone of the decline in the economic activity) and influenced by the consequences from the debt crisis, the ECB lowered the key interest rates<sup>146</sup>. Starting from this interest rate policy of the ECB in 2014, the interest rate spread between the interest rate on the overnight deposit facility of the National Bank (which in October 2014 was reduced from 0.75% to

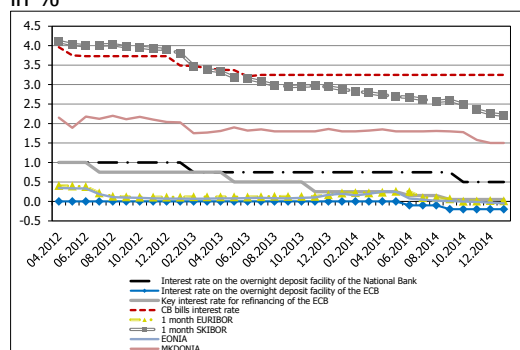
<sup>145</sup> The total amount of realized repo transactions with the National Bank in 2014 amounted to Denar 1,870 million. For comparison, in 2013, repo transactions with the National Bank amounted to Denar 2,590 million.

<sup>146</sup> During 2014, the ECB monetary policy was geared towards loosening of monetary conditions in the euro area. Thus, the ECB cut its policy rate twice (in June and in September), whereby it fell to its historical low of 0.05%. Moreover, the interest rate on overnight loan facility and deposit facility was also cut to 0.3% and -0.2%, respectively.



Chart 175

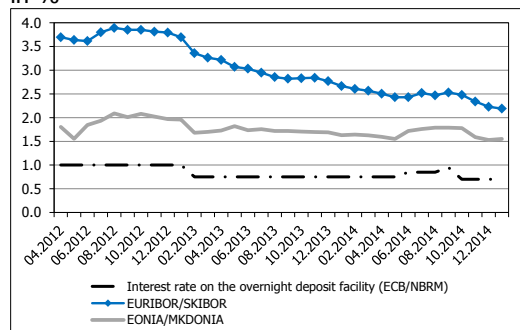
Interest rates on the money market in the Republic of Macedonia and the EU in %



Source: NBRM, ECB.

Chart 176

Interest rate spread for the money markets in the Republic of Macedonia and the EU in %



Source: NBRM, ECB.

0.50%) and the interest rate on the overnight deposit facility of the ECB narrowed marginally and in the last few months of the year it amounted to 0.70 percentage points.

Movements in the interest rates of the ECB and the National Bank had spillover effects on the interest rates in interbank markets - EURIBOR<sup>147</sup> and EONIA<sup>148</sup> i.e. SKIBOR<sup>149</sup> and MKDONIA<sup>150</sup>.

**Overall, in 2014, the movements on the foreign exchange market were stable,** and the National Bank intervened to overcome the occasional mismatch between supply of and demand for foreign currency. The total turnover on the foreign exchange market in 2014 amounted to Euro 6,907 million<sup>151</sup>, which is over 80% of GDP and compared with the previous year it dropped by Euro 291 million, or by 4.0%. Changes in the foreign exchange market in 2014 do not deviate much from the usual seasonal dynamics, so that in the first half of the year, the National Bank made a net sale of foreign assets, while the performances in the second half of the year were aimed at net purchase of foreign assets. In such circumstances, through transactions with market-makers, the National Bank registered a small net sale of foreign assets on an annual basis, in the amount of Euro 5.5 million, representing 0.25% of the average foreign reserves during the year (for comparison, in 2013, the National Bank made a net purchase on the foreign exchange market in the amount

<sup>147</sup> EURIBOR (Euro Interbank Offered Rate) - interest rate at which reference banks on the Euro area money market are ready to sell deposits to another reference banks and it is calculated on the basis of an average of the quoted interest rates of selected banks.

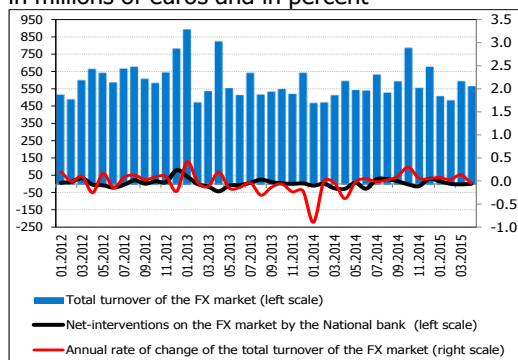
<sup>148</sup> EONIA (Euro OverNight Index Average) - interest rate on the Euro area money market calculated as a weighted average of the interest rate on all overnight transactions where reference banks are deposit sellers. The interbank interest rate EONIA fluctuates in the spread between the marginal lending and deposit rates of the ECB.

<sup>149</sup> SKIBOR (Skopje Interbank Offer Rate) - interbank interest rate introduced in July 2007 for selling non-collateralized Denar deposits, calculated as an average of the quotations of reference banks, for the following standard maturities: overnight, one week, one month, three months, six months, nine months and twelve months (the last three maturities were introduced in 2011).

<sup>150</sup> MKDONIA - its calculation began on 15 October 2008, as weighted average interest rate of concluded overnight transactions, with reference banks emerging as sellers of non collateralized Denar deposits. Opposite to SKIBOR which is an interest rate based on quotations, MKDONIA is based on achieved interest rate in concluded transactions. Reference banks on the transactions of which MKDONIA is calculated are the same reference banks that quote SKIBOR interbank interest rates.

<sup>151</sup> The total turnover on the foreign exchange market encompasses the banks' transactions with the companies and natural persons, the interbank transactions, including the net-interventions of the National Bank with the market makers.

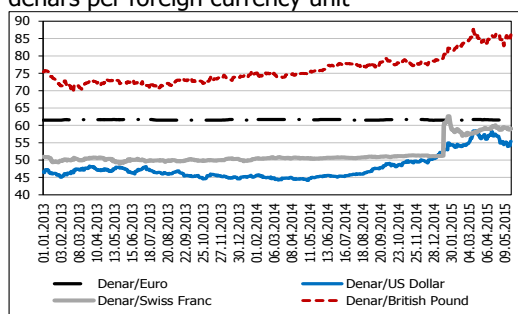
**Chart 177**  
Total turnover and net-interventions on the foreign exchange market of the National Bank  
in millions of euros and in percent



Source: NBRM

Note: Net-interventions on the FX market of the National Bank comprises net interventions with market-makers.

**Chart 178**  
Movement of the official prompt exchange rate of the denar for certain more significant currencies  
denars per foreign currency unit



Source: NBRM

of 0.5% of the average foreign reserves in 2013).

The implementation of the strategy of targeting the nominal exchange rate of the Denar against the Euro implies the changes in the cross-currency rates of the Denar with the other currencies to be formed in direct dependence on the fluctuations in the value of the Euro on the international foreign exchange markets. The successful management of the temporary mismatch between the supply and the demand of foreign currency through interventions by the National Bank on the foreign exchange market has contributed to maintaining a stable exchange rate against the Euro, which in 2014 averaged 61.62 Denars per one Euro. The movements in the global foreign exchange markets were influenced by the depreciation of the euro against other major currencies, which affected the value of the Denar against those currencies<sup>152</sup>.

<sup>152</sup> In 2014, one American Dollar was exchanged for 0.05 Denars more, one British Pound was exchanged for 3.9 Denars more, one Swiss Franc was exchanged for 0.7 Denars more, compared to 2013.



## 8.2 Capital market

### 8.2.1 Primary capital market

Despite the positive movements on the primary capital market in 2014, it continues to be characterized by a relatively small number and low value of new issues of securities. Namely, companies hardly use market funding in the sense of fundraising through the issue of new shares and/or debt instruments, which is a limiting factor for a more significant growth in the overall volume of activity of the corporate sector. On the other hand, the Ministry of Finance of the Republic of Macedonia is one of the more active issuers of long-term securities, in order to collect funds for current or long-term financing of the government needs, which underscores the importance of this market in the public debt management. At the same time, banks and pension funds often appear in the role of investors in government bonds issued in the primary capital market, acting as one of the most important government creditors. Considering these characteristics, the movements on the primary capital market are relevant for the financial stability of the Republic of Macedonia.

Table 11  
Structure of the realized issues of long-term securities  
in millions of denars

Realized issues of long-term securities	2010	2011	2012	2013	2014
Amount of realized issues of long-term government securities	1,848	1,845	10,466	12,359	13,362
1. two-years continuous government bonds	0	0	0	3,055	4,841
2. three-years continuous government bonds	0	0	2,082	1,417	912
2. five-years continuous government bonds	0	1,168	7,768	7,085	4,213
3. ten-years continuous government bonds	0	0	0	0	2,782
3. Denationalization bonds	1,848	677	616	802	615
Amount of realized issues of long-term, non-government securities	3,327	3,531	10,032	121	6,325
1. Corporate bonds	0	0	0	0	0
2. Shares	3,327	3,531	10,032	121	6,325
- Issued by banks	414	3,314	2,546	0	0
- Issued by other financial institutions	17	217	191	111	267
- Issued by non-financial legal entities	2,897	0	7,295	10	6,059
Total amount of realized issues of long-term securities	5,175	5,376	20,497	12,481	19,687

Source: The Securities and Exchange Commission of the Republic of Macedonia, web site of the Ministry of Finance and the Macedonian Stock Exchange and National Bank calculations.

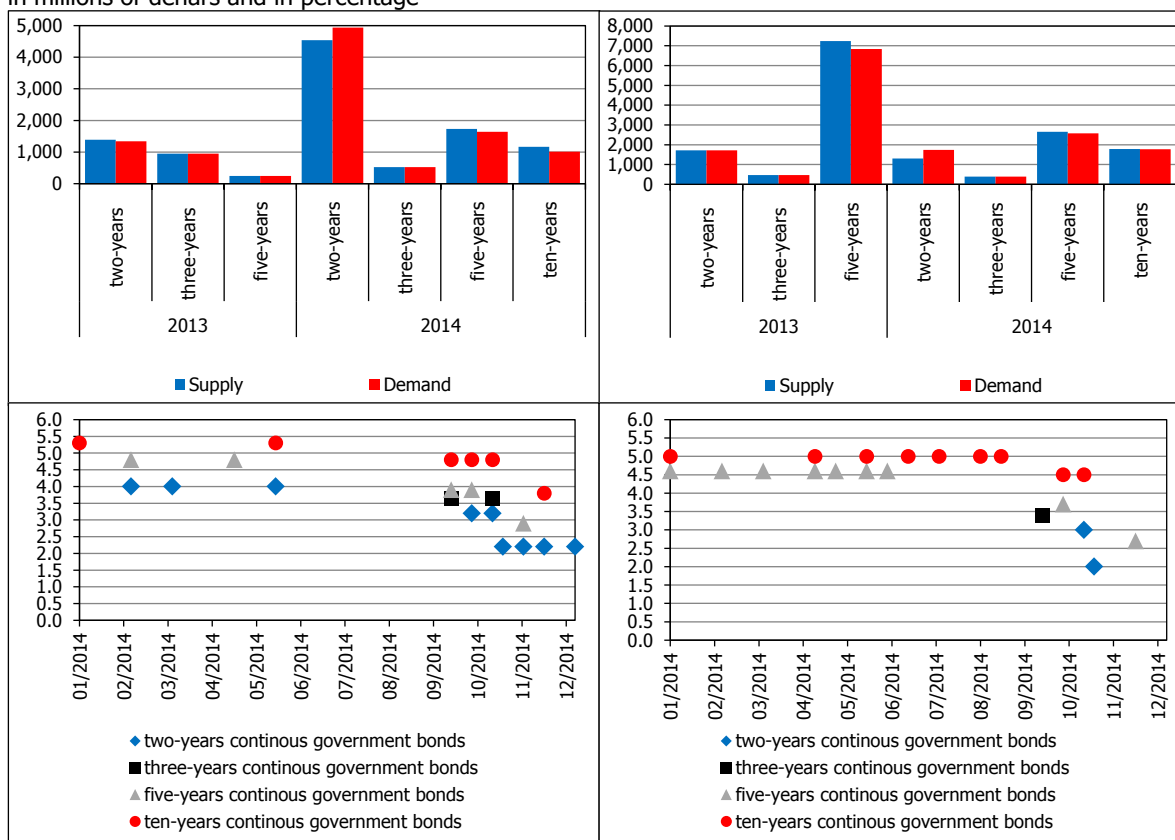
**The total value of new issues of long-term securities made in 2014 reached Denar 19,687 million, which is an increase of Denar 7,207 million, or 57.7%, compared to the previous year.** Most of the issued long-term securities are continuous government bonds with different maturities (from two to ten years), and traditionally, denationalization bonds were issued. The total amount of issued government bonds during 2014 represents 5.5% of the government total public debt as of 31 December 2014, i.e. 18.2% of the domestic public debt. The demand for government bonds generally corresponded with the offered amount of securities both in denars and in denars with foreign currency clause, indicating the absence of major imbalances between supply of and demand for government securities in this market. Some deviation between the two values was registered in the two-year government bonds, where investors demanded a higher amount than offered, even at the auctions held in the last quarter of 2014, when lower coupon interest



rates on these securities were offered. In contrast, the demand for government bonds with longer terms to maturity (of five and ten years) was generally lower than the amount offered, possibly indicating a higher rate of return required by investors when placing funds in government securities with maturity of five years or more. In 2014, there was a gradual decline in the share of bonds with foreign currency clause in the total issued government securities. Of the total amount of the continuous bonds issued, 53.1% are in denars, while the rest are foreign currency indexed<sup>153</sup>. In the ownership structure of government continuous bonds in denars predominant are the banks from the Republic of Macedonia (78.3%), while about 60% of the foreign currency indexed bonds are owned by non-bank entities.

Chart 179

Supply and demand of continuous government bonds in denars (top left) and foreign currency indexed (top right) and a coupon interest rate on issued continuous government bonds in denars (bottom left) and foreign currency indexed (bottom right) in millions of denars and in percentage



Source: The web site of the Ministry of Finance and National Bank calculations.

Note: Auctions of government bonds in 2014 were conducted through a volume tender (restricted with a coupon interest rate).

**Although insufficient, a certain movement on the primary capital market in 2014 was observed in the segment of shares issued by non-financial companies, where a total of Denar 6,059 million were issued, realized through eight new share**

<sup>153</sup> For comparison, in 2013, foreign currency indexed continuous bonds accounted for 78.1% in the total amount of the continuous bonds issued.





**issues<sup>154</sup>**. Most part (about 70%) of the newly issued shares of the companies in 2014, goes to the realized public offering of common shares of one company (in October 2014), in order to increase the share capital of the company and provide funds for repayment of previous lending. The remaining share issues were organized by way of private offers, also without a greater importance in the sense of increasing the total sources of financing of companies, as they were made because of the transformation of the existing debt into equity in non-financial companies. Financial institutions are also not particularly active in the primary capital market. New share issues by banks are entirely absent in the last two years, while the remaining, non-bank financial institutions have issued twice higher (compared to 2013), but still moderate amount of new shares. The total amount of equity shares issued in 2014, represents 6% of the market capitalization of all shares traded on the Macedonian Stock Exchange as of 31 December 2014. Issuance of corporate bonds has long been absent in the Republic of Macedonia.

### 8.2.2 Secondary capital market

**The increase in the turnover of the Macedonian Stock Exchange from standard trading<sup>155</sup> in 2014, was not sufficiently pronounced in order to increase the importance of the secondary capital market in the Republic of Macedonia, compared to the other segments of the financial system. Namely, the Macedonian capital market remains characterized by illiquidity and unattractiveness, and expressed sensitivity of investors and their decisions to economic and non-economic regional and international developments. The level of market prices, as measured by the movements of the Macedonian MBI-10 has grown, especially in the second half of 2014. However, amid volatile movements in international financial markets and extremely dynamic and uncertain external environment, it is too early to assess whether the growth of the stock index will be maintained, or it is a temporary movement.**

**In 2014, the domestic legal entities retained the role of the only net buyers of securities, which has strengthened their position of the main long-term investor in the capital market in the Republic of Macedonia. Despite the slight increase in the volume of investment of foreign investors in Macedonian securities, their interest in selling remained higher. Given the relaxed monetary policies of the most important central banks in the world, foreign investors were more focused on achieving a satisfactory level of return by investing in more developed capital markets, thus their need and willingness to take investment risk by investing in illiquid and unattractive capital markets was significantly lower. In addition, the**

<sup>154</sup> In 2014, the Securities and Exchange Commission of the Republic of Macedonia issued twelve approvals for issuance of shares, of which eleven issues were through private offering of common shares and one issue was through a public offering of shares. Two of the issues through a private offering of long-term securities of non-financial companies were performed on the basis of the Law on the conversion of the claim of the Republic of Macedonia on the basis of public duties into equity in the company Tutunski Kombinat AD Prilep ("Official Gazette of RM" No. 148/2013) and the Law on the conversion of the claims of the Republic of Macedonia on the basis of public duties into equity in the companies "Ohis" AD Skopje, "Emo" AD Ohrid, "Tutunski Kombinat" AD Prilep and "11 Oktomvri - Eurokompozit" AD Prilep ("Official Gazette of RM" no. 159/2008) and in order to increase the share capital with new deposits through a private offer to a known buyer - Government of the Republic of Macedonia. The remaining issues through a private offering were generally to increase the share capital, i.e. to create conditions for the smooth execution of the regular operation of the company through transformation of loans into equity. All approved issues registered success rates of 100%.

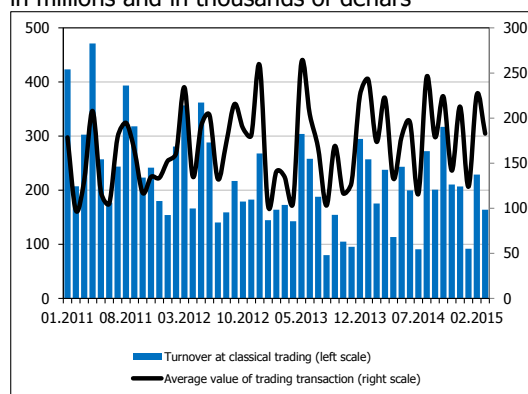
<sup>155</sup> The turnover in standard trading does not include block transactions, the turnover on public stock exchange auctions and public offerings of securities.



small presence of foreign investors on the secondary capital market in the Republic of Macedonia, despite the good results of most listed companies, is partly linked to regional political and economic instability and weaknesses in the systems of corporate governance. However, the favorable environment for conducting the monetary policy, the low and slightly negative inflation, low interest rates, recent abolition of the legal measures towards discouraging of the payment of dividends<sup>156</sup> and the integration of the Macedonian, Croatian and Bulgarian Stock Exchanges<sup>157</sup>, should be a good impetus to the development of the Macedonian capital market.

Chart 180

Stock market turnover in standard trading and average value of a single commercial transaction, by month in millions and in thousands of denars



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

In 2014 the turnover of the Macedonian Stock Exchange realized in standard trading (shares and bonds) reached Denar 2,527 million, which is an increase by Denar 404 million, or 19.0%, compared with the previous year. Thus, the trend of declining stock turnover from standard trading, recorded in the past two years, was terminated. The main driver of the increased turnover in standard trading in 2014 was the increased trading in shares. Namely, trading turnover with shares rose by Denar 590 million, or 42.3% on an annual basis. It contributed to the increase in the structural share of shares in the stock exchange turnover in standard trading, which has reached a level of about 80%, for the first time in the past six years. In contrast, the annual turnover in bonds continued to decline, but at a slower pace. The only significant increase in the turnover in bonds was recorded in August, when the thirteenth issue of denationalization bonds was issued. Following these developments, the average daily turnover in 2014 was higher by only Denar 1.5 million, compared with the average daily turnover in 2013. On the other hand, amid a reduced number of transactions of standard trading<sup>158</sup>, the average value per transaction in standard trading increased from Denar 158 thousand for 2013, to Denar 190

<sup>156</sup> In 2014, the adoption of the new Law on Profit Tax ("Official Gazette of RM" no. 112/14) abolished the provisions under which the amount that is distributed as dividends and other distributions from profits in cash or in non-cash form is taxed at the time of its payment. Also, according to this Law the tax base is reduced by the amount of the income from dividends realized by participation in the equity of another tax payer – resident of the Republic of Macedonia, provided that they have been taxed at the tax payer paying the dividend.

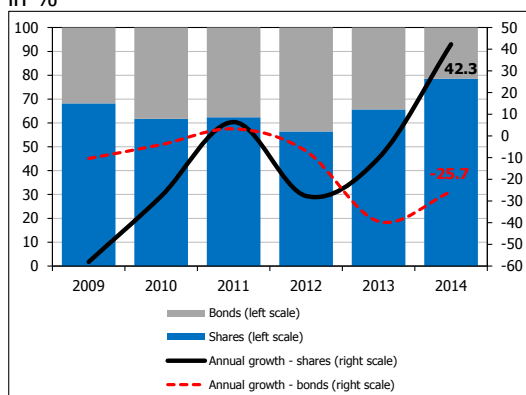
<sup>157</sup> In May 2014, the stock exchanges of Bulgaria, Macedonia and Croatia formed a joint stock company based in Skopje, with the objective of creating a regional infrastructure for trading of securities listed on those three markets, which will facilitate the access of investors to the regional markets.

<sup>158</sup> In 2014, the number of transactions with shares and bonds on MSE equaled 13,264 transactions, which is 132 transactions less, compared to the previous year.



Chart 181

Structure and annual changes of the turnover in the standard trading in %

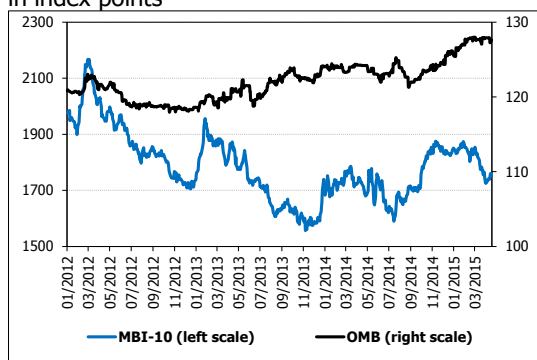


Source: Web site of the Macedonian Stock Exchange and National Bank calculations

thousand for 2014. **However, despite the intensification, the role and importance of the Macedonian Stock Exchange in the total financial system remains very small** (the share of the turnover from standard stock exchange trading in GDP is minimal 0.5%). Furthermore, **the turnover on the secondary capital market realized in 2014, is even lower than the total volume of trading on the OTC markets.**

Chart 182

Movement of the main stock indices in index points



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

**The increased stock market turnover, coupled with the faster growth of the domestic economy and improved economic performance, reflected also on the movements of stock indices<sup>159</sup>.** Namely, during 2014, the Macedonian MBI-10<sup>160</sup>, as an aggregate indicator of stock exchange trends, increased, and at the end of the year amounted to 1,844.2 index points, which is an increase of 6.0% compared to the level at the end of the previous year. However, analyzed in terms of the dynamics of movement, the stock index recorded a divergent movement at different times of the year. Namely, announced dividends of most listed companies have proven to be an insufficient incentive for investors although the yield is higher than the interest yield on deposits. Thus, in the first few months, the index registered a downward movement, while in the second half of the year, despite occasional negative fluctuations, the stock exchange index registered an upward adjustment<sup>161</sup>. **However, the low stock**

<sup>159</sup> The methodologies for calculating the individual indices and information on their structure are available on the website of the Macedonian Stock Exchange - [www.mse.mk](http://www.mse.mk)

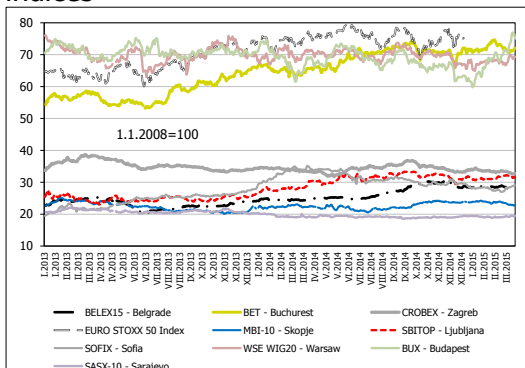
<sup>160</sup> On 15 December 2014, the MBI-10 index was revised, and as of 30 December 2014, the index includes the following companies: Alkaloid AD Skopje; Replek AD Skopje; Granit AD Skopje; Komercijalna Bank AD Skopje; Makpetrol AD Skopje; Stopanska Bank AD Bitola; Macedonian Telecom AD Skopje; Makedonijaturist AD Skopje; Tutunska Bank AD Skopje and Skopski Pazar AD Skopje.

<sup>161</sup> On November 18, 2014 Macedonian MBI-10 index reached the highest value in 2014, which amounted to 1,875.68 index points.



Chart 183

Movement of individual stock exchange indices



Source: Web site of the Macedonian Stock Exchange, Bloomberg and national stock exchanges

Table 12

Correlation coefficient of the movements of MBI-10 with the movements of the main indices of the stock exchanges in the region, by years

Stock exchange index	MBI-10 - Skopje		
	2012	2013	2014
BELEX15 - Belgrade	60.9	57.1	69.6
BET - Bucharest	41.9	-64.8	5.5
CROBEX - Zagreb	36.2	83.1	-4.6
EURO STOXX 50 Index	-20.7	-76.3	-31.9
SBITOP - Ljubljana	0.8	-14.9	10.5
SOFIX - Sofia	-53.2	-87.3	-25.5
WSE WIG20 - Warsaw	-41.2	-6.3	-12.8
BUX - Budapest	12.4	18.9	-52.1
SASX-10 - Sarajevo	42.6	46.4	-24.2

Source: Web sites of regional stock exchanges and National Bank calculations

**turnover, lack of interest of domestic investors and insufficient presence of foreign institutional investors remain dominant features of the market, independent of the positive price developments in the second half of 2014.**

In 2014, the trading in the shares of listed companies from MBI-10, as the main indicator of the price levels of the most liquid companies listed on the official market of the MSE, in the total trading of listed companies on the MSE, reached 80.2%, which is a significant increase in the share relative to 2013 (43.5%). The increase of this indicator **suggests a higher degree of concentration of trading in fewer issuers of shares, indicating limited market liquidity.**

Excluding certain downward movements, increase in the value was noted also in the bond index (OMB), which resulted from trading in denationalization bonds of the Republic of Macedonia.

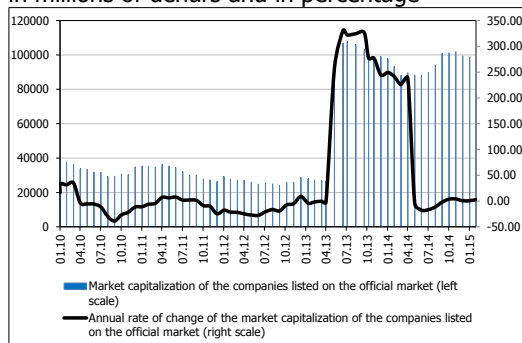
**Unlike the previous year, in 2014 the correlation of the main stock index of the Macedonian Stock Exchange with the indices of most of the analyzed regional stock exchanges increased .** The reason was the upward movement of the Macedonian MBI-10 index throughout most of the year, with simultaneous positive movement of the stock indices of most regional stock exchanges. Of the analyzed indices, there was a reduced correlation of MBI-10 with the movement of the stock indices of stock exchanges in Zagreb, Warsaw, Budapest and Sarajevo. Forecasts for the slow recovery of the economy of the Euro area, combined with deflationary pressures in the developed countries and the debt crisis in Greece are factors that reflected negatively on the movements of European stock markets and hence their negative spillover effect on stock markets in the region is possible. However, at the beginning of 2015, the stimulating measures undertaken by the ECB, along with the more significant depreciation of the euro,



Chart 184

Market capitalization of listed companies on the official market of the stock exchange

in millions of denars and in percentage



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Note: Larger fluctuations in the analyzed categories in the chart correspond with the introduction of the new market sub-segment of the official market of the stock market - the mandatory listing in June 2013.

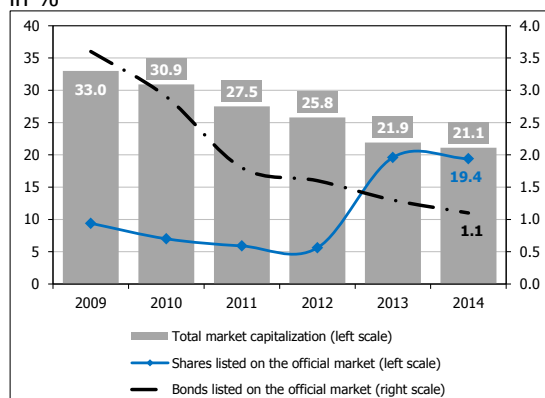
are factors that are expected to affect positively the movements of European stock exchanges, and partly the regional stock exchanges.

### The share of market capitalization of securities listed on the official market of the Macedonian Stock Exchange in GDP registered a decreasing trend.

The absolute increase in market capitalization of shares of listed companies, which began during the previous year (due to the introduction of the new market sub-segment of the official market of the stock exchange - the mandatory listing), continued in 2014 but at a slower pace. Thus, as of 31 December 2014, the market capitalization of the shares of companies listed on the MSE amounted to Denar 101,759 million, which was higher by Denar 4,003 million, or only 4.0%, compared to the same period last year. On the other hand, the market capitalization of bonds decreased (by 14.1%) on an annual basis, considering the due installments of denationalization bonds. As a result of that, the share of market capitalization of the shares listed on the official market in GDP and the share of the market capitalization of bonds in GDP are lower compared to 2013. Namely the introduction of mandatory listing allowed centralized collection, processing and use of the information on listed companies, i.e. it increased market transparency, which indirectly contributes to increasing the market value of the companies and the attractiveness of investing in them. However, despite the introduction of the mandatory listing and the possibility of easier access to capital for joint stock companies through an alternative way of financing relative to bank financing, the conclusion remains that the Macedonian capital market is unattractive for both domestic and foreign investors. Another factor which may act toward lesser attractiveness of the stock exchange for investors and, consequently, lower turnover, is the expiration of the legal provisions according to which investments on the stock market were exempt from personal income tax on realized capital gains from trading in securities, on 31 December 2015.

Chart 185

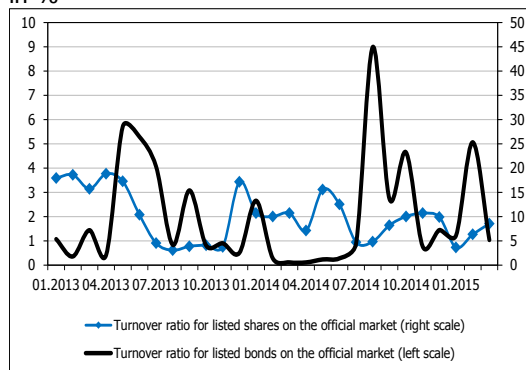
Market capitalization relative to GDP in %



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

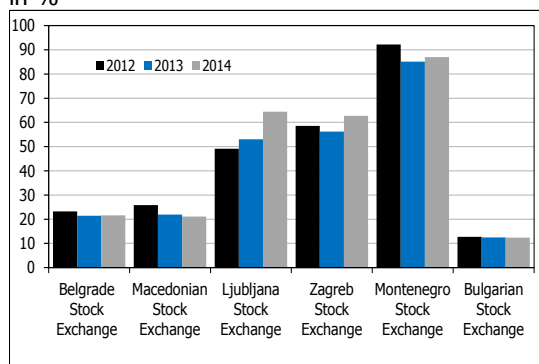
Note: The total market capitalization covers the shares listed on the official market, the shares on the market of joint stock companies with special reporting obligations and bonds listed on the official market.

Chart 186  
Indicators of turnover for the securities in standard trading on the Macedonian Stock Exchange, by month in %



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Chart 187  
Share of the total market capitalization on regional stock exchanges in GDP in %



Source: Web site of the regional stock exchanges, IMF, Macedonian Stock Exchange and National Bank calculations.

The slower growth of market capitalization, amid moderate increase in the stock turnover from standard trading had a negative impact on the liquidity of the individual securities traded on the official stock market, and thus the market in general. Namely, in 2014, the indicator of turnover of listed shares on the official market of the stock exchange averaged 1.9%, down by 0.3 percentage points compared with the previous year. A decline of 0.6 percentage points was registered also in the indicator of turnover of bonds listed on the official market. Despite the fact that the reduction in these indicators was not substantial, it can be concluded that the liquidity of the Macedonian secondary capital market is limited, which in turn prevents quick and easy sale of securities.

In comparison with regional markets, reduction in the share of the total market capitalization in GDP was registered also with the Bulgarian Stock Exchange, while the other analyzed stock markets in the region registered an increase.

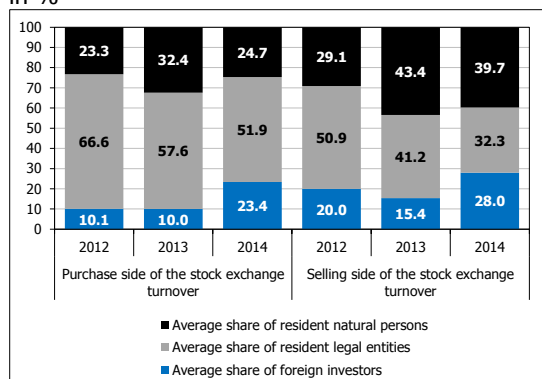
**Shifts in the structure of the stock market turnover by type of investors in 2014, mainly indicated an increase in the average share of foreign investors, on both the purchasing and the selling side of the stock exchange turnover.** The improved trends in the world economy in 2014, the slight recovery in the EU, and the growth of the Macedonian economy had an impact on increasing the volume of investments in Macedonian securities. However, despite the increased interest of foreign investors to invest in securities of MSE, their interest in sales remained higher. Thus, in 2014 foreign investors registered net sale of securities totaling Denar 293 million, which on an annual basis is higher by more than 50%. Resident natural persons also had the role of net sellers of securities. Greater interest in buying securities was registered only among resident legal entities, which in 2014 made a net



Chart 188

Structure of total turnover on the stock market, according to the type of investors

in %



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Note: The total turnover of the market covers: turnover from standard trading, block transactions, turnover from public stock exchange auctions and public offerings of securities. According to the announcements of the Macedonian Stock Exchange, the calculation of percentages exclude the public offering of the shares of "ArcelorMittal" AD Skopje (conducted in October 2014), accounting for almost the entire amount of the total realized public stock offerings in 2014.

purchase amounting to Denar 801 million, which makes them the only net buyers in 2014.

In 2014, bonds totaling Denar 1,113 million were traded on the OTC markets<sup>162</sup>, which is a significant increase relative to the previous few years<sup>163</sup>.

As a result of the fall in the number of members of the Macedonian Stock Exchange<sup>164</sup> and the structural changes of stock exchange trading under different types of investors, **the level of concentration of the stock exchange turnover from standard trading by individual members increased**<sup>165</sup>. Further continuation of the downward trend in the number of members of the stock exchange, except increasing the concentration of the stock market turnover, would mean a further reduction of competition in this segment of the financial system.

<sup>162</sup> The over the counter markets are markets organized by the National Bank, in cooperation with the Ministry of Finance where beside purchase and sale of short-term securities and realization of repo agreements, purchase and sale of government bonds, other than bonds issued for payment of the deposited foreign exchange deposits of the households and denationalization bonds, is performed.

<sup>163</sup> For comparison, during the 2013, government bonds in the amount of Denar 34 million were traded on the OTC market, while in 2010, 2011 and 2012, there was no trading.

<sup>164</sup> As of 31 December 2014 there were ten authorized participants performing securities operations on the MSE (six brokerage houses and four banks licensed to operate in securities). In 2014, three members were permanently revoked the license for operating in securities ("Alta Vista" AD Skopje, "Peon Broker" AD Skopje and "Euro Broker" AD Skopje).

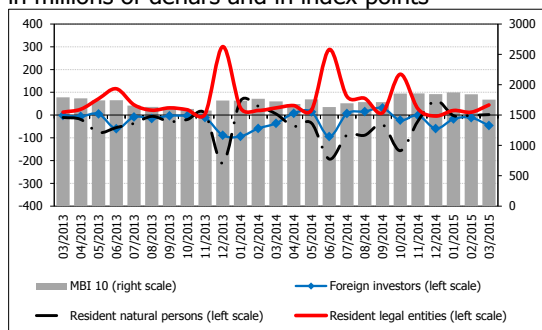
<sup>165</sup> The data taken into consideration when calculating the turnover from standard trading of the Macedonian Stock Exchange members are based on double calculation (at both purchasing and selling) in order to cover also the activity of the members in the crossed transactions, except the data on government securities trading that pertain only to the purchasing side.





Chart 189

The net effect of trading on certain types of investors and MBI-10  
in millions of denars and in index points



Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Note: According to the announcements of MSE, the calculation of the net effect of the total stock exchange trading does not take into consideration the transaction of the public offering of shares of "ArcelorMittal" AD Skopje.

**Indicators of the already high concentration of the turnover of the five and ten most traded shares of companies listed on the stock exchange further increased in 2014** (by 4.3 and 6.3 percentage points, respectively), reflecting the weak liquidity of the domestic capital market. On the other hand, indicators of the share of the five/ten shares with the highest market capitalization in the total market capitalization of companies listed on the stock exchange decreased slightly, which suggests that the increase in the total market capitalization on an annual basis was more pronounced in listed companies with lower market capitalization (due to the more evident rise in the price of their shares)<sup>166</sup>.

Table 13

Indicators of concentration of the secondary capital market in the Republic of Macedonia  
in %

Concentration indicators	2012	2013	2014
Number of stock exchange members <sup>1</sup>	15	13	10
CR3 for the total stock exchange members' turnover in standard trading	61.4	55.2	57.7
CR5 for the total stock exchange members' turnover in standard trading	72.1	71.6	82.4
CR5 for the total turnover from trading in the ordinary shares of the listed companies	80.4	67.3	71.6
CR10 for the total turnover from trading in the ordinary shares of the listed companies	94.5	79.8	86.1
CR5 for the total market capitalization of the listed companies	62.8	59.8	58.3
CR10 for the total market capitalization of the listed companies	82.2	70.8	70.4

Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Note: Determining of the CR3 and CR5 indicators of the total turnover of the members from the standard trading, includes the turnover of brokerage houses, which in 2014 ceased to be members of the Macedonian Stock Exchange.

In circumstances of growth in the total turnover on the stock exchange, the loss presented by the **brokerage houses**<sup>167</sup> in 2014 (Denar 7 million)<sup>168</sup> was more than halved compared to the loss realized in 2013 (Denar 17 million). On the contrary, the total assets of the brokerage houses continued to decline rapidly, and in 2014 they reduced to Denar 178 million (from Denar 274 million in 2013). Also, the total revenues of this segment of the financial system were by Denar 1.3 million lower than revenues generated in 2013.

<sup>166</sup> The largest increase in the average share price in 2014 was recorded in the shares of five legal entities, of which only two belong to the ten shares with the highest market capitalization, while the largest decline was realized with the shares of five legal entities which are not included in the ten shares with the highest market capitalization.

<sup>167</sup> During 2014, the number of brokerage houses decreased by three.

<sup>168</sup> Source: Securities and Exchange Commission and National Bank calculations.





## **ATTACHMENTS**

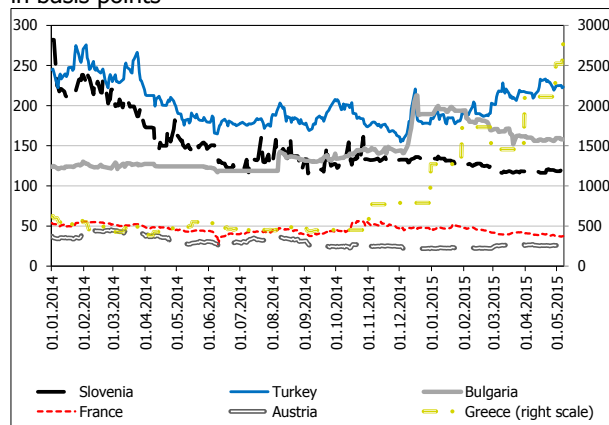


## Attachment 1 Possible consequences of the Greek crisis

The situation in Greece since mid-2015, related to the (un)fulfillment of the obligations toward international creditors, the decision of the European Central Bank to freeze the level of emergency liquidity support which has already been fully utilized by the Greek banks, the

Chart 190

Credit risk premiums for the countries of the parent banks of the subsidiaries of foreign banks in the Republic of Macedonia in basis points

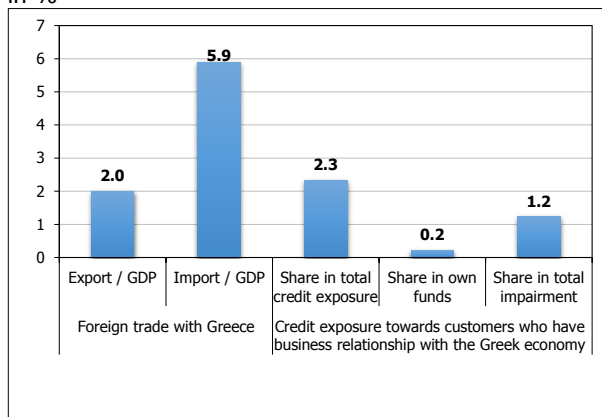


Source: Bloomberg

the domestic real sector. Namely, Greece is an important trading partner of the Republic of Macedonia. The total foreign trade with Greece accounted for 7.9% of GDP at the end of 2014, but it has registered a downward trend, since it is lower by 0.6 percentage points compared to 2013 and by about 3 percentage points compared to 2008. Downward trend has been registered also in the share of exports to Greece in the total exports of the Republic of Macedonia, which has been reduced by three times in recent years, from 13.4% in 2008 to 4.6% in 2014. These downward trends became particularly apparent after the onset of the crisis, which significantly limited the risks arising from trade relations with Greece. Greece is one of the countries with which in 2014 the highest deficit in foreign trade was achieved, despite its downward trend on an annual basis. However, for the Republic of Macedonia, the movements in the balance of payments current and capital accounts are the main direct channel through which the adverse effects of the Greek crisis could be felt. Greece has created a certain negative image and increased uncertainty in business decision making for the countries of the region and prompted worsened perceptions of the risk that foreign investors take when placing

Chart 191

Channels of contagion (foreign trade with Greece and exposure of domestic banks to customers related to the Greek economy) in %



Source: NBRM



their funds in this part of Europe. That could reduce foreign investments in Macedonia and negatively affect the total cost of domestic companies whose business is based on cooperation with foreign entities. There are possible side effects such as limiting the volume of trade credits by the Greek entities (although their amount is minimal), and payments of dividends by companies with Greek capital instead of reinvesting profits. It is important to note that there are no investments of Macedonian residents in Greek securities.

All developments and risks associated with the risk of Greece's default on the debt maturing on 30.06.2015, imposed a need for an adequate response by the National Bank of the Republic of Macedonia. On 28.06.2015 the Council of the National Bank adopted a decision on taking temporary preventive measures for managing capital flows of the Republic of Macedonia toward Greece<sup>169</sup>. The main aim of the measures is to prevent a more significant disturbance of the equilibrium in the balance of payments and destabilization of the financial system. The protective measures are aimed at preventing any future capital outflows from domestic entities to Greek entities based on newly concluded capital transactions. Also, an obligation is introduced for banks to withdraw all loans and deposits from banks based in Greece or from their affiliates and subsidiaries in or outside of Greece. These measures do not restrict current transactions, nor hinder and restrict international payment operations for those transactions which are not prohibited.

The threat of direct adverse effects on the banking system of the Republic of Macedonia from developments in Greece is small. The credit risk exposure of the Macedonian banking system to non-residents from Greece is very low and equals 0.01% of the total credit exposure of the banking system, while the exposure to all customers who have certain business relationship with the Greek economy<sup>170</sup> accounts for only 2.3% of the total credit exposure of the banking system. Investments in debt instruments issued by the Greek government are absent from the structure of credit exposure to these customers, while regular loans are most common. Given an extreme assumption of fully uncollectible claims of domestic banks from customers that have a certain business relationship with the Greek economy, the capital adequacy ratio of the banking system would be reduced from 15.7% to 12.9%. This means that even in such an extreme simulation, the resilience of the banking system will not be compromised.

Also, claims of domestic banks that are subsidiaries of banks from Greece are not high, which is largely due to the prudent regulatory limit on the amount of exposure of domestic banks to the banking groups they belong to. Namely, in accordance with the regulations, the amount of funds that Macedonian banks - subsidiaries of foreign banks can place in their groups (e.g. loans or other forms of credit for liquidity)<sup>171</sup> is limited to a maximum of 10% of the own funds. The exposure of the two Macedonian subsidiaries of Greek banks to the banking group they belong to is below this limit. In addition, the Greek subsidiaries are not at all dependent on their parent banks for providing resources to fund their activities. Thus at the end of 2014, the liabilities of both subsidiaries of Greek banks to their parent entities, mainly

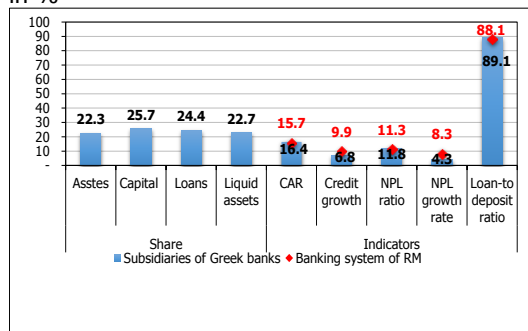
<sup>169</sup> Decision on the introduction of special protective measures ("Official Gazette of the Republic of Macedonia" no. 107/2015).

<sup>170</sup> This category of clients includes: claims on Greek nonresidents, the largest domestic net exporters to Greece, domestic entities that have liabilities based on credit operations toward Greece, as well as domestic entities who have claims based on credit operations from Greece.

<sup>171</sup> According to the Decision on exposure limits ("Official Gazette of the Republic of Macedonia" no. 31/08, 163/08, 43/09, 91/11, 100/12 and 127/12), the total bank's exposure to an individual entity that is a shareholder with qualified holding in the bank, including all legal entities and natural persons that are considered related thereto) shall not exceed 10% of its own funds.

consisted of subordinated instruments, amounting to around 4% of the assets of these two banks. Subordinated instruments are capital instruments and they cannot be paid by the bank before the maturity date, except in case of their conversion into shares of the bank.

Chart 192  
Indicators of the subsidiaries of Greek banks  
in %



Source: NBRM

It should be borne in mind that the two Greek banks that are present on the Macedonian market with their subsidiaries, are treated as so-called systemically important financial institutions in Greece, and in case of serious deterioration in their solvency they can be expected to be subject to recapitalization, restructuring and even nationalization and thus continue their operational functioning.

At worst, even if being forced to sell their subsidiaries in the Republic of Macedonia, their sale will be made under Macedonian legislation (licensing of a new shareholder, transaction on the MSE, observance of regulations on payment operations, etc.), but in fact it would lead only to a change of owners of the banks and their operational functioning is not expected to be jeopardized. Hence, the direct adverse effects are not a threat to the financial stability or the stability of the banking system, especially considering that the Macedonian subsidiaries are legal entities that are entirely independent from their parent entities, with a stable liquidity and solvency.

Potential channel of contagion could be the possible consequences on the Macedonian banking system due to the materialization of the reputational risk from the Greek crisis. However, the stress tests conducted by the NBRM show significant resilience of the banking system as a whole, including the Greek-owned banks, to liquidity shocks. Certainly in the case of a need for greater liquidity, beside the interbank market, readily available are the instruments of the central bank for support of the banks' liquidity. The National Bank closely monitors the movements of deposits of all banks in the Republic of Macedonia on a daily basis, and the latest data show that there are no unusually high outflows of deposits, which could cause destabilization of the banks in the Republic of Macedonia.



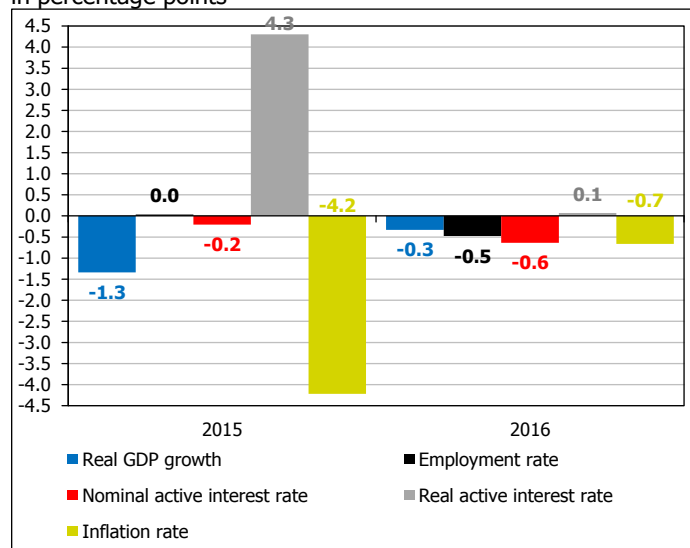
## Attachment 2 Macro stress testing of the banking system of the Republic of Macedonia and a possible "contagion" of the insurance sector and the fully funded pension funds

In order to test the resilience of the Macedonian banking system to unfavorable movements in the macroeconomic environment, **two adverse macroeconomic scenarios** were designed. The time horizon of the macroeconomic scenarios presented below extends over a period of two years (2015 and 2016). Additionally, a so-called contagion matrix was designed in order to examine the possible spillover of problems from one bank to another, and from the banking system to insurance companies and fully funded pension funds.

**The first adverse macroeconomic scenario is hypothetical and based on scenarios developed by the Federal Reserve System - FED).** These adverse scenarios

Chart 193

Difference between the levels of macroeconomic variables determined in case of materialization of the adverse macroeconomic scenario (developed by the FED) and the baseline macroeconomic scenario\* for the Macedonian economy (developed by the NBRM) in percentage points



Source: National Bank calculations.

\*Note: The baseline macroeconomic scenario is produced by the NBRM, under the April forecasting round (in April 2015).

"Brent" oil) and subsequent rise in inflation (up to 4.25%), but also appreciation of the dollar against the euro, British pound and some of the currencies of Asian countries. Share prices are assumed to decline by about 60%, and prices of the residential and commercial property, by 25% and 30%, respectively. In such a severely adverse scenario, the economies of the EU will face a significant contraction in their demand, subsequent recession (real GDP in the Euro area

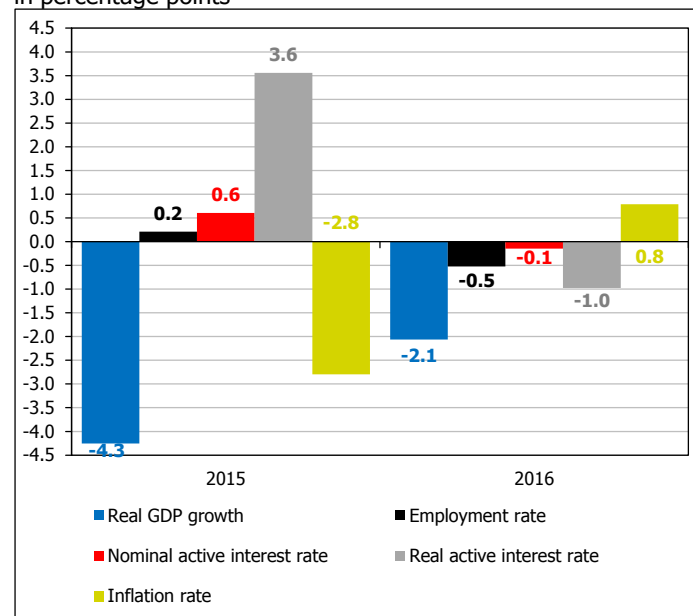
are designed (in October 2014) for the needs of the latest program of capital planning and conducting stress tests (for 2015) of selected bank holding companies and selected banks from the USA<sup>172</sup>. For the purposes of the macro stress testing of the Macedonian banking system, a so-called severely adverse scenario was selected, which among other things assumes deteriorated international economic conditions, including adverse developments in the economies of the Euro area and the EU in general. This scenario assumes a significant weakening of the global economic activity followed by increased volatility in the prices of certain types of assets. The US economy would face a deep and prolonged recession (at the end of 2015, real GDP for the US economy is about 4.5 percent lower compared with the third quarter of 2014), growth of unemployment (by around 4 percentage points), growth in oil prices (to a level of 110 dollars per barrel of

<sup>172</sup> These are stress tests that are conducted regularly by the Federal Reserves (once a year), for bank holding companies in the USA with consolidated assets greater than US Dollar 50 billion. In addition, the bank holding companies and banks in the USA with consolidated assets greater than US Dollar 10 billion are also bound to apply these scenarios in the stress tests which they carry out for their own needs.

will shrink by about 5 percent), widening of spreads in corporate bonds, falling prices in four consecutive quarters, etc<sup>173</sup>. Taking into consideration the close economic and other relations of the Republic of Macedonia with the EU countries, the assumed adverse events in the EU would have appropriate implications for the domestic economy as well. Thus, in case of materialization of the scenario described above, the growth of the Macedonian economy would be slower than projected in the baseline macroeconomic scenario prepared by the NBRM, by 1.3 percentage points in 2015, i.e. by 0.3 percentage points in 2016. The nominal lending interest rate will be lower by 0.2 to 0.6 percentage points, and slightly larger is the deviation in the real lending interest rate (+4.3 percentage points in 2015), due to the reduction in the level of prices in the economy in case of possible materialization of the adverse scenario prepared by the Federal Reserves. Most rigid among the analyzed macroeconomic variables in this scenario is the employment rate, which would be almost identical as the projected one, amid the baseline macroeconomic scenario for 2015, and in 2016 it would be lower by only one half percentage point compared to the projected level in the baseline scenario.

Chart 194

Difference between the levels of macroeconomic variables determined in case of possible materialization of the adverse historical scenario and the baseline macroeconomic scenario\* for the Macedonian economy in percentage points



Source: National Bank calculations.

\*Note: The baseline macroeconomic scenario is produced by the NBRM, under the April forecasting round (in April 2015).

**The second adverse macroeconomic scenario is the so-called historical scenario**, which in the following two-year period (2015 and 2016) assumes mirroring of the movements in the analyzed macroeconomic variables, achieved in a selected past period. Namely, within this scenario mirroring was made, in the next two-year period, of the dynamics of changes in the macroeconomic variables achieved in 2009 and 2010, when the adverse effects of the global financial crisis on the domestic economy were most evident. The historical scenario is characterized by higher level of extremity compared to the hypothetical macroeconomic scenario developed by the FED and it assumes slightly less favorable movements in part of the macroeconomic variables, primarily in the annual GDP growth rate.

In order to examine the behavior of the Macedonian banking system under adverse macroeconomic scenarios, **econometric equations**<sup>174</sup>

<sup>173</sup> More details about the adverse macroeconomic scenario can be found on the website of the Federal Reserves: <http://www.federalreserve.gov/newsevents/press/bcreg/20141023a.htm>

<sup>174</sup> Equations are developed by using the Generalized Method of Moments- GMM. Here, a balanced panel of data is used, from which only MBPR AD Skopje is excluded (due to the specific nature of its activity), and covers a period of 12 years. However, MBPR AD Skopje is not completely excluded from the macro stress test, but it is also considered in the preparation of the contagion matrix.



were developed that describe the interdependence between selected indicators of banks' operations (indicator for the share of non-performing loans in total loans to non-financial entities and the rate of return on average assets) and some basic macroeconomic variables (for more details on the econometric equations and the method for obtaining them see the Reports on the Financial Stability in the Republic of Macedonia in 2013 and 2014, in the corresponding annexes on this topic). These equations help in determining the amount of new non-performing loans to non-financial entities as a result of the assumed deterioration in the macroeconomic environment, the amount of losses (in the form of impairment) resulting from the materialization of credit risk, as well as possibly additional amount of losses over those resulting from the decreased quality of credit portfolios (i.e. the total reduction of the financial result of the banks). It is assumed that the banks which realized profit in 2015, will reinvest part of it in their own funds in the following year 2016 (it is also assumed that part of the profit realized in 2014 is reinvested and increases the own funds in the banking system in the following period). On the other hand, in the period covered with the macro stress-test, it is assumed that the banks will not make recapitalizations, in any form. An important feature of the macro stress test for the banking system is the built-in dynamic character, i.e. the assumption for growth of banks' activities in the analyzed period, at a percentage rate corresponding (adequate) to the changes in the macroeconomic environment in each of the adverse scenarios. Only the Macedonian Bank for Development Promotion AD Skopje (MBDP AD Skopje) is an exception to this rule, which is not subject to examination of the resilience to assumed adverse macroeconomic developments (it is not included in this phase of the macro stress test). However, this bank is not completely excluded from the macro stress test, but it is also considered in the preparation of the contagion matrix.

Table 14

Results of the macro stress testing of the banking system of the Republic of Macedonia and transmission of the shocks in the insurance sector and the fully funded pension funds in percent, unless stated otherwise

Description	Actual 2014	Adverse hypothetical stress scenario (prepared by FED)		Adverse historical stress scenario	
		2015	2016	2015	2016
<b>Basic macroeconomic variables</b>					
Annual GDP growth (real terms)	3.8	2.7	4.0	-0.2	2.3
Employment rate	41.2	42.3	42.8	42.5	42.8
Inflation rate	-0.3	-2.0	-0.3	-0.6	1.1
Active interest rate (real terms)	7.8	9.1	7.1	8.4	6.1
Active interest rate (nominal terms)	7.5	6.9	6.8	7.7	7.3
Credit growth	10.0	7.6	9.0	3.5	7.4
<b>Selected indicators on banking system</b>					
NPL ratio (share of nonperforming loans in total loans to non-financial sector)	11.3	14.1	17.0	13.7	16.4
ROAA (rate of return on average assets)	0.8	-0.1	0.1	-1.4	-3.1
Annual rate of change of risk-weighted assets	7.1	4.2	2.2	1.3	1.8
Capital adequacy ratio (CAR)	15.7	12.4	10.7	13.4	8.5
Number of banks with capital adequacy ratio below 8% (market share in total assets, as of 31.12.2014)	0 (0%)	2 (5.8%)	4 (30.3%)	2 (3.4%)	5 (38.3%)
Required recapitalization of banks (CAR=8%), in millions of Denars (% of GDP)	0 (0%)	461 (0.1%)	3,679 (0.7%)	182 (0.03%)	6,869 (1.3%)
<b>Selected indicators on insurance companies</b>		<b>„contagion“ from banks</b>		<b>„contagion“ from banks</b>	
Capital/solvency margin (number of times)	4.5	4.1	3.9	4.2	3.3
Number of insurance companies with “capital/solvency margin” ratio below 1 (market share in total assets, as of 31.12.2014)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (6.9%)
Financial result (in millions of Denars)	342	-374	-630	-301	-1,363
<b>Selected indicators on mandatory pension funds</b>		<b>„contagion“ from banks</b>		<b>„contagion“ from banks</b>	
Net assets (in millions of Denars)	33,029	33,029	32,724	32,854	31,996
Accounting unit value	162.8	162.8	161.3	161.9	157.7

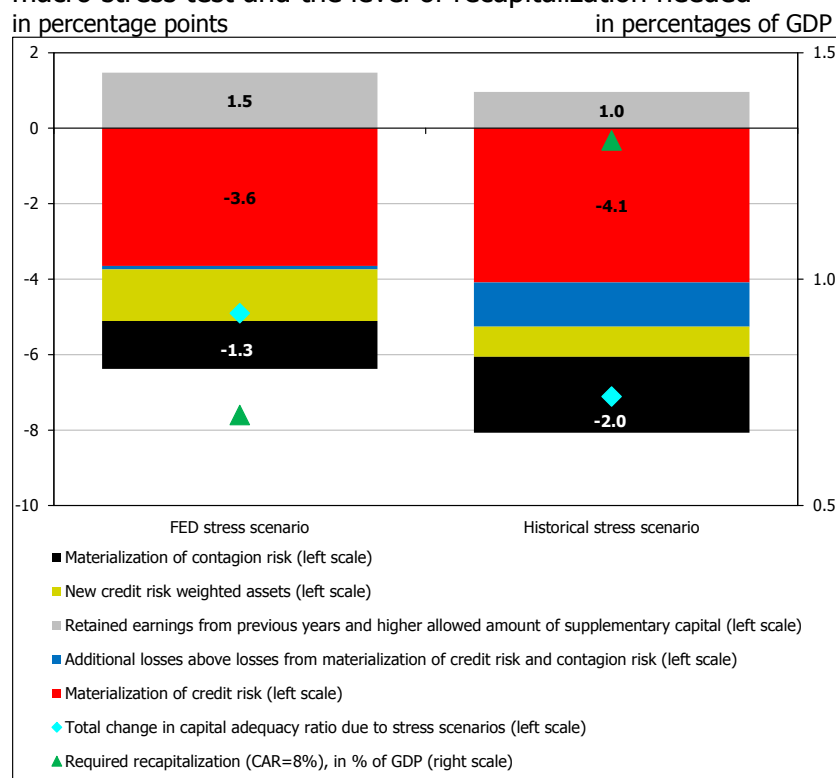
Source: NBRM's calculations, based on data from banks, AIS and MAPAS.



For the first time this year, a so-called **contagion matrix** was developed, which examines and determines the possible spillover of problems from one bank to another, due to a possible complete or partial default on interbank claims/liabilities, as a logical continuation of the materialization of adverse macroeconomic scenarios. Also, by using the contagion matrix, the adverse effects that the assumed "shocks" in certain banks would have on the insurance companies and fully funded pension funds, were identified. The channels of transmission of the problems of the banking system to these two largest non-banking segments of the financial system in the Republic of Macedonia go through the claims and liabilities which individual insurance companies have towards banks, as well as through the bank deposits invested by pension funds. The macro stress test takes into account only the spillover of the problems from the banking system to the insurance sector and pension funds, but does not take into account the direct impact that adverse macroeconomic developments would have on the operation and performance of these two segments of the financial system. Also, for these two types of non-bank financial institutions, as opposed to the banking system, static (unchanged) volume and structure of assets, liabilities, revenues and expenses is assumed, except for those which are under direct "attack" of the problems with individual banks (i.e. the impairment of claims to banks is determined and the impact it has on total capital, assets and financial results of the insurance companies and fully funded pension funds). All this is assumed to apply to MBDP AD Skopje, whose resistance to shocks is tested only in the context of a possible materialization of the contagion risk (transmission of problems) in this bank, from the other banks in the system.

Chart 195

Structure of the total change in the capital adequacy ratio of the banking system in the two-year period covered by the macro stress test and the level of recapitalization needed in percentage points



Source: National Bank calculations.

**The results of the macro stress-testing indicate a generally satisfactory resilience of the total banking system to unfavorable movements in the macroeconomic environment. However, the analysis by individual bank suggests some vulnerability of individual banks, to the assumed adverse macroeconomic scenarios and hypothetical need for recapitalization amid possible materialization of these scenarios. Namely, despite the increased share of non-performing in total loans of non-financial entities to the level of 16-17% and the simultaneous fall of the rate of return on average assets to around -3%, the capital**



adequacy ratio of the banking system did not fall below 8% and in the end of 2016, it was reduced to 8.5%. Analyzed by individual bank, in the most extreme case, in five banks (with a total market share in the assets of the banking system of 38.3%), the capital adequacy ratio is reduced below 8%, whereby recapitalization would be necessary in a total amount of Denar 6,869 million (which represents 1.3% of GDP for 2014), so that the capital adequacy in these banks can return to the level of 8%. Materialization of credit risk as a result of the assumed adverse macroeconomic scenarios, has the greatest impact on reducing the rate of capital adequacy of the banking system in the conduct of the macro stress test. In addition, significantly high are the adverse effects of the materialization of the risk of contagion, but they are almost entirely concentrated in just one bank (with relatively high claims on other banks in the system). In contrast, insurance companies and mandatory pension funds are relatively resistant to potential problems in the banking system and their spillover to these two non-banking segments of the financial system. Namely, in the most extreme case, only one insurance company would not have fulfilled the legal obligation to maintain regulatory capital at least at the level of the calculated solvency margin, and net assets of fully funded pension funds would lose only about 3% of their value due to unfavorable developments in the banking system.

**When drawing conclusions about the capacity of the banking system and individual banks to absorb shocks one should take into account also the relatively high concentration of banks' credit portfolios.** Namely the high concentration of banks' credit exposure by both individual clients (single-name concentration) and by sector of the clients, indicates a high level of correlation of the "performances" of the individual segments of the credit portfolios, which, on its part, significantly accelerates the dynamics and increases the scale of materialization of the credit risk, amid unfavorable business conditions, which is not fully taken into account in the implementation of the macro stress test. Hence, amid an assumed migration of only the five largest credit exposures to non-financial entities (including the connected entities), from the current risk category to the "transitional" risk category "C", the capital adequacy ratio of the banking system reduces by 3.7 percentage points (from 15.7% to 12%). Analyzed by individual sectors and activities, the banking system of the Republic of Macedonia shows largest vulnerability in the case of worsening of the quality of the credit portfolio comprised of clients from the "industry", where amid assumed migration of 30% of the credit exposure, from each risk category to the following two categories with lower quality level, the capital adequacy of the banking system reduced to a level of about 14.5% (namely, one third of the credit exposure of the banking system to the corporate sector belongs to clients from the industry<sup>175</sup>). Relatively high level of concentration is present also in the banks' deposit base. Hence, amid hypothetical withdrawal of deposits of the 20 largest depositors in each bank, the liquid assets of the banking system are reduced by almost 36%, while in case of assumed withdrawal of 20% of the household deposits, liquid assets of the banking system decline by almost 33%<sup>176</sup>.

<sup>175</sup> Similar results are obtained also for the portfolio comprised of clients that deal with trade, which also covers almost one third of banks' credit exposure to the corporate sector.

<sup>176</sup> More details about the individual tests of sensitivity of the banking system can be found in the Report on the Banking System of the Republic of Macedonia in 2014, published on the web site of the National Bank.



### Attachment 3 Measuring competitiveness in the banking system with the Lerner index

Lerner index is an indicator of the degree of market power of banks and is an often applied measure of competitiveness in the banking system. The index assesses the market, i.e. the price power of individual banks, by measuring the extent to which each bank can set the prices of banking products and services above marginal costs (costs of basic input components for the realization of banking operations). In this way, the index actually represents the margin above marginal costs, so that the higher the margin, the greater the market power of a particular bank and lower the level of competitiveness in the banking system. Theoretically, in a perfectly competitive banking system, the price the bank charges for its products/services should be equal to the marginal cost. In this case the bank would not have market power. The value of Lerner index ranges from 0 (perfectly competitive market) to 1 (monopoly). Depending on the type of bank output components, Lerner index measures competitiveness based on total assets, as well as on the credit and deposit market.

Lerner index is defined as the difference between the price of banking products/services and marginal costs, relative to the price of banking products/services:

$$L_{it} = \frac{1}{|e|} = \frac{P_{it} - MC_{it}}{P_{it}}$$

The main component  $P_{it-aktiva}$  is the price of banking products/services, i.e. the unit assets price in measuring competitiveness in terms of total assets of the banking system. The price is represented as a ratio of total bank income (interest and non-interest<sup>177</sup>) and total assets of the bank  $i$  in period  $t$ .

Determining of the price of individual banking products/services starts from the logic that banks collect deposits, which incurs direct costs such as interest expenses, deposit insurance premiums and other expenses. Then banks transform collected deposits into loans for which they charge interest income, which is actually the cost that the bank charges for banking products/services. When measuring the competitiveness of the credit market, the price of credits  $P_{it-kredit}$  is represented by the revenues that banks generate per unit loan, i.e. the share of interest income in total loans. On the deposit market, approximation for the price of deposits  $P_{it-depoziti}$  is the income per unit collected deposits, represented by the ratio between interest income and total bank deposits.

The second component  $MC$  are the marginal costs for a bank  $i$  for a period  $t$  which are not calculated directly, i.e. they are derived from the trans-logarithmic function of costs, which estimates the elasticity of total costs compared to the price of the main input components of banks. So, first the total costs are estimated, of which marginal costs are derived.

<sup>177</sup> Total interest and non-interest revenues include revenues from: interest, fees and commissions, trading, foreign exchange differences and other operating income (excluding extraordinary income).



Translog cost function is presented as:

$$\ln TC_{it} = \beta_0 + \beta_1 \ln Q_{it} + \frac{1}{2} \beta_2 (\ln Q_{it})^2 + \sum_{k=1}^3 \beta_k \ln W_{k,it} + \sum_{k=1}^3 \sum_{j=1}^3 \beta_{kj} \ln W_{k,it} \ln W_{j,it} + \sum_{k=1}^3 \gamma_k \ln Q_{it} \ln W_{k,it} + \varepsilon_{it}$$

where  $TC$  are the total costs (interest expenses, costs for employees, depreciation and other expenses of the activity) of the bank  $i$  in the period  $t$ .  $Q_{it}$  denotes the total assets, total loans and total deposits<sup>178</sup>, which in the equation are taken as values of bank output components.

$W_{k,it}$  denotes the prices of the three key input components for banks, as follows: financing costs, labor costs and costs of physical capital. Financing costs are represented by the ratio of interest expenses and deposit insurance premiums on the one hand and deposits and other borrowings on the other. Staff costs are calculated as the ratio between the cost of salaries and total bank assets. The calculation of the cost of physical capital includes other operating and administrative expenses (depreciation, general and administrative expenses and expenses on other grounds) relative to the physical capital (fixed assets, intangible assets, non-current assets held for sale and foreclosed assets based on outstanding claims), which is an indicator of the cost of ownership of tangible property.

In assessing the translog cost function, limit is established for linear homogeneity of level 1 in the prices of the three input components. By setting the restriction  $c_3 + c_4 + c_5 = 1$ , the sum of the coefficients of the three input components is established to 1, which means that in the case of their equal percentage increase, the total costs will rise proportionately.

Marginal costs are derived from the first partial derivative of translog cost function of total costs relative to the output components. The estimated coefficients of the function of total costs are used in the calculation of marginal costs.

$$MC_{it} = \frac{TC_{it}}{Q_{it}} \left[ \beta_1 + \beta_2 \ln Q_{it} + \sum_{k=1}^3 \gamma_k \ln W_{k,it} \right]$$

By substituting the value of the coefficients of the cost function in the equation for the marginal cost, marginal cost is obtained separately for all banks in the sample, for each time period. By entering the cost of total banking products (and separately only for loans and deposits) and marginal cost in equation for the Lerner index, the value of the index for each bank is obtained. The calculation of the Lerner index for each bank determines its market power, i.e. margin above the marginal costs which it sets for its products/services. At the level of the banking system, the index is calculated as the average of its value for all banks, separately for each time period. Besides determining the competitiveness in the banking system, it is necessary to monitor also the change in the value of the index for a longer period in the case of major deviations from the historical movement to examine which banks have increased/reduced market power and contribute to lower/higher competitiveness in the banking system.

<sup>178</sup> The three output components in terms of which competitiveness in the banking system is measured.

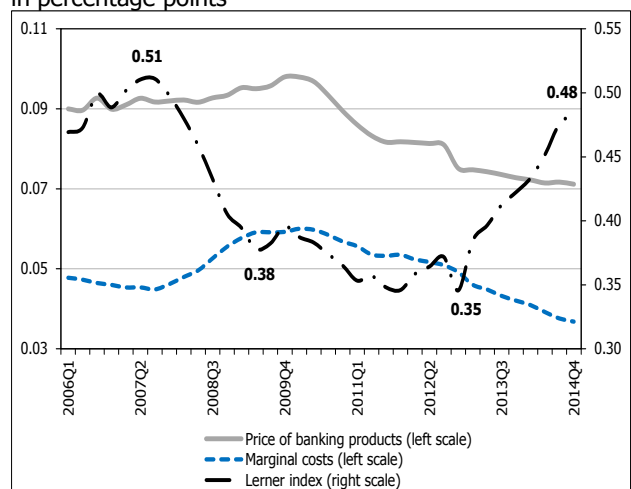
The level of competitiveness in the banking system is determined by the interpretation of the value of the index, as follows:

- In the case of perfect competitiveness, the index value is close to zero. This suggests that the price equals the marginal cost, price elasticity of demand is large or infinite and banks have no market power,
- In the case of monopoly, the value of the index is close to 1, the price elasticity of demand is zero or close to zero and the market power is entirely in the hands of the monopoly, and
- Between these two extremes, the elasticity of demand varies in the opposite way from the market power, where there is a state of so-called monopolistic competition.

**By using Lerner index the level of competitiveness in the Macedonian banking system in the period 2005-2014 was determined, according to the total assets of banks, on the credit and deposit market.** Due to the need for a longer time series in order to obtain more accurate and reliable results, the index is calculated by using quarterly data for the period from 2001 to 2014. The sample consists of 14 currently active banks, with the exception of the Macedonian Bank for Development Promotion AD Skopje, because it performs specific activities and does not compete with the other banks. For estimating the total costs a panel model with fixed effects is used. As an additional specification a panel of corrected standard errors is selected (Cross-section SUR - PCSE), which reduces the cross-section relationship of banks.

Calculations for the Macedonian banking system show that Lerner index for total assets changed over the years, mostly moving in the direction from lower to higher competitiveness until 2012, when certain reduction in competitiveness was registered. This suggests that **Lerner index moves in the zone of monopolistic competition.** The level of the index depends on the business cycle in the economy because the two components that define the index follow a cyclical movement. According to the dynamics of the index, competitiveness

Chart 196  
Movement of the Lerner index for the total assets and its components  
in percentage points



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

began to rise starting from the second quarter of 2007 when amid increasing marginal costs, banks maintained the prices of banking products/services relatively stable in order to maintain their market shares, which acted in the direction of higher competitiveness. The increased competition in the banking system during this period is associated with the consolidation which started in the banking system and the enlargement of individual banks, entry of foreign investors, strengthening corporate governance and expanding the network of branches of some small and medium-sized banks. In this period intense growth of bank lending was registered.

The higher competitiveness from the pre-crisis period of credit expansion was



maintained in the period of crisis. However, the level of competitiveness at the end of 2008 and the first half of 2009 should be interpreted with some caution because the effects of the global financial crisis have reduced the volume of banking activities (including certain measures of the National Bank, such as the allocation of a required deposit to overcome a certain amount of credit growth to households, which contributed to calming credit growth), which was aimed at increasing the competitiveness in the banking system. During the crisis, the profitability of the banking system declined as a result of both the slower growth of banking activities and the deteriorated loan portfolio quality and limited opportunities of banks to reduce operating costs. Due to the reduced volume of new activities undertaken and the increased risks of operations, banks have become more similar to each other in terms of products and services they offer, which contributed to increasing competitiveness in the banking system. In the period 2008-2009, the marginal costs registered a slight increase, but banks kept the price of banking products/services at a competitive stable level. This has reduced the margin over marginal costs that banks charge for their products. In such conditions, smaller banks started to become more competitive in offering banking products in order to take greater market share and to compete with the larger banks.

Competition in the banking system continued to increase in the post-crisis year 2010, amid a gradual revival of the domestic economic activity, favorable developments in the external sector and the gradual exhaustion of the impact of negative expectations associated with the effects of the global economic and financial crisis. The acceleration of the banks' credit activity in this period was gradual, which was due to the orientation of banks towards maintaining the quality of the loan portfolio and in general, maintaining of their stability, as opposed to the pre-crisis period of credit expansion, when the main purpose of banks was to rise the volume of the loan portfolio and provide greater market share. Competition remained high in 2011, when amid a turbulent external environment and high uncertainty regarding the future development of the debt crisis in the Euro area, banks had proved extremely prudent and managed to maintain their security and stability. The recovery of the economy from the negative effects of the global crisis contributed to recover the volume of banking activities within the normal range, and retain higher levels of competitiveness in the banking system. In the post-crisis period, the marginal cost of banks registered a slight downward movement, to which the banks reacted with larger downward correction of the prices of banking products/services and reduced the margin over marginal costs, thus increasing the competition in the banking system.

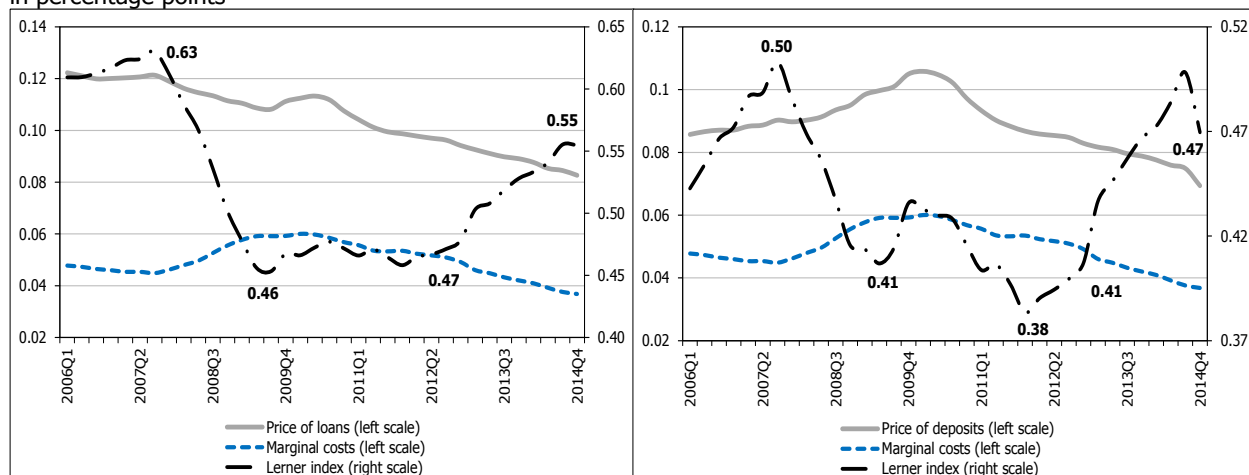
Starting from 2012, competitiveness in the banking system has been decreasing steadily (except for the last quarter of 2012), primarily due to the unfavorable economic indicators and perceptions of banks for increased risks in the real sector, which had a respective impact on the banks' lending policies due to the identified threats of transferring the possible negative effects on the financial results of banks. The slower growth in total assets in 2012 is related to the conservative policies of some of the parent banks and the measure for financial deleveraging. The gradual recovery of the domestic economy in 2013 had a corresponding impact on the growth of banks' activities, particularly on the dynamics of lending in circumstances of monetary easing and nonstandard measures taken to boost credit support to the private sector. However, banks were still cautious when lending to the corporate sector, which came as a result also of the conservative strategies of some major banking groups present in the Republic of Macedonia. In 2014, the activities of banks grew rapidly under the influence of the solid growth of the domestic economy and the recovery of



the real sector. The favorable developments in the credit market were supported by the improved perceptions of domestic banks of the quality of credit demand. Under such developments, the marginal cost of banks registered a continuous reduction in these three years, while banks in some periods reacted with a small downward correction in the prices of banking products/services, and in some cases they did not change the price at all. Thus, the margin over marginal costs that banks charge for bank products/services increased. This acted toward reduction of the competition in the banking system. Only in the last quarter of 2012, competition in the banking system increased and reached the optimal level (the lowest level of the Lerner index) in the observed ten-year period as a result of the fact that to the reduction in the marginal cost banks responded with a twice larger reduction in the cost of banking products/services. In this way competitiveness in the banking system increased, which was a short lived effect as in the next period competition began to decline again. Increased competitiveness at the end of 2012 is related to the change in the structure of the banking system through the acquisition of Ziraat Banka AD Skopje by Halk Banka AD Skopje, which contributed to further consolidation of the banking system. The strategic plans of part of the banks for a stronger increase in market share increased the competitiveness in the banking system, and thus appropriately corrected the prices of banking products/services. The downward movement of the prices of banking products and services continued, but it was marginal compared with the diminishing marginal costs and resulted in lower competitiveness in the remaining period of the analysis.

Chart 197

Movement of the Lerner index for the credit (left) and deposit market (right) and its components in percentage points



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

**The dynamics of the Lerner index is identical even if competitiveness is analyzed separately for the credit and the deposit market.** The price of banks' credit products had a steady downward trend in the post-crisis period (starting from 2010), which resulted in an increased competition in the credit market by the end of 2012, when competition began to decline due to insufficient correction in the prices of loans by banks, amid significant reduction in the marginal cost. The highest level of competitiveness in the credit market was reached in the third quarter of 2009, when amid unchanged marginal costs banks made a small change in the price of loans. Identical movements in the price and the

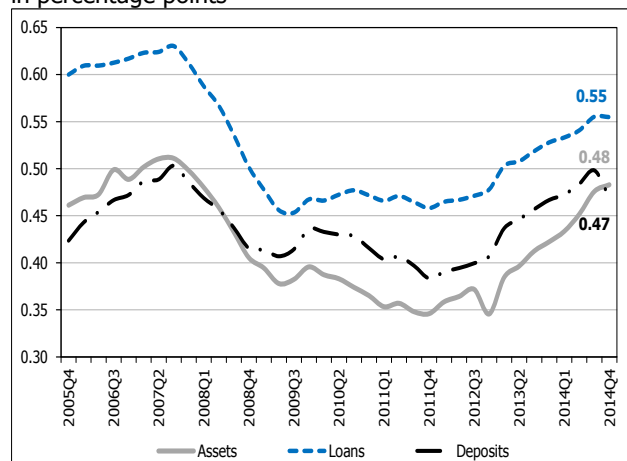




level of competitiveness were registered in the deposit market, with the exception of the last

Chart 198

Movement of the Lerner index for the total assets, for the credit and deposit markets in percentage points



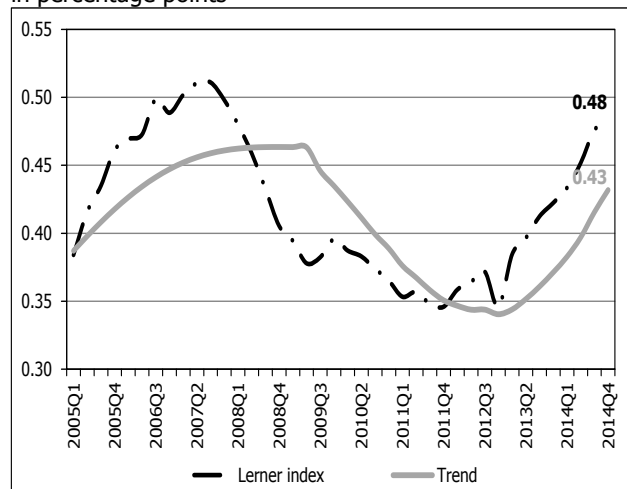
Source: Internal NBRM calculations, based on data submitted by banks

quarter of 2014, when the competitiveness in the deposit market increased due to the significant reduction in the price of deposits amid small downward change in the marginal cost. Competitiveness in the deposit market was the highest in the last quarter of 2011, when the margin above marginal costs narrowed because amid a slight increase in the marginal cost banks reacted by reducing the price of deposits. Since then until 2014 the deposit market recorded a more pronounced reduction of competitiveness, partly due to the extremely high competitiveness achieved in 2011.

The comparative analysis of the movement of the Lerner index for total assets, in the credit and deposit market shows that competitiveness is the highest for the total assets of the banking system, although in the pre-crisis period of credit expansion and in the last quarter of 2014, higher level of competitiveness is registered on the deposit market. The comparison of the level of competitiveness in the credit and deposit market points to greater competitiveness in the deposit market because income per unit collected deposits is smaller, and therefore the margin over marginal costs charged by the bank is closer relative to loans.

Chart 199

Movement of the Lerner index for the total assets and its trend in percentage points



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

Lerner index like any other indicator consists of trend<sup>179</sup> and cyclical component. The movement of Lerner index in the past ten years is compared with its trend in order to see whether there are significant deviations in the movements. The results show that competitiveness in the banking system is below the trend in the pre-crisis period and in the period starting from 2012. Given the fact that the trend depends on the historical movement of the Lerner index, the lower competitiveness manifested by the

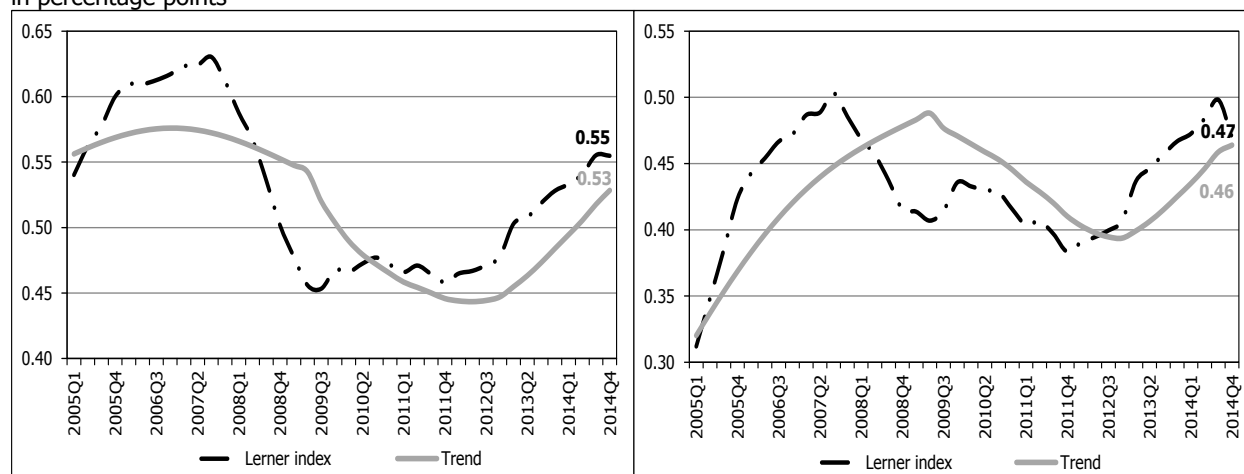
<sup>179</sup> The trend of the Lerner index is calculated using the Hodrick-Prescott filter with lambda 1600 (recommended value for quarterly data). Hodrick-Prescott filter is calculated according to a specified formula, where  $\mu_t$  is the trend,  $y_t - \mu_t$  is the cyclic component, and lambda -  $\lambda$  represents the degree of "smoothness" of the trend.

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

movement of the trend relative to the movement of the Lerner index in the period 2008-2011 stems from lower competitiveness in previous years. Hence, the value of Lerner index in the previous years reflects in the level of the trend. Thus, the level of the trend in 2014, incorporates the movement of the index over the entire period of analysis, and given its cyclical movement it is not surprising that it indicates higher competitiveness than the Lerner index. Closest match of the level of the trend to the level of Lerner index was registered in the last quarter of 2011 and 2012. Although in the last two years the Lerner index and its trend diverge, they are expected to equalize over time, when the effects of the historical movement of the index on the level of the trend are exhausted.

Chart 200

Movement of the Lerner index for the credit (left) and deposit market (right) and its trend in percentage points



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

The dynamics of the Lerner index and its trend for the credit market shows that competitiveness in the credit market has been below the trend since the end of 2010. However, in the post-crisis period, smaller deviation of the Lerner index from the level of the trend is registered, and in 2014 there were first signs of their possible equalization in the near future. Little difference between the Lerner index and its trend in the post-crisis period is observed also in the deposit market. At the end of 2014, Lerner index for the deposit market and the trend almost match, indicating the exhausted effects of the historical movement of the index on the trend.

\*\*\*

The analysis leads to the conclusion that the Macedonian banking system is in a state of so-called monopolistic competition. Despite the changing trends in the Lerner index at various times for the three output components, the value of the index is significantly smaller than 1, and in most of the analyzed period it is around 0.5. Moreover, in most of the analyzed period, competitiveness is the highest for the total assets of the banking system. In the post-crisis period, the level of competitiveness for the total assets, in the credit and deposit market is below the trend, but at the end of 2014 certain signals of their convergence were registered.

## Attachment 4 Survey of banks' perceptions for the risks in their operations in 2014 and expectations for 2015

The perceptions of Macedonian banks regarding the main sources of risks that they face with during their operations can be analyzed through the results of the Survey which is conducted by the National Bank for this purpose. The risks which may affect the operation of banks and which are a subject of the Survey are classified in five groups: risks from the macroeconomic environment, risks from the financial markets, risks from the banking sector, risks from the strategy of the bank or the banking group and risks which arise from the changes in the regulatory framework. The Survey refers to the respective rating of the risks according to their importance and impact they have on the bank's operations and the banks' expectations regarding the relevance of the individual groups of risks during 2015.

Like the previous year, banks point to the risks arising from the macroeconomic environment, followed by risks arising from the banking sector and risks associated with changes in the regulatory framework, as risks with the greatest importance and impact on the operations in 2014. Banks do not expect significant changes in terms of the impact of certain risk groups in 2015, but expect some strengthening of the impact of risks arising from the banking sector and financial markets.

Table 15  
Results of the Survey on the risks

Results of the conducted survey		Group of risks									
		Macroeconomic risks		Financial markets		Banking sector		Internal strategy		Regulation	
		2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Average grade of impact assesment of the group of risks on banks' operations	unweighted	3.9	3.9	2.3	2.5	3.4	3.2	2.8	2.6	3.0	3.0
	weighted	4.2	4.1	2.3	2.6	2.6	2.3	2.0	1.8	3.0	3.1
Average banks' expectations for the risk's directions in the following calendar year	unweighted	-0.1	0.2	0.2	0.3	0.3	0.3	0.0	0.1	0.1	0.1
	weighted	-0.2	0.0	0.2	0.2	0.1	0.3	-0.2	0.0	0.0	0.1

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

Note: The share of the banks' assets in the total assets at a level of the banking system is used as a weight for calculation of the weighted average grade. For each of the groups, the impact on the banks' operations is assessed in the given moment in an interval from 1 to 5, where 1 denotes that the group has little importance for the bank's operations, while 5 denotes that a group of risks is exceptionally important for the bank, whereby there is no limitation for the use of the specific grades. The expectations for the future dynamics of risks are expressed through an assessment about the direction expected for the following year, which could be growing – "+1", declining – "-1" or unchanged – "0".

According to banks, most important for their work in 2014 were risks arising from the macroeconomic environment. They base this assessment on the following factors: the uncertainty about the dynamics of foreign demand for the domestic corporate sector, the reduced liquidity of the corporate sector, but also its indebtedness, increased price pressure amid uncertainty over energy prices, the uncertain dynamics of private transfers, the state of public finances and uncertainty about the political crisis. But unlike last year's Survey



when banks expected a reduction in the impact of macroeconomic risks, this year, their expectations are aimed at increasing macroeconomic risks in 2015, mainly due to the present external risks arising from developments in the Euro area and the internal political turmoil.

**The second most important group of risks for banks' operations are the risks which arise from the banking sector.** Banks that have smaller market share, point to the increasing importance of this group of risks compared to banks with greater market share. The main factors that were decisive for the banks to rank this group of risks in this way are the following: competition among banks, pressure from customers' saturation with similar products offered, risk of competitive pressure on the prices of services and possible consolidation in the banking sector. Banks expect an increasing importance of this group of risks in 2015.

**Third most important group of risks, according to banks, are the risks arising from changes in the regulatory framework.** Banks do not expect a major change in the level of importance and impact of these risks on the operations, which is based on the following possible risk factors: lack of transparency and involvement of banks in the development of regulations that affect their operations, short deadlines for the implementation of the new regulation, but also non-compliance with the regulations of individual state bodies (in this context, they especially point to the regulations on prevention of money laundering and FATCA<sup>180</sup>, despite the Law on Protection of Personal Data, then the regulations in the field of taxes versus the products and services they perform, etc.). Some banks point to the effects on their financial result caused by changes in regulation and the subsequent need for software changes.

**The last, fourth most important group of risks for the banks' operations are the risks arising from developments in the domestic and international financial markets.** The small importance of this group of risks reflects the lack of significant direct exposure to market risks and the absence of direct market financing of the activities. Banks point to a risk of fluctuations in interest rates. The banks' expectations for this group of risks are that the downward trend in lending and deposit interest rates will continue in 2015, which will affect the banks' profitability.

**Banks assess the risks arising from the strategy of the bank or the banking group as the least important risks.** Also among this group of risks there are differences in the perceptions among banks, depending on their size, i.e. market share. Banks with greater market share on average give low grade for the impact of this group of risks on the operations, which is not the case for banks with smaller market share. Banks do not expect a change in the importance of this group of risks in 2015.

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<sup>180</sup> FATCA, Foreign Account Tax Compliance Act, is a global taxation law enacted in the USA in 2010.



## **ANNEXES**