Periodical Part

Financial stability report for the Republic of North Macedonia in ... ; 2012

National Bank of the Republic of Macedonia

Financial stability report for the Republic of Macedonia in 2012

July, 2013

CONTENTS

FIGURES

TABLES

SUMMARY

Financial stability in the Republic of Macedonia in 2012 was maintained, despite the still present risks of the international and domestic macroeconomic environment. The financial system and the banking system, which is dominant in its framework, pursued their activities unhindered and without shocks. The adverse information on the new hot spots of the financial crisis in the EU and subsequent anxiety present in the public due to the multiannual presence of this type of information, had occasional, incidental and very short-term effect on the banking system.

The main risks to the financial stability of the Republic of Macedonia are associated with the continuing crisis in the Euro area and the impact it has on the local economy. Instability and mistrust of financial markets in advanced economies associated with the fiscal position and the consolidation of public debt in the Euro area are the main risks also for the world economic growth, and at the same time they are the main prerequisite for stabilizing the financial markets in the Euro area. Direct adverse effects on the Macedonian banking system are minimal, given the almost non-existent dependence of domestic banks on the international financial markets for provision of funding sources (domestic deposits are the major source of funding) and modest placements of funds abroad. However, prolonged, or possibly increased uncertainty in the international financial markets and possibly retained perceptions of increased risks globally, may affect the external position of the domestic economy. Moreover, exacerbation of financing terms of global financial markets can be a challenge also for conducting the countercyclical fiscal policy.

Especially significant for the pace of economic activity in the Republic of Macedonia (which in 2012 declined by 0.3%), is the financial support which the real sector expects from financial institutions. However, banks' perceptions of increased risks in the real sector, and the application of conservative group strategies by some of the parent entities of the domestic banks were and still could be a further limiting factor in providing financial support to companies and households. Banks' precaution when placing the funds was expressed also in 2012 and their activities were equally focused on investments in liquid financial instruments and credit support to the domestic real sector, indicating their greater restraint from faster growth of lending.

Risks to financial stability that come from the corporate sector as a customer of the financial institutions, are upward, which is mainly due to the changing macroeconomic environment. The scope of the activities and achievements of companies in a small and open economy such as the Macedonian, are largely arising from the developments at the global and regional level, primarily from the economic growth in the countries that are major trading partners. The sensitivity of the Macedonian corporate sector to external shocks is further emphasized due to its weak competitiveness in foreign markets, high export concentration and dependence of the national economy on energy imports. In 2012, in conditions of reduced economic activity in the countries that are major trading partners of the Republic of Macedonia, decline in the foreign demand for Macedonian products and reduced exports, value added of the corporate sector decreased, compared to 2011. Indicators of indebtedness of the domestic corporate sector, efficiency of use of resources, profitability and employee productivity experienced some deterioration. The liquidity of the sector remains stable but low. This was followed by the reduced creditworthiness of companies, which contributed to the growth of non-performing loans and accordingly, higher credit risk banks are exposed to as a result of the

work with this sector, as one of the main channels of transmission of the indirect negative effects of the crisis on the domestic banking system. The expectations for a moderate recovery of foreign effective demand, increased inflow of foreign direct investment and increased utilization of domestic production capacities should contribute to the further recovery of the domestic economy in 2013 and accordingly, to the downward movement of the risks coming from the non-financial sector.

Performances of the corporate sector and its efficiency in dealing with the risks it is exposed to, significantly determine the disposable income and the financial strength of households. Risks to financial stability generated by households in 2012 are within a controlled framework, and some indicators even show improvement. The household debt grew, but the more rapid growth of financial assets improved their ability to repay the debt and increased the room for further borrowing. Credit risk arising from households declined, but caution is present, due to the usual delayed spillover of the risks from the corporate sector.

One of the positive "consequences" of the debt crisis in the Euro area was the denarization of the highly euroized Macedonian economy and banking system, which was caused by the prevailing perceptions of the public of the uncertainty about the future of the euro, but also the differences in the yield on the Denar and foreign exchange savings. Such tendencies somewhat reduced the exposure of the non-financial sector to currency risk, but it remains a significant source of risk due to the wide application of safeguards in the core banking products (identically as for the interest rate risk). Materialization of market risks would directly affect the ability of customers to repay debts, and hence the performance of banks. In 2012, however, amid the continuously increasing foreign reserves of the country, the stability of the nominal exchange rate of the Denar against the Euro was maintained, as one of the key prerequisites for maintaining the financial and macroeconomic stability of the country, whereby the likelihood of materialization of currency risk is minimal or almost non-existent.

Changing international and domestic macroeconomic environment had no noticeable direct impact on the stability of the financial system, but had an impact on the scope of its activities, whose growth slowed down in 2012, and in certain segments of the system even a negative value was registered (in savings, leasing, brokerage houses and investment funds management companies). The banking system remains the key link to which almost all other segments of the financial system are connected (through deposits invested), due to which its stability is vital to the stability of other institutional segments and the financial system as a whole. Mutual links of the other parts of the financial system (with the exception of the key importance of the banking system) are very small, and therefore in the absence of complex financial instruments and services, the risk of spillover of risks of individual institutional segments on other parts of the financial system is minimized. In the longer run, the banking system will remain the most important segment of the financial system, while growth is expected in the insurance sector, which shows great potential for development in the segment of life insurance and in the pension funds, which will receive increasingly greater role as financial intermediaries and as assets of households. In the near future it is expected that even the minor importance of savings houses and leasing will be further reduced, and if a certain revival of domestic financial markets is not reached, similar trends can be expected in brokerage houses and investment funds management companies.

The banking system, as the most important segment of the financial system, accounting for nearly 90% of total assets, retained its stability and resilience. The foundations of stability are the high and stable liquidity and solvency, and the greatest risks arise from the corporate sector, where the materialization of the credit risk led to a significant increase in the credit risk of banks during 2012, measured by the growth of non-performing loans. However, the non-performing component of the loan portfolio is fully covered by the provisions allocated by the banks. In other segments of the financial system, the risks arising from the lack of proper regulation and supervision are surmounted (with some weaknesses in the leasing, which still has a very small share in the total financial system, and it further decreases). Supervisory authorities of different segments of the financial system are following the determination for the proper application of international standards in the field of regulation and risk based supervision. In 2012, meetings between representatives of the financial supervisory authorities in the country started to be organized, the aim of which is to contribute to maintaining a safe and stable financial system by promoting cooperation, which is the current international practice. At the meetings, the representatives discuss the most important ongoing activities of these institutions, as well as the latest developments in the individual segments of the financial system and the relevant regulatory framework.

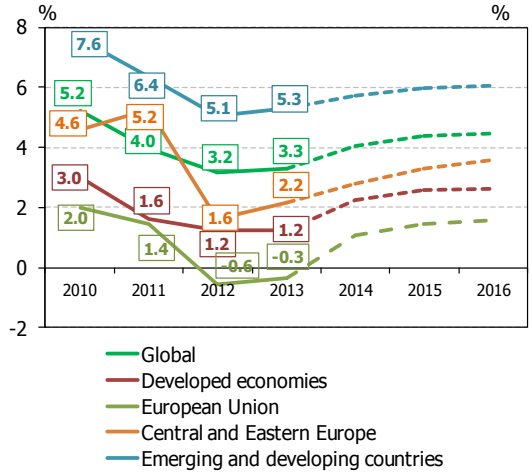
The National Bank, in cooperation with the other supervisory authorities, remains committed to the implementation of its legally prescribed objective (which is subordinated to the main objective of maintaining price stability) to contribute towards maintaining a stable and competitive, market oriented financial system and will take all available steps and measures to this end.

I. Macroeconomic environment

1.1 International environment

The recovery of the world economic activity continued in 2012, as well, but much slower than in the two previous years. The major risks to the world economic growth originate mainly from the instability of and the non-confidence in the financial markets of the developed economies, mainly in the Euro area countries. The largest risk to the financial markets in the Euro area arises from the uncertainty that relates to the fiscal consolidation and the public debt. The reduced volume of funding, the higher risk premiums and the lowering of the credit ratings of some of the Euro area countries, restrict additionally the possibilities for public debt financing. According to the latest forecasts, the world economic growth will pursue intensively in 2013 and 2014, in environment of still evident risks. It is expected that the main carriers of the world economic growth in 2013 will be the emerging economies in the world, while the growth in the developed economies would be restricted due to the poor domestic demand and turbulent financial markets.

Figure 1 Economic growth in various regions

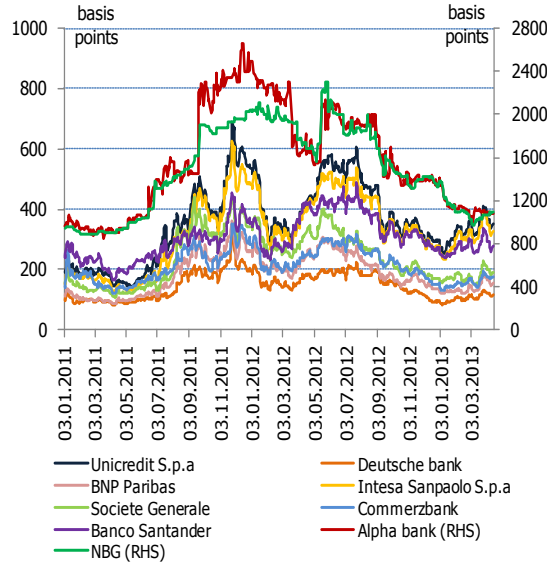


Source: IMF, (WEO, April 2013).

As a result of the turbulence on the financial markets in the Euro area and their effect on the real economic activity, in 2012 the economy of the Euro area has re-entered recession, registering negative annual GDP growth rate of 0.6%. The European Central Bank (ECB) and IMF have revised the projections for the economic growth for 2013 in the Euro area downwards for several times, thus expecting slight decrease in the economic activity in 2013, as well. The main factors for the growth downward revision of the growth are the weak domestic and external demand. Such unfavorable economic performances in the Euro area have negative impact on the economic activity of the Central and Southeastern Europe, due to which the foreign effective demand for the Macedonian economy was revised downwards[1]. The unfavorable developments in the international economic environment can also reflect on the domestic financial market, having in mind that some of the institutions in foreign ownership originate from the Euro area member states, as well as due to the fact that the trade partners

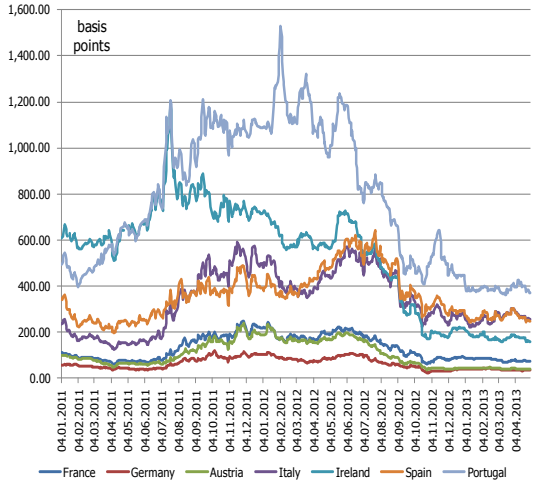
[1] This indicator is calculated as a sum of the weighted indices of GDP of the most important importing countries from the Republic of Macedonia, through normalized share of these countries in the exports within 2005-2010 period. The calculation of this indicator includes the following countries: Germany, Greece, Italy, the Netherlands, Belgium, Spain, Serbia, Croatia and Bulgaria. Source: NBRM calculations on the basis of Eurostat, the statistics offices of the relevant countries and Consensus Forecasts.

Figure 2 Credit default swaps for certain banks



Source: Bloomberg.

Figure 3 Credit default swaps in individual Euro area countries



Source: Bloomberg

that are of higher importance for the Republic of Macedonia come from these countries. Additional factor that increased the instability on the international financial markets at the end of 2012 and at the beginning of 2013 was the uncertainty related to the agreement of the US Congress regarding the postponement of the automatic revocation of the previously adopted package of measures for reducing part of the budget income and increasing part of the public expenditures.

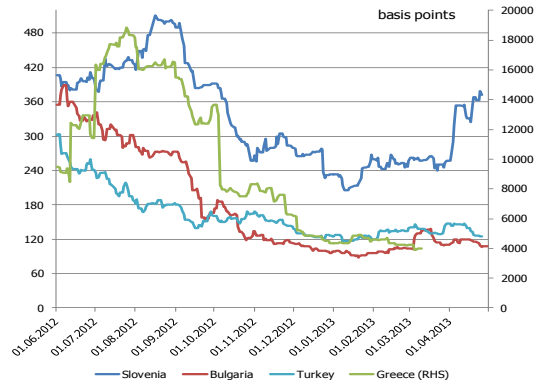
The main risks that can reflect on the developments on the financial markets in the Euro area are related to the attainment of the fiscal targets and reduction of the public debt on a long-term sustainable level, especially in the "peripheral" member states of the Euro area. The poor economic activity in the Euro area also poses an additional risk, which limits the stabilization of the financial markets.

In 2012, the financial imbalances became even more apparent with the peripheral EU member states (for example: Greece, Italy, Spain and Portugal) and countries comprising its core (foe example: Germany, France, the Netherlands, and Finland). The difference in the risk premiums was more evident in the first half of 2012, which can be seen through the amount of the CDS - credit default swaps"[2]. Having in mind the joint currency, the difference between the default swaps has reflected on the course of the capital movement. Namely, substantial repatriation of the profit of the companies from the peripheral Euro area member states to those composing the core, has been evidenced. It resulted in substantial capital outflow from financially more risky to financially more stable countries.

Such developments on the financial markets in the Euro area resulted also in differentiation of the financial institutions depending on their country of origin, which can be evidenced through increasing their default

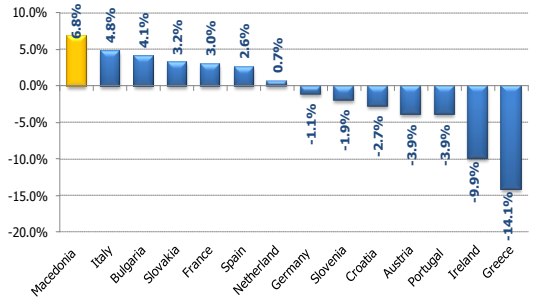
[2] The cost of credit default swaps (CDS) is an annual amount of premium that the buyer of CDS pays to protect itself against the credit risk related to a particular issuer of securities, in this case, a particular state. The growth of this range reflects investors' perception of enhanced risk of certain entity/state, i.e. it means an increase of the premium that should be paid for insurance against credit risk associated with a particular entity/state.

Figure 4 CDS - credit default swaps in the countries with the highest share in the capital of the Macedonian banking system



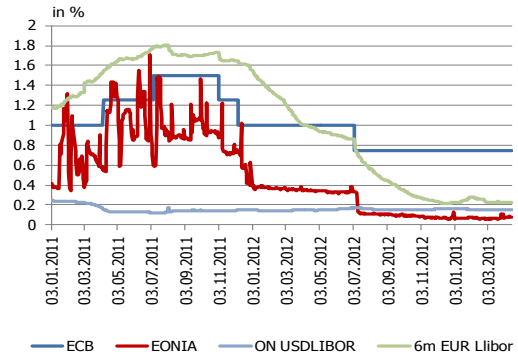
Source: Bloomberg.

Figure 5 Growth rates in individual countries



Source: IMF (financial stability indicators)
Note: The data are as of December 31,2012, except for Italy, Spain, France and Ireland, which are as of June 30,2012 and Bulgaria, which are as of December 31,2011.

Figure 6 Key interest rates on the European interbank market



Source: Bloomberg.

swaps, which additionally restricted and hindered the possibilities for external funding of the banks in the peripheral member states of the Euro area.

The narrowed possibilities for external funding of the banks by the peripheral Euro area member states, the capital outflow, as well as the spillover of part of the deposits from the peripheral countries to the countries comprising the core of the Euro area, acted negatively on the banks lending activity. Accordingly, at the end of 2012, the lending throughout the Euro area reduced, which was more apparent with some of the peripheral member states.

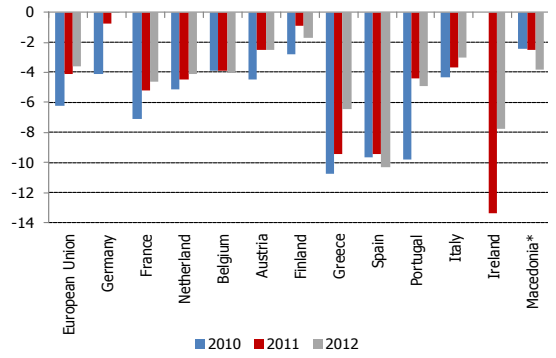
The fall in lending corresponds to the deleverage process of the international banks, which continued also in 2012, but with slower pace. The total claims from abroad of the banks that submit data to the Bank for International Settlement reduced by 1.2%[3] only in the last quarter of 2012, and most of this decrease accounts to the claims from other banks. Thus the trend of decrease in the interbank lending, present in seven out of the latest nine quarters, continues. The fall in the claims from abroad is especially evident with the European banks, where they fell by 8% in 2012 (box 1).

At the same time, on the Euro area financial markets, safe haven flows, mainly to USA and Japan, were registered. Such flows contributed to larger restraint of the domestic and foreign investors to invest in the Euro area, which is a negative feedback on the real economy.

As a result of the intensification of the financial crisis in the Euro area, in 2012 the ECB undertook a variety of conventional and nonconventional measures. As a conventional measure, the ECB lowered the key interest rate by 0.25 percentage points in July 2012, thus reducing it to the historically lowest level of 0.75%.

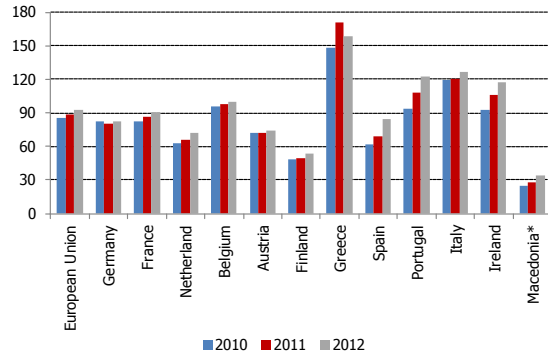
[3] BIS Quarterly Review, June 2013.

Figure 7 Budget balance of the general authority (% of GDP)



* The budget balance for the Republic of Macedonia refers to the Central Government and the funds.
Source: IMF, (WEO, April 2013).

Figure 8 Gross public debt of the general authorities (% of GDP)



* The public debt for the Republic of Macedonia refers to the Central Government and the funds.
Source: IMF, (WEO, April 2013).

In September 2012, the ECB introduced the Outright Monetary Transactions program, as a nonconventional measure of higher importance. The main objective of this measure is improvement in the monetary transmission and liquidity on the financial markets and it is primarily intended for the Euro area member states facing with liquidity problems on the government securities market. This program includes purchase of government securities from the secondary market with one-to-three year maturity. The basic requirement for implementation of this measure is a member state of the Euro area to have an agreement for existence of a relevant ESFS/ECM[4] program, or the so-called Enhanced Conditions Credit Line, according to which the ECB can make purchase of government securities also on the primary market. The ECB interventions, according to the OMT program depend on the implementation of structural reforms in the country, such as: reduction in the fiscal deficits, lowering of the public debt, etc.

As a result of the ECB measures, in the second half of the year, moderate stabilization on the financial markets was registered, which can also be seen through the gradual decrease in the risk premiums with individual Euro area countries (Figure 3 and 4).

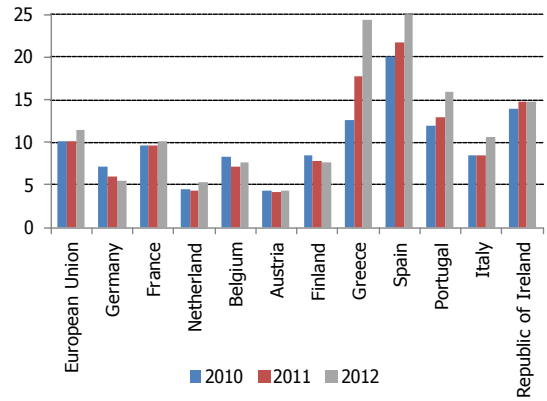
Part of the risks the financial markets in the Euro area are exposed to in 2012 emanates from the public and private sector (enterprises and households). The main risk from the public sector originates from the increase in the public debt, especially with the peripheral Euro area countries, where this type of debt in the last three years increases with larger dynamics, thus taking higher level in comparison with the countries composing the core of the Euro area. Positive signal for the financial markets is the conduct of more strict fiscal policy, registering also decrease in the budget deficit. However, the main risk for the fiscal policy is the capital outflow

[4] EFSF refers to the European Financial Stability Facility, while ESM refers to the European Stabilization Mechanism, which were established in May 2010 by the EU member states.

and risk aversion of the investors for purchasing government securities, especially with the peripheral Euro area member states.

The main risk for the financial markets in the Euro area for 2012 related to the corporate sector emanates from the deteriorated financial results. Until the end of the third quarter of 2012, decrease in both turnover and profit with the enterprises[5] was registered. The possibilities for external financing of the enterprises in the Euro area are restricted, as a result of the tightened crediting terms of the banks, as well as the reduced access to the trade credits[6]. It can all effect negatively in future of the enterprises performance in the Euro area thus increasing the default risk, which at the end will impact the banking sector performances.

Figure 9 Unemployment rate (in %)



Source: Eurostat.

Certain risks for the financial markets in 2012 stems also from the reduced households' income based on two sources: reduced income based on employment and lower prices of the real estate. In 2012, the conditions on the labour market worsened, and the unemployment rate in the Euro area reached the historical maximum of 11.4%. The rise in the unemployment rate was once again more apparent with the peripheral Euro area countries. On the real estate market, annual decrease in the prices of residential property was registered. The fall in the prices of residential property mostly arises from the decrease in the real estate prices with the peripheral member states, while the remaining member states register growth deceleration. Such changes on the labor market and the real estate prices can result in further decrease in the households' income and their worsened financial standing in future, which can reflect negatively on the banks through intensified credit risk. As a signal for stabilization of the financial markets on the household sector side, is the steady level of indebtedness and the write-off of the banks

[5] Source: "Survey on the access to finance of small and medium-sized enterprises in the Euro area", ECB, April - September 2012.
[6] Source: "Survey on the access to finance of small and medium-sized enterprises in the Euro area", ECB, April - September 2012.

nonperforming loans[7]. It can indicate that the default risk of the households in 2012 did not worsened additionally.

In future, the ECB identifies the following risks as crucial for the financial stability in the Euro area: *First:* the risk related to the deterioration of the debt crisis in the Euro area, especially with the peripheral member states, which would additionally increase the discrepancy on the financial markets and the risk premiums for individual member states. *Second:* the deterioration of the financial results of the banks, such as the trend of deterioration of the banks' profitability indicators and the further worsening of their credit portfolio. *Third:* further fragmentation of the financial markets among the peripheral countries and the countries that comprise the Euro area core. It would result in further destabilization on the financial markets and institutions with peripheral member states, which would have negative effect also on the financial Euro area system.

[7] The conclusions were derived on the basis of ECB: „Financial Stability Review December 2012".

1.2 Domestic environment

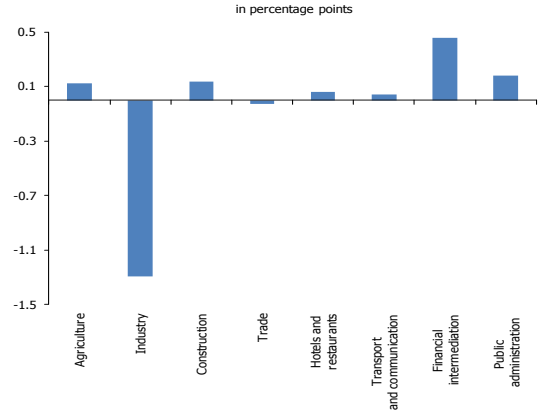
The financial stability in the country in 2012 maintained stable, given the still high risks that come from the international and domestic macroeconomic environment. The Macedonian economy registered moderate annual fall of 0.3% due to the decline in exports and private consumption. In 2012 the nominal exchange rate of Denar against Euro remained steady amid constant increase in the foreign reserves. In the absence of pressure from domestic demand and slower growth in food and energy prices compared to the previous year, the inflation in 2012 reduced and equaled 3.3%. The expectations for moderate recovery of the foreign effective demand, the increased inflow of foreign direct investment and larger utilization of domestic production capacities should contribute to the further recovery of the domestic economy in 2013.

The main risks for the financial stability of the Republic of Macedonia arising from the macroeconomic environment are mainly related to the continuing uncertainty with the debt crisis in the Euro area and its spillover on the domestic economy. This could cause further growth deceleration in the economic activity. On the other hand, the financial support that the real sector is expecting from the financial institutions has a major impact on the dynamics of the economic activity. However, the banks' perceptions for increased risks in the real sector, which reflect the reduced quality of the loan portfolio, as well as the application of conservative group strategies by some of the subsidiaries of foreign banks may be a limiting factor in providing financial support to companies and households. The prolongation or the deepening of the possible uncertainty on the financial markets, as well as the possible further retention of the perceptions for increased risks globally, can have a corresponding impact also on the external position of the domestic economy, particularly through the risk reduction of inflows based on private transfers and foreign direct investment. The tightening of the financing terms on the global financial markets can be a challenge also for conducting a contra cyclical fiscal policy.

The deterioration in the economy in the Euro area and the decrease in the foreign effective demand reflected unfavorably on the domestic economic activity. The reduced demand by the main trading partners, as well as the unfavorable movement of the prices of the non-energy export products were unfavorable for the domestic production facilities. The partial use of the domestic manufacturing facilities resulted in decrease in the industrial output, which almost fully contributed for the annual decrease in GDP[8]. The uncertainty related to the external economic environment and the developments in the Euro

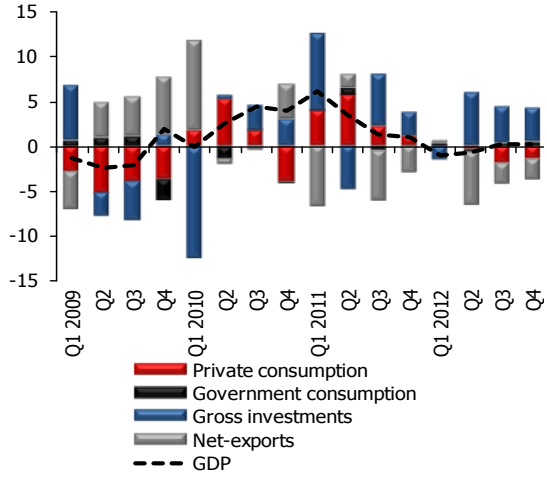
[8] All calculations use quarterly and annual GDP data for 2011 and 2012 from the SSO report from March 15,2013.

Figure 10 Contributions of the individual income components to the annual real growth of GDP for 2012



Source: SSO and NBRM calculations.

Figure 11 Contributions of the individual expenditure components to the annual real growth of GDP

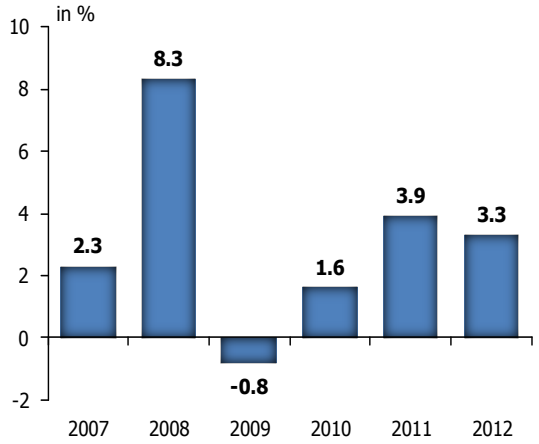


Source: SSO and NBRM calculations.

area contributed for larger uncertainty of the domestic economic entities regarding the future anticipated income, as well. As a result, the households were more restrained to consume despite the positive developments on the labour market.

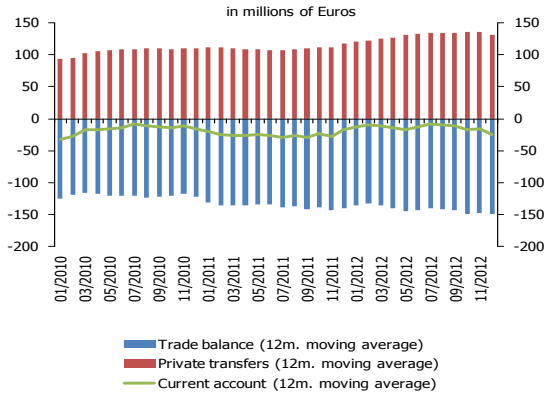
The reduced private consumption and the negative contribution of the net export (decrease in the exports for the first time since 2009, but also increase in the imports), had negative impact on the GDP growth. In 2012, both the public consumption and the investments had positive input to the growth, which were mainly caused by the Government capital investments and the construction activity by the private sector. The domestic economic activity registered a decrease in the first half of 2012, when negative growth of 0.8% was registered, contrary to the second half of the year, when the domestic economy began to recover gradually, registering a positive growth rate of 0.2%. The main driving force of the GDP growth in the second half of the year was the domestic demand (public and investment consumption).

Figure 12 Average annual inflation rate



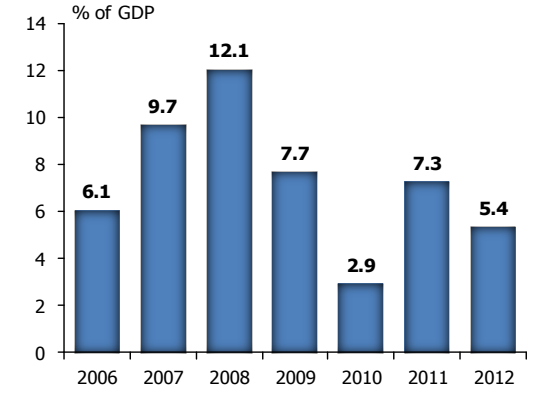
Source: SSO.

Figure 13 Trade balance, private transfers and balance on the current account



Source: NBRM.

Figure 14 Balance on the capital and financial account, without official reserves



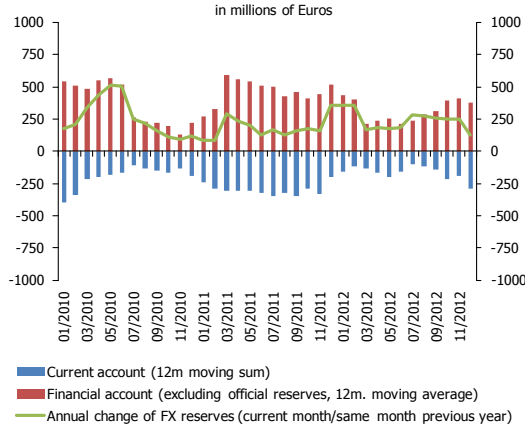
Source: NBRM and SSO.

In 2012, the risks that stemmed from the changes in the price level in the country were lower compared to the previous year, and accordingly lower inflation rate from 3.3% was registered, compared to 3.9% in 2011. The inflationary pressures originate mainly from the energy prices which had the largest positive contribution to the annual inflation rate, which is, together with the food prices, the largest risk to the increase in the price level in future.

In conditions of deterioration of the foreign effective demand, in 2012 the current account deficit relative to GDP deepened by 0.9 percentage points and reached 3.9% of GDP. The main factor for the deepening of the current account deficit is the increase in the negative trade balance of 1.3 percentage points relative to GDP, which is a result of the intensified import of energy (larger quantity of imported energy and higher import prices), as opposed to the other components of the trade balance, where there is improvement in the net trade. Most of the trade balance deficit was financed with substantially larger inflow of private transfers, which in 2012 reached the historical maximum relative to GDP of 21.5%.

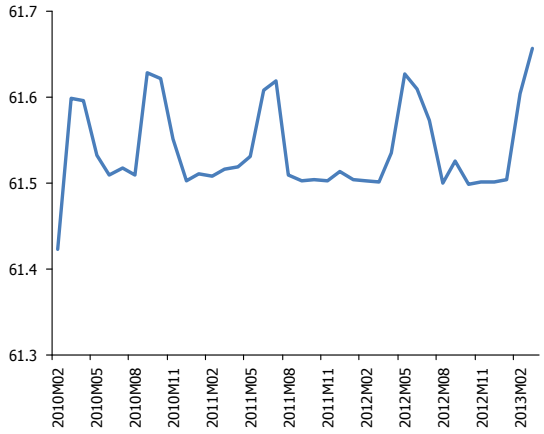
The net capital and financial inflows in 2012 reduced moderately compared to 2011, mainly as a result of the smaller inflows based on Government debiting, which were the driving force for the increase in the financial inflows in the preceding year. However, the capital and the financial inflows were sufficient to fund the current account deficit and to ensure increase in the foreign reserves. The largest contribution to the total realized foreign exchange inflow accounts for the trade credits, which boosted significantly on annual basis. Their increased inflow, in conditions of reduced domestic economic activity can indicate hindered financing of the companies' import activity. The deterioration in the domestic and the international economic environment in 2012 contributed towards lower preference for new investments by the foreign investors, which

Figure 15 Current and financial account (without official reserves) and foreign reserves



Source: NBRM

Figure 16 Average monthly nominal foreign exchange rate of the Denar relative to the Euro



Source: NBRM.

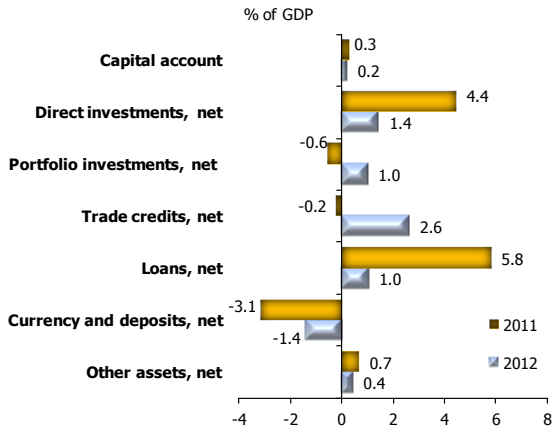
reflected on the reduced inflow of net foreign investments, in comparison with the previous year. The reduced net inflow of foreign direct investments is due not only to the lower interest of the foreign companies to invest but to the higher outflow of capital based on intercompany borrowing, as well. Namely, in 2012, the crediting of the parent entities by their daughter companies in the domestic economy intensified, which had negative implications on the inflow of foreign direct investments.

In 2012, the stability of the nominal Denar foreign exchange rate relative to the Euro was preserved in conditions of constant increase in the foreign reserves of the country, which were crucial for the maintenance of its stability. At the end of December 2012, the foreign reserves reached the historical peak relative to GDP of 29.2% enabling coverage of the import of goods (f.o.b.) and services[9] of over fourth months of the following year. This enables strengthening of the external shock capacity, which has positive effects on the financial stability of the country.

The trend of increase in the total external indebtedness of the domestic economy continued also in 2012, but with a slower pace in comparison with the previous year. At the end of 2012, the gross foreign debt reached Euro 5,163 million (68.6% of GDP), which is an increase of Euro 288 million (4.1 percentage points of GDP).

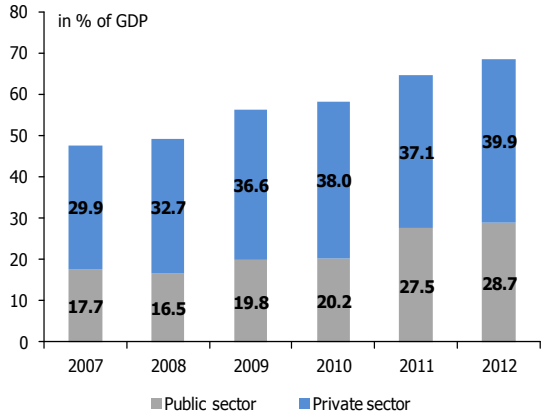
[9] The coverage of imports by foreign reserves is made based on the calculations for the imports for 2013 according to the January projections 2013.

Figure 17 Components of the capital and financial account



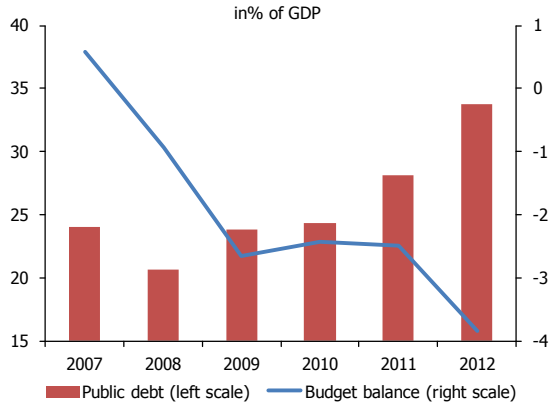
Source: NBRM and SSO

Figure 18 Gross foreign debt



Source: NBRM.

Figure 19 Public debt and budget balance of the Central Government and funds



Source: Ministry of Finance of the Republic of Macedonia and SSO.

If exclude the repo transactions of NBRM, the gross external debt will equal 66.6% and it will be higher by 5.1 percentage points on annual basis. Unlike the previous year when the increase in the gross external debt was largely due to the increase in the public sector's debt, in 2012 the largest contribution was given by the increase in the debt of the private sector based on long-term and short-term liabilities to the direct investors, based on trade credits, as well as the increase in the bank liabilities based on short-term deposits to non-residents.

The total external debt of the Government based on new long-term debt, as well as the sale of the government Euro bonds on the secondary market of investors-residents to nonresidents had certain contribution to the increase in the total external debt. However, despite the constant upward trend of the country's external debt, the indicators for the external indebtedness show moderate, i.e. favorable indebtedness of the country which poses no risk for the financial stability of the country.

The risk on the public finance side became more evident in 2012 because of the increase in the budget deficit of 1.3 percentage points in comparison with the preceding year, which reached 3.8% of GDP. The conduct of contra cyclical fiscal policy became apparent also in 2012. In conditions of smaller public income than planned, the budget deficit target increased by more than 1 percentage point of GDP.

The deepened budget deficit in 2012 resulted in an increase in the public debt relative to GDP of 6 percentage points and reached 33.8% of GDP. The increase in the public debt is mostly due to the domestic borrowing of the Central Government (a share of 83.9% in the increase in the public debt). However, the Republic of Macedonia remains among the countries registering lower public debt, as GDP ratio in Southeastern Europe.

II. Nonfinancial sector

2.1 Corporate sector

In 2012, the added value of the corporate sector decreased, despite the observed increase in the previous year. The fall in the value added was concentrated in the first half of the year, when the exports decreased in conditions of reduced economic activity in the countries that are the major trade partners of the Republic of Macedonia and lower foreign demand for Macedonian products. The reduced exports volume had negative effects on the future expectations of the domestic entities, increasing their restraint of consumption and new investments, which create negative impulses also on the domestic demand side, causing a decline in the private consumption and the total domestic trade. In the second half of the year, with further unfavorable external environment, certain segments of the domestic corporate sector began to recover, largely influenced by the investment activity of the state and the private sector, primarily in the field of construction.

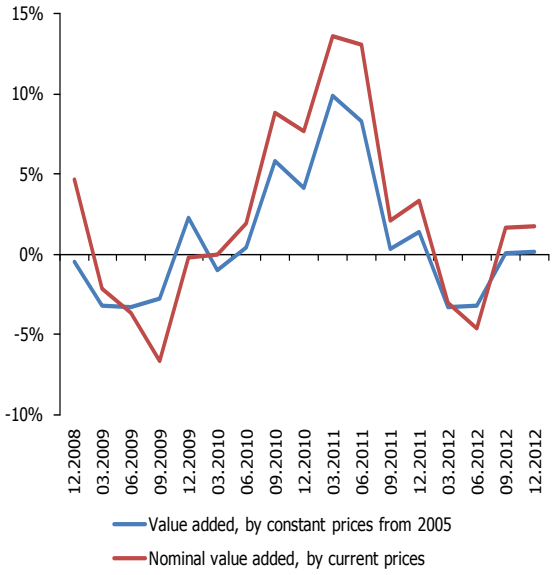
The indicators for the operation of the domestic corporate sector suggest minimal deterioration in the debt indicators. The indicators for the liquidity of the domestic enterprises are still stable but relatively low. In 2012 the use of funds was somewhat less efficient and profitability of the domestic corporate sector deteriorated, as well as the indicators of the employees productivity.

The foreign debt and the debt with adjustable interest rates continue to dominate the indebtedness of the corporate sector by currency and type of interest rates, thus resulting in sensitiveness to any changes in the level of these market variables.

The reduced creditworthiness of companies in 2012 caused an increase in the risk level, arising from their exposure to the domestic corporate sector. The double-digit annual growth rates of non-performing loans and the regular, but restructured loans of the domestic enterprises caused significant increase in their share in the total corporate debt. The increase in the scope of activities and efficiency of the corporate sector and consequently, the volume and the dynamics of cash flows is crucial for further developments in the quality of the credit exposure to domestic enterprises and their ability to repay the liabilities. Given that it is a small and open economy, this is largely conditioned by developments at global level and their impact on the volume of external demand and the expectations and risk perceptions of the domestic economic agents.

2.1.1 Analysis of the performances of the corporate sector

Figure 20 Annual change rate of value added of corporate sector

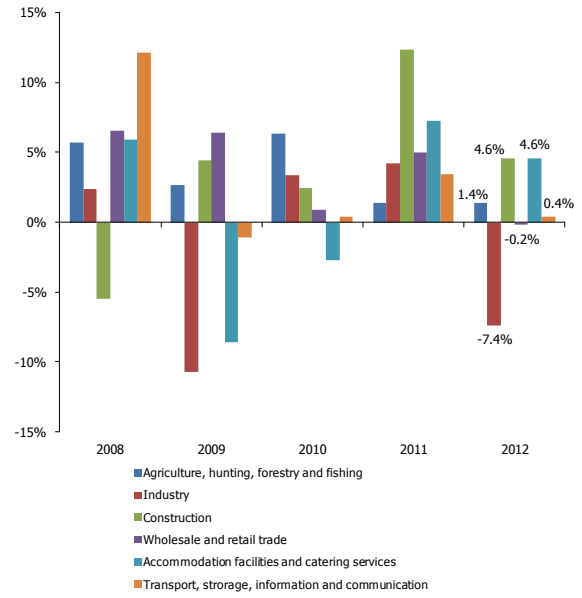


Source: State Statistical Office
Note: The value added for 2012 is estimated data.

The value added of the corporate sector in 2012 fell by 0.9% (i.e. by 1.4% according to constant prices from 2005), as opposed to the increase of 7.5% for 2011 (in real amounts, this growth went up by 4.5%)[10]. The decrease in the value added of the corporate sector was fully concentrated in the first half of the year, when in conditions of risen uncertainty in the external environment, due to the actualization of the debt crisis in the Euro area, the economic activity with the most important trade partners of the Republic of Macedonia reduced, which had negative transmission effects also on the domestic economy. The decrease in the foreign demand for Macedonian products resulted in lower use of the capacity of the domestic exporters and resulted in annual fall of the total export volume of 2.6%. The reduced export had negative effects on the future expectations of the domestic entities, increasing their restrain for consumption and new investments, which gave negative impulses also on the domestic demand side, causing a decrease in both the private consumption and the total domestic trade. In the second half of the year, in environment of still unfavorable external environment, individual segments of the domestic corporate sector began to recuperate, mostly stimulated by the investment activity, by the Government and the private sector, primarily within construction domain[11]. The aforementioned developments just prove that the activity volume, the performances and the financial capacity of the enterprises, in small and open economy as the Macedonian, emanate, to large extent, from the developments on global and regional level (primarily the economic growth of the countries that are the

[10] Legal entities encompassed in the corporate sector are those with prevailing activity from the branches "industry"; "agriculture, forestry and fishing"; "wholesale and retail sale and repair of motor vehicles and motorcycles"; "construction"; "transportation, storage, information and communication"; "accommodation and food service activities" and "activities related to real estate, professional and scientific and technical activities and administrative assistance auxiliary service activities". The calculation of the value added of the corporate sector does not take into consideration the "activities related to real estate, professional and scientific and technical activities and administrative assistance auxiliary service activities". The data on the value added for 2012 is estimated data by SSO.
[11] For more details regarding these movements please see the Annual Report of NBRM, 2012.

Figure 21 Annual change rate of value added by constant prices since 2005, by activity



Source: State Statistical Office
Note: The value added for 2012 is estimated data

main trading partners). However, the sensitivity of the Macedonian corporate sector to external shocks is especially evidenced, having in mind the further weak competition of the domestic enterprises on the foreign exchange market and the relatively high degree of export concentration[12]. With the launching of the new production facilities "at full stretch" (primarily in foreign ownership), which were open in the recent period, certain diversification in the exports by the type of the export product can be expected, as well as by the country these products are placed in, because of the increase in the export of goods with higher value added, especially to the emerging economies, which are less affected by the developments in the Euro area. The import dependence of the domestic economy is another significant weakness, which emphasize even more the sensitiveness of the corporate sector to the developments in the external environment. The latter especially refers to the dependence of the import of energy and raw materials, so every higher rise in the world energy prices increases the prices of the import components in the process of operating of the domestic enterprises and reduce their ability to be competitive.

Table 1 Trend of the number of enterprises (legal enterprises) in the Republic of Macedonia

Description	2008	2009	2010	2011	2012	Annual change 2012 / 2011		Annual change 2011 / 2010	
						absolute amount	in %	absolute amount	in %
Number of enterprises in bankruptcy procedure, during the year	1,737	2,270	1,445	1,823	2,160	337	18.5%	378	26.2%
Number of newly established enterprises, during the year	13,534	10,729	11,685	8,620	8,583	-37	-0.4%	-3,065	-26.2%
Number of total enterprises, at the end of year	120,448	124,559	128,376	129,910	132,176	2,266	1.7%	1,534	1.2%
Number of enterprises with blocked transaction accounts, at the end of year	14,213	22,518	31,047	36,695	40,294	3,599	9.8%	5,648	18.2%

Source: National Bank calculations, on the basis of the data from the Central Registry of RM.
*Note: Data in table refer to all legal entities.

The reduction of economic activity in 2012 hindered the business environment of the domestic enterprises and had negative impact on entrepreneurial initiative. The number of new enterprises registered small annual decline of 0.4%, while the number of companies with blocked accounts and those against which a bankruptcy proceeding has been initiated,

[12] More than a half of the realized export in 2012 is concentrated to five countries (Germany, Kosovo, Serbia, Bulgaria and Italy). In addition, about 36% of the realized export account for the export of iron, steel and clothing.

simultaneously increased, although with slower pace than in the previous year. The bankruptcy rate[13], a kind of a so-called default rate increased from 1.4% in 2011 to 1.7% in 2012. Also, 30.5% of the total number of registered enterprises in the Republic of Macedonia have blocked accounts at any basis in 2012, which is more by 2.3 percentage points in comparison with 2011. The amendments to the Law on Trade Companies from December 2012[14] enable the Central Registry to delete, in an electronic procedure, the companies that are inactive during the last 3 years, i.e. which do not submit annual accounts and financial reports to the Central Registry. With the effectuation of these amendments, one-time decrease in the total number of enterprises legal entities with blocked accounts can be expected.

Table 2 Indicators for the performance of the corporate sector in the Republic of Macedonia

INDICATORS	2012	2011
Debt indicators		
Total debt ratio	50.2%	49.7%
Leverage ratio - assets/equity	2.01	1.99
Debt to equity ratio	1.01	0.99
Long term debt ratio	20.5%	19.8%
Interest coverage ratio	2.49	2.88
Liquidity ratio		
Current ratio	1.25	1.24
Acid-test ratio	0.89	0.88
Cash ratio	0.21	0.21
Net working capital (in millions of denars)	119,735	105,957
Efficiency ratios		
Days sales outstanding	125	119
Days sales of inventory	65	61
Days payable outstanding	174	167
Total assets turnover	0.76	0.79
Inventories turnover	5.62	5.99
Receivables turnover	3.03	3.06
Equity turnover	1.52	1.57
Coverage of operating non-current assets with long-term sources of financing	134.50%	132.47%
Operating non-current assets/Total assets	46.6%	47.4%
Profitability indicators		
Return on assets	3.40%	3.83%
Return on equity	6.82%	7.61%
Net profit margin	4.48%	4.84%
Return on capital employed	5.99%	6.66%
Operating profit margin	4.94%	5.28%
Operating income per employee, in millions of denars (productivity indicator)	1.96	1.98
Net - profit after taxes per employee, in millions of denars (productivity indicator)	0.19	0.21

Source: National Bank calculations, based on data of the Central Registry of RM.

*Notes: 1) The calculation of the indicators for the operations of the corporate sector is made on the basis of the annual accounts of 52,120 enterprises, which submitted their annual accounts to the Central Registry of RM for 2012. As of December 31,2012, there were 132,176 legal entities in the Republic of Macedonia. Data presented in this table do not cover the legal entities that failed to submit annual accounts to the Central Registry of the Republic of Macedonia, and legal entities with prevailing activity outside the scope determined for the corporate sector by the NBRM, i.e. the legal entities from the following activities are not encompassed: "financial activities and insurance activities", "public administration, defense and compulsory social security", "education", "activities of health and social security", "art, entertainment and recreation", "other service activities", "activities of households and employers" and "activities of exterritorial organizations and bodies" (these legal entities are taken into consideration in the calculation of the indicators by the size of the legal entities and the indicators by the presented financial result); 2) Some of the indicators for the efficiency of the use of the assets are calculated by approximation, since there are no data on the costs of the sold products and the amount of the procurements during the year.

[13] The rate of bankrupt companies is calculated as the ratio between the number of enterprises in which bankruptcy proceedings in the current year were opened and the number of enterprises at the end of the previous year.

[14] Law on amending the Law on Trade Companies („Official Gazette" No. 166/2012).

The total liabilities of the domestic enterprises registered higher annual growth rate (8.1%), compared to the increase in the capital and reserves (5.8%) and the total assets (6.9%), which caused **minimal deterioration with the indicators for the indebtedness of the corporate sector**. In addition, the profit based on regular activities[15] in 2012 is smaller by 4.1% in comparison with the one realized in 2011, with simultaneous increase in the expenditures based on funding (of 11.1%), caused decrease in the coverage of these expenditures with the gain from regular activities. Analyzed by activity, the indicators for the indebtedness register increase with the enterprises from the following activities: "agriculture, forestry and fishing", "industry", "accommodation and food services activities" and "activity related to the real estate and professional, scientific and other technical activities". The construction enterprises have registered the highest debt indicators, while the enterprises dealing with agriculture, forestry, hunting and fishing register the best debt indicators. The indicators for the corporate sector performance by activity are provided in Annex 5.

The similar annual change rates of the current assets[16] (8.4%), the current assets without inventories (8.1%) and the short-term liabilities (7.4%) **resulted in almost unchanged level of the indicators for the current, acid and cash liquidity**. However, the amount of these indicators is below the generally accepted satisfactory values of 1 for the acid liquidity or 2 for current liquidity. The almost unchanged level of the liquidity indicators in 2012 arises from the deterioration of these indicators with the enterprises in industry given the improvement of the liquidity of the enterprises from all other activities. The highest level of liquidity has been registered with the enterprises engaged in "wholesale and retail sale", while the lowest indicators of liquidity in "accommodation and food service activities" and "activities related to real estate and professional, scientific and other technical activities".

The indicators of efficiency of use of funds in 2012 indicate slightly smaller use of funds by the domestic corporate sector. Namely, the turnover of all asset categories registered some reduction due to slower growth in income based on regular operating (2.5%), in comparison with both the growth of total assets (6.9%) of the corporate sector and the growth of certain types of assets. In addition, there has been some prolongation of the average time required for collection of the claims, the realization of the inventories and payment of the liabilities. Opposite to such movements, in 2012, decrease in the share of the operational noncurrent assets[17] in the total assets has been registered, as well as increase in their coverage with the long-term sources of funding. Analyzed by activity, in line with the nature of the activities, the indicators of efficiency of use of funds, in 2012, register just higher deterioration with the activities "construction" and "activities related to real estate and professional, scientific and other technical activities". In general terms, these indicators are less favorable for the enterprises in "construction" activity, while the most favorable with the trade companies and the companies from "accommodation and food service activities", which is quite expected having in mind the specifics of these activities.

In 2012, almost 38% of legal the entities that submitted annual balance sheets to the Central Registry showed an operating loss. They comprise 27.3% of the total assets of all

[15] The profit from regular activities is calculated as a difference between the income and expenditures from the regular operations of domestic corporate sector.
[16] The current assets encompass cash, short-term securities, short-term claims and inventories.
[17] The operational noncurrent assets represent the sum of the tangible assets, nontangible assets and investments in real estate.

entities and as expected, characterize by far weaker debt, liquidity and efficiency indicators in the use of funds compared to the legal entities which showed profits in 2012[18]. Analogous to the movements of indicators of the efficiency of use of assets, also the **indicators of profitability of the domestic enterprises showed some deterioration**. In 2012, the net profit of the corporate sector is lower by 5.1 % compared to 2011, while profit from operations before financial expenditures and taxes dropped by 4.1%. In 2012, the operating expenses of the corporate sector experienced faster growth (2.9%), compared to the increase in operating income (2.5%), and between expenditure items, the strongest growth was recorded in the cost of goods sold (10.2%). These movements resulted in certain decline with the indicators of return on assets and equity. Analyzed by different sectors, in 2012, the enterprises from "industry", "wholesale and retail sale", "accommodation and food service activities" activities and "activities related to real estate, professional, scientific and other technical activities" registered a decline in the net profit and consequently significantly fall in the profitability indicators.

The achievements of the Macedonian corporate sector can be seen through analysis of the indicators of the performance of the legal entities according to their size[19]. On December 31,2012, 0.6% of the total number of companies that submitted annual balance sheets to the Central Registry of the Republic of Macedonia are large legal entities, and the rest are medium-sized, small and micro enterprises. The assets of the large companies comprise 44.3% of the total assets of all entities, immediately followed by the small companies the assets of which accounts for 32.5% of the total assets. The small legal entities contributed most to the assets growth of the legal entities in 2012 (46.3%), followed by the medium-sized enterprises (28%). Moreover, in 2012, the medium-sized and the small legal entities registered an increase in the net profit (7.1%). The large enterprises experienced smaller profits in 2012 (10.6%), while the micro legal entities showed operating loss, which is twice higher than in the previous year. The large and the medium-sized legal entities are characterized by better debt indications, higher liquidity and greater efficiency in the use of funds. In contrast, the small-sized enterprises have the best profitability indicators. The indicators for the operation of the legal entities according to their size are given in Annex 6.

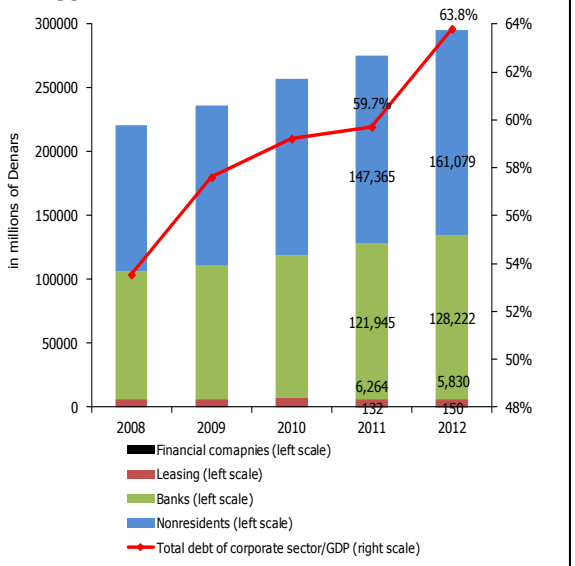
The scope of activities and performance of the corporate sector, as well as its efficiency in dealing with the risks it is exposed to, condition, to a large extent, the disposable income and generally, the financial power of the population. Any reduction in the number of employees in the domestic corporate sector and/or the amount of net wages can affect adversely the capacity of the population to regularly repay the debt, which would further adversely impact the stability of the financial system (primarily the banking). During 2012, the number of employees in the domestic enterprises increased by 17,840 persons (or by 3.7 %), and thus on December 31,2012, the corporate sector comprises 76.2% of the total number of employees in the country. In addition, the weighted average monthly net wage in the corporate sector registered annual nominal growth of 3.5% (or Denar 719). Despite these developments, it is still perceived that the corporate sector fails to have enough capacity to employ the active population in the country (on December 31,2012, the corporate sector employs 52.9 % of the total workable population in the country), as well as the low productivity of the labor force, which in case of possible

[18] The indicators for the operations of the legal entities according to the realized financial result are given in Annex 7.
[19] The classification of the legal entities in large, medium-sized, small-sized and micro legal entities is made according to the criteria under Article 470 of the Law on Trade Companies (in the Law, the term "traders" is used).

implementation of the rationalization of expenditures by the domestic companies, it may have negative impact on the level of employment and the wages in the corporate sector.

The companies in the Republic of Macedonia hardly use market financing, in terms of fundraising based on issuance of new shares and/or debt securities. Hence, the credit support by the financial system (mainly by the banks) and non-residents (primarily from foreign parent entities that own domestic enterprises) is one of the most important sources of funds of the domestic corporate sector. The introduction of the requirement for compulsory quotation of the securities of the issuers that are not listed on the Macedonian Stock Exchange, and which fulfill the quotation terms[20], will increase the number of the listed companies on the stock exchange. The listed companies are committed that they will report to the public regularly on all relevant activities and assessments of the financial position, thus exposing their performances to public assessment[21]. The increased transparency level could stir the interest with the potential investors and thus stimulate new issues of shares by the mandatory listed companies, which would mean expanding of their sources of funding and broaden growth possibilities of the total activities.

Figure 22 Debt of the corporate sector, by the type of creditor



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

*Note: The data on the external debt of the corporate sector are preliminary data, while for GDP they are estimated data

2.1.2 Indebtedness of the corporate sector[22]

In terms of prolongation and certain deepening of the turmoil in the broader external environment and subsequent recession pressures the domestic economy faced with, the corporate sector debt experienced similar annual growth, as in the previous, 2011, year. The external debt has the largest contribution to the annual increase in the domestic enterprises' debt. In 2012, the total debt of the corporate sector increased by Denar 19,576 million, or 7.1% (in 2011, the debt augmented by Denar 18,647 million, i.e. 7.3%). The highest absolute growth of Denar 13,714 million (or 9.3%) was registered with the debt to nonresidents, which provided substantial credit support for the domestic enterprises. In conditions of moderate annual increase in the trade credits (Denar 305 million, or 0.6%), the increase in the external debt was based mostly on loans and other liabilities[23] to

[20] In accordance with the amendments to the Law on Securities from January 23,2013, published in the "Official Gazette of RM" no. 13/2013 (more details are provided in Section 3.5.2.2 Secondary capital market).

[21] More details in Section 3.2.2.2. Secondary capital market and on www.mse.com.mk

[22] For the purposes of this analysis, the total debt of the corporate sector includes: debt on loans, interest and other claims of banks, the total liabilities of the corporate sector to abroad (non-residents), the value of active contracts for leasing and debt on the basis of active agreements with financial companies.

[23] The other liabilities to nonresidents are liabilities that **are not** included in the following categories: trade credits, loans, debt securities, currencies and deposits.

nonresidents. The high annual increase in the external debt of the corporate sector has bolstered its dominance in the total domestic enterprises' debt, which at the end of 2012 reached 54.6% (53.5% at the end of 2011). The dominance of the external in the total corporate debt contributes more to the increased sensitivity of the domestic corporate sector to external shocks. Having in mind the fact that the volume and the cost of the external support, to certain extent, are determined by the credit rating of the country, it is important to maintain favorable credit rating, which in turn is largely determined by maintaining the public finances of the country in good condition.

Besides the role of beneficiaries of external credit support, some domestic enterprises in 2012, acted as lenders to the foreign parent entities and/or other affiliates of foreign groups they belong to. Thus, the total demand of the corporate sector from abroad registered an annual growth of Denar 10,567 million, or 16.5% and net external debt of the domestic enterprises (calculated as difference between liabilities and claims to/from abroad) rose by 3.147 million (or 3.8%).

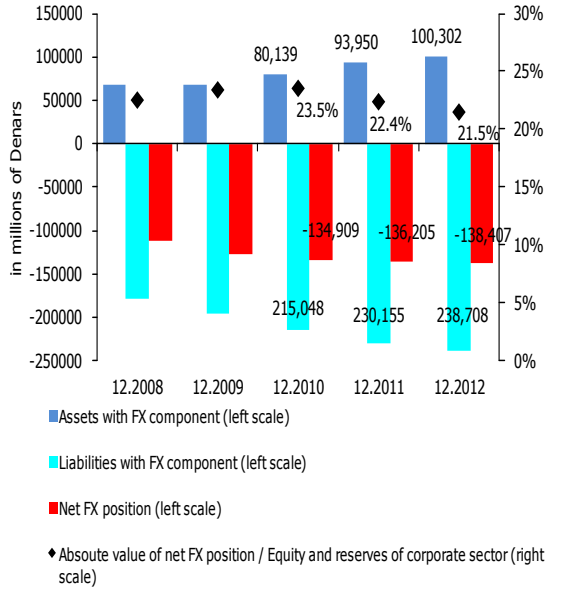
Table 3 Structure and changes of corporate debt components

Type of indebtedness		Structure (in %)		Annual change in 2012		
		31.12.2011	31.12.2012	Absolute amount (in millions of denars)	Relative change (in %)	Change of share (percentage points)
currency	Denar indebtedness	15.7%	18.5%	11,040	26.1%	2.7
	FX indebtedness	72.5%	71.6%	11,836	6.1%	-0.9
	Denar indebtedness with FX clause	11.8%	9.9%	-2,885	-9.1%	-1.8
maturity	Short term indebtedness	37.3%	36.7%	5,745	5.7%	-0.6
	Long term indebtedness	56.9%	56.9%	11,590	7.6%	0.1
	Other indebtedness (past-due and nonperforming)	5.9%	6.4%	2,657	16.8%	0.5
type of interest rate	Indebtedness with fixed interest rate	16.0%	18.7%	8,568	26.2%	2.7
	Indebtedness with variable interest rate	35.2%	34.1%	3,587	5.0%	-1.1
	Indebtedness with administrative interest rate	45.6%	44.2%	4,488	4.8%	-1.5
	Other - non-interest bearing indebtedness	3.2%	3.1%	288	4.4%	-0.1

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

Note: The calculations include the foreign debt of the corporate sector and to domestic banking system, which on December 31,2012 comprise 98% of the total corporate debt. Debt structure by type of interest rate takes into account the debt to the banking system and nonresidents solely based on loan principal.

Figure 23 Foreign currency position of the corporate sector



Source: National Bank

In 2012, the highest absolute increase was registered in the corporate long-term foreign currency debt, especially in the indebtedness with the fixed interest rate.

The increase in the foreign debt which amounted 11.8 billion, or 6.1 %, fully arises from the increase in the external debt of the domestic enterprises. Similar absolute growth was registered also in the Denar debt (Denar 11 billion, or 26.1%), which results from the increase in the Denar debt to banks. The currency component of the debt of the domestic corporate sector is dominant with over 81 % of the total debt, which contributes to increased sensitivity and importance of the exchange rate level for the performances and the stability of the corporate sector. The increased sensitivity of the currency risk is evident also through the short foreign currency position of the enterprises[24], which stems from the higher amount of liabilities than assets with currency component. The unequal distribution of the net foreign exchange position by activity or by enterprises emphasizes even more the exposure to currency risk. However, this exposure to currency risk is being mitigated by the implementation of the strategy of de facto fixed nominal foreign exchange of the Denar relative to the Euro by the National Bank.

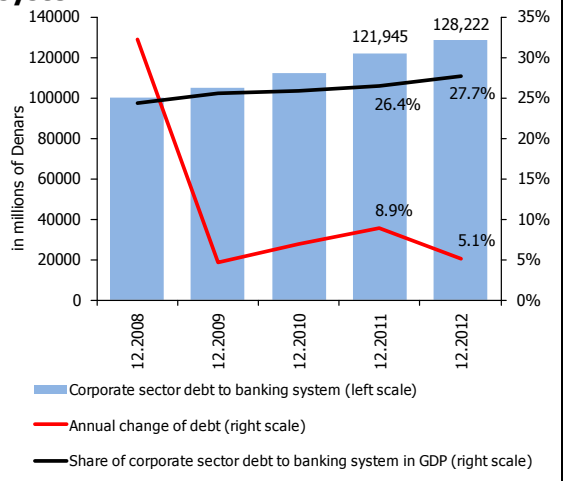
In the maturity structure of the corporate sector debt, the long-term debt registered the highest absolute growth in 2012, the largest part of which was due to the increase in the long-term debt to nonresidents. In contrast, the fastest growing component was the debt having due or non-performing status, which in 2012 increased by 16.8 %, which is an indicator for the reduced creditworthiness of the companies and indicates deterioration in the risk profile of the credit exposure of banks to the domestic corporate sector.

In 2012 the debt of the corporate sector with a fixed interest rate registered the highest growth, and its share in the total corporate debt increased (by 2.7 percentage points), at the expense of the smaller share of the debt with variable and adjustable interest rate. The annual increase in the debt with fixed interest rate largely stems from the increase in the fixed interest

[24] Net currency position is calculated as the difference between the assets and liabilities with currency component of the corporate sector. Assets with currency component include deposits with currency component, cash on accounts abroad, total claims of residents on nonresidents and investments abroad. Liabilities with currency component include: credits with currency component from domestic banks and total liabilities of residents to nonresidents. Since there are no data available on investments abroad as of December 31, 2012, the calculations use data as of December 31, 2011.

rate to nonresidents. Despite such developments, the domestic banks is mostly financing the corporate sector through loans with adjustable interest rates, with this part of the corporate sector debt having the largest share in total debt. Moreover, the debt with adjustable and variable interest rates is prevalent in the structure of the total indebtedness of the corporate sector (78.3% as of December 31,2012), suggesting increased exposure of the corporate sector to the interest rate risk on the domestic or international financial market.

Figure 24 Corporate debt to the banking system

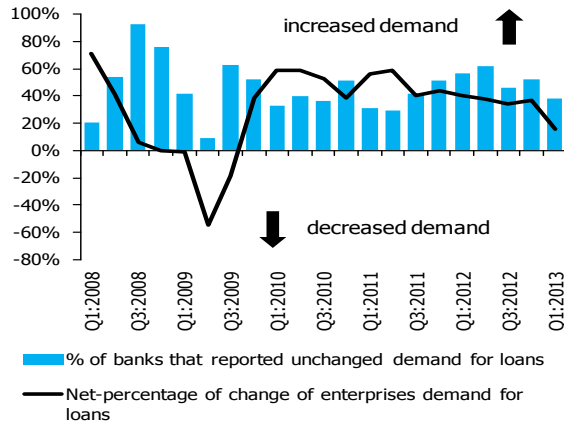


Source: Credit Registry of the National Bank, based on data submitted by banks and the State Statistical Office.

In 2012, the corporate debt to the domestic banking system[25] registered slower increase, similar to the one registered in 2009, and it was almost fully concentrated in the first half of the year. In conditions of unfavorable business cycle, increased credit risk and general uncertainty related to the future economic flows, the domestic banks reacted by limiting the credit supply. Additional factors that influenced the credit supply are also the deleverage process with some of the foreign banks that operate in the Republic of Macedonia, as well as the relatively active share of the banks on the domestic securities market. On the other hand, according to the results of the lending surveys[26], the net percentage of the banks[27] that reported larger demand for credits from the corporate sector registers slight downward trend, while more than 54% of the banks reported basically unchanged credit demand by the domestic enterprises in 2012 (which is more by almost 16 percentage points, in comparison with 2011). Despite the reduced credit supply and demand, the annual growth rate of credit support from the domestic banking system is higher than the one realized with the GDP, thus increasing the ratio between the corporate debt to the domestic banks and GDP. According to the results of the latest Lending Survey (May 2013), the highest percentage of banks (72.3%) expect partial increase in the demand for credits by the enterprises in the second quarter of 2013.

[25] 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 credits.
[26] Lending surveys of banks of the NBRM for each of the four quarters of 2012.
[27] Net percent is the difference between banks that reported higher demand for corporate credits and banks that reported lower demand for corporate credits.

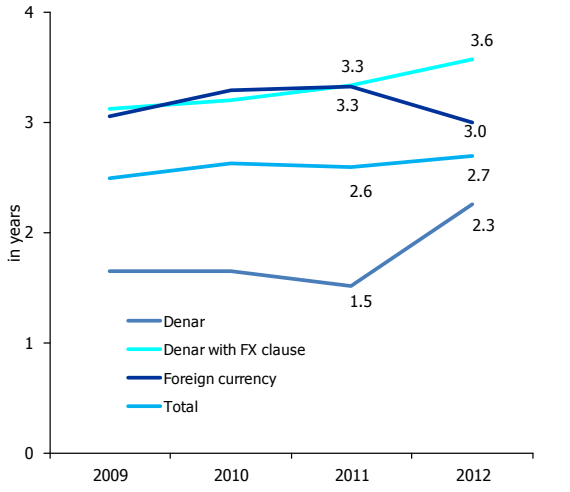
Figure 25 Corporate demand for credits on a quarterly basis



Source: the National Bank, according to the lending surveys of banks

*Note: The percentage of banks is weighted by the share of each bank in total corporate loans on specific dates. Net percent is the difference between banks that reported higher demand for corporate credits and banks that reported lower demand for corporate credits.

Figure 26 Average maturity of newly approved corporate credits, by currency

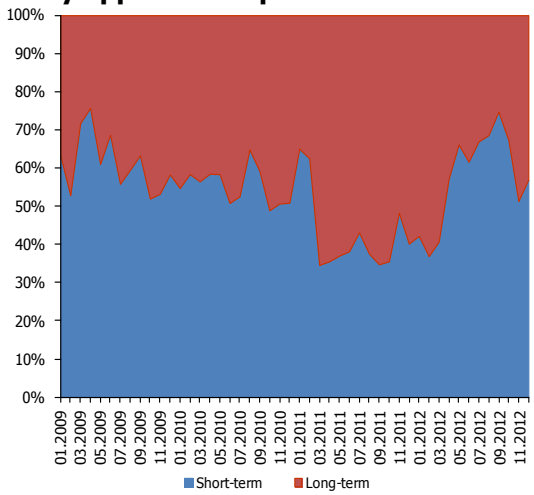


Source: Credit Registry of the National Bank, based on data submitted by banks.

The amount of the newly approved corporate loans by the Macedonian banks in 2012 was higher by 3.9 % compared to 2011 (which is a slowdown of 1.9 percentage points compared to the increase in the newly extended loans in 2011). The newly approved Denar loans, with annual growth of 36% fully conditioned the increase in the total newly extended loans to the domestic corporate sector. In contrast, the newly approved loans with currency component registered an annual fall of 18%, with the newly approved foreign loans being reduced by nearly 20%, while the newly extended loans with currency component plunged by about 16%. The reasons for this conversion in the currency structure of the newly approved loans can be sought on both the supply and the demand for loans side. In fact, in 2012, certain changes in the currency structure of the sources of funding with the domestic banks have been registered, whose customers have shown larger preference for keeping their assets in domestic currency. On the other hand, the reduced lending in foreign currency can be explained by the reduced performance of the export-oriented segment of the corporate sector and the generally reduced foreign trade in 2012. The higher demand for credits intended for investments in inventories and work capital[28] is the main reason for extending new loans in 2012 on a short-run (almost 57%), thus proving that the domestic enterprises are dominantly focused on the maintenance of the current performance in 2012 (in 2011, the long-term loans were the most common, taking almost 59% of the newly approved credits to the domestic enterprises).

[28] In accordance with the Lending Survey of Banks, on average, about 60% of the banks reported increased demand for credits for investments in inventories and work capital.

Figure 27 Maturity structure of the newly approved corporate loans



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

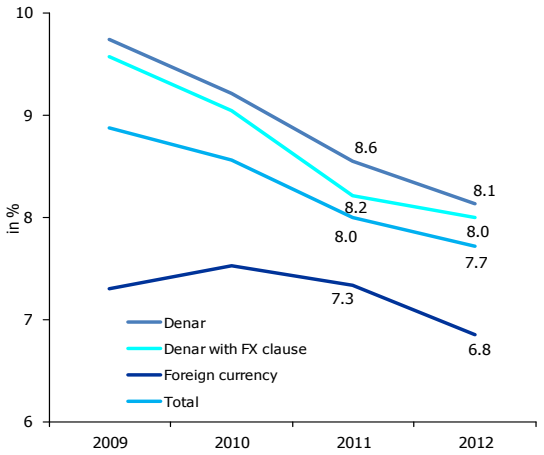
The average maturity of the total newly approved loans in 2012 maintained almost the same level, with the newly approved Denar loans to domestic enterprises registering the lowest average maturity, although increased for approximately 10 months of 2012. Even though reduced (for about 2 months), the average maturity of the newly approved loans with a currency component is higher (for 2012 it equals 3.2 years), which on the one hand reflects the maturity profile of the banks' sources of funds, but on the other, it represents the banks' expectations for greater stability of the foreign currency sources of funds.

Table 4 Average interest rate on corporate loans and risk premium presented as a difference exceeding the rate of CB bills or of one-month EURIBOR, by activity

Activities	31.12.2011				31.12.2012			
	denar loans		loans with foreign currency component		denar loans		loans with foreign currency component	
	average interest rate	percentage point over NBRM bills interest rate	average interest rate	percentage points over 1 month EURIBOR	average interest rate	percentage point over NBRM bills interest rate	average interest rate	percentage points over 1 month EURIBOR
Agriculture, forestry and fishing	8.3%	4.3	7.3%	6.3	8.0%	4.2	6.9%	6.8
Industry	8.7%	4.7	7.3%	6.3	8.0%	4.3	6.9%	6.8
Construction	8.9%	4.9	8.1%	7.0	8.6%	4.9	7.5%	7.4
Wholesale and retail trade	8.6%	4.6	7.6%	6.6	8.1%	4.4	7.1%	7.0
Transport, storage, information and communication	9.2%	5.2	8.6%	7.5	8.5%	4.8	7.8%	7.7
Accommodation facilities and catering services	10.1%	6.1	8.4%	7.4	8.9%	5.1	8.0%	7.9
Real estate activities, professional, scholar and technical activities and administrative and auxiliary services	8.9%	4.9	7.7%	6.7	8.3%	4.6	7.0%	6.9
Total corporate sector	**8.7%**	**4.7**	**7.6%**	**6.6**	**8.2%**	**4.5**	**7.1%**	**7.0**

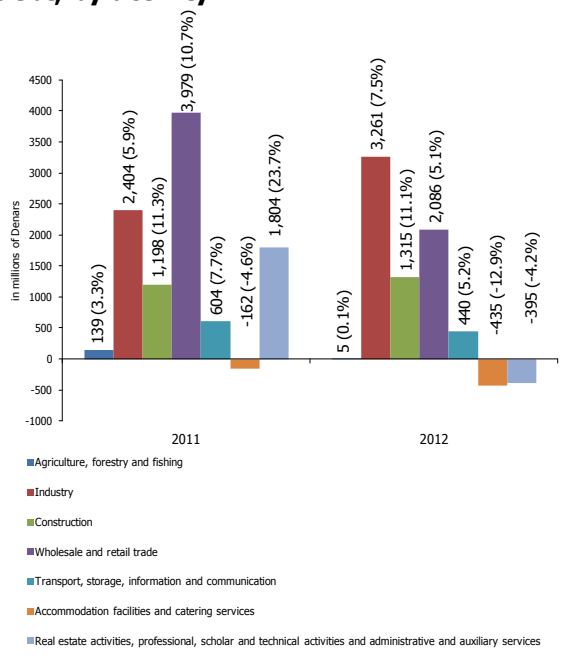
Source: Credit Registry of the National Bank, based on data submitted by banks.

Figure 28 Average interest rate on the newly approved corporate loans, by currency



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

Figure 29 Annual change of the corporate debt, by activity

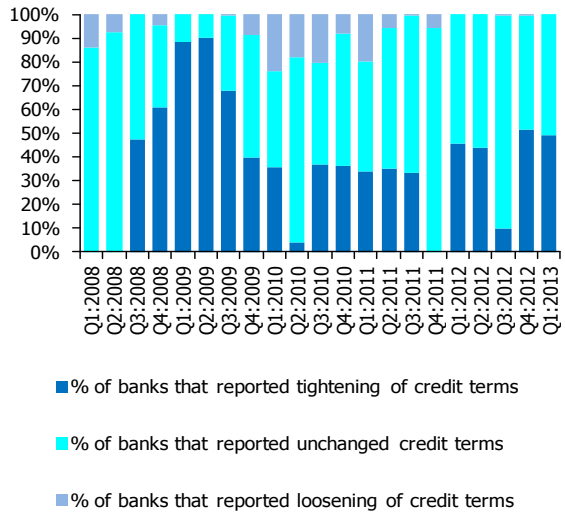


Source: Credit Registry of the National Bank, based on data submitted by banks.
Note: The annul change rates of the debt are given in brackets.

In 2012, the banks reported some decrease in the interest rates on corporate loans to the Credit Registry of the NBRM, which still, on average, does not exceed half a percentage point. The average interest rates on loans with foreign currency component of the corporate sector are slightly lower, but at the same time they include a risk premium higher by 2.5 percentage points (over the one-month Euribor), compared to the risk premium included in the interest rates on Denar loans (over the CB bills rate), which in 2012 recorded some decline. This shows that in terms of banks, in conditions of a policy of fixed exchange rates, although with lower interest rate, the loans with currency component actually bear larger profit compared to Denar credits. In conditions of generally higher credit risk, the reducing of the risk premium with Denar loans, which by the way, in 2012 are mostly extended to domestic enterprises, points out that the most common clients of banks in 2012 were companies which are less affected by unfavorable global conjuncture and somewhat immune to the materialization of risks related to the economic growth during the year. Otherwise, the possible lending to clients with higher credit risk, which is not covered by appropriate higher risk premium, incorporated in the interest rates, points to possible erroneous credit decisions by banks, which although contribute to contra cyclic current macroeconomic policies in the country (in terms of strengthening the credit support for the real sector), it will inevitably lead to increased loan losses and deteriorated financial stability. Thus, despite the fall in the metal prices and reduced global demand for iron and steel, most of the credit support in 2012 was aimed at enterprises from industry, dealing with the production of metals, machinery, tools and equipment. Relatively high support (although less than in the previous year) was provided also to clients engaged in "wholesale and retail sales", despite the decline in domestic trade. Although there was saturation of residential property offer on the real estate market and there are expectations for reduced demand for real estate, the debt of companies in the construction (including production of construction materials)

recorded the most dynamic growth in 2012. Despite these decisions, part of the loans were intended for companies from the pharmaceutical industry, as an activity that is growing in global terms and is relatively immune to the adverse developments in the global economy. However, to give full, fair and credible assessment of (non)justification of the banks' lending decisions (primarily in terms of the interest rate) is not possible without more detailed analysis of individual companies which were credited in 2012 and their achievements and planned projects for the future.

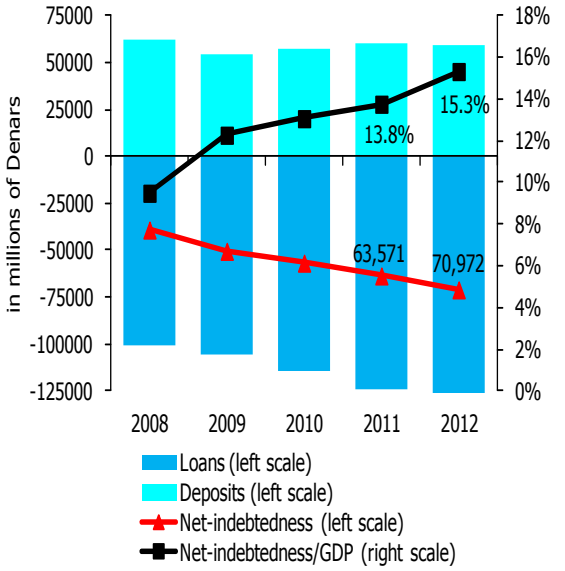
Figure 30 Bank terms for corporate lending



Source: National Bank, according to data from the lending surveys of banks.
*Note: The percentage of banks is weighted by the share of each bank in total corporate loans on specific dates. Net percent is the difference between banks that reported higher demand for corporate credits and banks that reported lower demand for corporate credits.

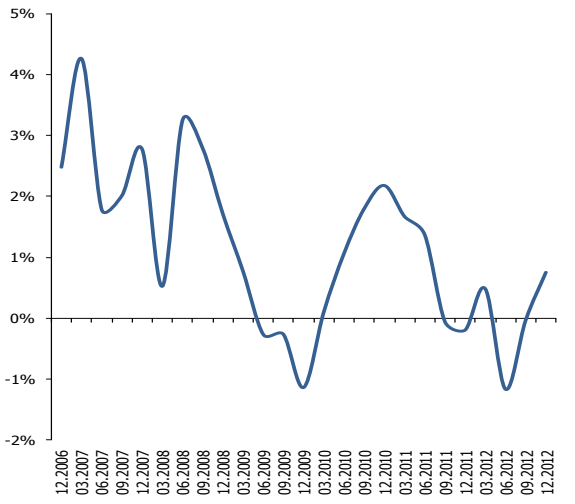
According to the results of the Lending Survey of Banks, the interest rate on loans to domestic enterprises remained, basically, unchanged. In 2012, on average, slightly more than 60% of the banks reported unchanged crediting terms to companies, while the remaining indicated that have introduced certain tightening in the conditions. According to the Lending Survey of Banks, more than 90% of the banks, on average, in 2012 reported unchanged interest rate on loans to the corporate sector. However, part of the banks has implemented partial tightening of the non-interest conditions, mostly in the conditions relating the requirements for collateralization of the corporate debt (on average about 35% of the banks), the amount of the loan or the credit line and the methods and frequency of repayment of the loans (where on average about 20% of the banks reported partial tightening of the conditions). The banks that conducted tightening of the crediting terms for enterprises distinguished the deteriorated risk perceptions as a factor that contributed to partial tightening of the crediting terms (meaning, the expectations for overall economic activity, the perspective of the branch the enterprise belongs to and the risks related with the collateral provided by the debtors). According to the results of the latest Lending Survey of Banks (May 2013), 56.7% of the banks said they expect basically unchanged credit conditions in the second quarter of 2013, while 41.3 % of banks expect partly tightening of the lending conditions.

Figure 31 Net corporate debt to domestic banking system



Source: National Bank, based on data submitted by banks.

Figure 32 Annual growth of sight deposits and corporate transaction accounts / annual growth of corporate added value



Source: the National Bank, based on data submitted by banks and the State Statistical Office

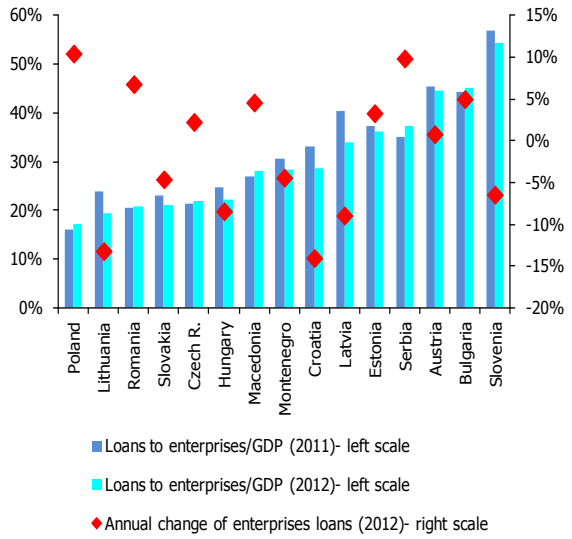
Note: The calculation of added value in the corporate sector does not include the added value in real estate businesses, professional, scholar and technical activities and administrative and ancillary services

In conditions of weak economic activity, increased uncertainty and reduced cash flows, the domestic enterprises have reduced the deposits, causing an annual growth of net debt to the domestic banking system. In 2012, the domestic companies were spending the short-term time deposits, primarily in foreign currency, which were used, besides payment of liabilities to foreign suppliers, for the payment of dividends abroad and funding of foreign parent entities. The annual fall in corporate deposits, in conditions of increased credit support to the corporate sector, increased net debt to domestic banking system by Denar 7.4 billion (or 11.6 %) and its share in GDP to 1.5 percentage points. When analyzing the net debt of the domestic corporate sector, the fact that relatively high amount of deposits has been concentrated with one company (and its connected entities) should be taken into consideration, which is not emerging as a borrower with the domestic banks. By excluding this depositor from the analysis, the share of net corporate debt to the domestic banking system in GDP would equal almost 17%.

Despite the reduction of corporate short-term deposits, the demand deposits and the current accounts showed annual growth, which was not constant throughout the year. Thus, the indicator for the ratio between the annual change in demand deposits and the current accounts of domestic enterprises and the annual change in the value added of the corporate sector increased slightly in the first quarter of 2012, but in the next quarter already it decreased quite and reached the bottom value, similar to the one registered in 2009. In the second half of 2012, this ratio registered certain growth that may refer to some improvement in the liquidity position of the enterprises, which in conditions of general uncertainty about future cash inflows and outflows tend to collect some cash surpluses (reserves). An additional factor contributing to the increase in sight deposits and funds within current accounts of domestic enterprises is the payment of arrears of the state to the private

sector, which was announced and launched in the last quarter of 2012 (and continued in early 2013).

Figure 33 Annual growth rates of corporate loans and corporate loans/GDP, by separate countries



Source: the National Bank, based on data submitted by banks (for the Republic of Macedonia), the web-site of IMF and the web-sites of some national central banks

Note: The ordering of the countries is made according to the level of corporate loans/GDP in 2012

Except in the case of the Polish banking system, where corporate loans increased by 10.5%, in all other analyzed countries (a total of fifteen) the credit support for the corporate sector has registered one-digit annual growth rate in 2012, or even a reduction in some cases. These developments are result of the globally worsened conditions, globally, for access to financial markets and restraint of the financial institutions for taking new risks and consequently the absence of more aggressive lending activity. In such conditions, the annual growth of loans of the Macedonian banks to domestic corporate sector in 2012 (4.6%) was lower than the growth in Bulgaria, Romania, Serbia and Poland. On the other hand, in 2012 the share of the corporate loans in GDP increased by 1.2 percentage points, which is less only if compared to Serbia (where this share increased by 2.2 percentage points). However, according to the amount of the share of corporate loans in GDP (28.1% as of December 31,2012), the Macedonian banking system is in the middle of the list of analyzed countries and it is "better" only in comparison with six of the analyzed countries.

Table 5 Indicators for servicing contractual liabilities to the banking system

	2011	2012
Probability of default*	5.0%	4.8%
Increase of banking system nonperforming loans to corporate sector, in millions of Denars (in %)	2,778 (24.6%)	2,467 (17.6%)
Increase of banking system credit exposure with higher degree of riskiness to domestic enterprises, in millions of Denars (in %)	4,158 (28.0%)	5,494 (28.9%)
Increase of restructured loans to corporate sector, in millions of Denars (in %)	1,957 (61.2%)	4,468 (86.6%)
Increase of performing, but restructured loans to corporate sector, in millions of Denars (in %)	2,391 (173.4%)	2,293 (60.8%)
Amount of written-off claims of corporate sector, in millions of Denars (% of share of written-off claims in current year in total debt of corporate sector to banks at the end of previous year)	1,123 (1.0%)	419 (0.3%)

Source: the National Bank, based on data submitted by banks
*Note: Calculated as a share of the number of credit agreements of companies - debtors with domestic banks that during the year (from December 31 of the preceding year to December 31 of the current year) changed their status from regular to nonperforming relative to the total number of credit agreements of companies - debtors classified as regular as of December 31 of the preceding year.

The reduced creditworthiness of the enterprises is being proven through deterioration of the risk profile of the bank exposure to domestic corporate sector. The relying on the analyses of the performance of the borrowing companies in certain point-in-time, comparing to the need of analyses of the corporate behavior through-the-cycle, usually leads to the larger shares of claims that are not paid at all, or paid irregularly, although with a certain time lag, which is proven also in the case of the Macedonian banking system. The slight decrease in the approximate calculation of the probability of default of the corporate sector to the domestic banks (of 0.2 percentage points) in 2012 is not a result of the improved creditworthiness of the domestic enterprises, but it fully arises from the larger number of newly concluded credit agreements (with regular status) in 2011, compared to 2010[29]. On the other hand, the share of the nonperforming loans and the regular but restructured loans of the domestic enterprises in the total corporate debt increased by 3 percentage points and at the end of 2012 it reached 17.6% (if exclude the effect of the written-off claims on the corporate sector in 2012, this share would equal 17.9%)[30]. Such movements mainly stems from the relatively high two-digit growth rates of the nonperforming loans of the domestic enterprises and loans which were restructured due to the deteriorated financial condition of the borrowing companies (loans which would probably be considered nonperforming, if the crediting terms have not been changed). The calculations do not include the loans of the domestic enterprises, the maturity of which has been prolonged, and the prolongation is not due to the deteriorated financial standing of the borrowing enterprises. The amount of these credits is relatively high

[29] The number of credit agreements having obtained nonperforming status in 2012 is higher by 65 credit agreements, or by 3.2%, in comparison with 2011, while the number of the credit agreements with regular status at the end of 2011is higher by 3,569 credit agreements, or by 8.9% in comparison with the end of 2010.
[30] At the end of 2012, the share of the nonperforming loans in the total corporate debt equals 12.9%, which is annual rise of 1.4 percentage points (if exclude the write-off effect, this share would equal 13.2% at the end of 2012).

although it registers a decrease in 2012[31], and every "more liberal" interpretation of the provisions of the regulation concerning the prolonged loans by the banks (in the part referring that the prolongation of the deadline is not due to the worsened financial standing of the client) would mean even higher percentage share (than stated) of the loans of the domestic enterprises, which are not capable to regularly service their liabilities to the banks, in the total corporate debt. Besides, the calculations do not take into consideration the uncollected claims on the corporate sector, which are closed, from the aspect of the accounting, by takeover of the assets (provided as collateral), and which also represent claims on enterprises that are not in position to service the agreed liabilities to banks.[32] The increase in the volume of activities and efficiency of the corporate sector and consequently, the volume and the dynamics of cash flows are crucial for further developments in the quality of the credit exposure of the banks to local businesses and their ability to service their liabilities. In a small and open economy, the latter is conditioned largely by developments at the global level and its impact on external demand and the expectations and perceptions of the risks of the domestic economic agents. Meanwhile, the banks should be cautious when make credit decisions and lend to the corporate sector. The credit support to enterprises by the banks is welcome in conditions of reduced economic activity and it enables easier overcoming of the recession pressures, especially in countries where there is no market financing of enterprises. However, this credit support should be approved by the appropriate credit conditions, particularly in the determining of the risk premium incorporated into interest rates, which should corresponds to the enhanced credit risk that banks take.

[31] On December 31,2012, the prolonged loans to domestic enterprises amount to Denar 15 775 million (of which, Denar 13,146 million are regular), which is less by Denar 2.131 million compared to the end of 2011 (the annual reduction of prolonged regular loans equals Denar 2.317 million).

[32] On annual basis, the accounting value of the total foreclosed assets on the basis of the total uncollected claims increased by Denar 106 million, the majority of which are foreclosures for claims on enterprises.

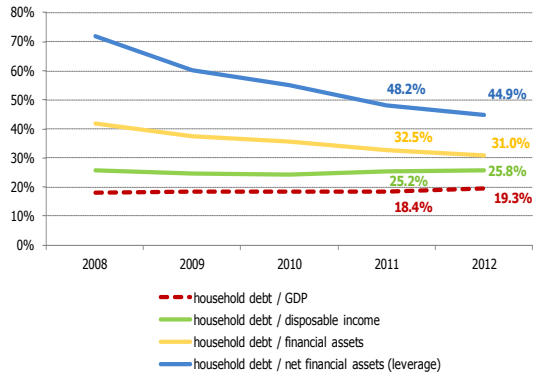
2.2 "Household" sector

The risks to financial stability arising from the households in 2012 remained within the controlled frames. The increase in the household debt, although decelerated, caused minor deterioration of the indicator of the household debt relative to disposable income. The erratic macroeconomic environment, in conditions of increased credit risk that banks faced with in their performances in 2012 contributed to the unchanged credit conditions and slower growth in the credit offer for households. However, the slight risk perceptions stemming from the "household" sector reflected adequately on the relatively improved credit conditions and smaller credit growth deceleration, compared to the corporate sector. The household debt recorded twice lower annual growth rate than financial assets, which has improved the ability of households to repay their total debt and increased the possibilities for further borrowing. However, the households were less eager to borrow, i.e. the growth in demand for loans slowed down.

The scope of activities and performance of the corporate sector and its efficiency in dealing with the risks it is exposed to, conditions, to a large extent, the disposable income and generally, the financial ability of households, while its dynamic growth is hindered by high unemployment and low productivity labor. The negative developments in the consumer spending arise from the adverse movements in the wage, given the slow credit activity of the banks.

The exposure of the households to interest rate and currency risk remain to be the source of risk that can influence on their capability for debt repayment, and hence, on the performances of the financial institutions, primarily banks. The households are the most important creditor of the banking system and every possible materialization of risks they are exposed to can have negative effects on the liquid and stable operating of the domestic banks.

Figure 34 Indicators for the household debt



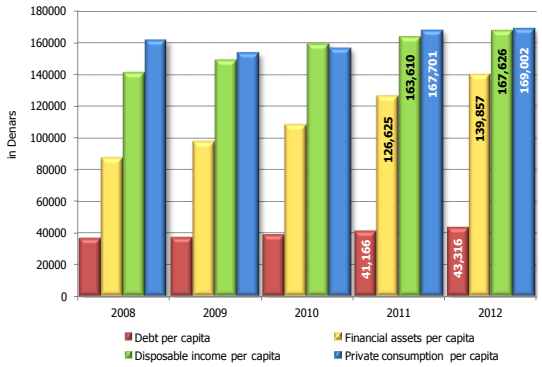
Source: National Bank, based on data submitted by banks and savings houses, MF, CSD, MAPAS, SEC, ISA and SSO.

2.2.1 Ability of the household sector for debt repayment

The increase in the household debt in 2012, although decelerated, conditioned slight increase in its share in the gross domestic product and in the disposable[33]. On the other hand, the higher growth annual rate of the financial assets compared to the debt contributed for improved ability of the households for servicing their total debt (measured through the indicator debt/financial assets) and increased the possibility for their further borrowing (measured through the debt/net financial assets indicator[34]).

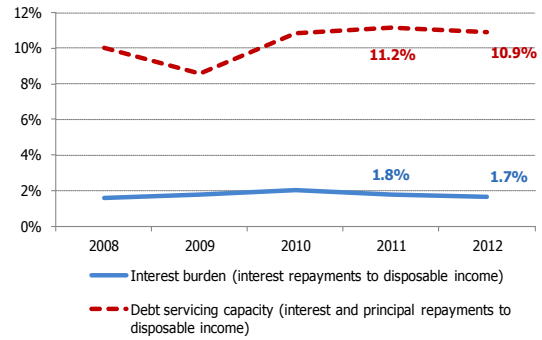
[33] The disposable income is determined in the internal calculations of the National Bank based on data from SSO, MF and CSD.
[34] The net financial assets is a difference between the financial assets and the household debt.

Figure 35 Household debt, financial assets, disposable income and private consumption (nominal), per capita



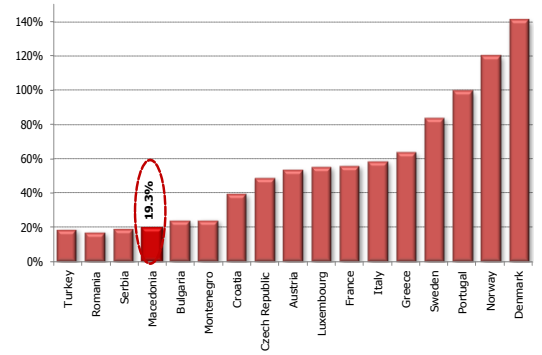
Source: National Bank, based on data submitted by banks and savings houses, MF, CSD, MAPAS, SEC, ISA and SSO.

Figure 36 Debt repayment (principal and interest) and interest of households



Source: National Bank, based on data submitted by banks and National Bank calculations.

Figure 37 Households' debt to GDP ratio, by individual countries



Source: National Bank, based on data submitted by banks, savings houses, SSO, MF, IMF (Financial soundness indicators) and web sites of central banks.

The slower increase in the disposable income in comparison with the increase in the household debt reflects also on the higher debt level per capita, which together with the decelerated increase in the disposable income imposed the need of household borrowings in order to finance the basic consumption.

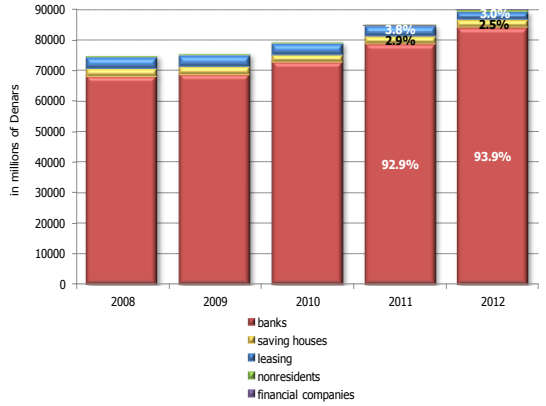
In 2012, the households ability for payment of interest rate and principal registered slight positive changes. The minor decline in both indicators shows improved capability of the households for debt repayment as a result of the higher growth rate of the disposable income (2.6%) than the growth rate of the liabilities for repayment of the interest and principal (0.3%) and decrease in the interest repayment (-4.5%). The reduced repayment of interest indicates smaller interest burden for the "household" sector in conditions of decrease in the interest rates on the credit products. Despite the increase in the household debt in 2012, the increase in the disposable income enabled the repayment not to become larger encumbrance for the households.

The low level of household debt in the Republic of Macedonia in 2012 can be perceived also through the comparison analysis for the debt share in GDP in individual countries. The lower indebtedness is typical for the countries registering low level of disposable income. This partially reflects the historically lower level of financial support to this sector, which hampers the approaching to the level of the household debt in the developed countries. Although there is a room for increasing the household risk, the risk of possible high indebtedness of individual household segments, which have lower inflows, should be taken into consideration. Despite the low debt level relative to GDP, the households represent large debtor to the banks and other financial institutions. This is proven also with the constant rise in the number of households that use various financial products. **The maintenance of the debt servicing ability of the households is of special importance for the total financial stability.**

2.2.2 Household debt

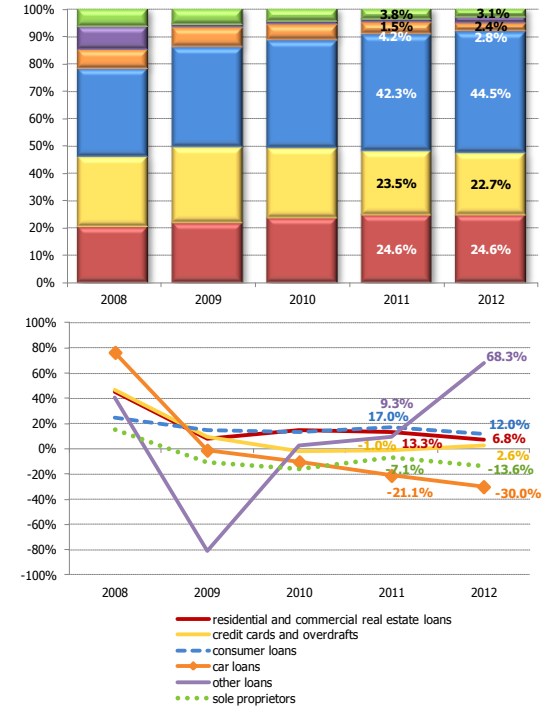
As of December 31,2012, the total household debt[35] equals Denar 89,316 million and it increased by Denar 4,574 million. The annual growth rate of 5.4% is lower by 1.8 percentage points relative to 2011. The bank credits (in the amount of Denar 83,911 million) take the largest portion of the total household debt and they are the main generator of its increase. The indebtedness based on leasing and borrowings from savings houses registered negative contribution (of 12.6% and 4.8%, respectively) to the total increase in the indebtedness.

Figure 38 Total household debt



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

Figure 39 Structure (up) and annual rate of change (down) of the household debt by type of credit product

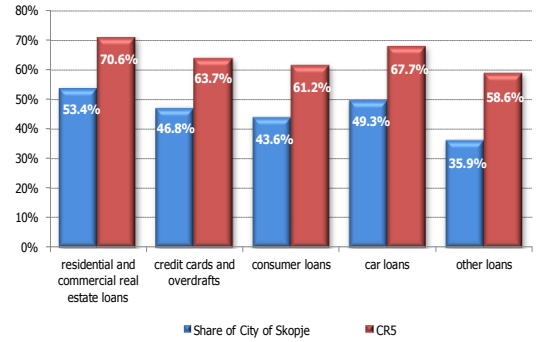


Source: Credit Registry of the National Bank, based on data submitted by banks.

The largest portion of the household debt to banks (72.3%) still refers to the debt for consumption (consumer loans, car loans, overdrafts, credit cards and other loans). In 2012, the consumer loans registered the largest absolute increase thus strengthening its role in the household debt and largely (76.9%) conditioned the increase in the household debt to banks. In contrast, the debt based on car loans and sole proprietors' loans registered substantial decrease, which contributed for decrease in their share in the total debt.

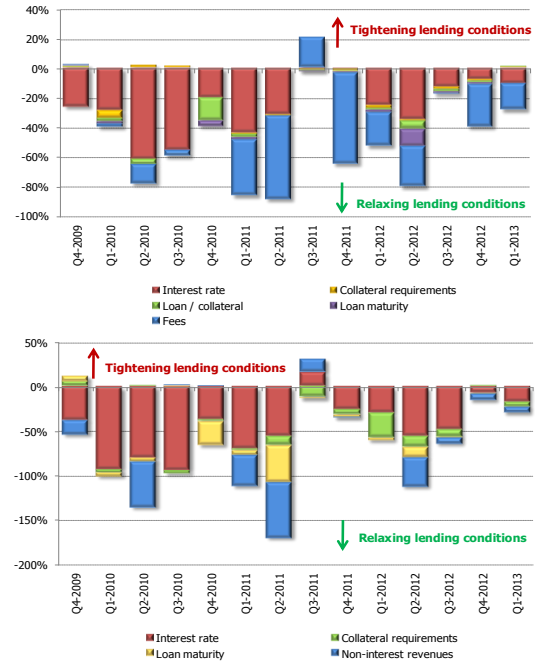
[35] For the needs of this analysis, the total household debt encompasses: borrowings based on credits, interest and other claims of the banks, the debt based on borrowings from savings houses, the total liabilities of the households to abroad (nonresidents), the value of the active leasing agreements and indebtedness based on active contracts with financial companies.

Figure 40 Concentration of the household debt by type of credit products, by municipality



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

Figure 41 Net-percentage of banks which declared tightening/relaxing of particular condition for extending housing (up) and consumer and other loans (down) to households



Source: National Bank, Lending Surveys of banks.
Note: Net-percentage represents the difference between banks that declared relaxing of the loans conditions and banks that declared tightening of loan conditions for crediting households.

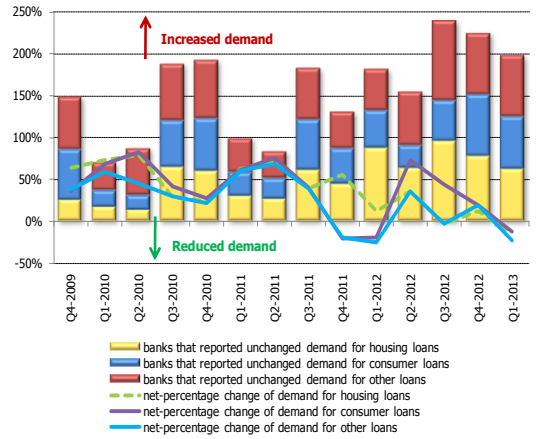
The analysis of the debt concentration by individual municipalities shows that half of the household debt is concentrated in the City of Skopje. According to the CR5 indicator[36], about two thirds of the household debt for almost all types of credit products is concentrated with five municipalities.

According to the Lending Survey in 2012, **the bank perceptions were more moderate with the "household" sector than in the corporate sector, which have adequate reflection on the relatively better crediting terms and smaller deceleration of the credit growth with the households.** The housing and the consumer loans were extended mainly under unchanged crediting terms. The banks indicate the competitiveness pressure as a factor that contributes for relaxation of the crediting terms. In contrast, the collateral risk caused tightening of the crediting terms in 2012. In the second half of 2012, the limiting influence of the factors that refer to the risk perceptions increased. Thus the banks indicate that the deteriorated risk perceptions, the expectations regarding the total economic activity, as well as the solvency of the consumers contributed for tightening of the crediting terms, compared to the first half of 2012, when these factors remained unchanged. Most of the banks expect partial relaxation of the crediting terms[37] in the second quarter of 2013.

[36] The CR5 indicator for all credit products includes the City of Skopje and the Ohrid Municipality, while the other three municipalities differ depending on the credit product (for housing loans - Bitola, Strumica and Tetovo; for consumer loans - Bitola, Tetovo and Stip; for credit cards and overdrafts - Bitola, Prilep and Stip; for car credits - Bitola, Tetovo and Gostivar; and for other loans - Struga, Prilep and Strumica).

[37] A more detailed review of the bank expectations about the conditions for lending to households is given in the Lending Survey of Banks from May 2013 posted on the website of the National Bank - www.nbrm.mk.

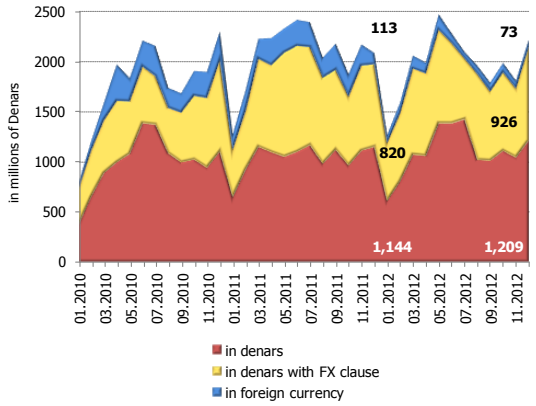
Figure 42 Households' demand for loans



Source: National Bank, based on Lending Surveys of banks.

Note: Net-percentage for change in demand represents the difference between banks that declared increased demand for loans and banks that declared reduced demand for loans by households.

Figure 43 New extended loans to households by currency



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

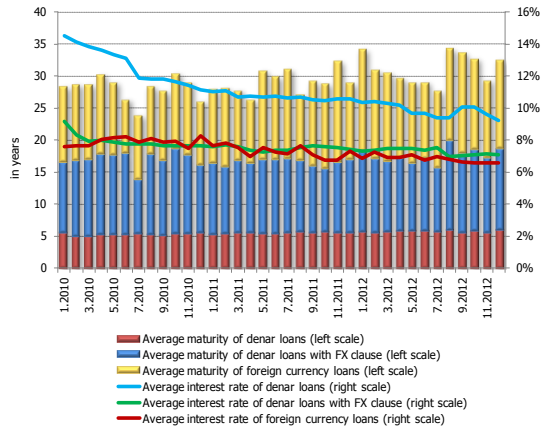
The credit demand also reacted to the economic developments and was growing with slower intensity, in comparison with the preceding year, which is most probably due to its procyclic character. In the second quarter of 2013, partial increase in the demand for all types of household loans is expected[38].

The amount of the newly extended household loans by the banks in 2012 is smaller by 5.7% compared to the preceding year. The downward movement of the newly extended loans fully stems from the loans with currency component, with the newly approved loans being twice lower than the amount approved in the preceding year. The decrease in the newly approved loans with currency component (by 16.7%), given simultaneous growth of the newly approved Denar loans (of 5.4%) indicates changed currency preference in crediting.

Expecting economic recovery and stabilized environment in the following years, and in conditions of relaxation of the National Bank monetary policy, the banks reacted by moderately reducing the price of the newly extended loans. Thus the average weighted interest rates on the newly extended household loans move downwards. At the end of 2012, their average interest rate reduced by 0.4 percentage points relative to the end of the preceding year and it equaled 8.7%. The largest decrease has been registered with the newly extended Denar

[38] A more detailed review of the banks' expectations for the demand for loans by households is given in the Lending Survey of Banks from May 2013, published on the website of the National Bank - www.nbrm.mk.

Figure 44 Average weighted interest rate and maturity of the newly extended loans to households, by currency

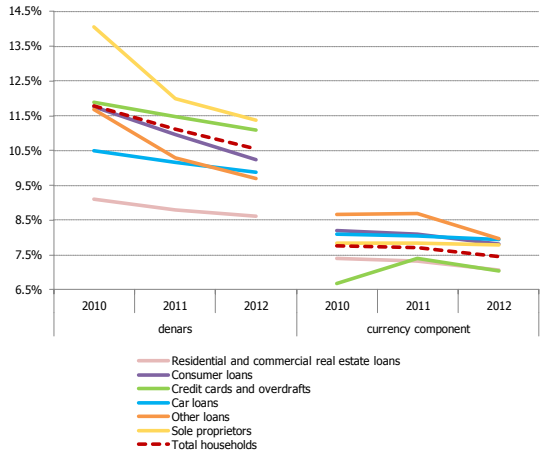


Source: Credit Registry of the National Bank, based on data submitted by banks.

loans (of 0.9 percentage points), which enables partial approximation of the interest rate on these loans to the level of the interest rates in loans with currency component.

The level of the average maturity of the newly extended household loans at the end of 2012 is almost identical to the one in the preceding year, except to the loans with currency component, which registered slight prolongation of their maturity.

Figure 45 Average interest rate on household loans by type of credit product



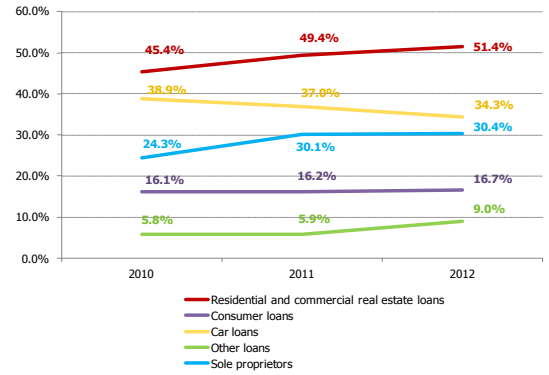
Source: Credit Registry of the National Bank, based on data submitted by banks.

The downward trend of the average lending interest rate by individual credit product of the households continued also in 2012, which corresponds to the decrease in the key interest rate of the National Bank in the second quarter of the year. Accelerated decrease was registered with the household Denar loans (of 0.6 percentage points), mostly with the consumer loans (of 0.7 percentage points) and sole proprietors' loans (of 0.6 percentage points). The fall in the lending interest rates pursued also in the first months of 2013, and it is most notable with the housing loans.

The indicator for the share of the average monthly annuity for each type of credit product[39] in the average nominal net wage indicates that

[39] On December 31,2012 the average monthly installment of the natural persons for housing loan equals Denar 10,742, Denar 7,169 for the car loan, Denar 6,356 for sole proprietors' loans, Denar 3,482 for consumer loans and Denar 1,885 for other loans. The credit cards and the overdrafts are excluded from the analysis due to the specific determining of the monthly annuity of the client. Although this analysis is based on individual share of the monthly annuity for each credit product in the monthly wage, it is not excluded the fact that one person can appear as user of more than one credit product, so the monthly annuity could take larger part of the monthly wage.

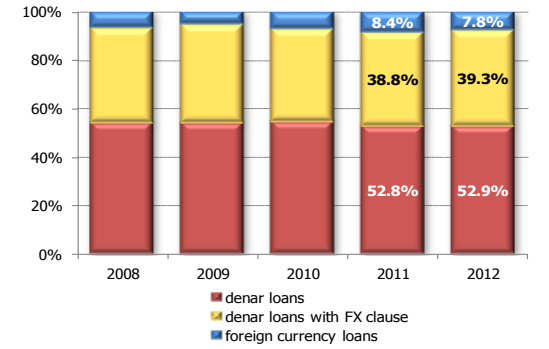
Figure 46 Movement of the indicator for the amount of the average monthly annuity by type of credit product/monthly net wage of the natural persons



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

about half of the average monthly wages of the natural persons are used for covering the monthly installment for a housing loan, and about 30% for the monthly annuities for car loans and sole proprietors' loans.

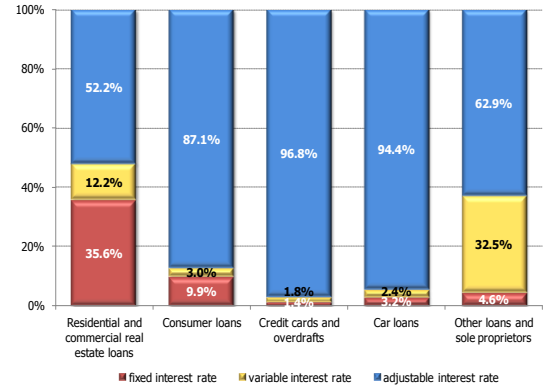
Figure 47 Currency structure of the household loans



Source: National Bank, based on data submitted by banks.

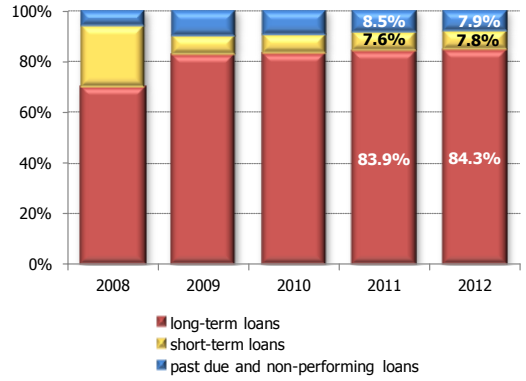
The exposure of the households to both interest rate and currency risk remains to be the basic source of risk, which can influence on their ability for debt repayment, and consequently, on the stability of their creditor, as well. Despite the denarization of the crediting, the share of the debt with the currency component is still high (47.1% in comparison with the share of the Denar debt of 52.9%) in the total household debt to the banks. In such conditions, the stability of the Denar exchange rate and the interest rates in the domestic economy are significant for maintaining the ability of the households for debt servicing.

Figure 48 Household loans by the interest rate



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

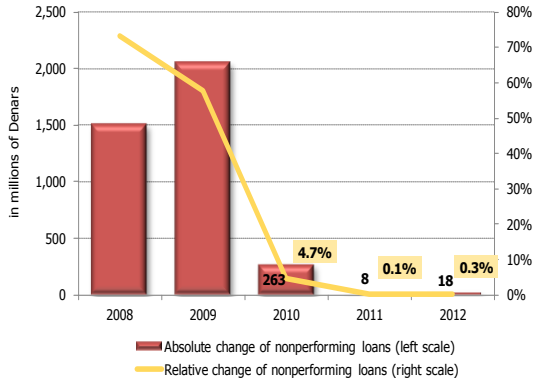
Figure 49 Maturity structure of the household loans



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

The increase in the long-term debt emphasizes even more the sensitivity of the households to interest and the currency risk. The loans with currency component occupy about half of the total long-term household loans, which accentuate the importance of the stability of the Denar exchange rate on a long-term basis. Regarding the loans with variable interest rate, the risk for the households arises from the changes in the interest rates on the financial markets, while regarding the loans with adjustable interest rate, the households are subjected to risk of unfavorable changes in the interest rate policy of the bank. In case of hindered ability of the households for debt repayment, the risk is transferred to creditors.

Figure 50 Nonperforming loans of the households



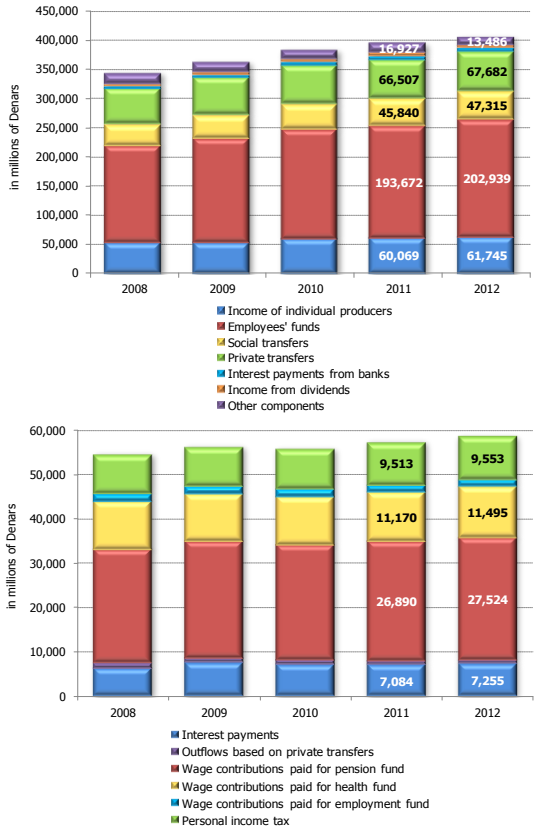
Source: National Bank, based on data submitted by banks.

The stable level of the household nonperforming loans indicates maintenance of the repayment ability of borrowers in this sector. The growth of nonperforming loans is low, as the preceding year. The dynamics of the nonperforming loans is partially influenced by the write-off claims effect[40]. If exclude the write-off claims effect, the rate of increase in the nonperforming loans will equal 4.9%. The indicator for the share of the nonperforming loans in the total household loans registers gradual fall in the last three years (7.1% as of December 31,2012), which indicates reduced credits risk from the exposure to the "households" sector. Observed by credit product, the highest risk level was registered with the credits intended for consumption (consumer loans and credits based on issued credit cards), thus having the largest contribution to the nonperforming household loans.

[40] In 2012, the write-offs with the natural persons equaled Denar 128 million and registered an increase (of Denar 25 million, or 23.8%) relative to 2011.

2.2.3 Savings rate, disposable income and private consumption of the household sector

Figure 51 Movement of the inflows (up) and outflows (below) components of the disposable income



Source: National Bank calculations based on data from SSO, MF and CSD.

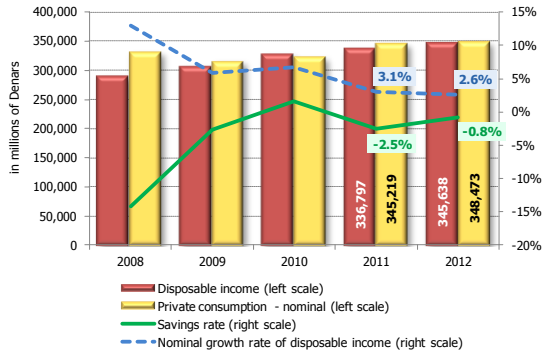
The ability of the households for timely debt repayment is related to the amount and the regularity of their income[41]. **In 2012, the disposable income[42] continued to mount with slower dynamics and** registered an increase of Denar 8,840 million, or 2.6%. By disposable income components[43], the employees' funds, the income of the individual producers, the social and private transfers are the main growth generator in the total household inflows, while the moderate rise in the total outflows mainly arises from the total contributions and the personal income tax. Thus the largest contribution to the increase in the disposable income accounts for the amount of wages and retirements and the private transfers. The increase in the amount of wages arises from the higher number of employees, given insignificant increase in the average nominal net wages in 2012. The household loans fill out the disposable income, in conditions of its decelerated growth and risen costs for basic consumption.

[41] In this chapter, part of the conclusions is based on the Annual Report on the NBRM operations.

[42] Because of the lack of data on the disposable income in the official statistics, since 2007 the National Bank has been creating time series of disposable income of the households in the Republic of Macedonia, which is updated on an annual basis due to the frequency of the data used in the calculation. For some of the components of disposable income for which there is no official data, estimation is made, so that disposable income determined in this way may not be comprehensive and may not have other components in its structure.

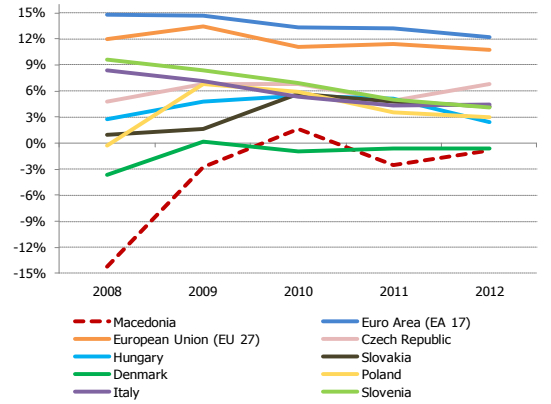
[43] Disposable income is the difference between inflows (funds of employees, income of individual producers, social transfers (retirements, financial aid, unemployment benefits, sick pay), private transfers, interest payments from banks, dividend income, payments of old foreign currency savings, royalties, income from property and property rights, capital gains, inflows from denationalization bonds, revenue from gains from games of chance and other prize games, inflows based on old foreign exchange savings and denationalization, interest payments from treasury bills and workers compensations from abroad) and outflows (wage contributions for the Pension Fund, Health Insurance Fund and Employment Fund, interest payments, outflows based on private transfers and personal income tax) of households. All components of disposable income are nominal. The data is calculated by the National Bank.

Figure 52 Disposable income, private consumption and savings rate of the households



Source: National Bank calculations based on data from SSO, MF and CSD.

Figure 53 Household savings rate, by individual countries



Source: SSO, National Bank calculations based on data of SSO, MF and CSD and OECD Economic Outlook No. 92 (data by individual countries are estimated).

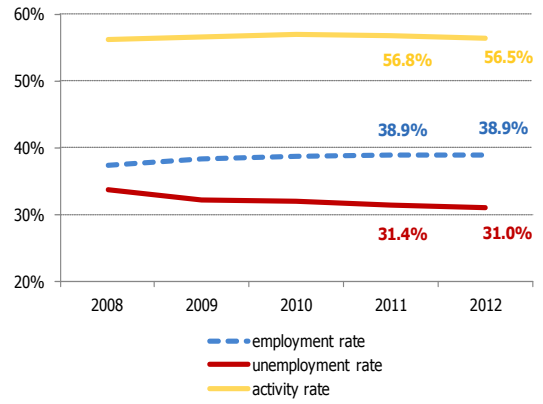
The negative gap between the disposable income and the private consumption in 2012 determines the amount of the savings rate[44]. The dynamics of the disposable income is an indicator for the household savings capacity determined through the **savings rate in the Republic of Macedonia, which increases, but is still negative and equals -0.8%.** The disposable income registered higher growth rate than the private consumption. However, it is not high enough to cover fully the household private consumption. The level of the savings rate of the households in the Republic of Macedonia is far lower in the group of analyzed countries, except Denmark.

In 2012, the developments on the labor market were favorable despite the weak impulses coming from the domestic economy. **In environment of almost unchanged supply and intensified demand for labor force, the unemployment rate went down by 0.4 percentage points and it reduced to the level of 31.0%.** The employment rate remained unchanged relative to 2011 and it equals 38.9%. Having in mind the usual time delay of the economic activity transmission effects on this segment, the positive tendencies on the labor market can be explained as a delayed effect of the favorable dynamics of the economic activity in the preceding period. In addition, the presence of the new production facilities also resulted in higher employment despite the decrease in the economic activity in 2012, with the active measures on the labor market also contributing in this direction[45]. Analyzed by dynamics, the revival on the labor market was characteristic for the second half of the year and in certain extent was adequate to the impulses of certain sectors of the real economy, which encompass larger number of employees, such as trade and construction.

[44] The rate of household saving is the ratio of the gap between disposable income and private consumption to disposable income. The disposable income components for which there are no official data, are estimated by the National Bank, which can result in incomprehensiveness and lack of other components in the structure, which influence the savings rate, as well.

[45] In 2012, active measures for increasing the employment were introduced, such as self-employment programme, financial support to the legal entities for opening new posts, employment subventions, internship programs and other measures.

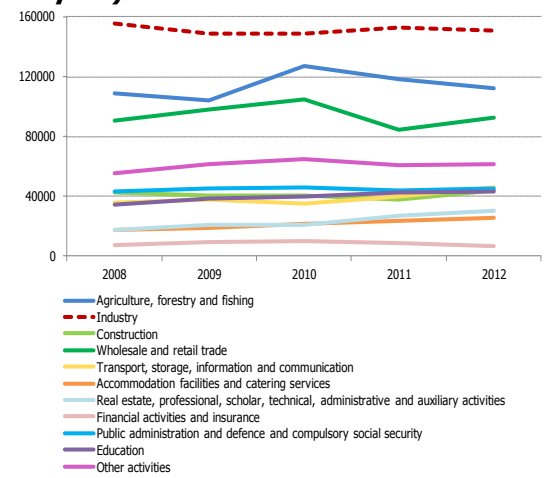
Figure 54 Selected labour market indicators



Source: State Statistical Office.

The Job Vacancy Survey also verifies the positive developments with these two sectors[46], according to which in the first quarter of 2013 about 27% of the newly opened or free job vacancies are in both the trade and the construction activity.

Figure 55 Movement of the number of employees, by activity (as of the end of the year)



Source: State Statistical Office.

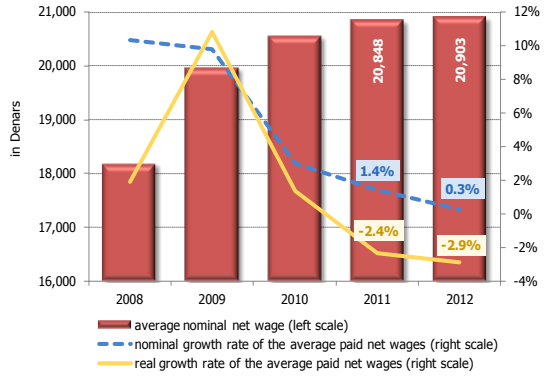
Favorable developments on the labour market from the aspect of the age groups were also registered. Thus the results of the Labour Force Survey[47] showed that the downward movement of the unemployment in the most vulnerable age groups between 15 and 24 years of age and with the persons at the age of 50 to 64, continued. According to the Business Tendencies Survey[48] regarding the expectations for developments on the labor force market, in the second quarter of 2013, certain improvement relative to the demand for labor force with construction has been expected, opposite to the unfavorable expectations with the manufacturing industry and trade.

[46] The State Statistical Office, for the first time since 2012 initiated the Job Vacancy Survey. The aim of this Survey obtaining a quarterly information on the vacancies in the companies in the Republic of Macedonia as an indicator for the macroeconomic developments and policies on the labor market.

[47] Source: State Statistical Office.

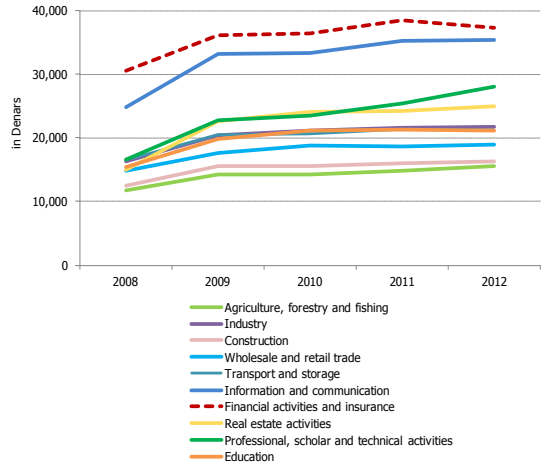
[48] Source: State Statistical Office, surveys of the business tendencies in the manufacturing industry (March 2013), construction (first quarter of 2013) and retail sales (first quarter of 2013).

Figure 56 Movement of the average nominal net wage and its nominal and real growth rate



Source: State Statistical Office.

Figure 57 Movement of the average nominal net wage, by individual activity



Source: State Statistical Office.

The growth deceleration of the average net wage continued also in 2012. In 2012, the average nominal net wage equaled Denar 20,903 and it is higher by 0.3% relative to the preceding year, which is the lowest growth rate in the last five years. Observed by sectors, the growth slowdown mostly emanates from the decelerated increase in the wages in industry and services.

Given inflation of 3.3% in 2012, the average net wages registered a real decrease of 2.9%. Thus the real net wages are falling continually on annual basis for eight consecutive quarters. The growth of the nominal wages, which is with lower pace than the inflation growth, given positive developments with the total employment, indicates that the employers rather choose the wage channel[49] as one of the manner of accumulating savings in conditions of uncertain economic environment than the reduction in force mechanism for reducing the number of employees.

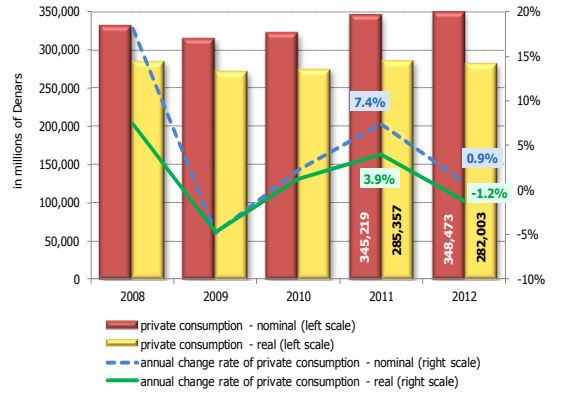
In conditions of higher rise in the employment relative to the gross domestic product, the labour productivity in 2012[50] reduced by 0.6%. The fall in the productivity in 2012 follows the two year consecutive increase, which conditioned new divergence from the level of productivity realized in the pre-crisis period. The high unemployment rate and the low productivity hinder more dynamical rise in the disposable income.

The unfavorable trends in the domestic economy contributed to negative movements in the private consumption in 2012. On annual basis, the consumer registered real decrease of 1.2%, after the accelerated growth of 3.9% in the previous year. The fall in the household consumption can be explained with the decelerated growth in the disposable income. The further uncertainty and the

[49] This is also stimulated by the active measures for increasing the employment in 2012, explained in the footnote 45.

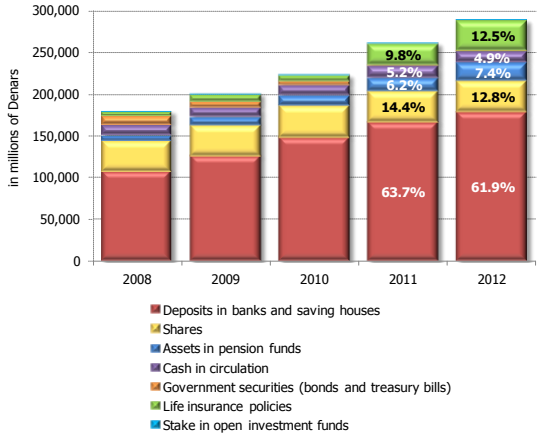
[50] The labour productivity is calculated on the basis of the GDP data, on the total number of employees, according to the Labour Force Survey of the State Statistical Office and by the data on the average gross wages.

Figure 58 Nominal and real private consumption and their annual change rates



Source: State Statistical Office.

Figure 59 Amount and structure of financial assets of households by type of assets



Source: National Bank, based on data submitted by banks, saving houses, MF, CSD, MAPAS, ISA and SEC.

Note: For the purpose of this analysis, according to National Bank's assessment, 70% of cash in circulation (outside of banks) is included in the financial assets of households; Shares represent sum of listed and non listed shares on the Stock Exchange, at nominal value; Life insurance is represented by the amount of life insurance policies.

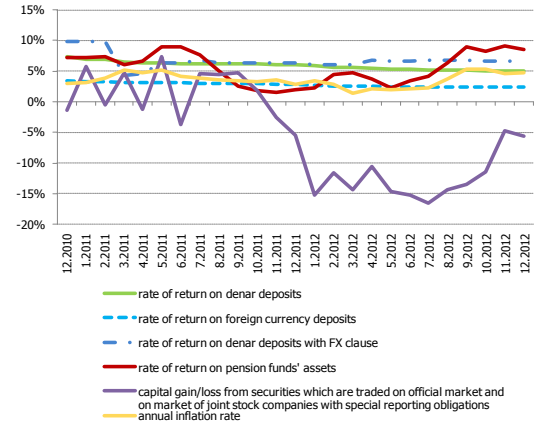
deteriorated global economic expectations also contributed for lower preference for consumption. Its movement is in line with the moderate intensification of the decrease in the real wages. The reduced household consumption is perceived also through the real drop in the retail sales (characteristic for the entire 2012) and the decrease in the domestic production of consumer goods. As a contrast, the rise in the household loans acts stimulating on the consumption. The disposable data on the first quarter of 2013 indicate favorable movements with the private consumption as a result of the enhanced credit activity of the banks to the households and the real increase in the retail sales.

2.2.4 Financial assets of the "household" sector

The financial assets of the household sector continued to mount also in 2012, although with slower dynamics (increase of Denar 27,714 million, or 10.6%), in comparison with the previous year (when it augmented by Denar 38,008 million, or 17.1%). Given the decrease in the domestic economy of 0.3%, the share of the financial assets in GDP increased by 5.9 percentage points, thus reaching the level of 62.3% at the end of 2012. **The increase in the financial assets in 2012 was conditioned by the household investments in deposits with the domestic banks and savings houses and in life insurance policies, which had the largest role (45.3% and 37.6%, respectively) for their annual increase.** The rise in the household investments in life insurance policies continued also in 2012. These investments were the most fast-growing component of the financial assets in the last two years. A significant share in the financial assets structure accounts for the household assets in the private pension funds, which registered annual increase of 32.1%, contributing to its increase by 18.7%.

At the end of 2012, despite the decelerated dynamics, the household deposits in banks and savings houses increased by Denar 12,542 million, or 7.6%. The slowdown of the deposit growth results from the unfavorable trends in domestic economy and primarily it is related to the slower dynamics, which leaves less space for saving. This downward movement can be related to the gradual decrease in the interest rates on deposits (Denar and foreign exchange). Having in mind that the household deposits occupy about half of the sources of funding of the domestic banks, **this sector represents a significant creditor of the banking system and the possible materialization of the risks the households are exposed to may have negative effects on the domestic banks performances.** The other types of household assets have minor influence on the increase in the financial assets.

Figure 60 Movement of annual rate of return of some households' financial assets instruments



Source: National Bank, based on data submitted by banks, SSO, MAPAS and the Macedonian Stock Exchange.

All instruments of the households' financial assets in 2012 registered positive rates of return, with the exception of securities[51], which have been registering capital losses during the entire year[52]. The weighted interest rates on the foreign exchange, Denar and the Denar deposits with FX clause equal 2.5%, 5.3% and 6.5%, on average (the Denar and the foreign exchange interest rates register a decrease). In the first eight months of 2012, the highest rate of return was registered by the Denar deposits with FX clause, but the amount of these deposits is insignificant. The annual nominal rate of return of the pension funds[53] is the highest in the other months of the year.

[51] For the purposes of this analysis, securities denote bonds and shares traded on the official market and shares traded on the market of stock companies with special reporting obligations.
[52] The annual rates of capital gain/loss are calculated on the basis of the annual change in market capitalization of securities.
[53] The annual nominal rate of return is calculated on the basis of weighting the rate of return of individual pension funds to their net assets.

III. Financial sector

3.1 Structure and concentration in the financial sector of the Republic of Macedonia

In 2012, the growth of banks and pension funds' assets was the main generator of the annual growth of total assets of the financial sector. Yet, the growth of total assets of the financial system was slower compared to the previous year. The simple structure of the financial system, the low level of its interdepartmental dependence and the absence of complex financial instruments and services reduce the threat of spillover of risks from one institutional segment of the financial system to another, but distinguish the banking system[54] as a milestone whose stability is vital to the stability of other institutional segments of the overall financial system.

In the future, some changes are expected in the structure of the domestic financial system. Given the reduced activities and unprofitable operations of leasing companies, amid unchanged business conditions, it is more than certain that their importance to the financial system will diminish. As a result of changes in regulations as well as the limited scale of operations and high competition from banks, the number and the importance of savings houses is also expected to diminish in the near future.

On the other hand, there has been significant progress in the regulatory framework and supervisory function of the insurance sector, showing great potential for further development, particularly in the segment of life insurance. Taking into account the position of the pension system and the short time of its existence, it is reasonable to expect that these institutions will become increasingly important as both financial intermediaries and assets of households, which are a key sector for the stability of the financial system.

[54] The term "banking system" refers only to banks, while the term "deposit institutions" also includes savings houses.

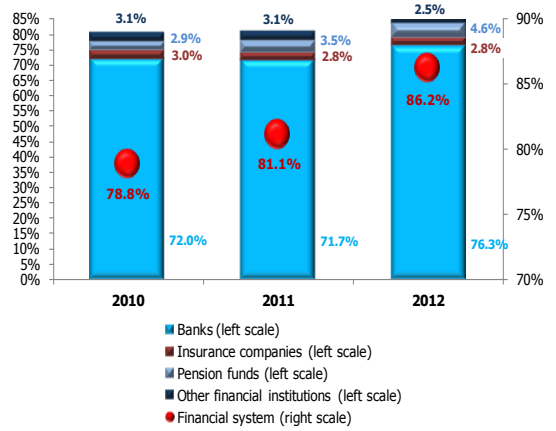
Table 6 Structure of total assets in the financial sector of the Republic of Macedonia

Type of financial institution	Total assets (in millions of Denars)		Structure in %		Change 31.12.2012/31.12.2011		Number of institutions	
	2011	2012	2011	2012	Absolute change	In percent	2011	2012
Depository financial institutions	**334,339**	**355,713**	**89.3%**	**89.2%**	**21,374**	**6.4%**	**25**	**23**
Banks	331,176	352,886	88.5%	88.5%	21,710	6.6%	17	16
Saving houses	3,163	2,827	0.8%	0.7%	-336	-10.6%	8	7
Non-depository financial institutions	**40,058**	**43,118**	**10.7%**	**10.8%**	**3,060**	**7.6%**	**98**	**104**
Insurance companies	12,934	13,067	3.5%	3.3%	133	1.0%	15	15
Insurance brokers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	15	20
Insurance agents	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5	10
Leasing companies	9,278	6,952	2.5%	1.7%	-2,326	-25.1%	10	10
Pension funds	16,131	21,315	4.3%	5.3%	5,184	32.1%	4	4
- Mandatory pension funds	16,019	21,124	4.3%	5.3%	5,105	31.9%	2	2
- Voluntary pension funds	112	191	0.0%	0.05%	79	71.1%	2	2
Pension fund management companies	452	508	0.1%	0.1%	56	12.5%	2	2
Brokerage companies	411	310	0.1%	0.1%	-102	-24.7%	12	10
Open end investment funds	257	329	0.1%	0.1%	72	27.8%	8	9
Private investment funds	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	13	12
Investment fund management companies	16	14	0.0%	0.003%	-2	-12.8%	4	4
Private equity fund management companies	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	8	6
Financial companies	579	624	0.2%	0.2%	45	7.8%	2	2
Total	**374,397**	**398,831**	**100.0%**	**100.0%**	**24,434**	**6.5%**	**123**	**127**

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

Notes: 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 companies and insurance agents are not required to submit financial reports to the Insurance Supervision Agency.Since early 2011, the financial market in the Republic of Macedonia distinguishes two licensed and active financial organizations, supervised by the Ministry of Finance.

Figure 61 Financial sector's assets to GDP

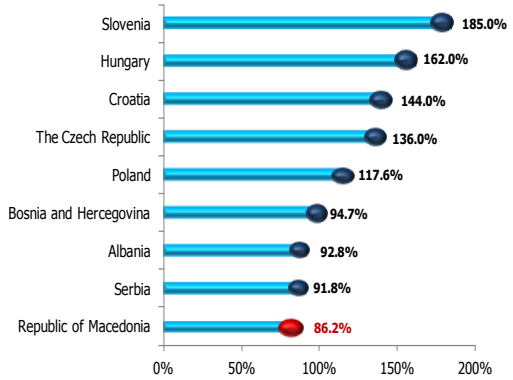


Source: For each institutional segment, the competent supervisory authority (the NBRM, the SEC, the MAPAS, the ASO and the Ministry of Finance).

In 2012, the total assets of the financial system grew slowly. Their increase was 6.5% (Denar 24 million), which is by 2.7 percentage points less compared to the increase in 2011. The slower growth of total assets of the financial system is **largely determined by the slower growth of assets of the banking system and the reduced volume of activities of the leasing companies and savings houses.**

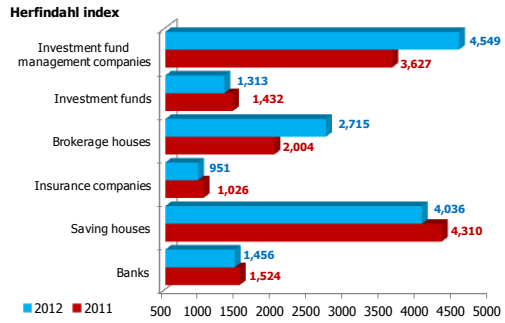
Banks are the most important institutional segment (accounting for 88.5% of total assets), whose stability is crucial for maintaining the stability of the overall financial system. Mandatory pension funds follow, by both size and importance. Their total assets grew faster compared to the previous year and relative to other segments of the financial system, mainly due to the growth of assets on the basis of payments of their members and still minimal outflows based on pensions (taking into account

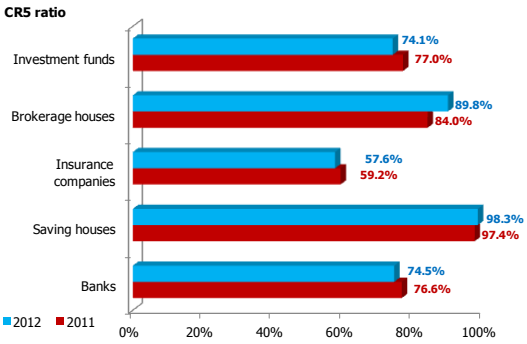
Figure 62 Financial sector's assets to GDP, by country



Source: Websites of central banks of the countries.
Note: The data on Albania and Croatia are as of June 2012, for Bosnia and Herzegovina, Serbia and Slovenia are as of 2011 and for Poland, Czech Republic and Hungary are as of 2010.

Figure 63 Herfindahl index for the overall assets, by segment of the financial sector





Source: The competent supervisory authority (the NBRM, the SEC, the MAPAS, the ASO and the Ministry of Finance).

that these funds were established in 2006 and the average age of their members is still far from retirement).

Despite the slower growth of total assets of the financial system, its importance to the domestic economic activity has increased compared to the previous year. At the end of 2012, the total assets of the financial sector accounted for 86.2% of GDP (an annual increase of 5.1 percentage points).

Given the importance of the overall economic activity, the domestic financial sector is still lagging behind the financial sectors of the countries in the region and the European Union. However, observing the dynamics of financial intermediation, the Republic of Macedonia has reported the highest growth (6.3%) in 2012, with the exception of two countries from the region and beyond. As a result of the financial deleveraging, some countries under observation even reported a decrease of their financial intermediation measured by the share of assets of the financial sector in the gross domestic product.

The concentration in terms of total assets is high in most segments of the financial sector. Measured by the Herfindahl index, the concentration is above acceptable for savings houses, investment fund management companies and brokerage houses. Significantly high concentration in savings houses is reflected by the fact that 85.3% of total assets is concentrated within two of seven savings houses in total. Two of ten brokerage houses in total hold 71.4% of total assets.

In 2012, foreign shareholders were major owners in the structure of most financial segments. The presence of foreign shareholders in the ownership structure of banks is almost unchanged compared to the previous year. Despite the marginal decrease of the share of foreign capital compared to 2011, leasing companies continue to stand as a segment in almost full foreign ownership. The presence of high foreign ownership is common for insurance companies, as well. On the other hand, domestic capital prevails in the ownership structure of brokerage houses, while the savings houses are in full domestic ownership[55].

Table 7 Ownership structure of financial institutions

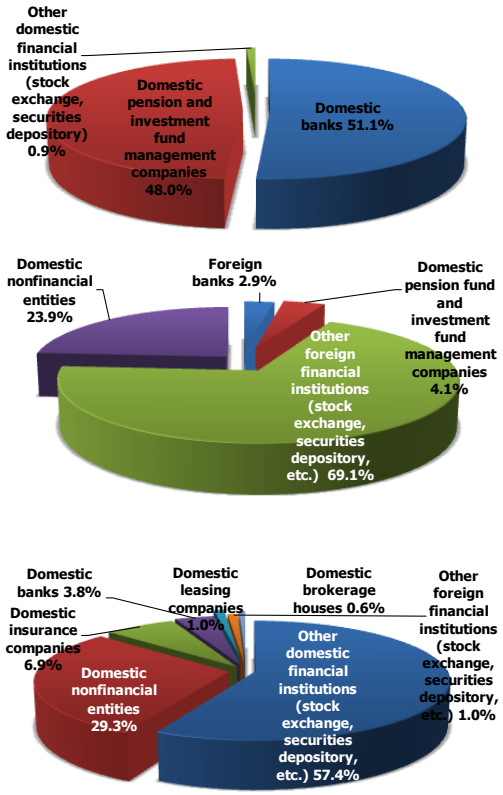
Owners	Banks	Saving houses	Insurance companies	Brokerage houses	Leasing companies	Pension fund management companies	Investment fund management companies
Domestic shareholders	***25.0%***	***100.0%***	***20.3%***	***76.5%***	***5.4%***	***49.0%***	***24.0%***
Nonfinancial legal entities	8.3%	83.6%	2.7%	37.2%	5.0%	0.0%	0.0%
Banks	2.0%	0.0%	2.4%	3.4%	0.3%	49.0%	15.3%
Insurance comapnies	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other financial institutions	0.6%	0.0%	0.2%	0.0%	0.0%	0.0%	4.0%
Natural persons	7.1%	16.4%	10.0%	35.9%	0.1%	0.0%	4.7%
Public sector	6.5%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%
Foreign shareholders	***74.8%***	***0.0%***	***79.7%***	***23.5%***	***94.6%***	***51.0%***	***76.0%***
Natural persons	2.4%	0.0%	0.2%	7.2%	0.1%	0.0%	0.1%
Nonfinancial legal entities	8.5%	0.0%	0.0%	0.0%	19.5%	0.0%	3.2%
Financial institutions	63.9%	0.0%	79.5%	16.3%	75.0%	51.0%	72.7%
Unclassified	**0.2%**	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***	***0.0%***
Total	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

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.

[55] The regulation allows only Macedonian nationals to be owners of savings houses.

3.2 Interdepartmental relation

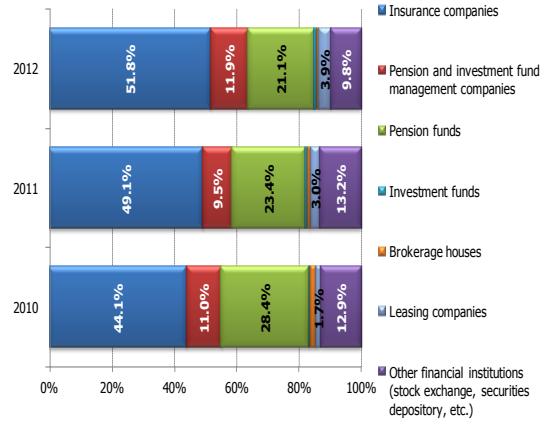
Figure 64 Banks' investments, by entity, in:
- subsidiaries, affiliates and joint ventures (up),
- equity instruments for trading (middle),
- equity instruments available for sale (down)



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

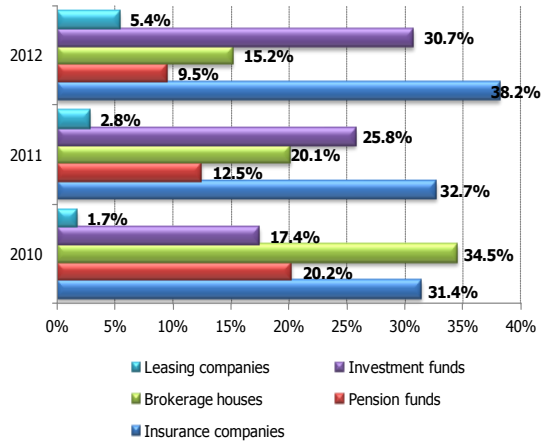
Analyzing the financial network, banks are still the main link with other financial segments and they primarily drive the developments in the overall financial system. In 2012, capital investments of banks constituted only 0.4% of the total assets of the banking sector and 88.2% of the domestic financial institutions. With the exception of pension or investment fund management companies, where the banks hold majority of shares, other institutional segments are characterized by the low level of cross-ownership with the banking system (most of the capital investments of individual banks account for less than 5% of the capital of the entities subject of investment).

Figure 65 Structure of deposits of nondeposit financial institutions with domestic banks



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

Figure 66 Share of deposits in total assets of nondeposit financial institutions

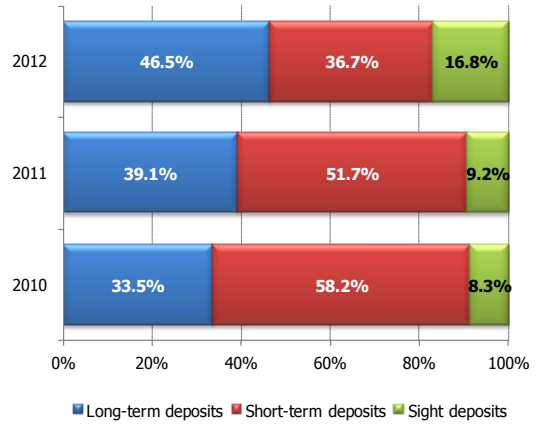


Source: the NBRM, based on data submitted by banks.

The assets of nondeposit financial institutions invested in banks as deposits[56] are the paramount business link of these institutions with the banking system. In 2012, the total deposits of nondeposit financial institutions with banks amounted to Denar 9,627 million, which is an increase of Denar 1,012 million, or 11.7%, compared to the previous year. These deposits are of minor relevance to the banking system, making up only 3.7% of the total deposit base of banks. These deposits are of outstanding importance to the nondeposit institutions, especially in times of limited range of financial instruments and services on the financial markets in the Republic of Macedonia. More than one third of the assets of the brokerage houses and insurance companies and nearly a quarter of the assets of pension funds and investment funds are invested in banks as deposits. This demonstrates the importance of the stability of the banking system for the stability of other segments of the financial system and for the financial system as a whole.

[56] Deposits also include transaction accounts of other institutional segments in the banks.

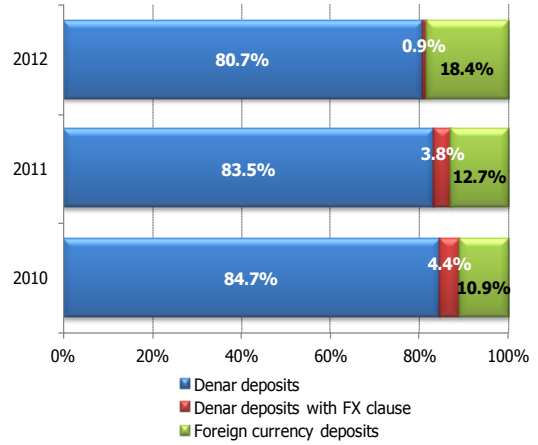
Figure 67 of Maturity structure of deposits of nondeposit financial institutions



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

2012 witnessed a maturity transformation of deposits of nondeposit financial institutions, whose structure is dominated by deposits with maturity of over one year (2011 reported a dominance of short-term deposits with maturity of up to one year). Insurance companies, pension or investment fund management companies and private pension funds reported an increase of long-term deposits over one year (about 32.7%), while the increase of demand deposits is mainly due to their increase in insurance companies.

Figure 68 Currency structure of deposits of nondeposit financial institutions



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

Denar deposits still have the major share in the currency structure of deposits of nondeposit institutions (especially insurance companies).

3.3 Deposit institutions

3.3.1 Banks

The slow recovery of global economy and financial system, debt and structural problems of some countries of the euro area and the deteriorating business conditions of domestic economic agents caused relatively slow growth of the activities of the banking system in 2012. Domestic banks are not dependent on international financial markets for securing funding sources, but indirectly, the severe effects on the domestic real sector had an impact on their performance. Deposits of domestic economic agents remain the main source of funding for the banks. Also, 2012 was marked by the process of "denarization" of domestic savings and consequently, lending, influenced by higher yield on Denar deposits, but also because of the psychological effects of the debt crisis in the euro area and the information about the uncertain future of the euro. In 2012, the activities of banks were equally focused on investments in liquid financial instruments and credit support for the domestic real sector, but it is significant that banks are reluctant to increase lending considerably.

However, in such environment, the banking system remained stable. Solvency and capitalization remained high, and profitability noticed some improvement during 2012. The quality of capital position of the banking system is satisfactory, given the high share of core capital in the banks' own funds. Banks have a strong liquidity position, and hold ample liquidity for regular repayment of all past due liabilities, while maintaining a high level of coverage of various categories of liabilities with liquid assets.

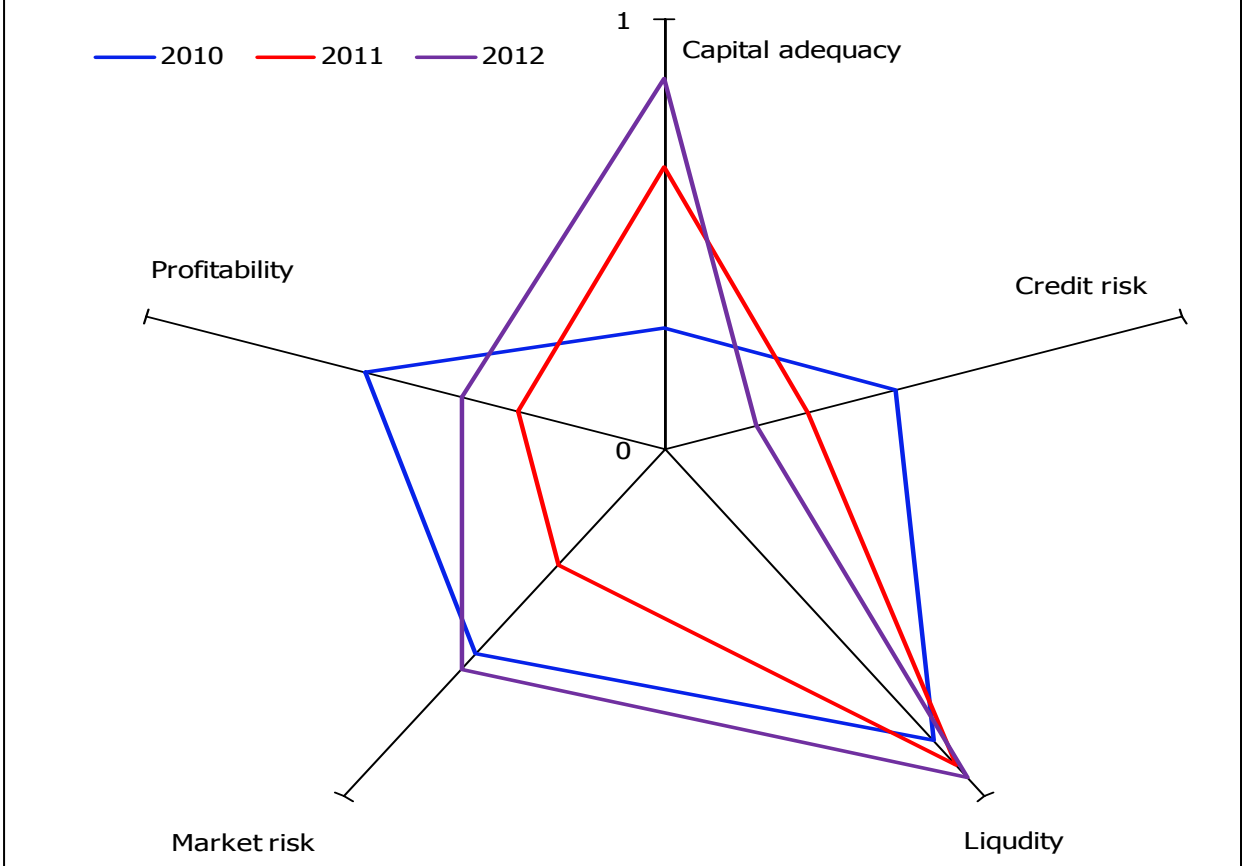
Credit risk remains the key factor for the stability of the banking system. This is also the root of the direct dependence of banks' performances on the destiny and the solvency of major borrowers - domestic companies and households. In 2012, the banks' exposure to direct market risks is relatively low. However, the incorporation of currency clauses and clauses on adjustable interest rates in credit agreements creates exposure to indirect market risk due to the sensitivity of the creditworthiness of borrowers to the movements of market variables. Factors that contribute to the mitigation of credit risk taken by banks is the high loan loss coverage by banks, but also the high level of coverage of the exposure with some form of collateral.

These conclusions are also confirmed by the banking stability map[57], according to which the liquidity and capital adequacy have a major contribution to the stability of the banking system and show a clear trend of improvement in the

[57] The banking stability map includes five components (capital adequacy, credit risk, liquidity, exposure to market risks and profitability) having a standardized value of 1 (highest level of stability) to 0 (lowest level of stability). The calculation of each component includes the average value of normalized value of selected indicators, calculated using the so-called empirical normalization of time series of data from the last four years. Empirical normalization is done with the following formula: $I^n_{yt} = [I_{yt} - \text{Min}(I_y)] / [\text{Max}(I_y) - \text{Min}(I_y)]$, where I_{yt} is a value of indicator y during the period t, $\text{Max}(I_y)$ and $\text{Min}(I_y)$ denote the minimum and maximum of the respective indicator in the analyzed period and I^n_{it} is the normalized value of indicator y in the analyzed period t.

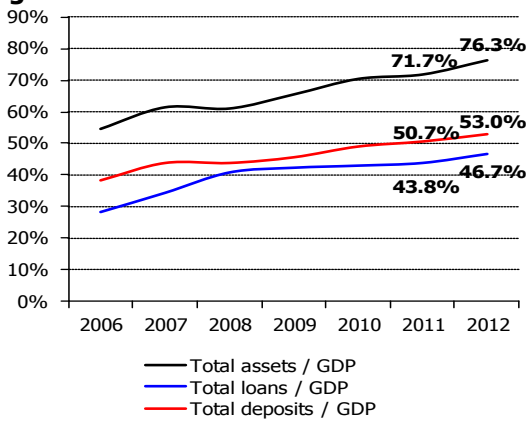
last three years. In contrast, the greatest "threat" to the banking system, quite predictably, is the credit risk, whose value is closest to 0, and has deteriorated in the last three years.

Figure 69 Banking stability map



Source: NBRM calculations

Figure 70 Financial intermediation level

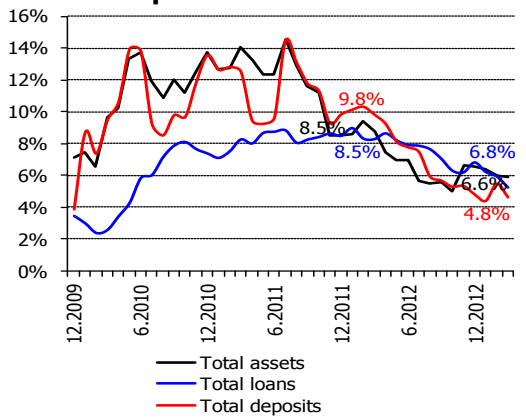


Source: the NBRM, based on data submitted by banks and the State Statistical Office for GDP, including a preliminary data for 2011 and estimated data for 2012.

3.3.1.1 Features of the balance sheet of the banking system

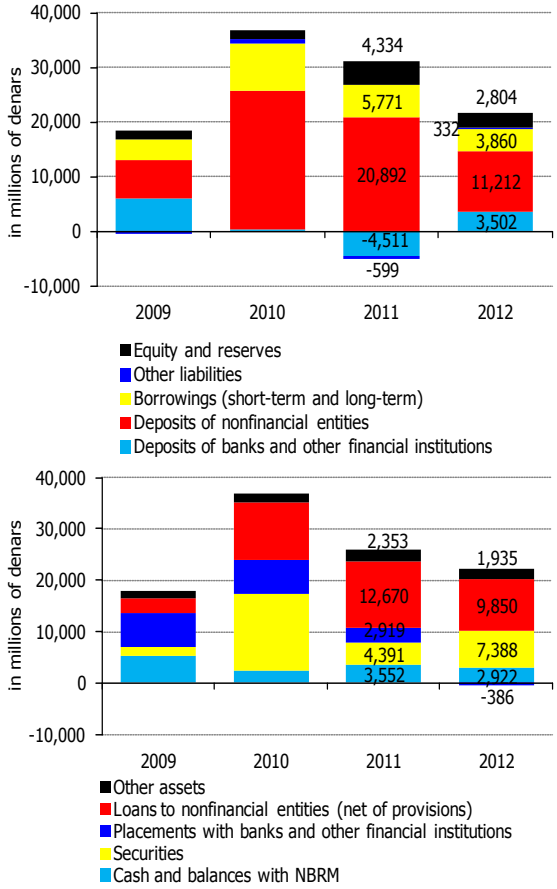
In 2012 the dynamics of banks' activities was influenced by factors that tend to restrict the dynamics of growth of total domestic economy. While the weak external demand, the repercussions of the debt crisis in the euro area, the worsened business conditions for domestic economic agents reflected through the poor utilization of industrial capacities and the fall of domestic demand tend to decline gross domestic product, they also generated a modest increase in the banks' activities. Nevertheless, despite the impact of limiting macrofactors, in 2012, **the level of**

Figure 71 Annual growth rate of assets, loans and deposits



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

Figure 72 Distribution of the annual absolute growth of funding sources (up) and assets (down) of banks, by component

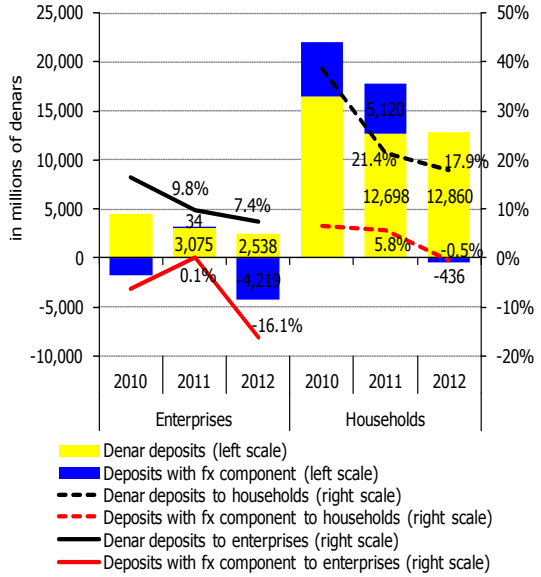


Source: the NBRM, based on data submitted by banks.

financial intermediation somewhat increased. Moreover, in 2012, the loans registered a faster annual growth, compared to deposits of nonfinancial entities, at a lower level though, compared to 2011. Relatively modest credit growth in 2012 suggests that the banks are still highly cautious when taking new risks. This is especially evident in the strategies of some foreign parent banks for financial deleverage, which require from domestic banks to adopt more conservative strategies when placing funds.

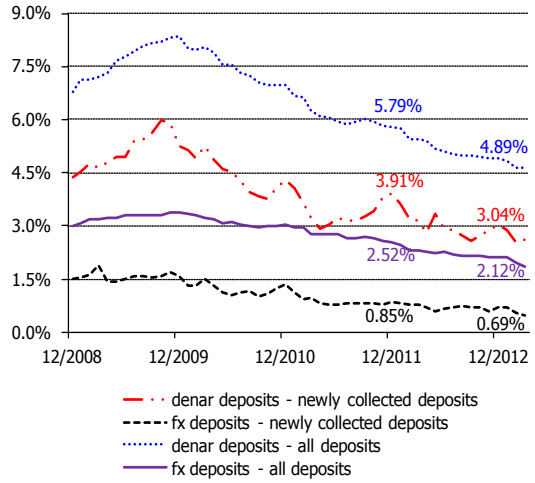
Deposits of domestic nonfinancial entities are major generators of the growth of the banks' funding sources in the Republic of Macedonia. On the one hand, this can be perceived as positive, as it reduces the possible negative effects on some banks of the so-called financial deleverage of their parent banks and excludes the dependence of domestic banks on foreign financial markets. But on the other hand, this phenomenon limits the available alternatives for extensive increase of sources of funding, and thus the financial support to domestic economic agents. However, the financial support from the parent entities is still present and along with the sources of funding from institutional investors (European Investment Bank) tends to increase the deposits from banks and financial institutions. The revitalization of domestic interbank market and the growth of repo transactions increased the credit liabilities in 2012. Banks' preferences to invest in less risky financial instruments and their prudent behavior in the domestic credit market are perceived through the lower annual growth of loans to nonfinancial entities compared to the previous year. This is demonstrated by the change in cash and account balances with the NBRM and the portfolio securities (primarily securities issued by the National Bank and the government), which in 2012 was almost identical to the change in loans to nonfinancial institutions.

Figure 73 Distribution of the annual absolute growth of deposits, by currency and sector



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

Figure 74 Nominal deposit interest rates of banks



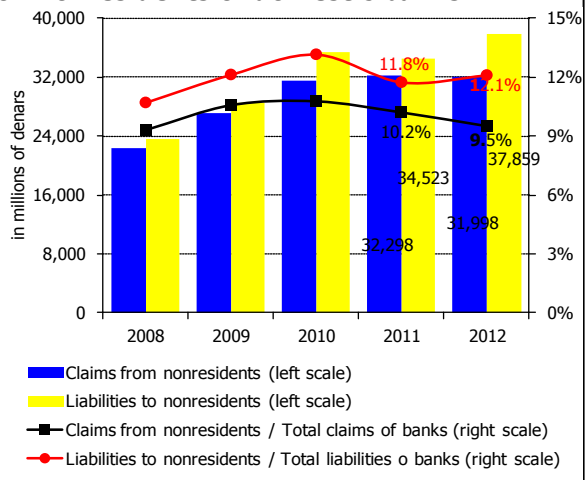
Source: the NBRM, based on data submitted by banks.

In 2012, **the downward trend of the "euroization" of the Macedonian banking system continued**, as perceived by higher growth rates on Denar deposits, compared to deposits with currency component[58]. This change is due to the stronger preference of domestic depositors (households, in particular) to save in domestic currency, whereby the deposits with currency component reduced. The growth of savings in local currency, on the one hand, stems from the higher yield of Denar deposits, compared to the yield of deposits in foreign currency, but on the other hand, the effects of the debt crisis in the euro area and the economic agents' perceptions of the crisis-based risks make savers to prefer Denar savings. The sector-by-sector analysis indicates that the household deposit increased the most during 2012, whose pace, although determined by the basic domestic flows of income (wages and pensions), also depends on the flow of income from external sources, as shown by the "official" net remittances from abroad and other forms of private transfers, and through "unofficial" flows of income that flow into the domestic economy as cash and are covered through the dynamics of the exchange market operations. Also, it is worth mentioning that in 2012, 90% of the deposit growth resulted from the growth of long-term deposits, which on the one hand reflects the higher interest rates offered by some banks for longer maturities of deposits[59], but on the other hand shows high confidence of economic agents, and especially households, in the domestic banking system.

[58] Deposits with currency component include foreign currency deposits and deposits in denars with FX clause.

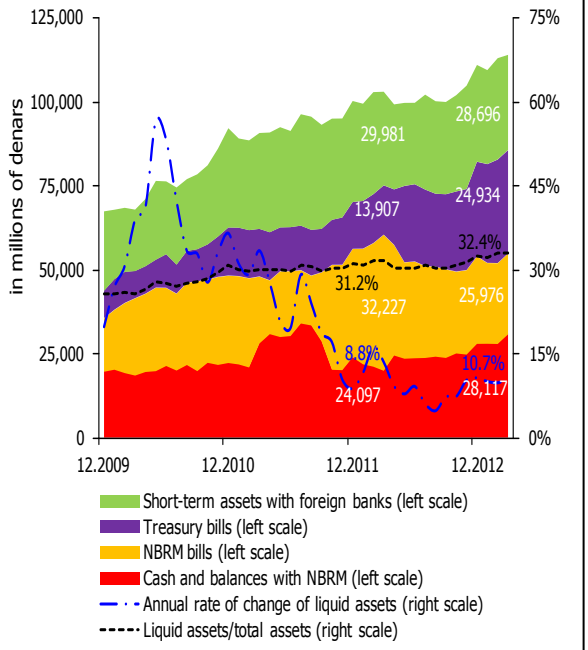
[59] In 2012, the National Bank made changes in the calculation of reserve requirement. Some of these changes were made to encourage long-term household savings. Thus, as of January 2012, the reserve requirement for obligations to natural persons with contractual maturity over two years is calculated at a rate of 0%. For more details about the changes in the method of determining and calculating reserve requirements, see the Annual Report of the NBRM for 2012.

Figure 75 Dynamics of liabilities and claims on nonresidents of domestic banks



Source: the NBRM, based on data submitted by banks

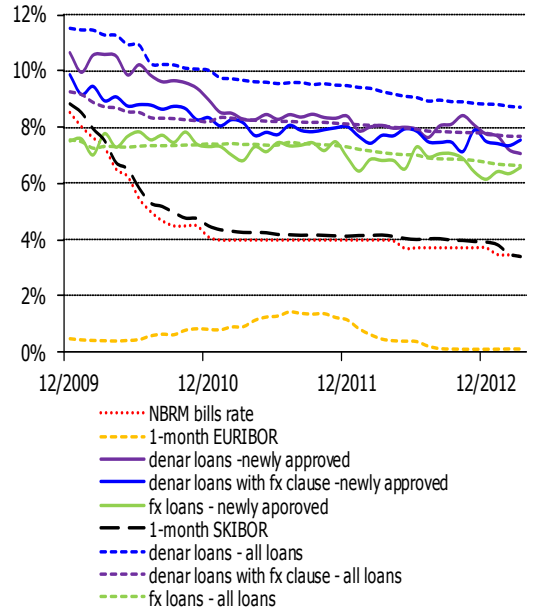
Figure 76 Dynamics of liquid assets, by item



Source: the NBRM, based on data submitted by banks

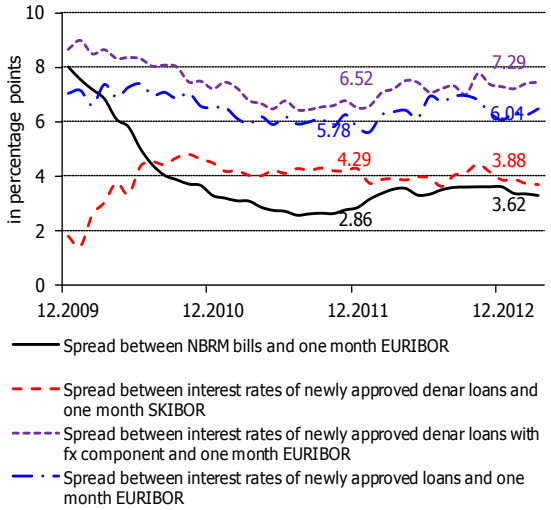
Banks' funding from external sources increased in 2012, but their significance is still modest, given their share of about 12% of total banks' liabilities and 10.7% of total assets. Macedonian banks set up their business mainly on organic growth through mobilization of domestic savings, while financing from parent entities or interbank transactions play a supporting role. In addition, liabilities to nonresidents mainly include liabilities to foreign parent entities and international financial institutions (e.g. EIB), whereas the role of liabilities to foreign commercial financial institutions is negligible. Hence, any adverse effect of changes in the business behavior of international financial institutions and cessation of capital flows from developed countries to transitional economies would have a modest effect on the stability of the banking system, but would limit the potential for growth, especially in those banks whose parent entities implement policies of financial deleverage. The annual growth rate of liabilities to nonresidents equaled 9.7%, while the claims on nonresidents decreased annually by 0.9%. At the end of 2012, the share of liabilities to parent entities in total banks' sources of fuding equaled 4.8%, which is unchanged compared to 2011.

Figure 77 Policy rates and nominal lending interest rates of banks



Source: the NBRM, based on data submitted by banks and www.euribor.org

Figure 78 Spread between banks' lending interest rates and basic interbank interest rates

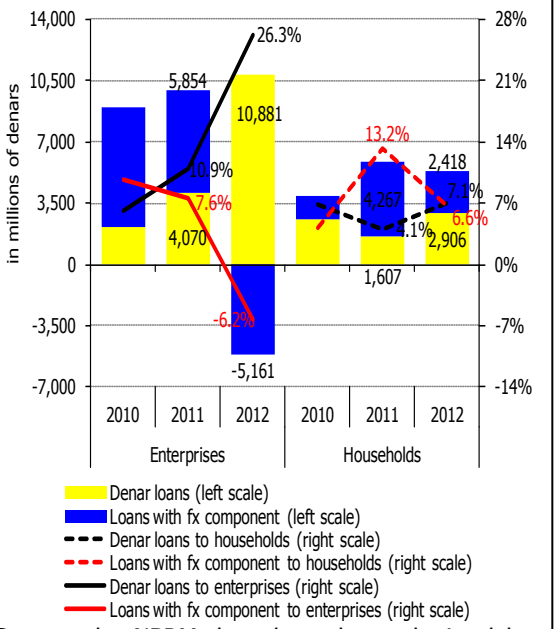


Source: the NBRM, based on data submitted by banks and www.euribor.org

Along with the moderate growth of liquid assets, banks continuously held steady share of liquid assets to total assets of over 30% during 2012. **Changes are noticed in the structure of banks' liquid assets in terms of increasing share of treasury bills and decrease of CB bills and short-term assets in foreign banks**. Changes in the financial instruments that comprise liquid assets have an effect on the currency structure of the liquid assets of banks. At the end of 2012, Denar liquid assets accounted for 70.0%, being by 4.1 percentage points higher compared to the end of 2011. In late 2012, EURIBOR, as a basic interest rate in the money market in the euro area and a benchmark for the yield of short-term loans in foreign banks, hit the record low, thus reducing the banks' interest to place funds in foreign banks. Interest rates on Denar liquid instruments, although decreasing in 2012, are still at a higher level, thus making the Denar liquid assets more attractive to banks.

Changes in the structure of liquid assets primarily emerge from changes made by the National Bank of the Republic of Macedonia in the operational framework of monetary policy in the first half of 2012, thus releasing funds in the banking system that could be designed for greater credit support from banks to nonfinancial institutions. Lending interest rates registered a downward trend in 2012, at a slower pace though, compared to the downtrend of deposit interest rates. Moreover, the spread between lending interest rates to domestic economic agents, on the one hand, and the interest rates on CB bills or interbank interest rates on domestic and international financial markets, on the other hand, is still relatively high, and could serve as an incentive for enhanced lending. However, in 2012, banks were vigilant when investing and more cautious regarding the risks, placing the released funds risk-free short-term loans amid increased supply of treasury bills in the domestic market.

Figure 79 Absolute and relative annual growth of loans, by currency and sector

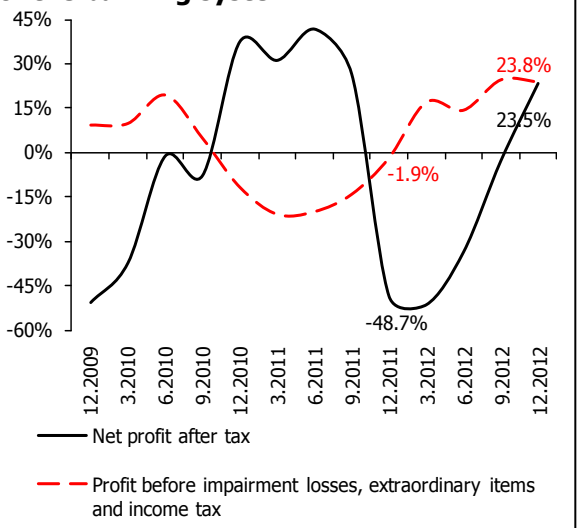


Source: the NBRM, based on data submitted by banks

The changes in currency preferences of depositors, i.e. substitution of foreign exchange savings with domestic currency deposits, tend to change the growth structure of banks' lending activity. **Banks focused their lending in Denar loans in 2012,** which is particularly noticeable in corporate lending. The annual growth of loans to nonfinancial institutions was entirely generated by Denar lending, while the lending with currency component dropped. **Almost identical growth rate of household and corporate lending was noted in 2012,** although banks partially tightened the terms of corporate lending, and partly eased the terms of lending to household sector[60]. The acceleration of Denar lending and consequently, the lower share of loans with currency component in the structure of total loans have positive effects on the financial stability, because it reduces the banks' exposure to the part of credit risk that could arise from exposure of their clients to currency risk.

3.3.1.2 Profitability

Figure 80 Annual growth rate of net profit of the banking system

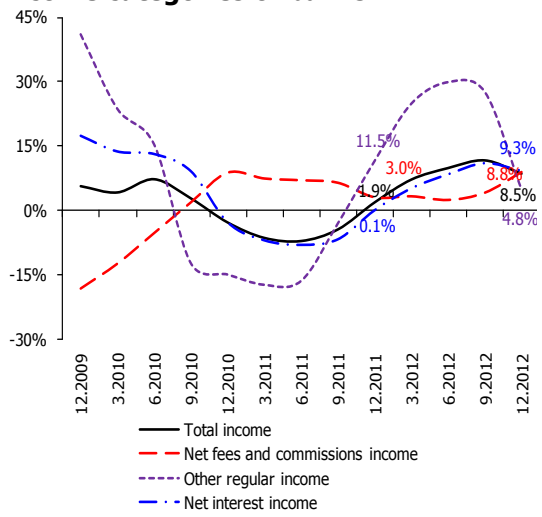


Source: the NBRM, based on data submitted by banks

The banks' profitability improved in 2012 compared to 2011, as perceived through the annual growth of net profit after taxation of 23.5%. The improved financial results largely derive from improved operational capability of banks to raise income, which is also reflected through the 8.5% increase of banks' total income during 2012. This also led to higher profit before allocation of impairment of 23.8%. The number of banks that reported operating losses remained unchanged (six) and their market share in the assets of the banking system equaled merely 8% at the end of 2012.

[60] Source: Bank lending surveys.

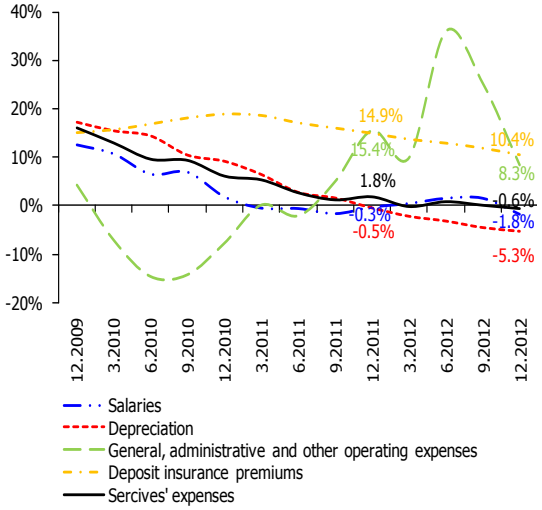
Figure 81 Annual growth rate of major income categories of banks



Source: the NBRM, based on data submitted by banks

The net interest income is the main driver of the increase of banks' income, which makes up more than two-thirds of the total banks' income. In 2012, net interest income grew by 9.3%, comprising almost 70% of the annual growth of total banks' income. Increased interest income based on investments in CB bills and government securities was a generator of the growth of net interest income (accounting for 77%), while the interest income from loans to nonfinancial institutions made a modest input. This phenomenon reflects the strong tendency of banks to place funds in liquid financial instruments.

Figure 82 Annual growth rate of major expense categories of banks



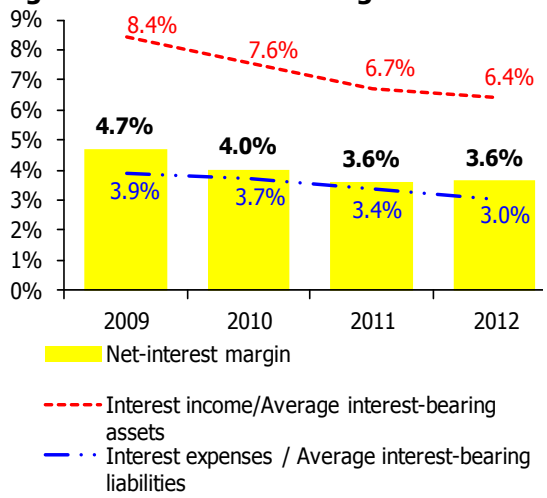
Source: the NBRM, based on data submitted by banks

In addition, the reduced interest expense, primarily due to the cut of deposit interest rates (which is greater compared to the lending rates) contributed to the growth of net interest income of banks. Net fee income (8.8%) and other regular income[61] of banks (4.8%) also registered an annual growth, playing only a supporting role in the formation of total income of banks. On the expenditure side of the income statement, **in 2012, banks showed improvement of cost management,** as perceived by the downward trend in the growth rate of most cost components. At the end of 2012, deposit insurance premiums registered the largest annual increase of 10.4% (calculated as a percentage of deposits), followed by general, administrative and other operating[62] expenses (an increase of 8.3%).

[61] Other regular income include: net trading income, net exchange rate income, income from dividends and capital assets, net gains from sale of financial assets available for sale, capital gains from asset sales, release of provisions, income from other sources, income based on collected written-off claims.

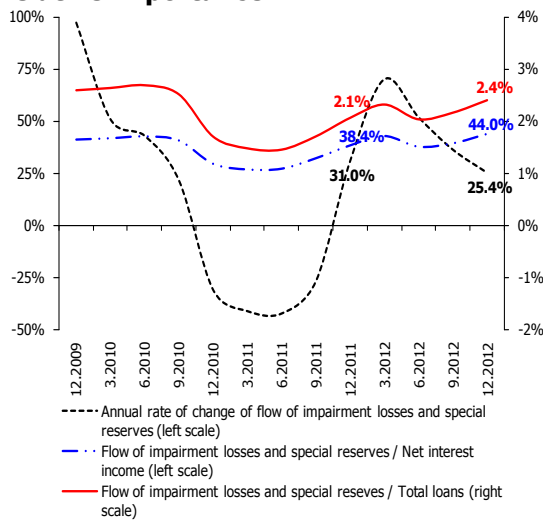
[62] Other operating costs include special reserve for off-balance sheet exposure, other provisioning and expenses on other grounds (expenses from previous years, income taxes and contributions, expenses for fines, fees and court decisions and other costs).

Figure 83 Net interest margin of banks



Source: the NBRM, based on data submitted by banks

Figure 84 Cost of impairment of assets and special reserve - growth rate and relative importance



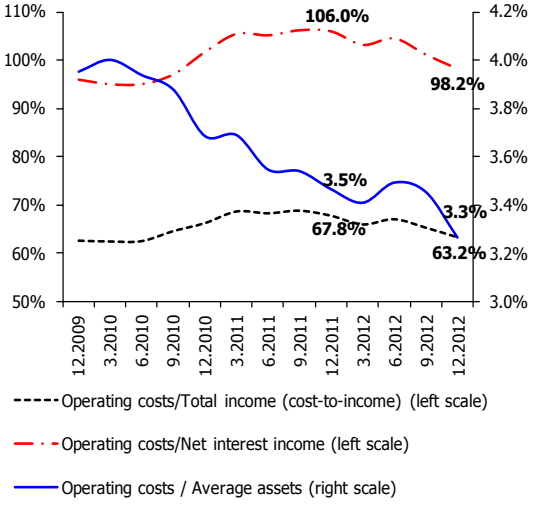
Source: the NBRM, based on data submitted by banks

Net interest margin[63] remained unchanged compared to December 2011, given the identical annual growth of net interest income on interest-bearing assets. Banks' cautiousness when taking risks and relatively strong preference to invest in liquid financial instruments, which in turn carry lower yield than loans, and materialization of credit risk protracted the downward trend of income per unit of interest-bearing assets in 2012. At the same time, though, there was a significant reduction of cost per unit of interest-bearing liabilities, primarily due to lower interest rates on deposits as a major source of funding for banks.

Impairment and special reserve that banks recognize for the annual impairment of assets **increased** by 25.4%, which still represents a slowdown compared to the end of 2011. Driver of the impairment growth was the worsened risk profile of the loan portfolio of banks, which generated two thirds of the impairment growth, also influenced by the impairment growth of nonfinancial assets due to the changes in the regulatory treatment of foreclosed assets. Hence, in 2012, **there was an increase of the part of net interest income used to cover the impairment** and the impairment/gross loans ratio of nonfinancial entities.

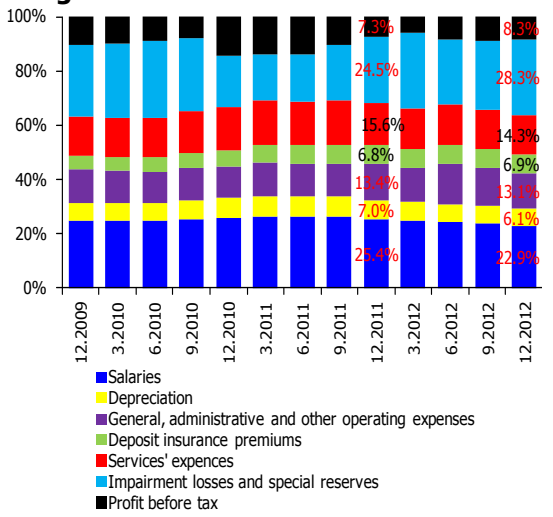
[63] Net interest margin is calculated as a ratio between net interest income and average interest-bearing assets. Average interest-bearing assets are calculated as an arithmetic average of the amounts of interest-bearing assets at the end of the corresponding quarter of the current year and the end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

Figure 85 Bank's cost efficiency ratio



Source: the NBRM, based on data submitted by banks

Figure 86 Distribution of total income of banks for covering specific cost categories



Source: the NBRM, based on data submitted by banks

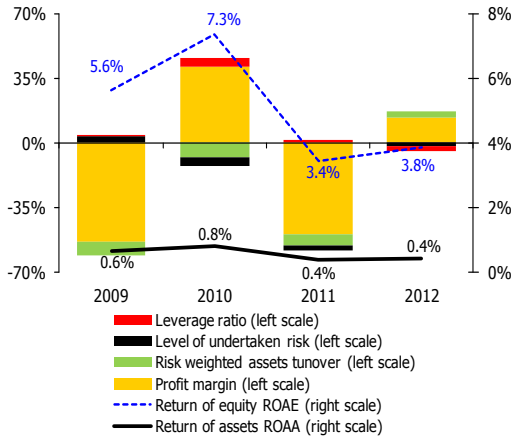
Banks' performance indicators improved in 2012 compared with the previous year, primarily reflecting the accelerated income growth of banks, and the improved cost management by banks.

Improved operational efficiency of banks is reflected by **the reduction of the share of banks' income used to cover each cost category.** The reduction of staff costs in 2012 decreased the share of total banks' income used for their coverage. Observing other categories of operating costs, the share of services costs, and general, administrative and other operating expenses is significant. Banks use most of their income to cover the cost of impairment and special reserve that took relatively larger portion of income compared to 2011. Therefore, in 2012, their profit margin increased. In fact, in 2012, 8.3% of the total income remained available for banks as profit after taxation, or one percentage point more compared with 2011.

The increase of banks' profits in 2012 improved the ratio of return on equity (ROAE), although the return on assets was the same as last year. The disaggregation of the rate of return on equity[64] shows that the increase of profit margin made the largest input to its increase in 2012. On the other hand, the annual change in the leverage ratio, and measure of the level of banks' undertaken risk contributed to its decline.

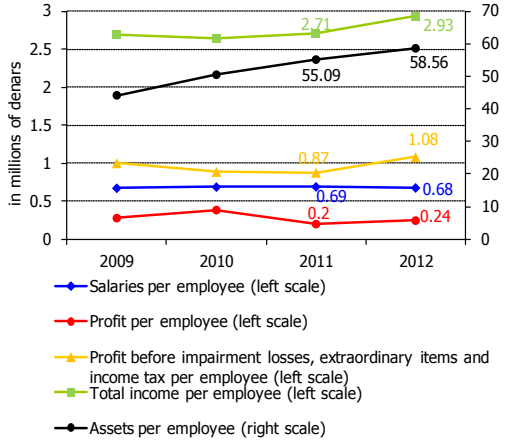
[64] The rate of return on equity, as disaggregated, is expressed as a product of the profit margin, the turnover of risk weighted assets, the leverage and the measure of the level of risk taken. Profit margin = profit after tax / total regular income. Turnover of risk weighted assets = total regular income / risk weighted assets. Leverage = average assets / average amount of capital and reserves. Risk level = risk weighted assets / average assets.

Figure 87 Annual growth of specific components of ROE



Source: the NBRM, based on data submitted by banks

Figure 88 Labor productivity indicators in the banking system



Source: the NBRM, based on data submitted by banks

The prevalence of net interest income in total income of banks is a consequence of the traditional business model applied by Macedonian banks, with main focus on funding through domestic deposit market and placing the collected funding sources in loans to domestic nonfinancial institutions or liquid financial instruments. Hence, risks to banks' profitability are related, on the one hand, to the structure of assets, especially the dynamics of noninterest-bearing assets and the consequences of the materialization of credit risk, and on the other hand, to the cost of funding sources, especially the need to attract new sources of funding or refinancing of existing ones, so as to provide the basis for increased market share or to maintain the existing position.

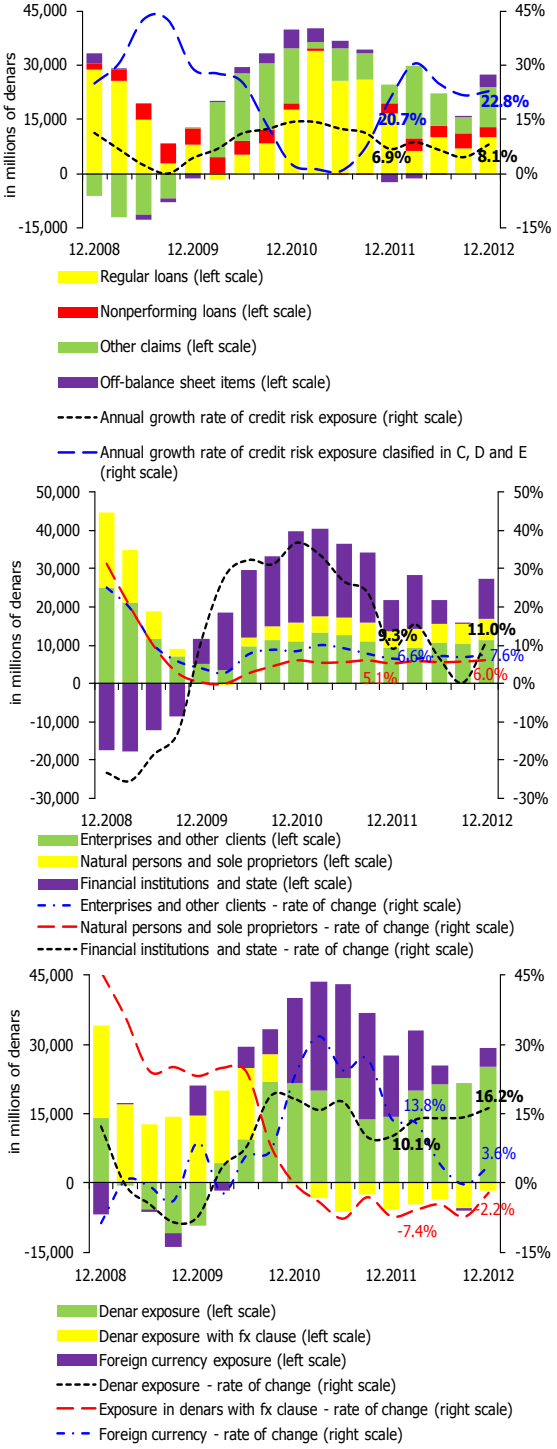
Productivity of the banking system of the Republic of Macedonia improved in 2012, suggesting more efficient utilization of resources. Improved productivity of banks in 2012 is primarily due to the growth of net profit per employee (by 23.2%), as well as the growth of assets per employee (6.3%) and total income per employee (by 8.3%). In contrast, wage costs per employee noticed a slight annual decline.

3.3.1.3 Credit risk

In 2012, the annual growth rate of total banks' exposure to credit risk[65] was higher compared with 2011. This indicates that in spite of the gradual reduction of post-crisis risk aversion among domestic banks, there is still a room for the banks to accelerate the growth of credit exposure to domestic economic agents. However, the growth pace of higher risk exposure remains significantly faster than the growth pace of total exposure. Despite the period of strong credit growth (2006-2008) when household exposure growth accelerated, in the past three years, the corporate exposure made greater contribution to the annual growth of credit exposure. Hence, the credit risk

[65] Banks' exposure to credit risk is defined in item 2 of the Decision on the credit risk management ("Official Gazette of the Republic of Macedonia" no. 50/13).

Figure 89 Annual growth of credit exposure, by item (up), by sector (middle) and by currency (down)



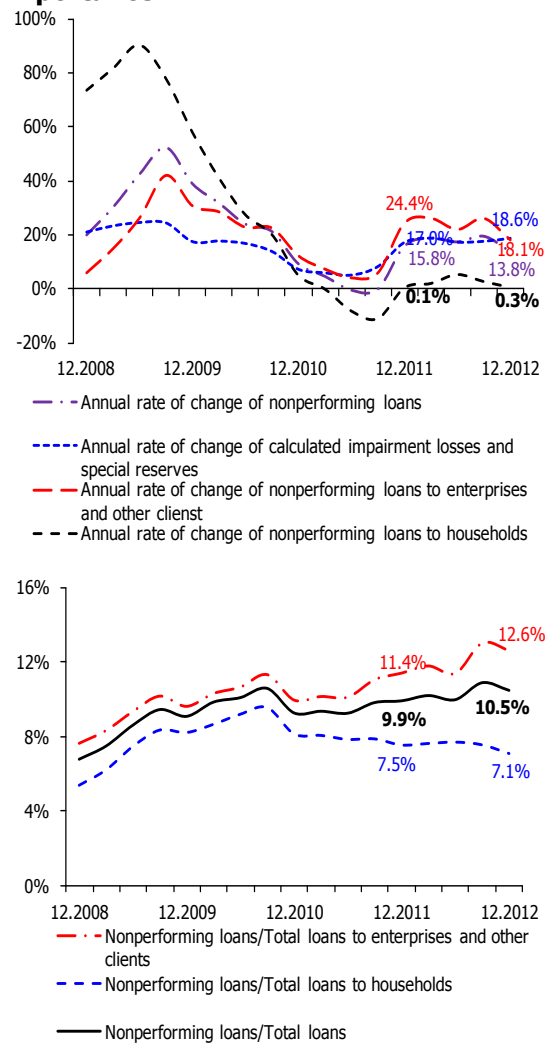
Source: the NBRM, based on data submitted by banks

materialization and importance to the stability and performance of the banking system is directly dependent on the performance, the competitive capability and the liquidity position of domestic corporate sector, as well as the quality of the projects financed by banks. The sector structure of credit exposure points to exposures to financial institutions and government as sectors with the fastest growth in 2012, primarily due to the strong preference of banks to invest in treasury bills. In terms of currency, in 2012, the Denar exposure registered a significantly higher growth compared with the exposure to currency component, which primarily reflects the enhanced growth of Denar loans and investments in Denar liquid instruments. However, almost half of the total exposure is still with currency component, and accordingly, the indirect currency risk is extremely important for the risk structure of credit exposure. The materialization of this risk is possible only in times of devaluation of the Denar against the Euro and/or change of the current regime of de facto fixed exchange rate, which actually highlights the importance of NBRM's monetary strategy of credit portfolio quality to the stability of the banking system. Also, the primarily long-term nature of credit exposure increases the sensitivity of borrowers to changes in interest rates, which is yet another source of banks' exposure to indirect market risk, especially for loans with variable and adjustable interest rate.

During 2012, nonperforming loans increased by 13.8%, mainly due to the increase of nonperforming loans of companies. The growth of nonperforming loans increased their share in total loans by 0.6 percentage points on an annual basis, which equaled 10.5% at the end of 2012. The analysis of the dynamics of nonperforming loans should regard the substantial share of restructured[66] and prolonged exposure in the total credit exposure (of 8.2% at the end of 2011), because a part of these credits, if not restructured or prolonged, would receive

[66] Claim restructuring means establishing new credit exposure by the bank to replace the existing one, causing significant changes in the contractual terms that result from the deteriorating financial condition of the borrower.

Figure 90 Annual growth rate of nonperforming loans and their relative importance

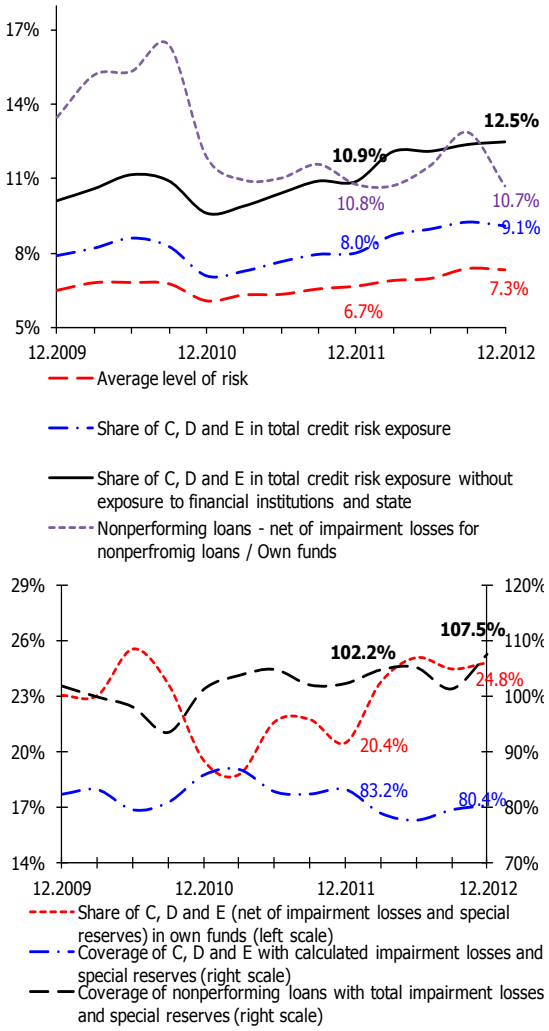


Source: the NBRM, based on data submitted by banks

nonperforming status and accordingly, would affect the development of nonperforming loans. About one-tenth (11.2%) of loans made during 2012, received nonperforming status during the same year, most of which granted to companies (in 2011, 12.6% of the loans received a nonperforming status). The impairment and special reserve recorded a faster growth compared to nonperforming loans, which on the one hand, reflects the expectations of banks for higher credit risk, but on the other hand, leads to a greater coverage of nonperforming loans with impairment. The dilemma about (in)sufficient provisioning of the segment of the credit portfolios that are subject to calculation of impairment on group basis[67] is still present. This impairment is determined using statistical models, accompanied by model risk, or risk that the model is not suitable for the purpose for which it serves, provides wrong results (intentionally or unintentionally), produces errors in its design and alike. Correction determined on a group basis covers only 0.9% of the credit risk exposure classified on a group basis, while the average risk level of functional exposure (where the delay is up to 90 days) to nonfinancial entities classified on an individual basis equals 2.9% (3.8% for corporations and other clients and 1.4% for households and retailers).

[67] As of 31 December, 2012, only 2.1% of the total impairment and special reserve were determined on a group basis, for the subportfolios on similar financial instruments that are not impaired on an individual basis (share of 6.1% of total credit exposure of the banking system) and for portfolios of retail loans (10.6% of total credit exposure of the banking system).

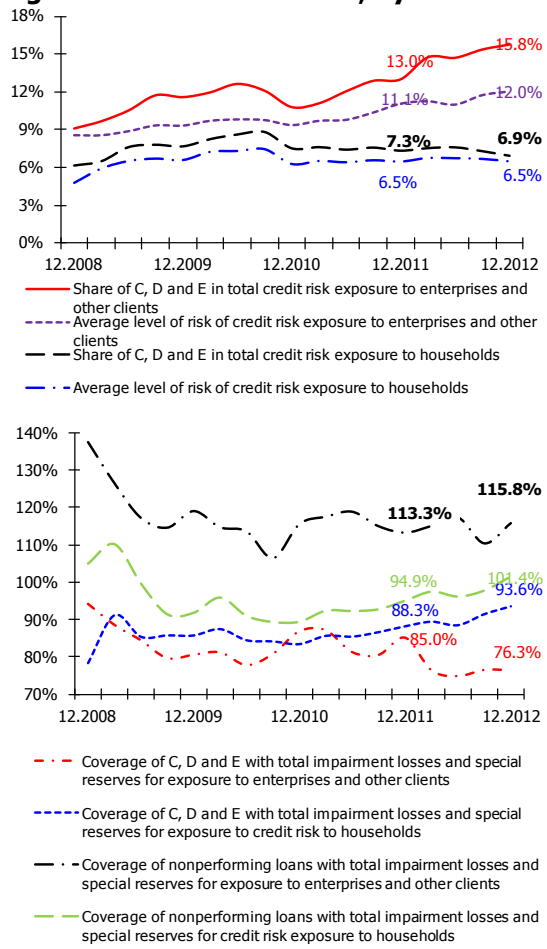
Figure 91 Credit risk ratios of the overall banking system



Source: the NBRM, based on data submitted by banks

During 2012, the quality indicators of credit exposure experienced negative trends, mainly due to the faster growth of exposure classified in higher risk categories. Nonperforming loans are fully covered with the total impairment, while the share of portion of nonperforming loans not covered with provisions, remained almost the same in the total own funds of the banking system. Thus, under the assumption of full default of nonperforming loans, own assets would decrease by 10.7%. At the end of 2012, the higher risk exposure (classified in C, D and E risk categories) accounts for 9.1%, while the share of exposure not covered by impairment makes up 24.8% of the own funds. Typically, the dynamics of credit risk ratios is also influenced by the decisions of banks to write-off claims, and to foreclose assets that serve as collateral in case of default. If we exclude the effects of write-offs, the share of exposure classified in C, D and E risk categories in total credit risk exposure would increase by one percentage point, and there would be a further increase of 1.7 percentage points if we exclude the effects of foreclosure by banks during 2012.

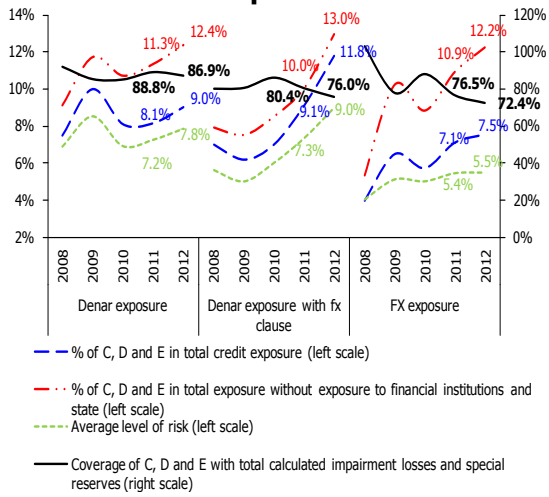
Figure 92 Credit risk ratios, by sector



Source: the NBRM, based on data submitted by banks

In 2012 the credit risk arising from corporate exposure increased, vis-à-vis the improved quality indicators of the household loan portfolio. Coverage of higher risk exposure to households with impairment and special reserve allocated for household exposure increased by 5.3 percentage points, while the level of coverage of corporate exposure fell by 8.7 percentage points. The pace of this indicator requires closer monitoring of corporate exposure and creates additional risks for banks in terms of unexpected losses of this segment of loan portfolio, which is especially apparent in conditions of poor performance of the domestic corporate sector. The usual time lag of the household credit exposure to respond to the deterioration in the corporate sector is yet another potential risk to the banks which can create a need for additional impairment for the exposure to this sector. 2012 marked a decrease of the share of bullet loans in the structure of total loans from 14.0% to 13.3%, which could be assessed as positive from a credit risk viewpoint, given that these loans require larger single outflow of liquidity from borrowers, which usually means higher probability of default. Almost all such loans (95.9%) were approved to companies.

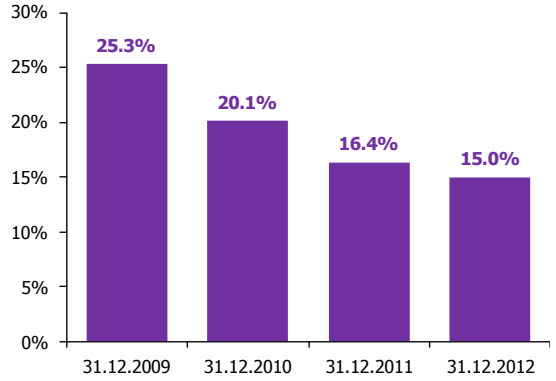
Figure 93 Credit risk ratios, by currency structure of the exposure



Source: the NBRM, based on data submitted by banks

In terms of currency structure, the Denar credit exposure with FX clause registered the highest risk level and the most remarkable deterioration of credit risk ratios. Given that most of this exposure segment was set in the years of credit expansion, such risk exposure dynamics is a part of the so-called ripening process and confirms the fact that under relaxed credit terms the banks tend to create exposures that are inherently procyclical, i.e. whose quality is related to the dynamics of the economic cycle. Risk indicators of Denar and foreign currency loan exposure also worsened, but at a slower pace, which to a certain extent results from the increasing share of low-risk exposure to financial institutions and the government.

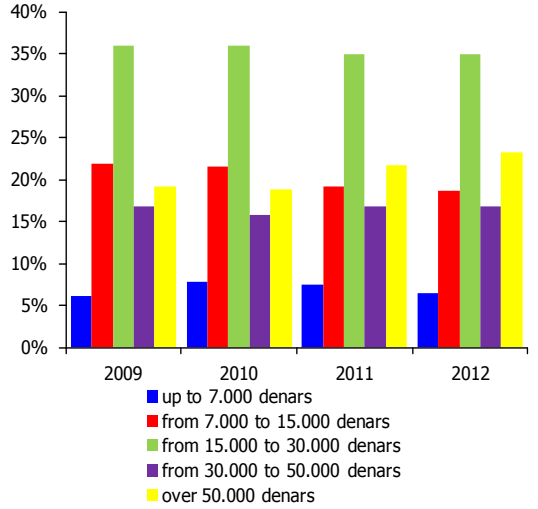
Figure 94 Share of uncollateralized exposure in total credit exposure to the nonfinancial institutions



Source: the NBRM, based on data submitted by banks

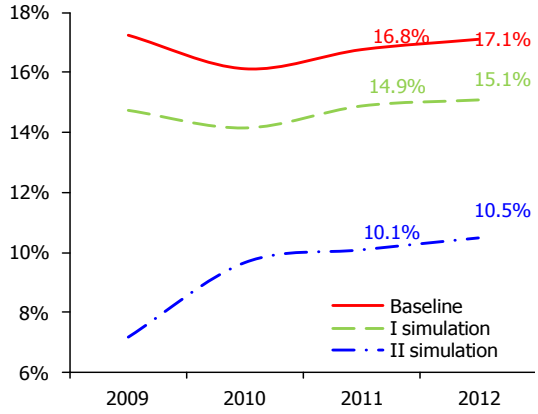
In 2012, uncollateralized credit exposures to nonfinancial entities decreased by 0.7%, while its share in total credit exposure dropped by 1.4 percentage points. The relatively high coverage of the credit portfolio with some form of security contributes to mitigate the level of credit risk of banks and may also serve as a potential source for collection of nonperforming exposure. However, given the current evaluation methods, banks are potentially at risk of mismatch between the estimated value and the actual market price. Moreover, the risk of market illiquidity for the relevant collateral is of particular importance (especially the real estate market, which is marked by a low level of development and functionality), which could incur additional losses for the banks when selling foreclosures. In 2013, the National Bank adopted a new regulation for the treatment of foreclosures. Namely, these assets remain in banks' balance sheets longer because they usually tend to sell them at a price which is approximately equal to the amount of the default asset, which is actually difficult to achieve because it exceeds the market price. Hence, the Decision requires from banks to recognize impairment of at least 20% of the initial carrying value of foreclosed assets on the date of foreclosing the asset and consequently allocate impairment loss in the same amount. In addition, the impairment and special reserve related to the default asset which is settled by foreclosing asset is not released (not shown as an income), but used for recognition of 20% of the asset impairment or in case of surplus, it will be given a status of revaluation reserve, thus increasing the banks' supplementary capital. Once the foreclosed asset is sold, the bank may release and recognize the respective revaluation reserve as revenue. Hence, these changes in the regulatory treatment of foreclosures are expected to stir up greater activity of banks regarding the sale of already foreclosed assets, and more realistic recognition of their value in the balance sheets.

Figure 95 Structure of credit exposure, by monthly income of natural persons - borrowers



Source: the NBRM, based on data submitted by banks

Figure 96 Capital adequacy ratio, before and after simulation



Source: the NBRM, based on data submitted by banks

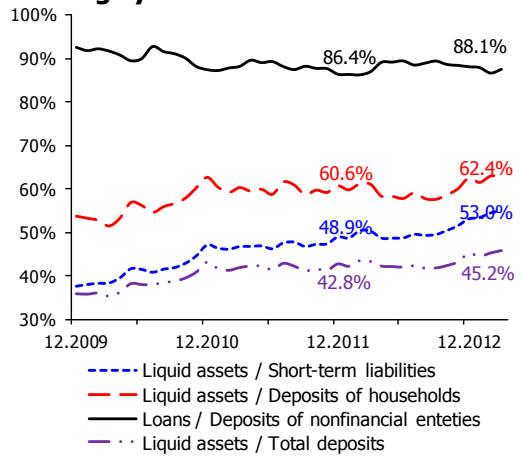
Most of the credit exposure to companies is covered with collateral (95.1%). By contrast, over two- thirds of credit exposure to natural persons is not secured. The lower level of collateralization of the household loan portfolio is explained by the substantial share of exposure based on credit cards and overdrafts.

The structure of credit exposure to natural persons shows an increase of the exposure to clients with higher monthly income. According to the monthly income, most indebted persons are those with a monthly income from Denar 15,000 to Denar 30,000, which given the average salary in the Republic of Macedonia (a little over Denar 20,000 denars) can be regarded as expected.

To determine the sensitivity of the banking system to the deterioration of the quality of certain loan portfolio segments, simulations have been carried out of hypothetical migration of 10% (first simulation) and 30% (second simulation) of credit exposure to the sectors of corporations and other clients (including by activity) and households (including by credit product), from lower risk categories to the following two categories of higher risk. **The results of these simulations show increasing resilience of banks compared to the previous year**. Both simulations analyzed by activity or credit product show the worst deterioration in the average risk level of the exposure to the "real estate activities" followed by the "industry", while observing the household exposure, the most significant deterioration of quality is observed in overdrafts, followed by car loans.

3.3.1.4 Liquidity risk

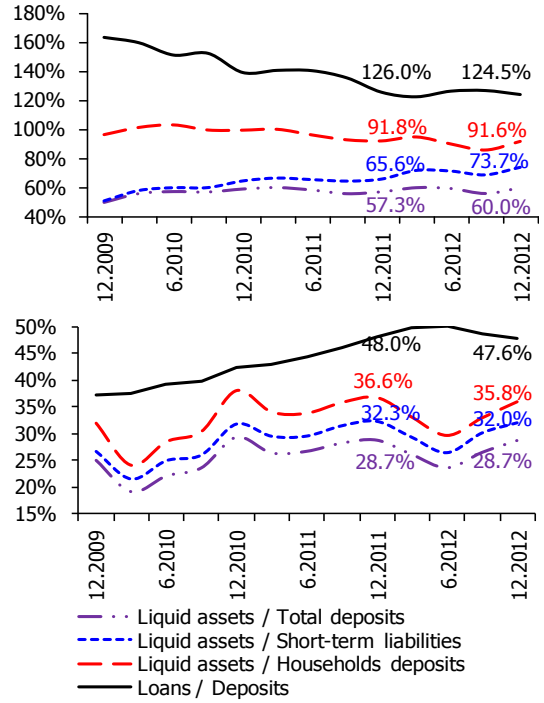
Figure 97 Liquidity ratios of the banking system



Source: the NBRM, based on data submitted by banks

Liquidity risk of the banks in the Republic of Macedonia remained on acceptable level during 2012, primarily due to the significant amount of liquid assets[68] they hold and their faster growth compared with the different categories of funding sources. Hence, in 2012, the liquidity ratios of the banking system moved upward. The highest annual improvement is observed in the coverage of short-term liabilities with liquid assets and in the coverage of deposits. In 2012, the loan/deposit ratio grew up, suggesting that banks increased the level of utilization of the deposits as a source of funding their activities.

Figure 98 Liquidity ratios of the banking system, by currency - Denar (up) and foreign currency (down)

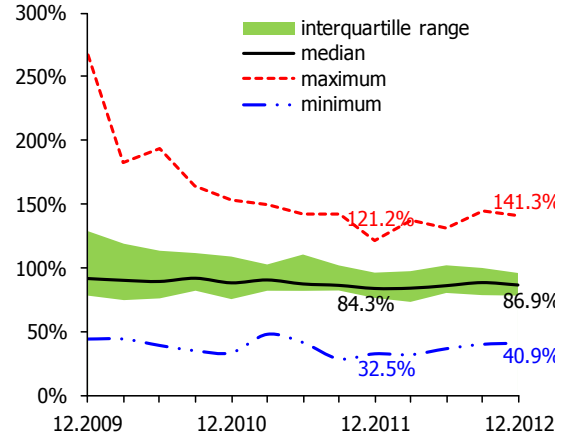


Source: the NBRM, based on data submitted by banks

In terms of currency structure, in 2012 the Denar liquidity ratios were stable. FX liquidity ratios showed greater fluctuations during 2012, dropping in the first half of the year, and increasing in the second half.

[68] For reporting purposes, liquid assets include cash and account balances with the National Bank, CB bills, correspondent accounts and short-term deposits with foreign banks and investments in short-term securities issued by the government. Also, Denar assets and liabilities with FX clause are regarded as Denar assets and liabilities.

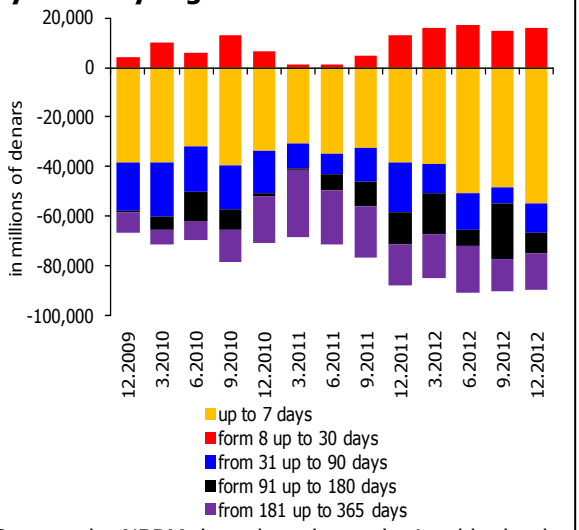
Figure 99 Concentration of deposits in the banking system



Source: the NBRM, based on data submitted by banks.
Shows the share of 20 largest depositors in the average deposit base for the last month

Deposit concentration is a possible source of liquidity risk to the domestic banking system. The interquartile gap of deposit concentration continued narrowing during 2012. The median increased modestly, same as the level of concentration among banks with minimum and maximum concentration. The share of time deposits with banks available for early withdrawal by clients increased their share in total time deposits from 88.9% as of 31 December, 2011 to 91.4% at end-2012, which is a challenge for the banks' liquidity management.

Figure 100 Contractual residual maturity (mis)match between assets and liabilities, by maturity segment



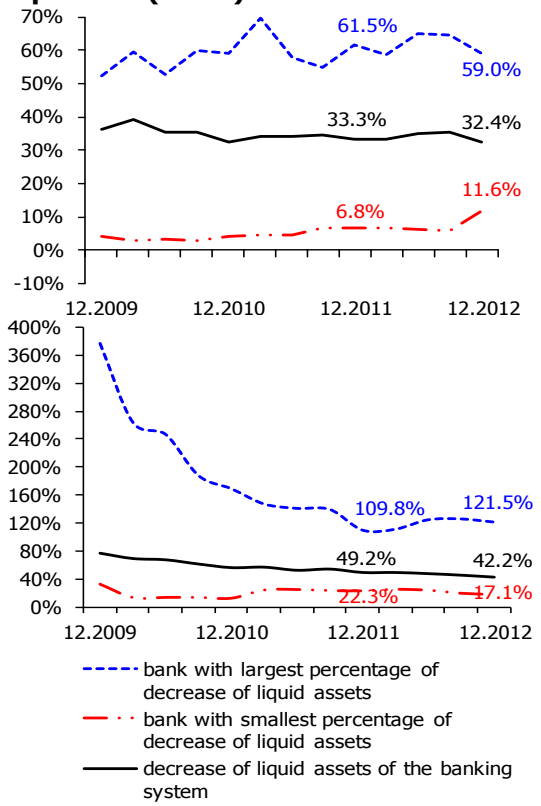
Source: the NBRM, based on data submitted by banks

The contractual residual maturity of banks' liabilities remained lower compared to the assets of the banking system. However, **during 2012, the liabilities maturity profile improved** due to the preferences of clients to save in a long run, attracted by the higher interest rates on longer maturities[69]. Hence, in 2012, the maturity mismatch between assets and liabilities reduced in the segments of residual maturity greater than one month, and thus of the so-called structural liquidity risk[70]. However, with the exception of maturity segment from 8 to 30 days, all other maturity segments registered a negative gap between assets and liabilities in terms of their residual contractual maturity.

Due to the greater operating prudence, in the post-crisis years, banks in the Republic of Macedonia have maintained relatively higher liquidity position. This also reflects the traditional banking activities, and underdevelopment of domestic financial markets, especially the

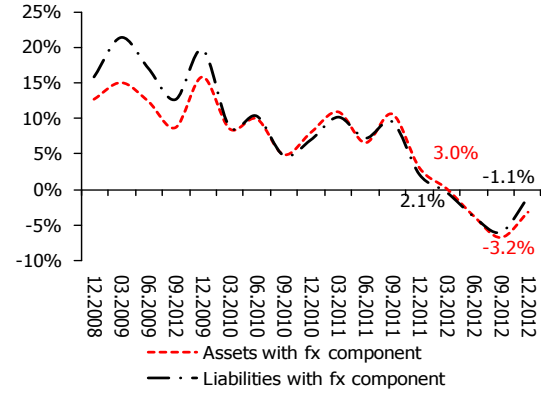
[69] This relates to the National Bank's measure to calculate reserve requirement of 0% for liabilities to natural persons with contractual maturity over two years.
[70] This risk is associated with the so-called maturity transformation, when banks use short-term sources of funds, and credit in a long run, in order to accommodate the needs of their clients. The risk arises from the maturity mismatch between assets and liabilities.

Figure 101 Results of the simulation of withdrawing 20% of household deposits (up) and withdrawal of deposits of the twenty largest depositors (down)



Source: NBRM calculations, based on data submitted by banks

Figure 102 Annual growth rate of assets and liabilities with foreign currency component



Source: the NBRM, based on data submitted by banks

secondary markets for assets of the Macedonian banks. Higher liquid assets allow banks to meet their current and future financial liabilities regularly and without delays, helping them to maintain the liquidity risk under control and have greater comfort in operations. Yet, the effect is lower yield of these assets, compared with the yield of other assets.

During 2012, the Macedonian banking system showed satisfactory resilience to simulations of liquidity shocks. Banks hold liquid assets to cope with any shocks, either presented through simulation of outflow of 20% of household deposits, or an outflow of deposits of twenty largest depositors. Slightly higher sensitivity is observed at withdrawal of deposits of twenty largest depositors from the banking system, compared with the withdrawal of 20% of household deposits, resulting from the concentration of deposits in some banks. In these simulations, the coverage of short-term liabilities[71] with liquid assets decreased from 53.0% to 42.7% and 38.9%, respectively. In addition, the results of the simulation that assumes an outflow of funding sources for the banks from their parent entities confirm the stable liquidity position of domestic banks. In these simulations, liquid assets decreased by 9.4%, and its share in total assets would decrease by 2.9 percentage points.

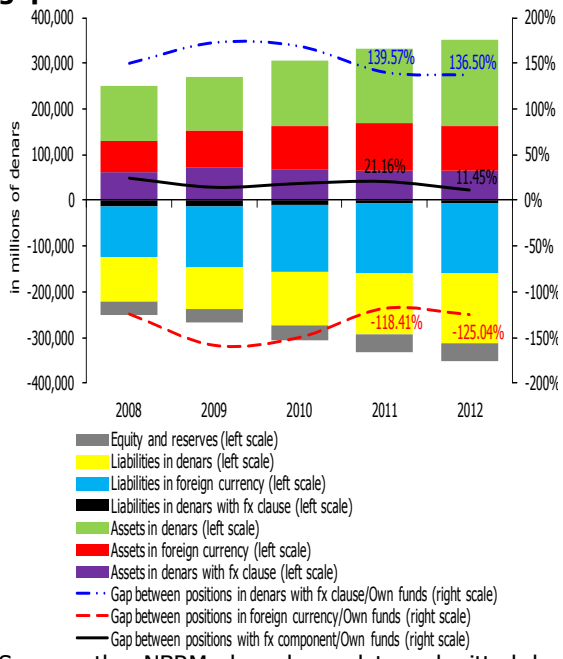
3.3.1.5 Currency risk

In 2012, the ratio of gap between assets and liabilities with currency component and total own funds decreased, and accordingly, the banks' direct exposure to currency risk and movement of inter-currency relations diminishes. Moreover, this reduction occurred in the backdrop of simultaneous annual decline of assets and liabilities with a currency component, as a phenomenon that has happened over the last few years. The pace of decline of assets with

[71] Simulations assume that deposits taken outside banks are short-term by their maturity profile and are considered to be short-term liabilities.

currency component somewhat exceeded that of liabilities with currency component. The annual reduction of liabilities with currency component arises mainly from the stronger preference of domestic economic agents to save in Denars, while the reduction of assets with currency component, on the one hand, results from the decline of investments in foreign banks, as well as the lower volume of banks' lending to the domestic economy with a currency component (loans and securities with currency component).

Figure 103 Structure of banks' assets and liabilities with currency component and gap to own funds ratio



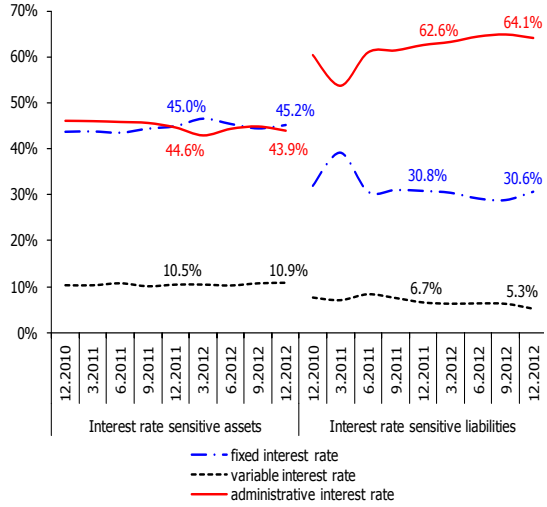
Source: the NBRM, based on data submitted by banks

The gap between assets and liabilities with a currency component consists of a positive gap of Denar positions with an FX clause and a wide negative gap between assets and liabilities in foreign currencies. Negative gap in currency positions is due to the relatively significant share of foreign currency deposits in the banks' sources of funding, and to the use loans and subordinated instruments from abroad, including from parent entities. Banks balance this negative gap with the positive gap between assets and liabilities with currency component, primarily with the use of FX clauses in their loan products.

The NBRM monetary strategy to implement regime of de facto fixed exchange rate of Denar against the Euro, when the largest share of assets and liabilities in the structure of total foreign currency assets and liabilities (almost 90%) are in euros, causes an effect of "modest" consideration by economic agents for materialization of currency risks. Thus, the currency risk of banks in the Republic of Macedonia, especially the one arising from assets and liabilities denominated in euros, in essence, is a risk arising from macroeconomic environment. During 2012, banks generally kept the currency risk exposure within the prescribed limit of aggregate foreign exchange position.

3.3.1.6 Interest rate risk in the banking book

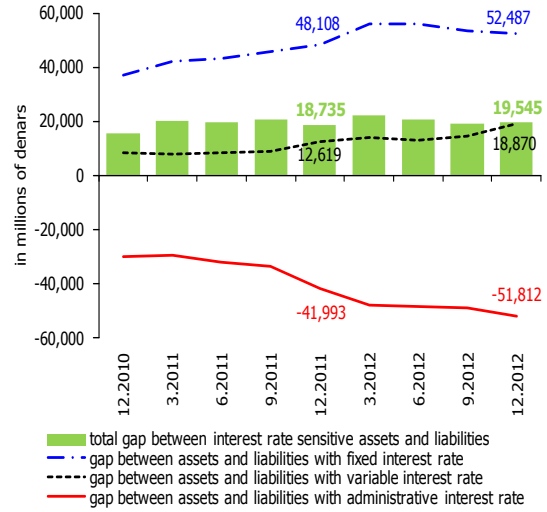
Figure 104 Structure of interest sensitive liabilities, by type of interest rate



Source: the NBRM, based on data submitted by banks

The exposure of banks in the Republic of Macedonia to interest rate risk in the banking book is minor. This stems from the common practice of banks to use adjustable interest rates[72] in most of their primary activities - loans and deposits.

Figure 105 Gap between interest-sensitive assets and liabilities, by type of interest rate

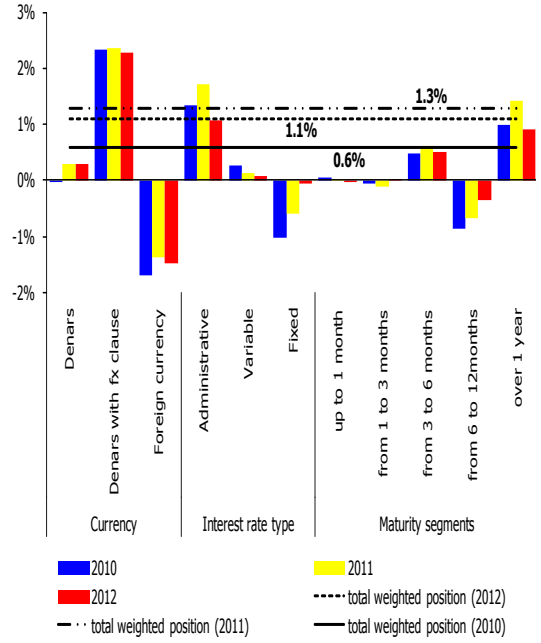


Source: the NBRM, based on data submitted by banks

The gap between interest sensitive assets and liabilities is positive in positions with fixed and variable interest rate, and negative in positions with adjustable interest rate. In addition, during 2012, the gap of all kinds of interest rates expanded. The gap expansion in positions with fixed interest rates is due to the faster growth of loans with fixed interest rates and treasury bills, compared with the increase of liabilities to banks based on loans and repo transactions, whose interest rates are fixed. The increase of current account assets in foreign banks widened the gap in positions with variable rates. The negative gap between positions with adjustable interest rates widened due to the significant increase of time deposits and demand deposits, despite the slower growth of loans with such interest rates.

[72] Adjustment of interest rates is done unilaterally because of changes in interest rate policy of the bank, rather than on the basis of certain policy rate.

Figure 106 Ratio between the total weighted value of the banking book and own funds, by type of interest rate, currency and maturity segment



Source: the NBRM, based on data submitted by banks

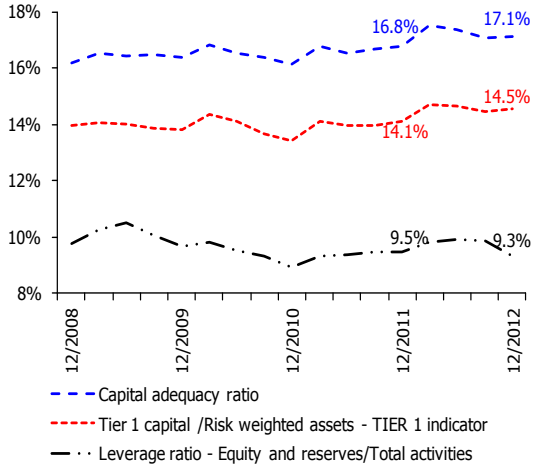
As in the past two years, most of the exposure to interest rate risk in the banking book arises from the higher positive net weighted value calculated for positions with adjustable interest rates and Denar positions with FX clause, especially the maturity segments over one year. The positive weighted value derives fully from the weighted position with adjustable interest rate, but this is not a relevant indicator of the banks' exposure to interest rate risk. According to the bylaws, the deployment of positions with adjustable interest rates in the respective maturity segments is done by determining the likelihood and frequency of changes in interest rates on these positions. Banks actually use these interest rates not only for balancing the ratios between interest sensitive positions, but also as an instrument for maintaining and managing the profitability and liquidity. Hence, although the ratio between the total weighted value of the banking book[73] and own assets was very low in 2012, the interest rate risk in the banking book could get a completely different significance in case of amendments[74] to the regulatory environment, which would restrict their use in case of credit and deposit products.

[73] The total weighted value of the banking book is obtained by aggregating the net weighted value of each bank. For an individual bank, the ratio between net weighted value of the banking book and the bank's own funds may amount to 20%.

[74] The current legislation governing this area is inconsistent regarding the use of clauses for unilateral adjustability of interest rates, i.e. it does not contain provisions for the method of determining and change in interest rates or definition of variable interest rates. In the legal systems of some countries in the region (such as Serbia), the use of this type of interest rates is limited.

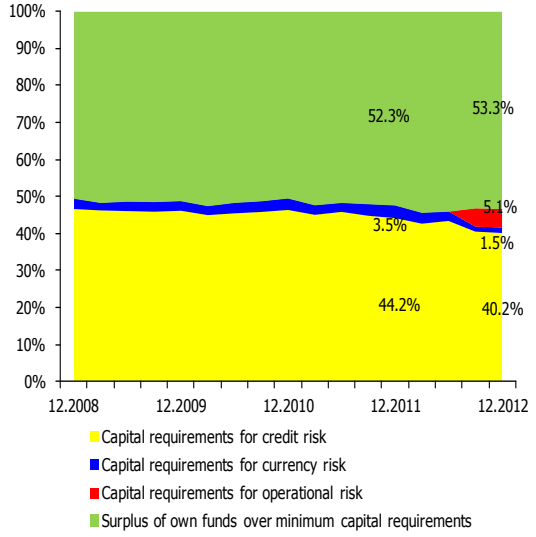
3.3.1.7 Insolvency risk

Figure 107 Solvency and capitalization ratios



Source: the NBRM, based on data submitted by banks

Figure 108 Use of own funds (capital requirements) for covering risks

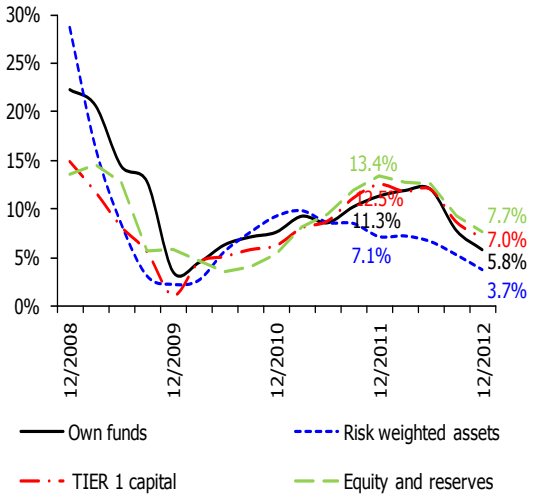


Source: the NBRM, based on data submitted by banks

In 2012, the solvency and capitalization of the banking system remained satisfactory. At the end of 2012, the capital adequacy ratio of the banking system stood at 17.1%, which is by 0.3 percentage points more compared with the end of 2011.

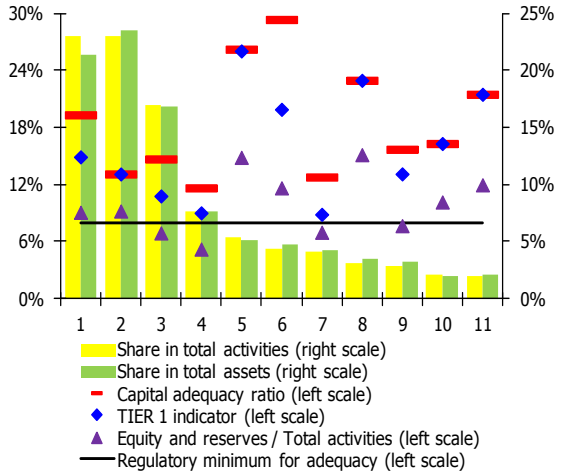
Banks maintained their solvency position at a satisfactory level even after the **implementation of the new Decision on the methodology for determining capital adequacy** (1 July, 2012), under which banks started to apply standardized approach to determine credit risk weighted assets and to establish capital requirement for operational risk. Three banks have been using the standardized approach to determine the capital requirement for operational risk, while other banks have applied the basic indicator approach, which is generally more conservative and implies higher amounts of capital requirements. This decision had no significant impact on the solvency ratios, but affected the composition and structure of capital requirements for covering risks by banks. Namely, despite the introduction of the obligation for determining the capital requirements for operational risk, still the new decision on capital adequacy reduced the proportion of own funds used to cover risks. The reasons stem from the reduction of capital requirement for credit risk, since the credit exposure based on a retail portfolio, the claims backed by residential property and the claims on banks bear lower risk weights in the calculation of capital requirements, compared with the previous decision (which is in line with Basel 2). Moreover, banks' preference to take credit risk is modest, as perceived through the banks' investments in liquid assets and the growth of off-balance sheet positions that carry low or medium-low risk, and therefore, they are either not included or included but with a low weight in the calculation of capital requirements. Capital requirement for currency risk also reduced due to the full inclusion of impairment/special reserve of asset items with currency component when determining the

Figure 109 Annual growth of capital positions and of risk weighted assets



Source: the NBRM, based on data submitted by banks

Figure 110 Solvency and leverage ratios for particular banks, as of 31 December, 2012



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

* Note: Banks with over 2% share in the total assets of the banking system. The capital adequacy of the remaining five banks with individual share of below 1% of the total assets of the banking system ranges from 11.5% to 42.8%. Their share in total assets equaled 5.5% at the end of 2012

aggregate currency position, rather than the previous framework which required exclusion of impairment/special reserve for claims with currency component classified in C, D and E risk categories. **Given that more than half of the banks' own funds are above the level of capital requirement for covering risks, it can be concluded that the banking system as a whole holds a sufficient amount of own funds to absorb unexpected losses.**

The increase of the capital adequacy ratio in 2012 results from higher growth rates of the banks' capital positions, especially their own funds, compared with the growth rates of the activities of the banking system (risk weighted assets). In 2012, the growth of own funds was mainly driven by reinvesting of banks' profits earned in 2011 and capital infusions by parent entities in the form of new issues of shares and subordinated instruments. These sources of increase of own funds actually show that the main limiting factors for the future growth of own funds of the banking system relate, on the one hand, to the reduced capacity of the banks to earn profit, and on the other hand, to the performance of their parent entities, especially those originating from countries in the euro area that has been facing debt crisis and restructuring of their banking systems. Furthermore, the structure of own funds of the Macedonian banks is of relatively high quality, given that the core capital accounts for 85% of total own funds. Note that the slower growth of risk weighted assets in 2012 is partially due to the effects of the new decision, i.e. changes in the regulatory framework for the use of lower risk weights for certain asset categories (retail loan portfolio and housing loans).

At the end of 2012, all banks reported a capital adequacy ratio above the capital requirement of 8%. Note that some banks hold higher amount of supplementary capital in the structure of their assets, and therefore, have relatively higher leverage, which may address the need for recapitalization or greater vulnerability to solvency position during the simulations of

hypothetical shocks. These conclusions are also confirmed by the results of the **stress test simulations that show satisfactory level of resilience of the banking system to the impact of various assumed individual shocks or combination thereof.** Thus, at extreme assumption of simultaneous credit, currency and interest rate shock[75], the capital adequacy of the banking system would drop from 17.1% to 9.6%, while the capital adequacy of seven banks would fall below the capital requirement of 8%.

[75] This simulation assumes simultaneous increase of exposure classified in C, D and E risk category by 80%, depreciation of the exchange rate of the Denar against other currencies by 30% and increase of interest rates by 5 percentage points.

3.3.2 Savings houses

The importance of savings houses for the financial system in the Republic of Macedonia is insignificant[76]. It is shown through their minor share in all segments of the depository institutions operations and scope of activities[77]. Given their subordinate role in the financial system and the high capitalization ratio vis-à-vis their operational risks, savings houses are not a systemic risk to financial stability.

The latest amendments to the Banking Law since the beginning of 2013 allow the savings houses to be transformed into financial institutions without being liquidated (which was not possible previously), and more precisely define the transformation of a savings house into a bank and certain statutory changes of savings houses to banks. Immediately after the adoption of the these amendments to the Banking Law, three savings houses began the transformation process into financial institutions. The number and importance of savings houses are expected to continue diminishing in the near future, and if they fail to make certain "status" changes, they can hardly be expected to apply the increasingly complex banking standards, while maintaining their operational efficiency and profitability.

3.3.2.1 Structure of savings houses' assets and liabilities

In 2012, the total assets of savings houses decreased by Denar 336 million, or 10.6% (an increase of 5.9% in 2011). The share of assets of savings houses in the total assets of depository institutions was reduced to 0.8%. Although the number of savings houses decreased by one in 2012, this did not cause the decline of savings houses' assets[78].

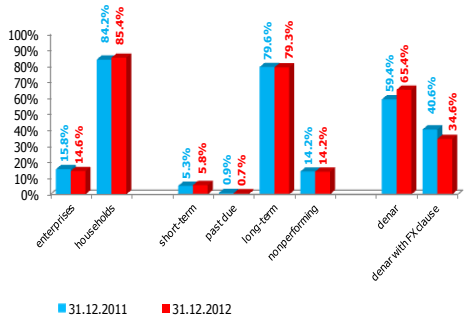
[76] Analyzing depository institutions (banks and savings houses), the share of savings houses equals only 0.8% of total assets, 0.3% of the total household deposits and 1.2% of total loans to nonfinancial institutions.
[77] Accepting Denar deposits from households, lending to natural persons and, to a limited extent, to legal entities.
[78] In December 2012, the Governor of the National Bank passed the Decision no. 9996 on granting a prior approval for cessation of the savings house "Inter Falco" LLC Skopje and for enforcing liquidation proceedings in the savings house.

Table 8 Structure of assets and liabilities of savings houses

Balance sheet	Amount (in millions of Denars)		Structure		Change 31.12.2012/31.12.2011	
	31.12.2011	31.12.2012	31.12.2011	31.12.2012	absolute change	in %
Cash and balances with NBRM	174	120	3.1%	2.4%	-54	-30.9%
Financial instruments held to maturity	92	70	1.6%	1.4%	-22	-24.4%
Placements to financial institutions	126	112	2.2%	2.2%	-14	-10.9%
Placements to nonfinancial institutions (net)	2,525	2,233	44.4%	44.1%	-292	-11.6%
Gross loans of nonfinancial entities	2,907	2,635	51.1%	52.1%	-272	-9.3%
Accumulated amortization of lloans to nonfinancial entities	-31	-29	-	-	2	-7.2%
Impairment (provisions) of loans to nonfinancial entities	-351	-374	-	-	-23	6.5%
Accrued interest	29	24	0.5%	0.5%	-5	-15.6%
Other assets	58	49	1.0%	1.0%	-9	-15.9%
Fixed assets	159	219	2.8%	4.3%	60	37.6%
Total assets	**5,688**	**5,059**	**100.0%**	**100.0%**	**-628**	**-11.0%**
Deposits of households	728	846	23.0%	29.9%	118	16.1%
Short-term borrowings	6	3	0.2%	0.1%	-3	-42.8%
Long-term borrowings	1,070	605	33.8%	21.4%	-465	-43.4%
Other liabilities	74	98	2.3%	3.5%	24	32.7%
Provisions	0,5	1	0,0%	0.04%	0,5	100.0%
Equity and reserves	1,285	1,273	40.6%	45.0%	-12	-0.9%
Total liabilities	**3,163**	**2,827**	**100.0%**	**100.0%**	**-336**	**-10.6%**

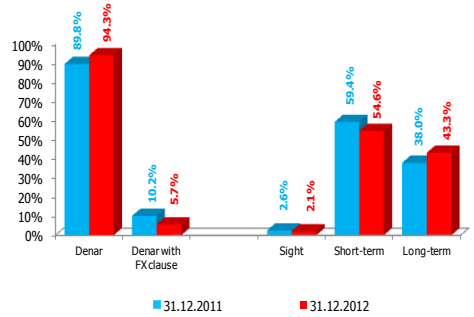
Source: the NBRM, based on data submitted by savings houses.

Figure 111 Structure of loans of nonfinancial entities by sector, currencies and maturities



Source: the NBRM, based on data submitted by savings houses

Figure 112 Structure of deposits of nonfinancial entities by sector, currencies and maturities



Source: the NBRM, based on data submitted by savings houses

Namely, for the most part, **the annual decline of savings houses' assets reflects the lower volume of their activities, i.e. the decline of loans to nonfinancial institutions.** In 2012, loans to nonfinancial institutions declined by Denar 272 million, or 9.3%. The reduced activities of savings houses in 2012 are attributable to the reduced long-term Denar loans with FX clause used by banks (a decrease of Denar 460 million, or 48.1%).

Notwithstanding the reduction of long-term loans by banks, along with their capital and reserves, they represented the most significant source of funding for the activities of savings houses, which is not in accordance with the primary activity to be performed by these depository institutions.

In 2012, household savings in savings houses rose by Denar 118 million, or 16.1%. Thus, 77.0% of the growth is due to the long-term Denar deposits of natural persons.

Typical for this segment of the financial system is the extremely high concentration, because the three largest savings houses constitute above 92% of total assets, loans and

deposits of these institutions. Just because of the high concentration, the overall changes in the savings houses' balance sheet in 2012 were caused by one or two savings houses.

Table 9 CR3 for total assets, total deposits and gross credits of savings houses

CR3 ratio	31.12.2011	31.12.2012
CR3 ratio for total assets	93.8%	93.7%
CR3 ratio for total deposits	94.7%	98.5%
CR3 ratio for total loans	92.2%	92.4%

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

3.3.2.2 Credit risk

Credit risk is the most significant risk to the savings houses' operations. Compared to the previous year, the quality ratios of the loan portfolio of the savings houses remained mainly unchanged or slightly improved.

According to the loan portfolio quality indicators, the risk of savings houses' credit portfolio is higher compared to the banking system. However, the high capitalization vis-à-vis operational risks taken by savings houses provides assurance in terms of possibility to cover any new losses from credit exposure. Namely, in case of simulation of hypothetical full default of exposures classified in C, D and E, loss coverage would require 31.2% of the own funds of savings houses. The capital adequacy ratio would be very high and would equal 35.7% (more than four times above the minimum requirement).

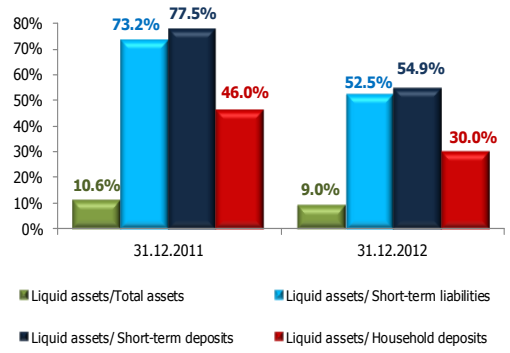
Table 10 Indicators of the quality of credit portfolio of savings houses

Indicator	31.12.2011	31.12.2012
Average level of risk	11.2%	13.2%
* for legal entities	14.7%	15.4%
* for households	11.5%	13.9%
Share of „C", „D" и „E" in the total credit risk exposure	13.8%	13.8%
Share of non-performing loans in total loans	13.7%	13.6%
Share of non-performing loans - legal entities in total loans- legal entities	13.9%	13.6%
Share of non-performing loans - households in total loans- households	14.3%	14.3%
Share of non-performing loans in total loans 9excluding banks and other financial institutions)	14.2%	14.2%
Share of past due loans in total loans	0.9%	0.7%
Share of past due loans - legal entities in total loans - legal entities	1.0%	0.7%
Share of past due loans - households in total loans - households	0.9%	0.7%
Coverage of „C", „D" и „E" with total calculated impairment losses and special reserves for credit risk	81.0%	95.5%
Coverage of „C", „D" и „E" with total calculated impairment losses and special reserves for „C", „D" и „E"	66.1%	78.7%
Coverage of non-performing loans with impairment losses and special reserves for non-performing losses	68.1%	81.2%
Coverage of non-performing loans with impairment losses and special reserves for credit risk	85.4%	101.0%

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

3.3.2.3 Liquidity risk

Figure 113 Liquidity ratios of savings houses



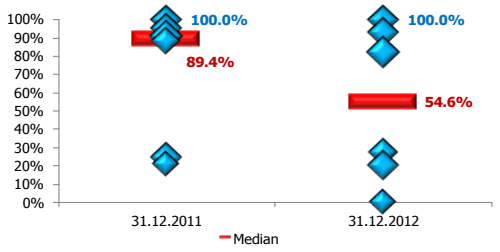
Source: the NBRM, based on data submitted by savings houses

Despite the decrease of liquid assets, at the end of 2012, **the savings houses held sufficient amount of liquid assets.** The liquid assets of savings houses amounted to Denar 254 million, declining by Denar 81 million, or 24.3% compared to the previous year. The reduction of liquid assets is mainly due to the decrease of cash and deposits with banks.

Liquidity indicators of the savings houses are lower than those of banks, but still satisfactory. Liquid assets occupy only 9% of total assets, as a result of the poor investment alternatives available to the savings houses, as well as their reluctance for investing their assets in a variety of liquid financial instruments[79].

[79] Liquid assets of savings houses consist only of cash (40%), short-term deposits with banks (40%) and investments in treasury bills (20%).

Figure 114 Share of the twenty largest depositors in the total average deposit base of savings houses



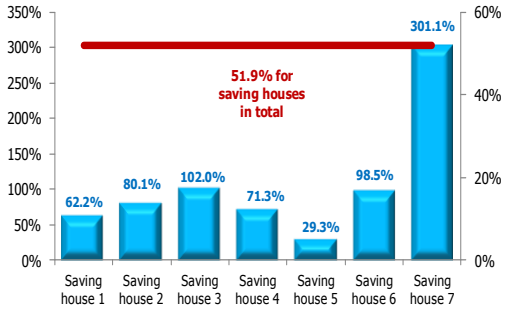
Source: the NBRM, based on data submitted by savings houses

In 2012, the concentration of deposits in savings houses, as measured by the share of the twenty largest depositors in total average deposit base of each savings house, significantly decreased.

All savings houses meet liquidity ratios of up to 30 and 180 days.

3.3.2.4 Insolvency risk

Figure 115 Capital adequacy ratio of savings houses as of 31 December, 2012

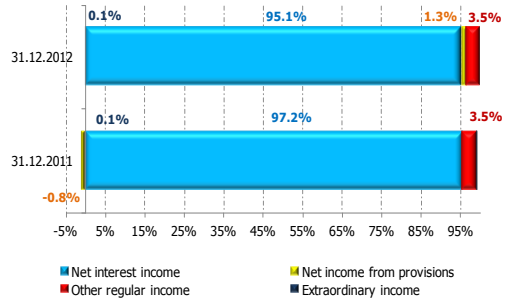


Source: the NBRM, based on data submitted by savings houses

In 2012, the solvency of savings houses was extremely high. The capital adequacy ratio of the depository institutions equaled 51.9% (an annual increase of 4.3 percentage points), which by six times exceeds the capital requirement. The main reason for the high solvency of the savings houses results from the structure of their funding sources, i.e. the fact that they mostly operate with their own capital, and have a limited amount of deposits to collect (not more than double the amount of own funds). With the exception of one savings house, the capital adequacy ratio for all other savings houses exceeds 60.0%.

3.3.2.5 Profitability

Figure 116 Structure of total income of savings houses



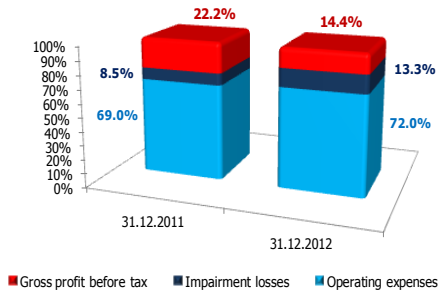
Source: the NBRM, based on data submitted by savings houses

In 2012, the profit of savings houses amounted to Denar 42 million, which given the decrease of activity, fell by Denar 26 million, or 38.1% compared to 2011. In addition, all seven savings houses reported gains.

The performance of savings houses is low and additionally deteriorated in 2012, primarily due to the increasing operating costs[80] (by Denar 4 million or 1.7%) and reduction of total income (by Denar 8 million, or 2.5%). Moreover, the greater **impairment** (by Denar 14 million, or 51.9%) in 2012 made a significant contribution to

[80] Operating costs include staff costs, depreciation, general and administrative expenses, deposit insurance premiums and other expenses, except extraordinary expenses.

Figure 117 Utilization of total income of savings houses



Source: the NBRM, based on data submitted by savings houses

the lowering of profitability of savings houses (primarily of one savings house).

The reduced profit of savings houses also affected the basic profitability ratios, i.e. led to lower rates of return on assets and equity.

Table 11 Savings houses' profitability and efficiency indicators

Indicators	31.12.2011	31.12.2012
Rate of return of average assets (ROAA)	2.2%	1.4%
Rate of return of average equity (ROAE)	5.4%	3.3%
Cost -to-income ratio	69.1%	72.0%
Non-interest expenses/Total regular income	72.5%	73.7%
Labour costs /Total regular income	33.3%	34.5%
Labour costs /Operating expenses	48.2%	47.9%
impairment losses of financial and non-financial assets /Net interest income	8.8%	14.0%
Net interest income /Average assets	9.8%	9.6%
Net interest income/Total regular income	97.3%	95.2%
Non-interest income/Total regular income	2.7%	4.8%
Net interest income /Non-interest expenses	134.1%	129.2%
Financial result /Total regular income	21.8%	13.9%

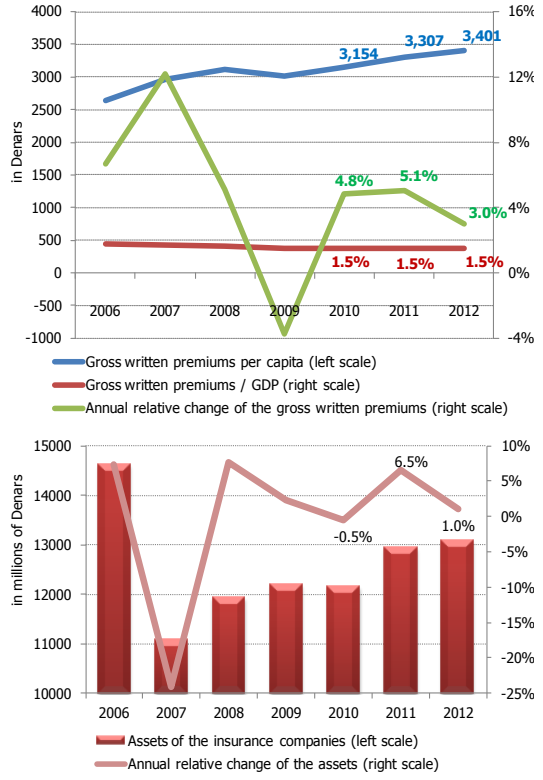
Source: the NBRM, based on data submitted by savings houses.

3.4 Nondeposit financial institutions

3.4.1 Insurance sector

The insurance sector is the third largest segment of the financial system of the Republic of Macedonia, and its importance is still insignificant (accounting for 3.3% of the total assets of the financial system). However, the insurance sector has potential for further development, especially in the segment of "life insurance", as a component registering the fastest growth pace in the sector, according to gross premiums written. The development of some indicators suggest a slight increase of risks arising from this sector, and if the slower growth rate of gross premiums written continue, profitability can be expected to further deteriorate. Activities of the supervisory and regulatory authority to improve the legal framework and to strengthen the supervision contributed to maintaining the stability of this sector at a relatively high level, which is particularly important given the growth in life insurance.

Figure 118 Development indicators of the insurance sector in the Republic of Macedonia



Source: Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

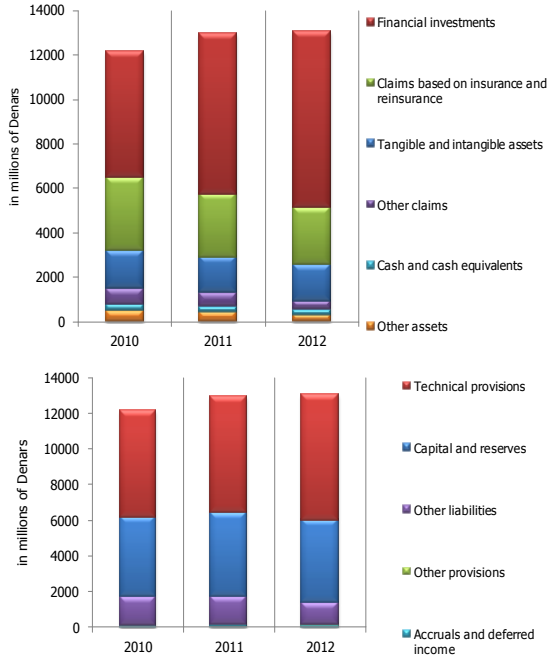
In 2012, the insurance sector in the Republic of Macedonia consisted of 15 insurance companies (11 nonlife insurance companies and 4 life insurance companies), 20 insurance and brokerage companies, 9 insurance agencies and 1 bank - life insurance agent[81].

Market concentration of the insurance sector, as measured by gross premiums written on insurance companies (hereafter GPW) is not high, and further decreased in 2012 (from 998 HFI and 60 CR5 in 2011 to the 951 HFI and 57.6 CR5 at the end of 2012).

The sector development level, represented by the density level (GPW per capita) increased by 2.8% (2011: 4.9%), while the share of GDP in GPW (penetration level) has registered no changes for four years and equals 1.5%.

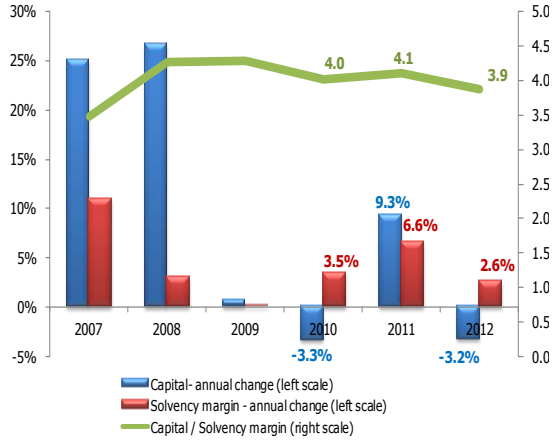
[81] Compared to 2011, the number of insurance companies remains unchanged, while 3 insurance and brokerage houses and 3 insurance agents obtained a license in 2012.

Figure 119 Structure of insurance companies' assets and liabilities



Source: Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

Figure 120 Capital and solvency margin



Source: Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

In 2012, the insurance market in the Republic of Macedonia reported GPW of Denar 7,014 million, which is an annual growth of 3.0%. Although the GPW growth slowed down compared to 2011 (2011: 5.1%), it is still higher than the growth registered in some of the neighboring countries[82]. The GPW for nonlife insurance and life insurance contributed equally[83] to the annual change of total GPW. This contribution to the GPW growth indicates the spread of life insurance in the Republic of Macedonia, given that GPW for this type of insurance is still low and makes up only 8.5% of the total GPW.

As of 31 December, 2012, the assets of insurance companies amounted to Denar 13,067 million. It registered an annual growth of 1.0%, which fully reflects the growth of financial investments of insurance companies, of 11.1% (2011: 26.1%). Other financial investments[84] accounted for the most of the financial assets of the insurance companies with 97.7%, registering an annual growth of 12.4%.

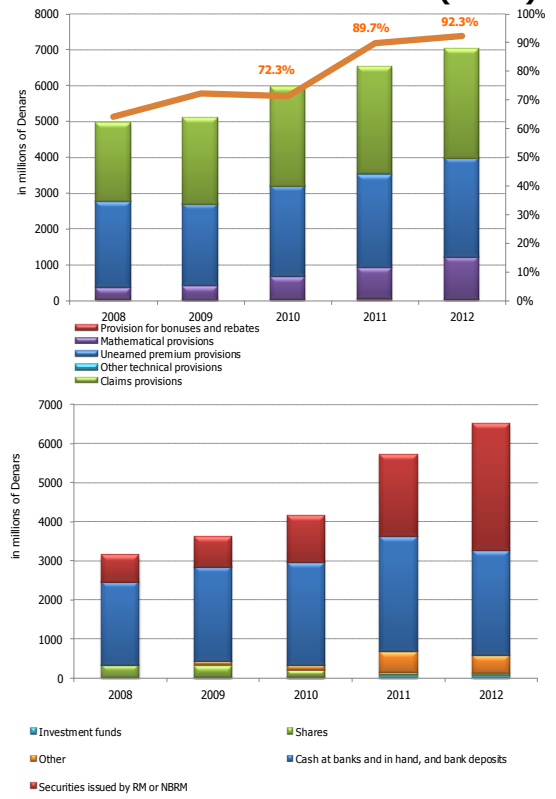
Receivables from insurance operations decreased by 10.8% (2011: -12.6%), indicating a gradual improvement in the collection of insurance policies. Thus, the share of these claims in the total assets of the companies declined from 27.4% in 2010 and 22.1% in 2011 to 19.6% at the end of 2012.

[82] Compared with countries in the region, only the insurance sector of Albania has achieved a prominently higher annual growth rate of GPW, totaling 7.4%. In other countries this rate is close to or below the rate of the Republic of Macedonia: 3.5% - Bosnia, 3.2% - Montenegro, Bulgaria - 0.6%, Croatia - 1.4%, Serbia -1.3% and Slovenia - 2.6% (source: www.xprimm.com).

[83] GPW for nonlife insurance contributed 50.8%, while GPW for life insurance contributed 49.2% to the growth of total GPW.

[84] The group of other financial investments include: securities issued by the Republic of Macedonia, bonds and other debt securities guaranteed by the Republic of Macedonia, shares traded on a regulated market of securities or the Republic of Macedonia, stakes and shares of investment funds, deposits, loans and other financial investments.

Figure 121 Technical reserves and coverage (up) and investment of funds used to cover technical reserves (down)



Source: Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

Major driver of the growth of insurance companies' liabilities were the technical reserves[85], which increased annually by 7.9% (2011: 9.1% growth). The annual growth of technical reserves of insurance companies is dominated by mathematical reserves and reserves for unearned premiums, making up 58.3% and 31%, respectively, which corresponds with the development of insurance groups[86]. Furthermore, reserves for claims also contribute to the annual growth of technical reserves with 17.1%, which in 2012, grew as a result of the increased volume of insurance against natural disasters and sudden climate changes.

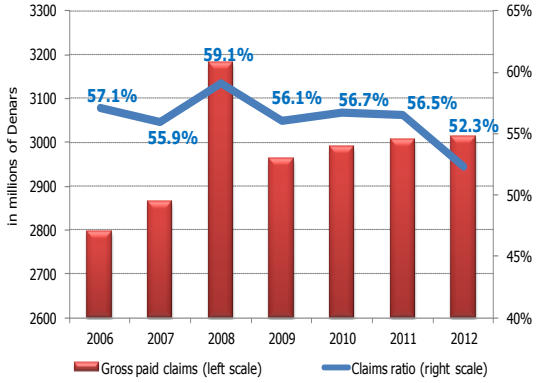
Subscribed capital is the second item by its share in the funding sources of insurance companies, which annually climbed by 29.7% due to the increase of the subscribed capital in common shares. However, the position of "equity and reserves" recorded an annual decrease as a result of transmitted loss of insurance companies. However, despite this decrease, the capital of insurance companies increased by nearly four times the required level of solvency margin (according to regulations, insurance companies need to maintain capital at least up to the required level of solvency margin). Higher capitalization of insurance companies is an indicator of the insurance sector stability and its resilience to shocks.

[85] According to Article 3 of the Regulation on minimum standards for the calculation of technical reserves ("Official Gazette of the Republic of Macedonia" no. 27/02, 84/02, 98/02, 33/04, 88/05, 79/07, 08/08, 88/08, 56/09 and 67/10), insurance companies are required to allocate adequate technical reserves for permanent securing of the performance of liabilities under insurance contracts and any risks for losses arising from their insurance operations. Companies are required to set up the following types of technical reserves: reserves for unearned premiums, mathematical reserves, reserves for bonuses and discounts, reserves for claims and other critical supplies.

[86] In 2012, technical reserves were increasing along with GPW. Thus, GPW for life insurance and nonlife insurance grew by 20.3% and 1.7% annually. GPW for property insurance against fire and natural disasters were the engine of growth of GPW for nonlife insurance, making up 65.4% of the growth. On the other hand, the potential for further development of the group of life insurance continues increasing as seen from the GPW for life insurance / disposable income of households that was low at the end of 2012, equaling 0.17% (2011: 0.15%).

Investment of funds that cover technical reserves[87] for insurance companies amounted to Denar 4,488 million at the end of 2012 and they do not cover the whole technical reserves (accounting for 92.3%). In 2012, the companies invested most of the funds that cover the technical reserves in securities issued by the Republic of Macedonia (45.1%) and in banks (44.4%).

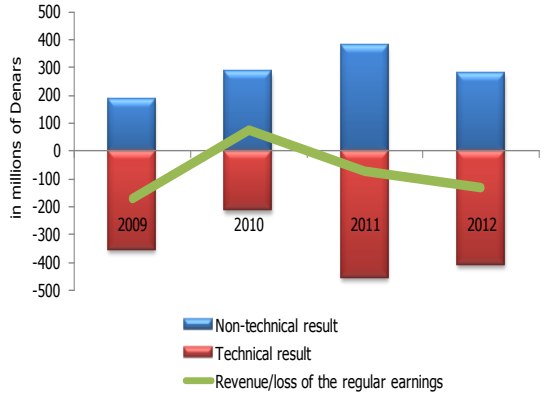
Figure 122 Claim ratios and gross paid claims



Source: Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

The downward trend of claims ratio (calculated as the ratio between the sum of claims incurred in the period and the change in gross reserves and premiums earned) continued in 2012. This was due to the 0.3% growth of gross paid claims, compared to the total GPW (growth of 3.0%). The gross paid claims from fires and natural disasters recorded the highest annual growth of 104.2% and were most frequent in the annual growth of total gross claims paid.

Figure 123 Structure of the financial result of insurance companies



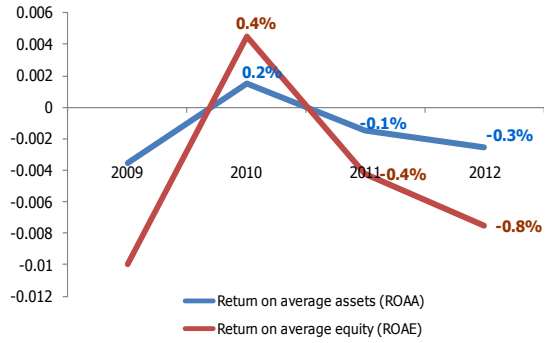
Source: Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

The profitability of insurance companies further deteriorated. Seven nonlife insurance companies and two life insurance companies reported operating losses that caused losses of the overall insurance sector in the amount of Denar 134 million, thus reducing the equity and reserves. The incurred loss is mainly due to the negative technical result[88] of Denar 411 million, Denar 315 million of which of the nonlife insurance companies. The reason behind the loss is the high amount of written-off claims and adjustment of the value of investments in one nonlife insurance company. Although this points to an increased risk (because of the increased cost of value adjustment of claims based on premium compared to the earned premium of insurance companies, from 7.3% in 2011 to

[87] Assets that cover technical reserves include assets of insurance companies that serve to cover future liabilities arising from insurance contracts, and possible losses from risks associated with insurance operations that require from insurance companies to allocate funds for technical reserves. Insurance companies are required to invest funds at least in the amount equal to the value of technical reserves, in accordance with the provisions of the Law on Insurance Supervision and the Regulation of the types and features of funds that cover the technical reserves and assets that cover mathematical reserve.

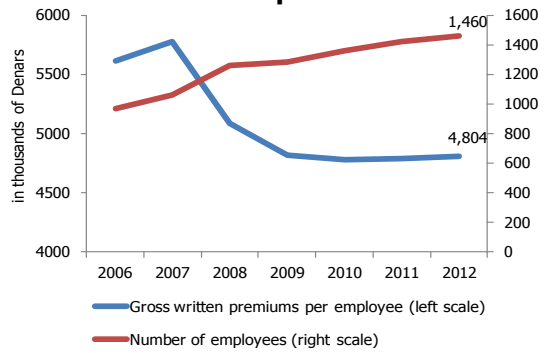
[88] Technical result of the insurance companies' operation is a result of the performance of their core business - insurance (income from gross premiums written decreased by net costs related to insurance and by the net cost of damages). Other income and expenses of their operation represent nontechnical result.

Figure 124 Profitability ratios of insurance companies



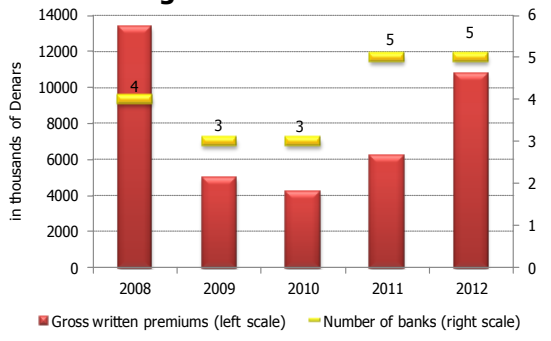
Source: Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

Figure 125 Labor productivity indicator in the insurance companies



Source: Agency for supervision of fully funded pension insurance and internal calculations of the NBRM.

Figure 126 GPW through banks and number of agent banks



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

8.1% in 2012), this was actually of incidental nature and is not expected to recur in the future.

Moreover, the total GPW/number of employees ratio in insurance companies, as an indicator of productivity, slightly improved in 2012 (2012: 4,804 thousand GPW per employee, 2011: 4,784 thousand GPW per employee), although the number of employees in insurance companies increased by 2.6% annually.

GPW growth in the insurance sector was supported by insurance companies, insurance and brokerage companies and insurance agencies, as well as banks. Thus, insurance agencies and insurance and brokerage companies accounted for 5.2% and 21.8%, respectively, of the total GPW of the sector. The fastest GPW growth in 2012 was recorded through banks, which rose by 72.5% annually (all in the group of nonlife insurance), but these premiums account for only 0.2% of the total GPW of the insurance sector.

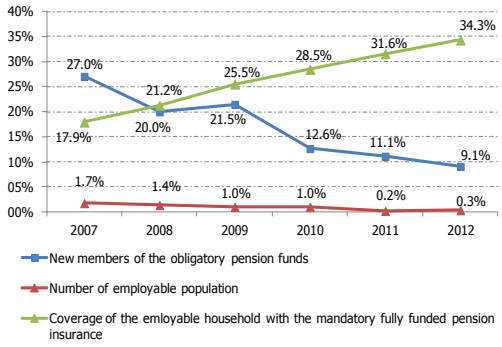
Of particular importance for the further development of insurance business in the Republic of Macedonia is the development of banking insurance, i.e. cooperation (based on representation contract) between a bank and an life insurance company, using life insurance policies as a component of certain credit products. The cooperation should contribute to expanding the range of products offered on the domestic financial market. On the other hand, note that this kind of cooperation increases the connection between banks and insurance companies (which is now insignificant), and thus represents a potential channel for spillover of risks from one sector to another.

3.4.2 Fully funded pension insurance

The fully funded pension insurance have seen progress both in terms of volume of assets, and in terms of performance. Compared with the previous year, in 2012, pension funds increased their profits, but primarily due to the sale of Eurobonds of the Republic of Macedonia, required by law to be sold by January 2013. The sale of these bonds also triggered changes in the structure of the pension funds' assets. It is worth mentioning that in 2012, the annual yield reversed after two years of downtrend. The investment policy of mandatory pension funds mainly encourages investments in assets that bear lower risk. The supervisory authority has been undertaking the final actions to introduce risk based supervision.

3.4.2.1 Mandatory fully funded pension funds

Figure 127 Growth rate of the number of members of mandatory pension funds and of the number of active population

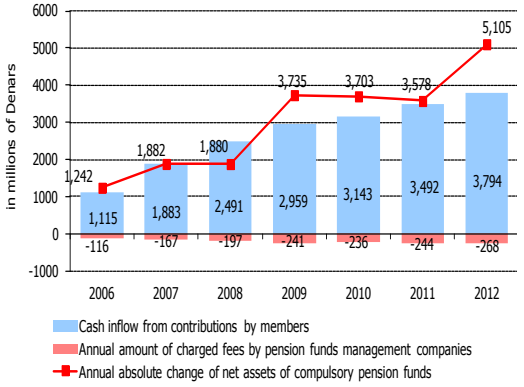


Source: Agency for supervision of fully funded pension insurance.

The number of new members in the mandatory pension funds continue to grow in 2012, though at a slower pace compared to the previous year. However, the vast increase of mandatory pension funds (26,849 new members in 2012) compared to the growth of the active population (in 2012, this increase was 3.007 active persons) contributed to higher coverage of active population with mandatory fully funded pension insurance. Most members of mandatory pension funds are aged 26 to 30, with an average age of 31 years[89]. Given that the first payment of contributions to mandatory pension funds started in 2006, along with the low average age of the members of these funds, they have the potential to grow in the future, until the date of maturity of larger due payment liabilities based on pensions.

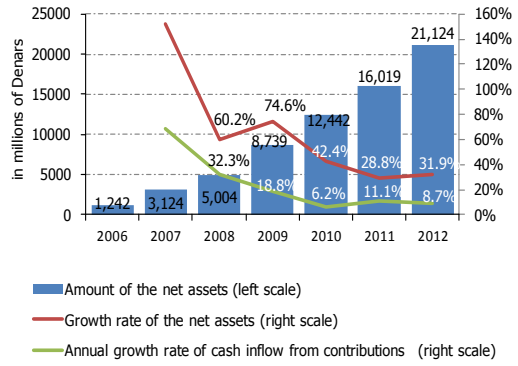
[89] The average age of the total members of mandatory and voluntary pension funds jointly is 33 years.

Figure 128 Annual growth of net assets and amount of paid contributions by members and collected fees of the companies



Source: Agency for supervision of fully funded pension insurance.

Figure 129 Net assets of mandatory pension funds



Source: Agency for supervision of fully funded pension insurance.

Net assets[90] of mandatory pension funds continued to grow at a faster pace than the previous year. Their growth continues to be largely due to the contributions paid by the fund members, but the faster pace results from the net income[91] and unrealized gains from investments[92]. On the other hand, contributions have increased at a slower rate than the previous year, as a logical consequence of the lower rate of growth of the number of new members. Revaluation of securities available for sale decreased this year, as well, because of the sales of Eurobonds and the realization of capital gains[93].

Also, there are changes in cash flows from paid pensions that increased compared to the previous year[94], but still their role in the total net assets is trivial due to the small number of pensioners who are paid retirement benefits.

[90] In accordance with Article 83 of the Law on Mandatory Fully Funded Pension Insurance ("Official Gazette of the Republic of Macedonia" no. 29/2002, 85/2003, 40/2004, 113/2005, 29/ 2007 88/2008, 48/2009, 81/2009, 50/2010, 171/2010, 36/ 2011 98/2012 and 13/ 2013), net assets of the pension fund are determined as the difference between the value of pension fund's assets and liabilities, other than liabilities to members of the pension fund.

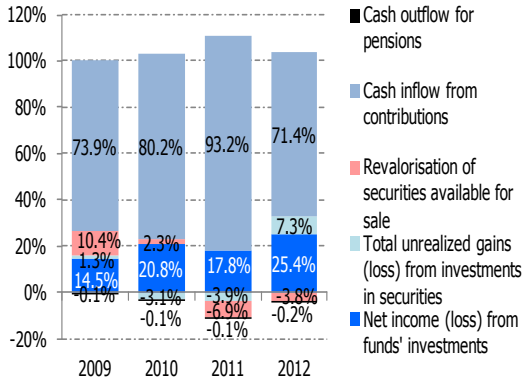
[91] On 31 December, 2012, the income from investments increased by more than double compared to the previous year. This increase was due primarily to the net capital gain that the funds generated this year in the amount of Denar 397 million (the mandatory pension funds incurred a net capital loss in the amount of Denar 196 million the previous year), contributing with 60.1% to the growth of net profit of investment of these funds.

[92] In 2012, mandatory pension funds reported net unrealized gain in the amount of Denar 370 million (previous year, they reported net unrealized losses of Denar 139 million).

[93] On 31 December, 2012, the revaluation of securities equaled Denar 31.6 million (in 2011, the revaluation reserve amounted to Denar 225.5 million).

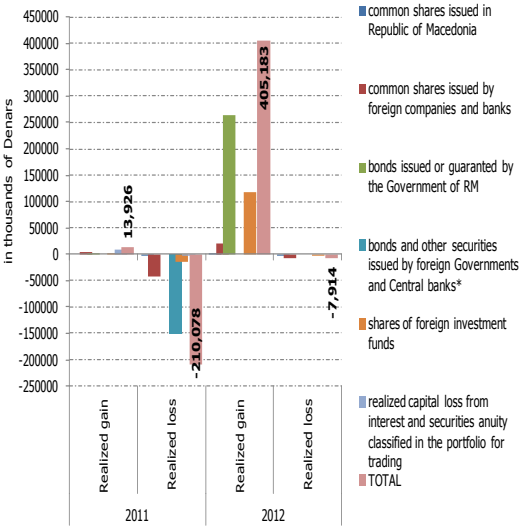
[94] In 2012, Denar 10 million were paid for retirement benefits, and Denar 5 million were paid for retirement benefits for each 2011 and 2010.

Figure 130 Growth structure of net assets of mandatory pension funds



Source: Audited financial statements of fully funded pension insurance for 2012.

Figure 131 Realized capital gain and capital loss



Source: Audited financial statements of fully funded pension insurance for 2012.

Net realized capital gains of mandatory pension funds derived primarily from the sale of bonds issued by the Government of the Republic of Macedonia, and the sale of stakes in foreign open investment funds. Capital gains of these two types of investments account for 96.2% of total net capital gain of funds (66.7% and 29.5%, respectively).

The majority of capital gains from the sale of domestic government bonds arises from the mandatory sale of two government Eurobonds. Namely, according to the amendments to the Law on Mandatory Fully Funded Pension Insurance[95], mandatory pension funds were required to sell their investments in government Eurobonds[96] to 15 January, 2013. With this sale they generated capital gains of Denar 138 million, constituting 34.7% of the funds' net capital gain.

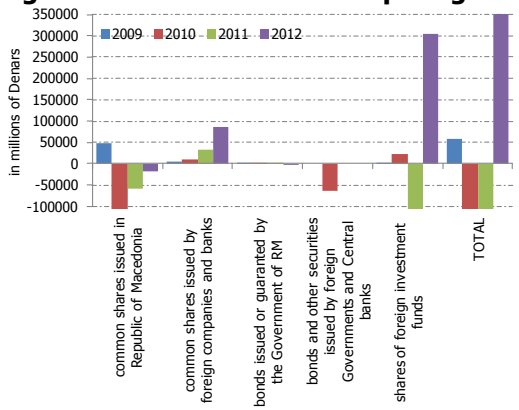
The funds generated capital gains in the amount of Denar 117 million from sales of a portion of the investments in shares in foreign open investment funds in 2012. This income stems from investments in stakes mostly invested in equity securities issued by companies listed on the German stock market[97], as well as in other

[95] The amendments in Articles 17 and 18 of the Law on Mandatory Fully Funded Pension Insurance ("Official Gazette of the Republic of Macedonia" no. 98/2012), the assets of the mandatory pension funds can be invested in securities of the Republic of Macedonia only if issued or quaranted on the domestic financial market.

[96] By the end of 2012, mandatory pension funds fully sold the government Eurobond that falls due on 8 December, 2015, and partly sold the Eurobond that fell due on 8 January, 2013.

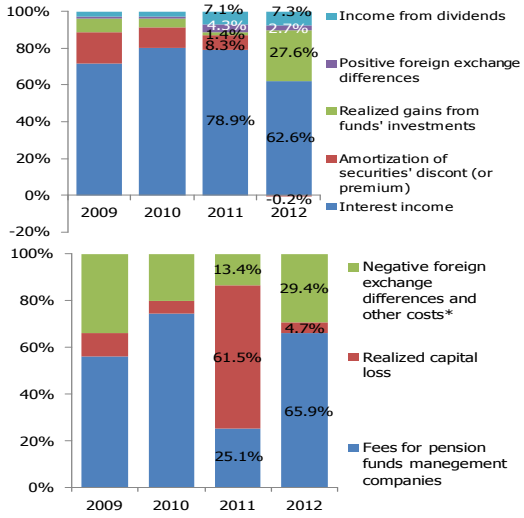
[97] BASF SE, BAYER AG, Siemens AG, SAP AG, Allianz SE, Daimer AG, Deutsche Bank AG, Linde AG, Deutsche Telekom AG, Novartis AG, Roche Holding AG GlaxoSmithkline PLC, NOVO NORDISK B, Astrazeneca PLC and other German companies.

Figure 132 Net unrealized capital gain



Source: Audited financial statements of fully funded pension insurance for 2012.

Figure 133 Structure of income (up) and expenses (down) of mandatory pension funds



*Other expenses of funds include brokerage fees and other operating costs of the funds.
Source: Audited financial statements of fully funded pension insurance for 2012.

shares that depend on the German stock market index[98].

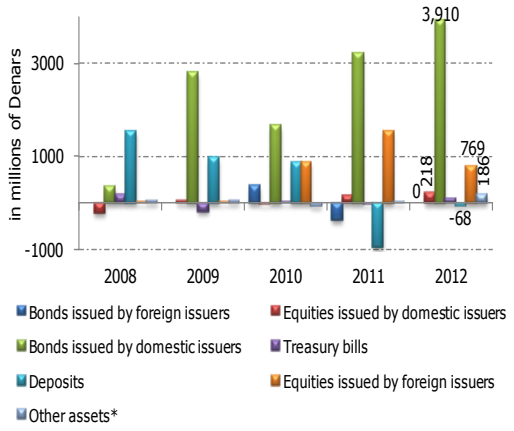
After two years of unrealized capital loss, as of 31 December, 2012, the mandatory pension funds recognized unrealized capital gains which is entirely due to the investment of funds abroad. Unrealized capital loss from investments in common shares issued in the Republic of Macedonia reflects the downward trend of MBI-10.

The total income of mandatory pension funds significantly increased in 2012, by Denar 489 million or about 50% (in the previous year they increased by 14.4%). **On the other hand, total expenses decreased by approximately 50%, or about Denar 171 million.**

Interest income still have the largest share (of 62.6%) in the structure of total income[99]**,** despite the reduction of their share by 16.3 percentage points. On the other hand, the share of the mentioned capital gain increased by significant 26.2 percentage points, making it the second largest component of the total revenue of mandatory pension funds. **The structure of expenditures is dominated by costs of mandatory pension funds to fund management companies**[100]**,** but not for their growth compared to the previous year, but due to the significant reduction of capital loss.

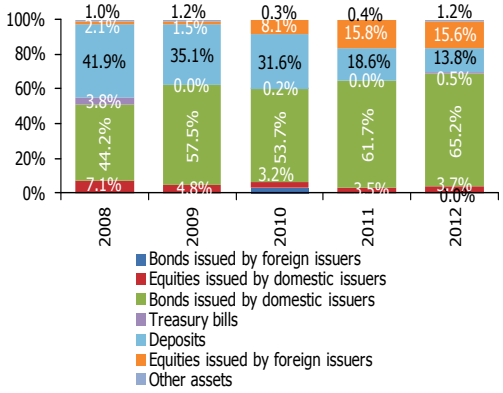
[98] The index of the Frankfurt Stock Exchange in 2012, despite some occasional fluctuations, mainly moved upward and this trend continued in the first months of 2013, leading to an increase in the cost of investments in shares listed on this stock exchange, and the price of the stakes that follow this index.
[99] The interest income is dominated by interest rates on investments in domestic government bonds, accounting for 74.5%, while 23.8% come from interest from deposits.
[100] Fees charged by the fund management companies are calculated on a monthly basis and equal 0.05 of the funds' assets. Hence, the growth of pension funds is expected to increase the fees for fund management.

Figure 134 Absolute annual growth of each asset category of the mandatory pension funds



Source: Agency for supervision of fully funded pension insurance.
* Other assets include funds' cash and claims.

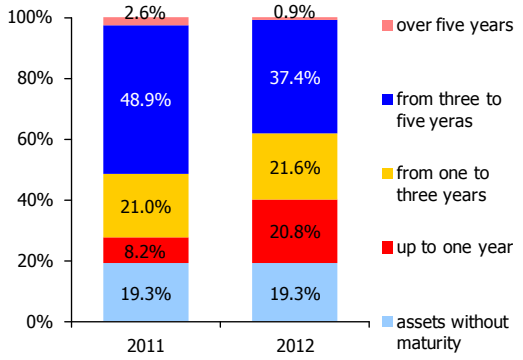
Figure 135 Structure of assets of mandatory pension funds



Source: Audited financial statements of fully funded pension insurance for 2012.
* Other assets include funds' cash and claims.

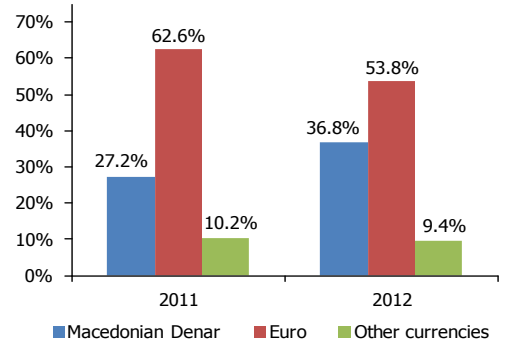
While investments abroad have a greater impact on net profit of mandatory pension funds, investments in domestic securities have the largest share in the funds. As of 31 December, 2012, investments in government bonds increased by 39.6% compared to 31 December, 2011, and a faster growth is observed with the investments in equity securities of domestic issuers, although their share in the total assets of funds is still minor. As of 31 December, 2012, there were claims on the Pension and Disability Insurance Fund of Macedonia (totaling Denar 207 million), which were collected at the beginning of 2013, with a certain delay .

Figure 136 Structure of assets of pension funds, by residual maturity



Source: Agency for supervision of fully funded pension insurance.

Figure 137 Currency structure of assets of pension funds by residual maturity



Source: Agency for supervision of fully funded pension insurance.

At the end of 2012, the structure of pension funds' assets, by residual maturity, undergone certain changes, not as a result of the changes in the investment policy of the funds, but rather as a result of the fulfillment of the statutory obligations[101]**.** Sold Eurobonds were compensated by investments in continuous government bonds with a maturity of 3 to 5 years. Thus, despite the sale of the Eurobond, most of the investments of the mandatory pension funds are with residual maturity of three to five years, which in 2012 increased by Denar 71 million, indicating the preferences of funds to invest in instruments with longer maturities. Increase of the share of investments with residual maturities of up to one year is a result of the reduced residual maturity of the Eurobond which fell due in January 2013[102]. Given the small amount of pensions paid by the mandatory pension funds, liquidity risk expressed through the maturity match of inflows and outflows of funds, still has no relevance to their operations, but this risk becomes more important over the years, with the increase of the repayment obligations based on pensions.

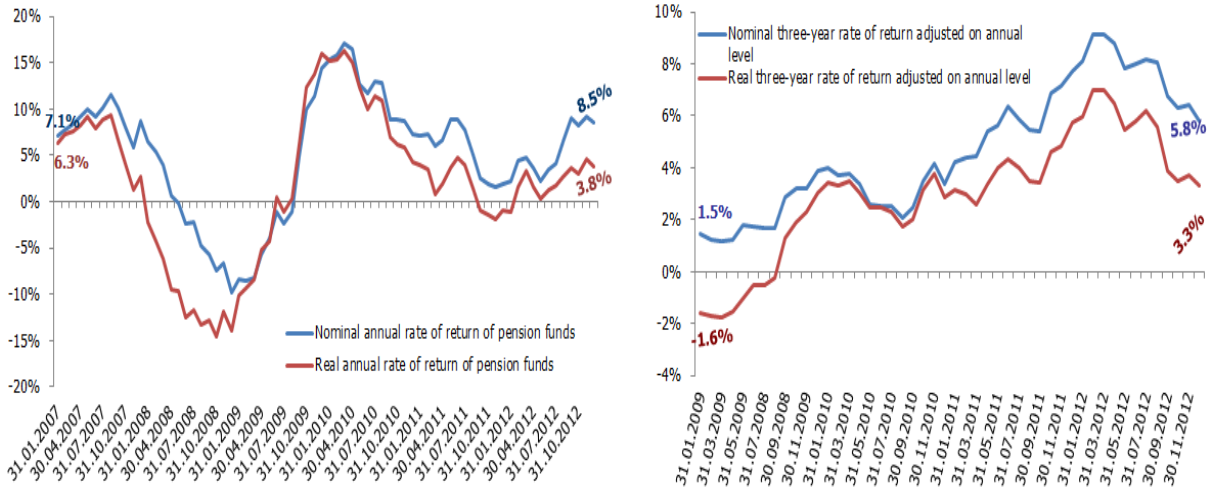
Sales of Eurobonds had an impact on the currency structure of assets of pension funds, as well.

During 2012, while the return[103] **of mandatory pension funds was shifting,** their annual income increased, which is consistent with the improved performance of the funds, compared with the previous two years. The reduction of the annual rates of return in the past two years lowered the three-year rate of return[104] of mandatory pension funds, earned in 2012. The

[101] Lower share of assets with residual maturity from three to five years is due to the sale of the Macedonian Eurobond that falls due in January 2015.
[102] In 2012, the funds sold a portion of this Eurobond, with the remaining portion worth Denar 2.542 million at year-end had a maturity period of up to one month. Previous year, investments in this bond amounted to Denar 3,487 million with a maturity from one to three years.
[103] The return of mandatory pension fund is a change in percentages between the value of the accounting unit on the last day in the month and the value of the unit on the last day of the month that precedes the 12-, 24- or 36-month period, depending on the particular case.
[104] Annual and three-year nominal rate of return is calculated on the basis of the weighted rates of return on individual pension funds with their net assets. The real rate of return of pension funds for a period of time is a difference between the nominal rate of return and rate of inflation for the corresponding period.

return of funds from the beginning (1 January, 2006) to 31 December, 2012 equals 5.02% on average per year[105].

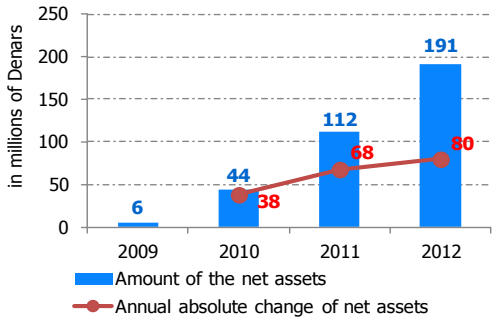
Figure 138 Rates of return of the mandatory pension funds



Source: NBRM, based on data submitted by the Agency for supervision of fully funded pension insurance.

3.4.2.2 Voluntary fully funded pension funds

Figure 139 Annual absolute change of net assets of voluntary pension funds



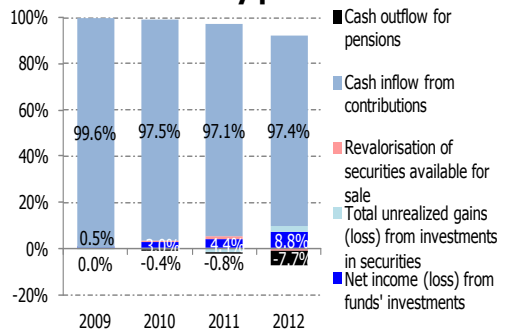
Source: Agency for supervision of fully funded pension insurance.

In 2012, the number of new members in voluntary pension funds increased, but the growth rate of this number and dropped this year, as well (2012: 37.4%, 2011: 76.5%). As of 31 December, 2012, the voluntary pension funds counts 16,755 members. Most members of the voluntary pension funds are aged 36 to 39, while the average age is 39[106].

[105] Source: Agency for supervision of fully funded pension insurance, Report on the fully funded pension insurance in 2012.

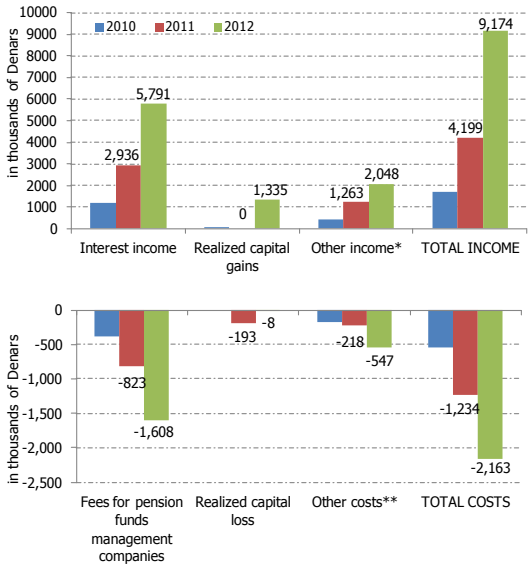
[106] The voluntary pension funds have been operating for three and a half years.

Figure 140 Structure of growth of net assets of voluntary pension funds



Source: Audited financial statements of fully funded pension insurance for 2012.

Figure 141 Income (up) and expenses (down) based on investments of voluntary pension funds



Source: Audited financial statements of voluntary pension funds for 2012

*Other income include dividend income, positive exchange rate differentials and depreciation of discount or premium.

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

Net assets of the voluntary pension funds, continued to increase, though at a slower pace. Cash inflows from contributions amounted to Denar 78 million[107] at the end of 2012 and made the largest contribution to the increase of net assets of voluntary pension funds. The increasing cost of voluntary pension funds[108] for payment of retirement benefits made a significant contribution to the slowdown of the pace of growth of their net assets[109].

Net income of investments of the voluntary pension funds mostly derives from interest income, which account for more than 60% of total income of these funds. They rose by nearly Denar 3 million, or 97.2%, compared to 2011. Dividend income amounted to Denar 1.4 million, contributing 15.6% to total income. In 2012, pension funds reported capital gains[110] of Denar 1.3 million, which made up 14.6% of their total income.

In 2012, all costs of voluntary pension funds increased, whereas the realized capital loss dropped. The growth of fees to voluntary pension fund management companies was the highest[111].

As of 31 December, 2012, the assets of voluntary pension funds undergone structural changes. Unlike previous years, when investments in deposits was the largest, in 2012, their share fell by a significant 13.8 percentage points, at the expense of the growth of bonds from domestic issuers and equity

[107] As of 31 December, 2011, the cash inflows from contributions paid totaled Denar 66 million.

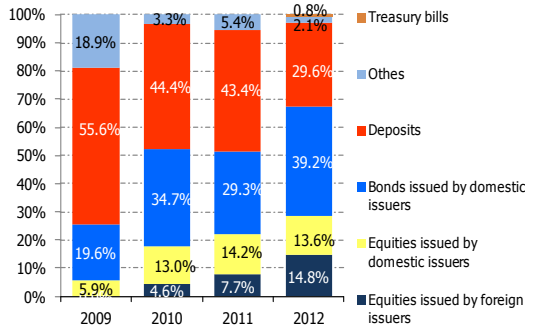
[108] In 2012, 83 retirement benefits were paid (14 in 2011), 80 of which paid on the age basis with a single disbursement, and 3 on the basis of inheritance.

[109] In 2012, cash outflows based on paid retirement benefits amounted to Denar 6 million, while in 2011, they totaled only Denar 573 thousand.

[110] Capital gain arises from domestic government bonds (71.9%) and shares issued by foreign issuers (22.5%). About a quarter of the capital gain from domestic bonds, arises from the sale of the Eurobond in which one of the funds invested their assets.

[111] Fee charged by the fund management companies is calculated on a monthly basis as a percentage of the funds' assets.

Figure 142 Structure of assets of voluntary pension funds

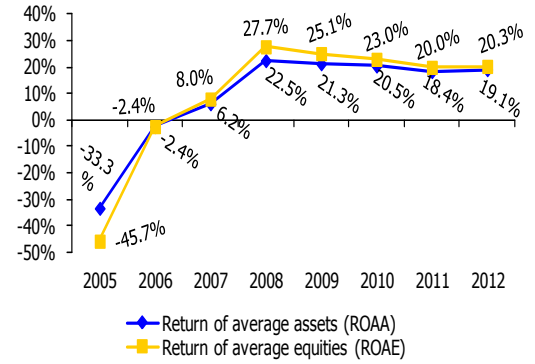


Source: Audited financial statements of voluntary pension fund management companies for 2012.

securities of foreign issuers[112]. Also this year, there were investments in treasury bills for the first time, but their amount is marginal, amounting to nearly Denar 1.5 million.

3.4.2.3 Profitability of pension fund management companies

Figure 143 Profitability ratios of pension funds



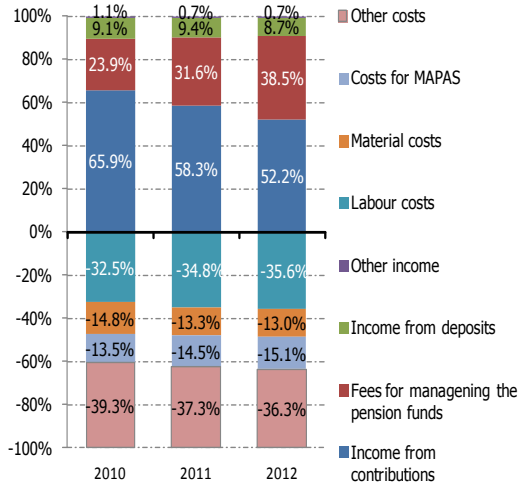
Source: Audited financial statements of voluntary pension fund management companies for 2012.

As of 31 December, 2012, the net profits of the pension fund management companies (pension funds) totaled Denar 92 million and increased by Denar 13 million, or 17.0% compared to 2011[113]. The faster growth of net profit compared to the increase of total capital and total assets of these companies also contributed to the interruption of the three-year downward trend of the rates of return on equity and return on assets.

[112] Of the total foreign equity, 82.4% are investments in stakes of investment funds, and 17.6% are investments in shares.

[113] As of 31 December, 2011, the pension fund management companies reported an increase of net profit of only Denar 3 million, or 4.2%.

Figure 144 Structure of income and expenses of pension fund management companies



Source: Audited financial statements of pension fund management companies for 2012.

The increase of net profits derives from the much faster increase of income, despite the rising cost of companies. Fees charged by pension fund management companies are major drivers of the growth of total income, which is consistent with the increase of net assets of the pension funds they run[114]. On the other hand, income from contributions decreased due to the reduction of the fee from contributions.[115]

Amendments to the Law on Mandatory Fully Funded Pension Insurance

In August 2012, a Law amending the Law on Mandatory Fully Funded Pension Insurance was adopted, which:

1. **Establishes an additional institutional independence of the Agency for Supervision of Fully Funded Pension Insurance.** The amendments give the Agency a higher degree of institutional and operational independence, which was achieved both through changes in the organizational structure, and by transferring the powers of the Government of the Republic of Macedonia to the Macedonian Parliament.

2. **Introduces a new restriction on investments of mandatory pension funds.** Mandatory pension funds can only invest their assets in securities issued or guaranteed on the domestic financial market (funds shall not be invested in securities issued or guaranteed by the Republic of Macedonia in international financial markets). Companies that manage mandatory pension funds had to comply with these amendments to the Law by 15 January 2013.

During 2012, a Law on the Payment of Pensions and Pension Benefits from the Fully Funded Pension Insurance ("Official Gazette" no. 11/2012) was adopted, which will take effect on March 01, 2014. This Law completed the regulation of the fully funded pension insurance in Macedonia, by regulating the phase "disacummulation" i.e. payment of pensions from the second pillar and pension benefits from the third pillar. The law regulates in detail the types of pension payments from the second pillar (programmed withdrawals, life annuities and their combination), the types of payments of pension benefits from the third pillar (programmed

[114] Management fee is calculated as a percentage of net assets of the mandatory or the voluntary pension fund.
[115] Contribution fee is calculated as a percentage of contributions to the fund members.

withdrawals, annuities, single and multiple payments), the characteristics and rules for the various types of payments and the manner and the procedure of acquiring old age, disability and survivor pension from the second pillar, as well as the procedure for acquiring retirement benefits from the third pillar. The law regulates the institutions that can perform payment of pensions and pension benefits from the second and third pillars - pension and life insurance companies. Also, for greater transparency in the selection of pension from the second pillar and retirement benefits from the third pillar, a centralized electronic quotation system is established, through which requests for quotes for different types of payments will be submitted and bids from pension and insurance companies will be received.

In January 2013, amendments to the Law on Mandatory Fully Funded Pension Insurance and the Law on Voluntary Fully Funded Pension Insurance ("Official Gazette" no. 13/2013) were adopted, due to the introduction of a risk based supervision and compliance with the Law on Payment of Pensions and Pension Benefits from the Fully Funded Pension Insurance.

3.4.3 Leasing sector

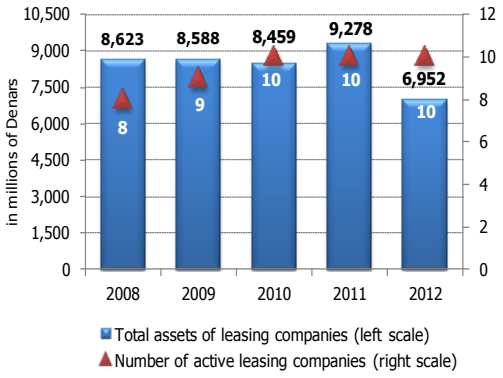
The share of the leasing sector in the financial system of the Republic of Macedonia remains small and insignificant. With a relatively modest amount of assets and a restricted range of activities and minimal interdepartmental relation, the importance of this sector for the overall financial stability in the Republic of Macedonia in 2012 is insignificant. Impeded collection of claims and bad loans of leasing companies were present also in 2012. Credit risk, which is the main risk in the operations of this sector further increased, and its unprofitable operations deepened. Regulatory and supervisory function of this sector is still underdeveloped, and there is no further widening of the range of services offered by leasing companies. Under current conditions and trends in leasing companies, the activities of these companies are still a weak replacement or competition for the credit activity of banks. It is certain that this sector will continue to decline, primarily due to the deleveraging measures of the EU banking groups, whose members are some of the domestic leasing companies.

3.4.3.1 Activities of the leasing sector

In 2012, amid unchanged number of leasing companies[116] in comparison with the previous year, the leasing sector's assets substantially reduced (by 25.1%), despite the fact that the claims of the companies based on financial leasing, as their primary activity, registered an increase of 4.4%. The reduction of investments made under lease, as well as the significant reduction in short-term claims had the largest contribution to the decline in the assets of this sector. Given the strategies of the parent

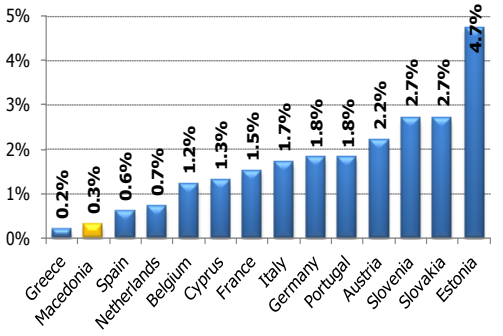
[116] In 2011 and in 2012 there were 11 licensed leasing companies, of which 10 were active. No change was registered in the total number of employees in the leasing companies (74 employees).

Figure 145 Total assets and number of active leasing companies



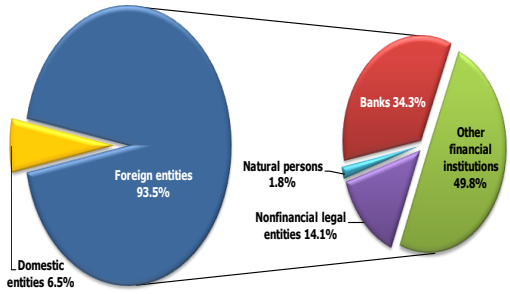
Source: Ministry of Finance.

Figure 146 Share of the value of the newly concluded leasing agreements in GDP



Source: Ministry of Finance, web site of the Federation of the National Leasing Associations in Europe, IMF. The data refer to 2011, except for Macedonia which refer to 2012.

Figure 147 Ownership structure of the leasing sector



Source: Ministry of Finance.

banking groups from the EU, whose members are some of the domestic leasing companies, aimed at closing the non-strategic markets, it is likely that this sector will reduce further.

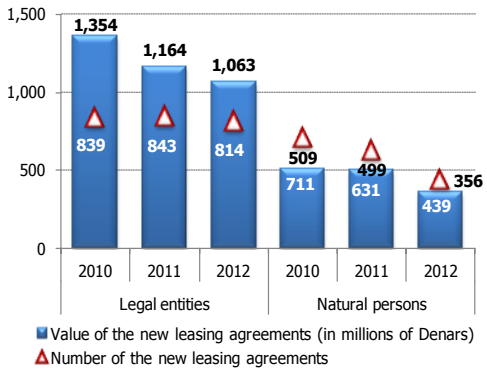
The importance of the leasing sector for the domestic economic activity is negligible. The share of this sector's assets in GDP declined by 0.5 percentage points, and at the end of 2012, it was 1.5%. Within the financial system, leasing covers 1.7% of the total assets (a decline of 0.7 percentage points compared with 2011) and 16.1% of the total assets of non-deposit financial institutions (a decline of 7.4 percentage points compared with December 31, 2011).

With the relatively low development and importance for the overall financial system, the contribution of the leasing sector to the growth of the domestic economy is far smaller than its contribution in some countries in the region, as well as in individual European Union Member States. In the Republic of Macedonia, in 2012, the share of the value of newly concluded leasing agreements in GDP[117] was only 0.3%, which is by 16 times lower than Estonia and 9 times lower than Slovenia and Slovakia.

Impeded collection of claims of leasing companies, which is reflected in the early termination of agreements, was present also in 2012. Despite the slowdown, the number and value of terminated

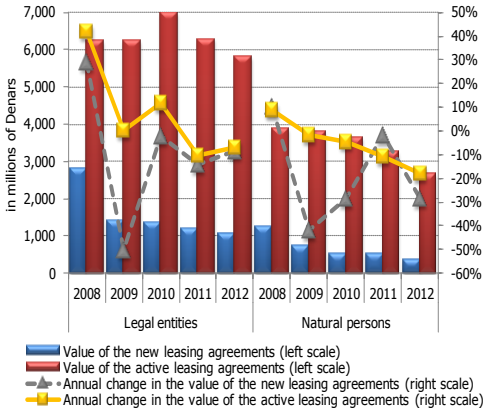
[117] The amount of the gross domestic product is estimated data for 2012.

Figure 148 Number and value of the newly concluded leasing agreements, by client type



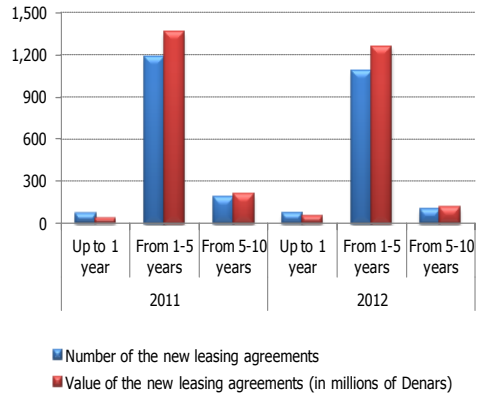
Source: Ministry of Finance.

Figure 149 Annual change in the value of the newly concluded and active leasing agreements, by client type



Source: Ministry of Finance.

Figure 150 Number and value of the newly concluded leasing agreements, by maturity



Source: Ministry of Finance.

agreements increased (in 2012, 380 agreements worth Denar 443 million were terminated, which compared with the previous year, is an increase of 52 terminated agreements totaling Denar 22 million).

The ownership structure of the leasing sector is unchanged compared with the past few years, with pronounced presence of foreign capital, i.e. foreign financial institutions.

3.4.3.2 Value and structure of the financial leasing agreements

In 2012, the number and the value of newly concluded leasing agreements continued to decline, with both legal entities and natural persons. The value of the newly concluded leasing agreements with natural persons registered a three times higher reduction rate, compared with the reduction in the value of agreements concluded with legal entities. This is further confirmed by the reduced share of the value of newly concluded leasing agreements with natural persons in the value of the total newly concluded leasing agreements in 2012 (by 5 percentage points).

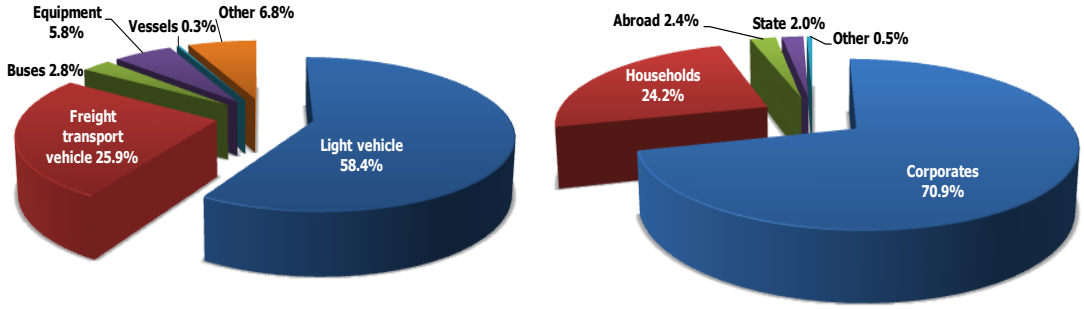
In 2012, legal entities were again the most frequent customers of leasing companies, with more than double share in the total value of newly concluded (74.9%) and active (68.6%) leasing agreements, compared to the agreements concluded with natural persons (25.1% and 31.4%, respectively).

As with the newly concluded agreements, reduction was observed in the value of active agreements, with both legal entities and natural persons.

Agreements with repayment period of up to 5 years prevailed in both the newly concluded and in the active agreements. In 2012, compared with the previous year, the share of these agreements in the total number of active agreements increased by 17.5 percentage

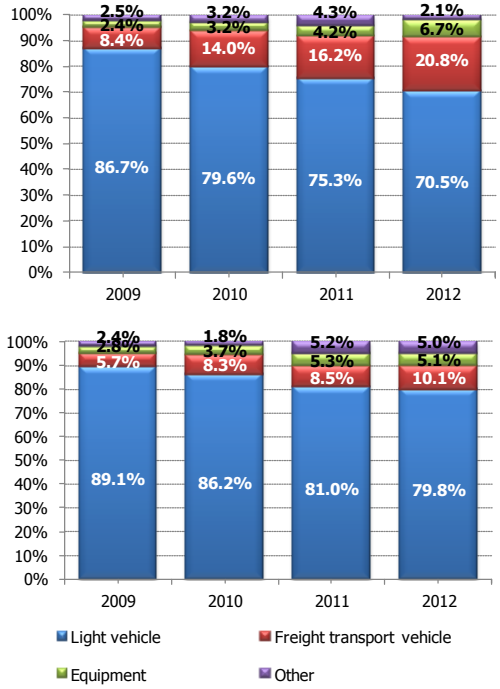
points, at the expense of the reduced share of the agreements with maturities of 5 to 10 years.

Figure 151 Structure of the value of the newly concluded leasing agreements, by leasing subjects (left) and sector (right)



Source: Ministry of Finance.

Figure 152 Structure of the newly concluded (up) and active (down) leasing agreements for leasing of movables



Source: Ministry of Finance.

The significance of leasing agreements for immovable objects in the structure of the leasing agreements remains unremarkable. In 2012, no new agreements for leasing of immovable objects were signed, while there are only five active agreements (one fewer than last year)[118].

The small share of financial leasing for immovable objects (2.1% of the value of total active agreements) is associated with the unfavorable tax legislation[119], due to which these services are less attractive than bank credit products for this type of objects.

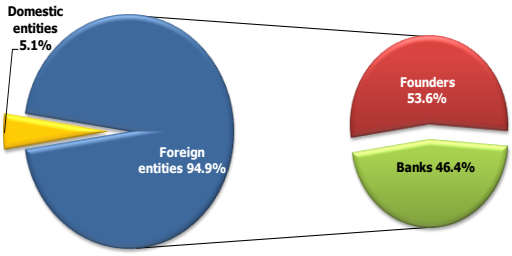
Among the agreements for leasing of movables, the agreements for leasing of light vehicles prevail. Compared with the previous year, the share of the number of these agreements in the number of total newly concluded and active agreements declined, as opposed to the increased participation of the agreements for leasing of trucks[120].

[118] In 2012, the reduction in the number of active agreements for leasing of immovables is a result of the termination of one contract in which the right to purchase the item is used (source: Ministry of Finance).

[119] According to the regulations, the turnover tax with these agreements is paid twice: by the leasing company when purchasing the subject of the leasing, and by the leasing beneficiary after the expiration of the leasing agreement and when transferring the property ownership.

[120] According to the number of concluded and active agreements, rather than the value of leasing agreements (no available data on the value of active agreements for the leasing of movables, by type of movable object).

Figure 153 Structure of the total borrowings of the leasing companies



Source: Ministry of Finance.

Table 12 Average maturity of the active leasing agreements by leasing subjects and client type (by the number of agreements) on December 31,2012

Type of client	Natural persons				Legal entities								Total for natural persons and legal entities
Type of leasing agreement	Leasing agreements on real estate	Leasing agreements on movables		Total	Leasing agreements on real estate			Leasing agreements on movables				Total	
Type of property	Residential real estate	Light vehicle	Other		Residential real estate	Commercial real estate	Lend	Equipment	Freight transport vehicle	Light vehicle	Other		
up to 5 years	1	1,690	535	2,226	1	1	1	261	661	1,647	300	2,872	5,098
from 5-10 years	0	832	393	1,225	0	1	0	4	51	290	17	363	1,588
Total	**1**	**2,522**	**928**	**3,451**	**1**	**2**	**1**	**265**	**712**	**1,937**	**317**	**3,235**	**6,686**

Source: Ministry of Finance.

3.4.3.3 Performances of leasing companies

The small scale of activities of leasing companies contributes to the insignificant impact of this sector on the stability of the financial system of the Republic of Macedonia.

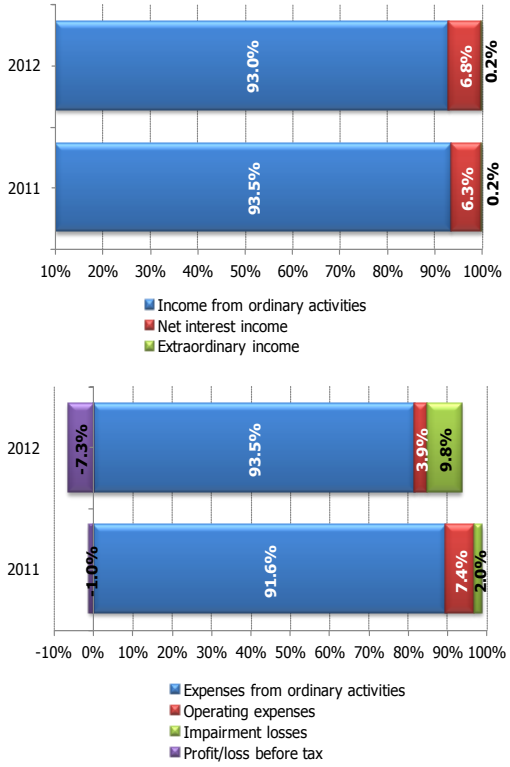
Table 13 Balance sheet of the leasing companies

ASSETS	In millions of Denars		Change in 2012 in millions of Denars	Structure in %		LIABILITIES	In millions of Denars		Change in 2012 in millions of Denars	Structure in %	
	2011	2012		2011	2012		2011	2012		2011	2012
Cash, cash balances and deposits	278	420	142	3.0%	6.0%						
Claims for financial leasing	3,697	3,860	163	39.9%	55.6%	Borrowings	7,138	4,954	-2,184	76.9%	71.3%
Short-term receivables	1,476	479	-997	15.9%	6.9%						
Prepaid expenses	140	126	-14	1.5%	1.8%	Accounts payable	244	242	-2	2.6%	3.4%
						Provisions for employees entitlement	4	4	0	0%	0.1%
Inventory	102	43	-59	1.1%	0.6%						
Investments available for sale	9	7	-2	0.1%	0.1%	Accrued expenses	677	492	-185	7.3%	7.1%
Investments under rent	1,229	97	-1,132	13.2%	1.4%						
Property and equipment available for sale	30	50	20	0.3%	0.7%	Other liabilities	1,093	1,303	210	11.8%	18.7%
Property, plants and equipment	1,056	821	-235	11.4%	11.8%						
Intangible assets	43	39	-4	0.5%	0.6%						
Operating lease	0	0	0	0.0%	0.0%	Equity and reserves	122	-43	-165	1.3%	-0.6%
Other assets	1,218	1,010	-208	13.1%	14.5%						
TOTAL ASSETS	**9,278**	**6,952**	**-2,326**	**100.0%**	**100.0%**	**TOTAL LIABILITIES**	**9,278**	**6,952**	**-2,326**	**100.0%**	**100.0%**

Source: Ministry of Finance.

Despite the reduced liabilities of leasing companies on the basis of loans, the indebtedness of the leasing sector remains relatively high (71.3% of the total liabilities of leasing companies account for liabilities on the basis of loans). Loans from foreign entities are still the main source of financing of the leasing companies, without major changes in their structure, compared with the previous year.

Figure 154 Structure (up) and use (down) of total income



Source: Ministry of Finance.

Interdependence and connection between the stability of the banking sector and the leasing sector is extremely low and negligible. Deposits of leasing companies in domestic banks, despite their increment of Denar 116 million, or 44.5%, are still insignificant for both the banking sector and the leasing companies themselves. The share of these deposits in the total deposits of the banking system still account for minimal 0.1%, and 5.4% in the total assets of leasing companies.

Bad loans and lower volume of activities of leasing companies contributed to the deepening of their unprofitable operations. In 2012, the loss of leasing companies increased significantly and amounted to Denar 238 million (Denar 22.6 million in 2011). Most pronounced negative impact on the profitability of the leasing sector is that of the increased credit risk, i.e. increased impairment of liabilities based on financial leasing, as well as the increased expenditures from current operations. This risk is coupled with weak supervision over this segment of the financial system, which is also characterized by a lower level of transparency.

3.5 Domestic financial markets

3.5.1 Money and short-term securities market

In 2012, the money market in the Republic of Macedonia still had a modest significance for the financial system, and consequently for the financial stability in the country. The scarce supply of instruments in the primary market and the modest volume of secondary trading, the low level of involvement in the international financial flows are still the main characteristics of this market. This physiognomy of the money and short-term securities market still imposes its limited impact on the conditions under which non-financial sectors are financed, as well as on the creation of financial flows in the Republic of Macedonia. The foreign exchange market remains the major segment of the money market with a share of 91.1% in the total turnover. The interbank market of non-collateralized deposits participates with a share of 8.4%, participation of other market segments (short-term securities market and repo market) is negligible, while the derivatives market is completely absent. Changes in monetary policy in 2012, inter alia, aim at further development of the money and short-term securities market, through creation of monetary instruments that would encourage trading between market participants.

The biggest risks to domestic financial stability stem from potential adverse movements in the foreign exchange market. Hence, the importance of a stable Denar exchange rate for the macroeconomic and financial stability is extremely high and emphasizes the foreign exchange market as one of the most important segments of the financial markets in the Republic of Macedonia (99.2% of GDP) in terms of maintaining financial stability.

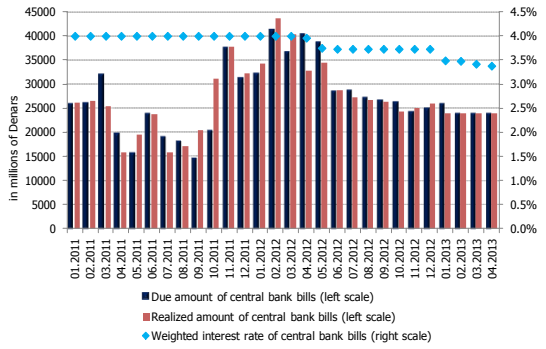
Main instruments on the primary money market are CB bills and Treasury bills. Treasury bills were the main instrument for signaling the direction of the monetary policy in 2012[121]. During the first quarter of 2012, banks showed high interest in placing liquid assets in this instrument. In conditions of relatively stable inflationary movements and slower credit growth, in April 2012, along with the other changes in the operational monetary framework[122], the National Bank limited the amount offered in the CB bills auctions[123]. In conditions of reduced frequency

[121] According to the new operational monetary policy framework from April 2012, the National Bank changed the type of tender for conducting CB bills auctions, i.e. from tender with unlimited amount and fixed interest rate, it began implementing a tender with limited amount and determined maximum interest rate through which the National Bank signalizes the monetary policy stance. This change enables the banks to influence the market creation of the auction interest rate. By limiting the CB bills bid, as well as the auction frequency (once within the reserve requirement period), intensified activity on the interbank market and active implementation of repo operations are expected.

[122] Detailed explanation of the changes in the operational monetary policy is given in the section on the monetary instruments in the Annual Report for 2012, on the website of the National Bank.

[123] After four years of application of a tender with unlimited amount and fixed interest rate, as of April 11, 2012, the National Bank began using an interest rate tender (limited amount and maximum interest rate).

Figure 155 Due and realized amount and interest rates on CB bills, by months

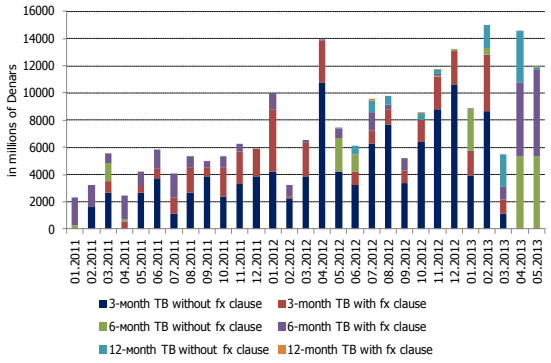


Source: National bank

and limited supply of CB bills, a considerable liquidity of about Denar 6,285 million was created through CB bills on an annual basis. In this way the National Bank sent a clear monetary signal for more relaxed monetary conditions and opened a room to the banks for further lending to the private sector. In 2012, beside through the monetary instruments, the National Bank released additional liquidity in the system through the interventions in the foreign exchange market. The signal for relaxing the monetary policy was reinforced in May 2012 by reducing the maximum interest rate on CB bills auctions from 4% to 3.75%[124]. The average weighted interest rate on the auctions held in 2012 was 3.84%, which is 0.16 percentage points lower compared with the rate achieved last year. At the same time, the frequency was reduced from once a week to once within the reserve requirement fulfillment period, in order to actively apply other monetary instruments and support interbank trading in the money markets. During 2012, a total number of 26 auctions of CB bills were conducted. Since the beginning of application of the interest rate tender in April, demand was slightly above the supply, which is indicated also by the average bid-to-cover ratio which was 1.02. Despite the fact that with these changes in the monetary policy operational framework funds in the banking system were released, in conditions of increased risks from the real sector, banks showed caution in the long-term placement of these funds, so that amid increased supply of Treasury bills on the domestic market, they have shifted most of those funds to the short-term government securities market, and to a lower extent to the credit support of the non-financial sector.

[124] Since January 2013, the interest rate has been reduced to 3.5%.

Figure 156 Realized amount of Treasury bills, by months



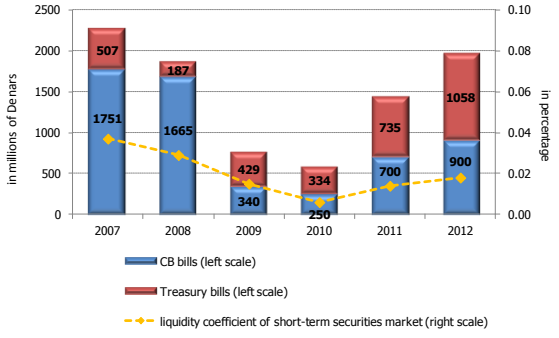
Source: National bank

Table 14 Treasury bills structure (by maturity and currency)

Type of Treasury bills	2011		2012	
	Amount in millions of Denars	Structure	Amount in millions of Denars	Structure
Realized amount of 3-month TB without fx clause	27,930	68.6%	71,705	77.6%
Realized amount of 3-month TB with fx clause	12,761	31.4%	20,673	22.4%
Total realized amount of 3-month TB	**40,691**	**73.2%**	**92,378**	**87.7%**
Realized amount of 6-month TB without fx clause	1,785	12.0%	3,966	40.6%
Realized amount of 6-month TB with fx clause	13,096	88.0%	5,791	59.4%
Total realized amount of 6-month TB	**14,881**	**26.8%**	**9,758**	**9.3%**
Realized amount of 12-month TB without fx clause	-		2,965	91.4%
Realized amount of 12-month TB with fx clause	-		278	8.6%
Total realized amount of 12-month TB	-		**3,242**	**3.1%**
Total realizied amount of TB	**55,572**	**100.0%**	**105,379**	**100.0%**

Source: National bank

Figure 157 Trade volume of short-term securities market



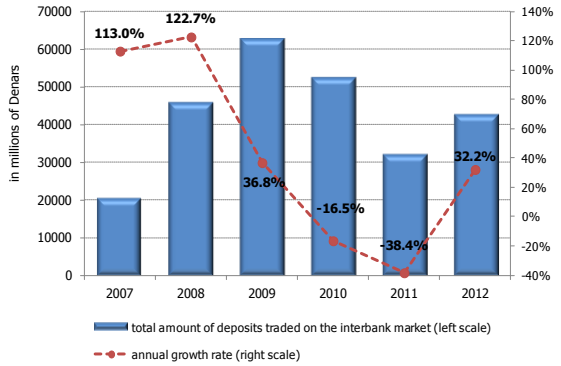
Source: National bank

Increased supply and demand for Treasury bills in 2012 led to a greater depth and width of the primary market for government securities. During 2012, the amount of bills issued by the Ministry of Finance increased by 89.6% compared with 2011. Most important in the structure of Treasury bills were the Treasury bills with maturity of three months (of which over 77% were without foreign currency clause), but also there was a tendency to invest in a longer term. Since May 2012, the Ministry of Finance again started issuing twelve-month Treasury bills (with attractive interest rates of up to 4.75%), but they still have a moderate share in the total amount of Treasury bills for 2012. The interest in investing in longer term increased over 2013. Thus, the total amount of issued Treasury bills for the first five months of 2013 amounted to as much as the total for 2011, of which approximately 63% were related to Treasury bills with maturity of six and twelve months. In terms of currency, in 2012, 74.6% of the Treasury bills were without foreign currency clause. The interest rate on Treasury bills registered a moderate decline compared to the rates in 2011, and in 2012 it ranged from 4.75% to 3.9%, depending on the maturity and currency component. In the first months of 2013, further reduction in the interest rates on Treasury bills was registered.

Trading in CB bills and Treasury bills on the secondary money and short-term securities market in 2012 continued to increase, and this trend was maintained also in the first months of 2013[125]. The more substantial trading in short-term securities on the OTC markets in 2012, was primarily a result of the increased volume of trading in Treasury bills, due to the relatively high amount of Treasury bills issued this year. Of the total turnover on the OTC market, 54.0% are attributable to Treasury bills, which contributed with 61.7% to the growth of the total market turnover. Despite the increased volume of trading, the trading on the short-term

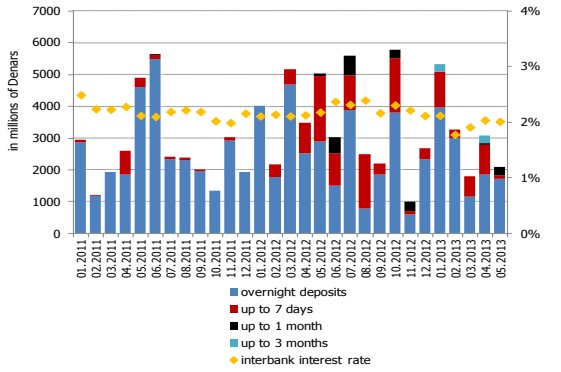
[125] In the first four months of 2013, CB bills in the amount of Denar 1,000 million and Treasury bills in the amount of Denar 1,431 million were traded.

Figure 158 Trade volume on the interbank deposits market



Source: National bank

Figure 159 Maturity structure and interest rates on the interbank deposits market



Source: National bank

securities market has a small share in the total turnover on the money markets (0.5% in 2012). The market liquidity ratio[126], which was below 0.02 % in the past three years, also indicates low activity on the secondary market.

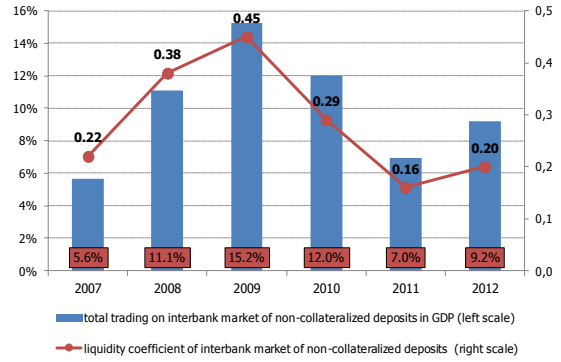
The market of non-collateralized interbank deposits remains the main driver of the secondary money market in the Republic of Macedonia. The total amount of deposits traded in the interbank market in 2012 amounted to Denar 42,540 million, and compared with 2011 it increased by Denar 10,357 million (or 32.2%). Over 84% of the growth in turnover during 2012, is attributable to deposits with maturity of up to 7 days, which contributed to an increase in their share to 24.2% in 2012 from 4.8% in 2011. Despite the tendency for interbank trading in long-term deposits in 2012, 71.7% of the traded amount of deposits is with overnight maturity.

Notwithstanding the increased volume of trading in the market of non-collateralized interbank deposits, still it is a shallow market, with relatively small amounts of traded deposits, mostly short-term (overnight), which means small banks' exposure to contagion risk, i.e. spillover of possible liquidity problems from one bank to another. This is confirmed by the share of the non-collateralized deposits market in the total economic activity of the country[127], as well as the market liquidity ratio[128].

In 2012 and the early months of 2013, the **collateralized deposits market** (repo market) registered a moderate revival. Repo transactions between banks in 2012 amounted to Denar 331 million and Denar 40 million for the first five months of 2013[129]. With the introduction of regular auctions of seven-day repo operations

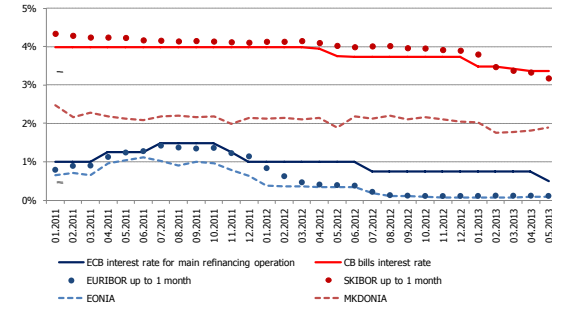
[126] Correlation between the average daily turnover on the over the counter markets and the average balance of CB bills and Treasury bills.
[127] The GDP amount for 2012 is estimated value.
[128] Correlation between the average turnover on the interbank market of non-collateralized deposits and the average balance on banks' accounts with the National Bank.
[129] These repo-transactions among market entities are the first of this type since 2005, after the initiation of the National Bank project for repo market development.

Figure 160 Liquidity coefficient of the market of non-collateralized deposits and share in GDP



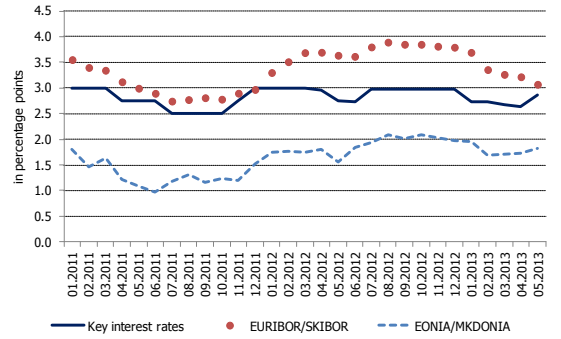
Source: National bank

Figure 161 Interest rates on the money market in the Republic of Macedonia and European Union



Source: National bank

Figure 162 Interest rate spread of the interest rates on the money market in the Republic of Macedonia and European Union



Source: National bank

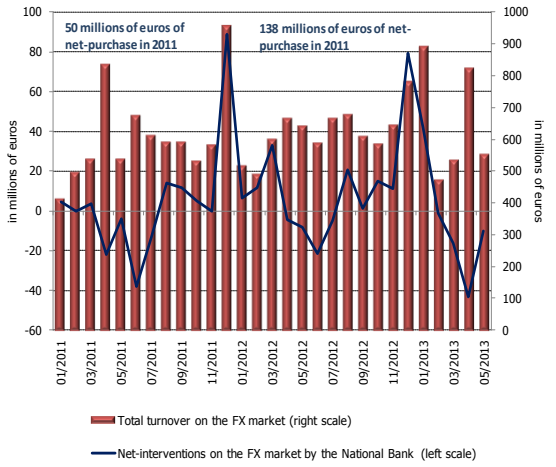
under the new operational framework for the functioning of the monetary instruments of the National Bank[130], greater use of repo operations is expected when banks face short-term lack of liquidity.

Money market in the Republic of Macedonia is still of moderate significance in the financing of market entities. However, a substantial decline in the excess liquidity over the reserve requirement was registered, from 8.3% in 2007 to 0.8% in 2012 (2% in 2011), indicating improved management of liquidity fluctuations by banks through more active involvement of the money markets.

In 2012 and the early months of 2013, the key interest rate of the ECB and the National Bank registered a downward trend. Mismatched reduction of key interest rates caused periods of alternate expansion and narrowing of the interest rate spread between the interest rates of the National Bank and the ECB. Relaxation of the monetary policy in the first half of 2012 by reducing the key interest rate of the National Bank, at a time when the main refinancing rate of the European Central Bank (ECB) is unchanged, caused minimal narrowing of the interest rate spread between the interest rates of the National Bank and the ECB. In that period (May-June 2012), the interest rate spread reduced to 2.7 percentage points, which is the lowest level for 2012. With the next turn of reducing the main refinancing rate of the ECB in July 2012 to 0.75%, and amid unchanged interest rate on CB bills, the interest rate spread expanded again, and by the end of 2012 it was 3 percentage points. The expansion of the interest rate spread, in conditions of low yields of foreign instruments and high uncertainty on the European financial markets, increases the attractiveness of domestic instruments and can positively contribute to the growth of inflows

[130] Based on the changes in the operational framework of the monetary policy, by which regular seven-day repo operations were introduced, in 2012, repo transactions with the National Bank were executed in the total amount of Denar 15,725 million, and for the first five months of 2013, transactions totaling Denar 2,190 million were executed. For comparison, in 2011, repo transactions with the National Bank amounted to Denar 4,000 million.

Figure 163 Total turnover on the foreign exchange market and net-interventions on the foreign exchange market by the National Bank



Source: National bank

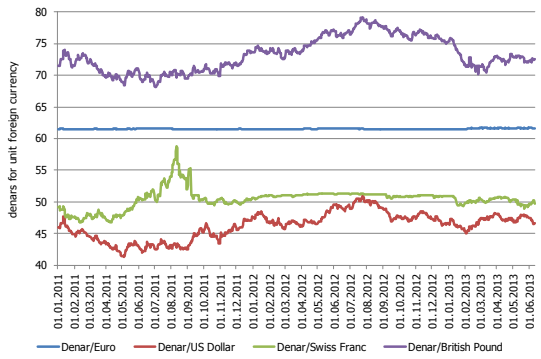
sensitive to interest changes, into the country. In the first months of 2013, with the re-adjustment of the interest rate on the CB bills, the interest rate spread narrowed again, until the next cut in the key interest rate of the ECB in May 2013. Movements of key interest rates of the ECB and the National Bank had second-round effects also on the interest rates on the interbank markets, EURIBOR[131] and EONIA[132], i.e. SKIBOR[133] and MKDONIA[134], as reference interest rates when designing interest rate policies and investment decisions of market participants. Because of the prevalent downward movement of the rate of the average one-month SKIBOR and the rate of the average one-month EURIBOR, their difference at the end of 2012 was reduced to 3.8 percentage points, while the difference between MKDONIA and EONIA was reduced to 2 percentage points.

The total turnover on the **foreign exchange market** in 2012 amounted to Euro 7,461 million[135], which is an annual increase of Euro 103 million or 1.4%, as a result of foreign exchange inflows in the country based on higher inflows from portfolio investments[136] and moderate growth of foreign trade. In 2012, the turnover on the foreign exchange market was 99.2% relative to GDP[137], which is by 1.2 percentage points higher compared with the previous year. Following the strategy of targeting the nominal exchange rate of the Denar against

[131] EURIBOR (Euro Interbank Offered Rate) - interest rate at which one reference bank on the EU money market is ready to sell deposits to another reference bank and it is calculated on the basis of indicative interest rates.
[132] EONIA (Euro OverNight Index Average) - effective interest rate on the EU money market calculated as a weighted value of all overnight transactions where the reference bank is a deposit seller. The interbank interest rate EONIA fluctuates between the marginal lending and deposit rates.
[133] SKIBOR (Skopje Interbank Offer Rate) - interbank indicative interest rate introduced in July 2007 for selling non-collateralized Denar deposits, calculated as arithmetic mean 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).
[134] MKDONIA - its calculation began on October 15, 2008, as weighted average interest rate of already concluded overnight deposits, with reference banks emerging as sellers of non collateralized Denar deposits. Opposite to SKIBOR which is an indicative interest rate, MKDONIA is based on concluded transactions, with the reference banks on the transactions of which MKDONIA is calculated are the same reference banks that quote SKIBOR interbank interest rates.
[135] The total turnover on the foreign exchange market encompasses the banks' transactions with the enterprises, the interbank transactions, including the transactions of the National Bank with the market makers.
[136] Additional inflows were realized in portfolio investments, mainly from the sale of Eurobonds issued by the Republic of Macedonia owned by domestic financial entities, mostly private pension funds (for more details see section 3.4.2 Fully Funded Pension Insurance).
[137] The GDP amount for 2012 is estimated value.

the Euro, the National Bank interventions in the foreign exchange market in 2012, pertained to the net purchase of foreign currency.

Figure 164 Movement of the official spot exchange rate of the Denar for some more important currencies



Source: National bank

Successful management of the mismatch between supply and demand of foreign currency through interventions by the National Bank on the foreign exchange market contributed to a stable exchange rate against the Euro, which in 2012 was 61.53 Denars per one Euro, on average, as was the average for 2011. The implementation of the strategy for targeting the nominal exchange rate of the Denar against the Euro implies that changes in the cross-currency rates of the Denar with other currencies are formed in direct dependence on the fluctuations in the value of the Euro on international currency markets. The intensification of the debt crisis in the Euro area in the middle of the year caused a depreciation of the Euro, and thus influenced the exchange rate of the domestic currency against other currencies[138].

3.5.2 Capital Market

The capital market in the Republic of Macedonia is characterized by a poor choice of financial instruments that are issued and traded on the Macedonian Stock Exchange.

3.5.2.1 Primary capital market

Despite the positive movement of the primary capital market in 2012, it continues to be characterized by a relatively small number and value of new issues of securities. The total value of new issues of securities in 2012 registered a significant increase compared with the previous year (from Denar 5,376 million in 2011 to Denar 20,497 million in 2012), mostly as a result of the realized issuance of government securities and the increased amount of shares issued by non-financial companies. Government securities contributed with 57.0%, and realized new issues of securities by the private sector contributed with 43.0% to the total annual increase. Moreover, considering that in most cases the government appears as "buyer"[139] of the securities issued by the private sector, in 2012 the government's influence on the primary capital market is becoming even more important.

[138] On average, in 2012, more denars were exchanged per US Dollar, British Pound and Swiss Franc compared to 2011.
[139] Transforming government claims into equity.

During 2012, 11 auctions of three-year continuous bonds and 18 auctions of five-year continuous bonds were held[140], and also the eleventh issue of the denationalization bonds in the amount of Euro 11 million took place. Unlike the previous year, most active issuer of securities during 2012 in the private sector were the non-financial companies that had six new share issues[141] totaling Denar 7,295 million (0.6 % of the total assets of the corporate sector)[142]. Given that all six new share issues are based on a law and the government emerges as the only "buyer", the increased movement on this market segment in 2012 could not be interpreted as an entry of a new "fresh" capital, which implies that the conclusion that non-financial companies in the Republic of Macedonia, same as in recent years, still show little interest in financing their activities through the capital market and they are more oriented toward getting financial support from banks, is maintained. The remaining Denar 2.737 million are related to the realized five issues of shares of banks and five of other financial institutions. Annually, the value of realized issues of shares by banks fell by Denar 768 million, or 23.2%, and the issues of other financial companies fell by Denar 26 million, or 12%.

Table 15 Structure of the realized issues of long-term securities

in millions of Denars

Realized issues of long-term securities	2010	2011	2012
Amount of realized issues of long-term government securities	**1,848**	**1,845**	**10,466**
1. two-years continous government bonds	0	0	0
2. three-years continous government bonds	0	0	2,082
2. five-years continous government bonds	0	1,168	7,768
3. Denationalization bonds	1,848	677	616
Amount of realized issues of long-term, non-government securities	**3,327**	**3,531**	**10,032**
1. Corporate bonds	0	0	0
2. Shares	3,327	3,531	10,032
- Issued by banks	*414*	*3,314*	*2,546*
- Issued by other financial institutions	*17*	*217*	*191*
- Issued by non-financial legal entities	*2,897*	*0*	*7,295*
Total amount of realized issues of long-term securities	**5,175**	**5,376**	**20,497**

Source: National bank

3.5.2.2 Secondary capital market

Despite the registered positive signs of movement on the secondary capital market in 2011, in 2012 the uncertainty on the international financial markets spilled over the domestic capital market, reflecting in a decreased market capitalization and lower total turnover on the Macedonian Stock Exchange, downward trend of the value of stock market indices and further restraint of potential investors. The current unfavorable environment in which the Macedonian

[140] Of the total amount of the continuous bonds, 69.4% are in Denars with foreign exchange clause and 30.6% are in Denars.

[141] During 2012, the Securities and Exchange Commission of the Republic of Macedonia issued 16 approvals for issuance of long-term securities, 15 issues of which were through private offer of shares and 1 issue through public offer of shares. All approved issues registered success of 100%, except for the public offer of shares, which was realized with success of 60%.

[142] Four issues of securities of non-financial companies were realized through a private offering and the shares were undertaken by the Government, pursuant to the Law on conversion of the claims of the Republic of Macedonia on the basis of public fees into equity in the companies AD "Ohis" Skopje, "EMO" AD Ohrid, "Tutunski kombinat" AD Prilep and "11 Oktomvri - Eurokompozit" AD Prilep ("Official Gazette" no. 159/2008). The other two issues were also through a private offering, the first of which relates to a new investment of the Government into "Macedonian Energy Resources" AD Skopje, and the other is an investment of the Government into "Railways Transport" AD Skopje, which is regulated by a special law.

securities market has been functioning for a longer period of time and the reduced liquidity, caused a subsequent decline and deterioration in all indicators. The decline of the MBI - 10 in the last three quarters of 2012 was terminated in the first quarter of 2013 with moderate quarterly increase, which to some extent can be interpreted as a delayed reaction to the positive signs of intensified movement on international and regional financial markets. However, given the high connection of the Macedonian economy with that of Europe and the still present uncertainty about the recovery because of the debt crisis, it is too early to assess the sustainability of the positive developments in the Macedonian capital market.

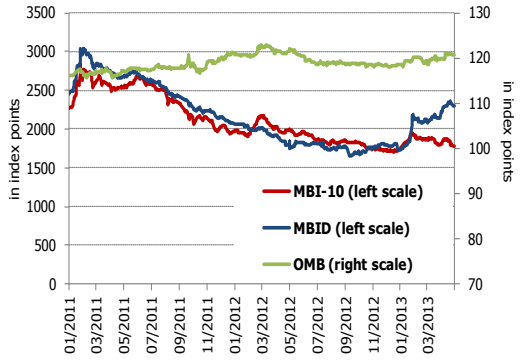
In recent years, there is a lack of net inflow of foreign portfolio investors, so the market is mainly based on domestic investors. Domestic legal entities remained the only net - buyers of securities, which strengthened their position of a main generator of the long-term investment on the capital market in the Republic of Macedonia. In the forthcoming short-term period, the stock exchange movements will largely depend on the perceptions of domestic investors, in terms of reduced interest rates and moderate growth of the inflation rate, current economic and political environment in the country and beyond, and performance as well as overall behavior of the major companies whose shares are traded on the stock exchange. Hence, it is more than clear that the Macedonian capital market needs the return of foreign investors who would act as a catalyst.

In order the Macedonian capital market to become an active supporter of economic and financial developments, in 2012 systemic and monetary measures were undertaken. The new legal requirement - current mandatory stock exchange listing, is expected to increase market transparency, centralize information and produce a number of other indirect effects that may occur in the future - alternative non-bank finance, more efficient corporate governance, better insight into developments in companies, creation of formulated and predictable dividend policies and the like. Benefits are expected also from the abolition of taxation of capital gains in the next three years. In 2012, a through reform of the operational monetary policy was conducted in order to ensure greater interbank activity, primarily greater participation of banks in the domestic capital market, including long-term bonds.

With the exception of the first quarter, **when MBI - 10** showed signs of intensified movement, in the remaining three quarters of 2012 it continued to move downwards, and on December 18 it reached the lowest value, being reduced to 1704.8 index points. In late December 2012, the index fell by 12.3% compared to the end of December 2011. The **index of publicly owned companies[143] (MBID)** registered a downward trend in the first nine months of 2012, with the exception of the upward trajectory over the last quarter. However, on an annual level it

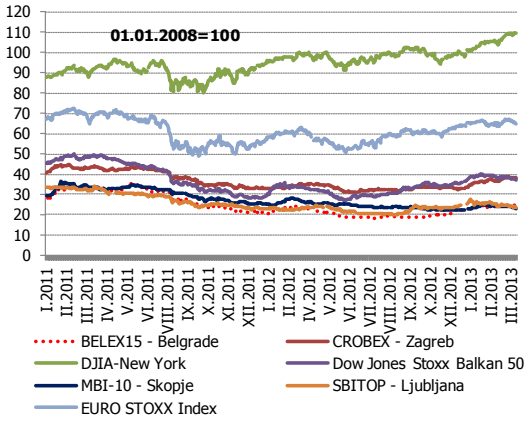
[143] Companies with special reporting obligations.

Figure 165 Movement of the basic stock exchange indices



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

Figure 166 Movement of stock exchange indices



Source: Web site of the Macedonian Stock Exchange, Bloomberg and national stock exchange

Table 16 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			
	2010	2011	2012	2013
BELEX15- Belgrade	75.50%	97.32%	6.04%	20.13%
MONEX20 - Podgorica	62.80%	80.02%	1.52%	52.44%
CROBEX - Zagreb	84.80%	96.68%	0.41%	15.17%
SBITOP- Ljubljana	90.60%	88.49%	-1.78%	13.56%

Source: Web sites of regional stock exchanges and National Bank calculations

decreased by 16.8%. The **index of bonds (OMB)** was almost stagnant during 2012. With the exception of the minimum upward trend in the first three months, during the remaining nine months it had a moderate downward trend. The movement of OMB index in 2012 was determined by the trading in denationalization bonds of the Republic of Macedonia. OMB index, same as the previous two indices, decreased by 2.1% annually.

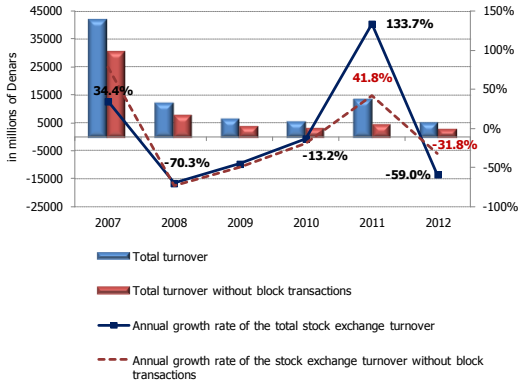
The economic agents' interest in investment in the domestic financial market was again low. In 2012, trading in the shares of listed companies from MBI - 10 (as the main indicator of price levels of most liquid companies listed on the official market of the Macedonian Stock Exchange), **in the total trading in the shares of listed companies on the Macedonian Stock Exchange,** was reduced to 65.7% which is a decline in the share relative to 2011 and 2010 (87.3 % and 92.6%, respectively).

In 2012, the correlation of the underlying stock exchange index of the Macedonian Stock Exchange with the indices of regional stock exchanges reduced, compared to the high correlation in 2011. The positive movement of stock exchanges in the region, especially during the second half of 2012, with the exception of MBI 10, which for the most part of the year moved downwards, caused a significant decline in the percentage of correlation, even negative correlation with the underlying index of the Ljubljana Stock Exchange[144]. **In the first four months of 2013,** the correlation coefficients of MBI-10 movements with the movements of the major indices of stock markets in the region registered an increase, which is a possible signal for the gradual recovery of the stock markets in the region, which is largely determined by the outcome of the measures for stabilization and recovery of some of the European countries.

[144] On annual level, in 2012, the Ljubljana Stock Exchange index rose by 7.8%, primarily due to the low comparison base at the end of December 2011.

However, given the close connection between the Macedonian economy and the economy of Europe and the high degree of uncertainty about the recovery from the debt crisis, it is too early to assess whether the positive developments in the Macedonian capital market will sustain.

Figure 167 Total turnover and annual growth rate of the total turnover on the Macedonian Stock Exchange



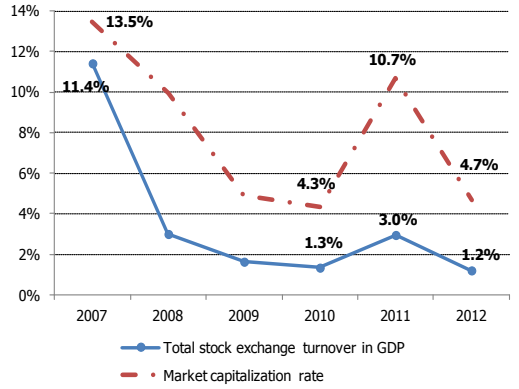
Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Amid still weak economic activity and present uncertainty, the propensity of domestic enterprises and natural persons to invest in the Macedonian capital market remains low. In such circumstances, in 2012 there were no signs of accelerated movement, and the reduced turnover on the Macedonian Stock Exchange was quite expected. Thus, the positive upward trend registered in 2011 was terminated, and the total turnover of securities on the Macedonian Stock Exchange in 2012 was reduced to the lowest level in the last ten years (totaling Denar 5,600 million).

The reduced amount of **block transactions** in 2012 contributed with over 80% to the decline in the total stock market turnover. Annually, block transactions decreased by Denar 6,564 million, or 73.2%, due to the relatively high comparison base in 2011, when the total turnover of securities on the Macedonian Stock Exchange recorded a significant annual growth primarily due to the realized block transactions[145]. Such developments have contributed to the reduction of the share of block transactions in the total turnover and from 65.6% in 2011, it was reduced to 42.9% in 2012. **Turnover in standard trading[146] (shares and bonds)** amounted to Denar 2,755 million, down by 19.9% compared with 2011. Of that, about 87% are due to lower turnover of shares. In 2012, the **number of transactions** with shares and bonds on the Macedonian Stock Exchange fell by 8,484 transactions, compared with 2011, and the number of transactions fell down to 14,806. The faster decline in the volume of stock exchange trading compared with the decline in the stock exchange turnover contributed to an increase in

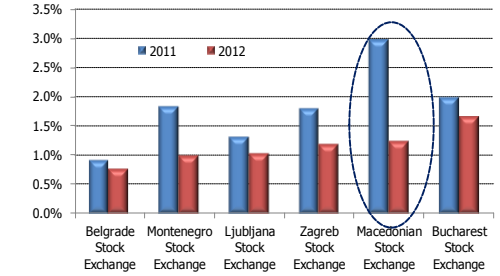
[145] See more detail in the Financial Stability Report for 2011.
[146] The turnover realized based on standard trading does not include the block transactions, the turnover realized on the public stock exchange auctions, as well as the public offers of securities.

Figure 168 Liquidity Indicators of the capital market



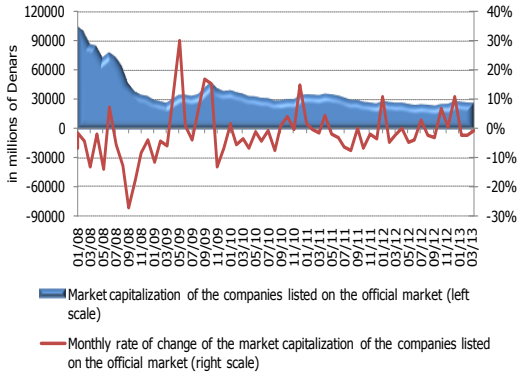
Source: Web site of the Macedonian Stock Exchange and National Bank calculations

Figure 169 Turnover on the regional stock exchanges in GDP



Source: Web sites of the regional stock exchanges, IMF, Macedonian Stock Exchange and National Bank calculations

Figure 170 Market capitalization of the listed companies on the official stock exchange market



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

the average value per transaction in standard trading from Denar 148 thousand in 2011 to Denar 186 thousand in 2012.

The reduced liquidity of the securities market is confirmed also by the decline in the share of total trading on the market in the total economic activity of the country and the decline in the market capitalization rate[147]. However, the reduction of these indicators would be more moderate if one excludes the effect of the executed block transactions that have a significant impact on the total trading volume.

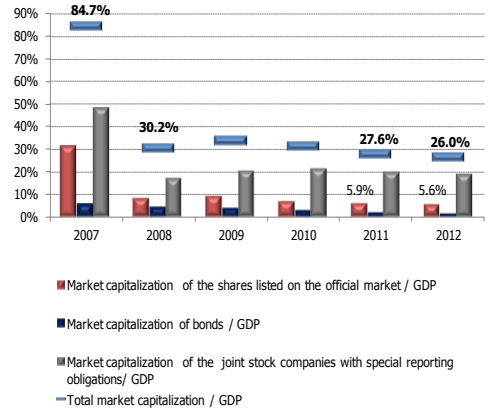
In 2011, these transactions contributed with over 80% to the growth in the total turnover on the Macedonian Stock Exchange, and this year with the same percentage they contributed to the reduction of the total turnover. The high presence of block transactions on the Macedonian Stock Exchange in respect of transactions from regular trading (which usually involves the purchase or sale of securities in a quick and simple way, with low transaction costs) is a factor which contributes to the low liquidity of the market, given that these transactions are incidental and are not indicative of market liquidity.

In 2012, a reduced liquidity, measured by the share of the total stock exchange turnover in GDP, was registered also in the regional stock exchanges.

As a consequence of the downward correction of prices in the capital market, the market capitalization continued to reduce also in 2012, but at a slower pace than last year. On December 31, 2012, the market capitalization of the shares of 32 companies that are listed on the Macedonian Stock Exchange was Denar 25,918 million and fell by 5.1% (last year the decline amounted to 10.3%). Same annual rate of decline was registered also in the market capitalization of the companies with special reporting obligations. The

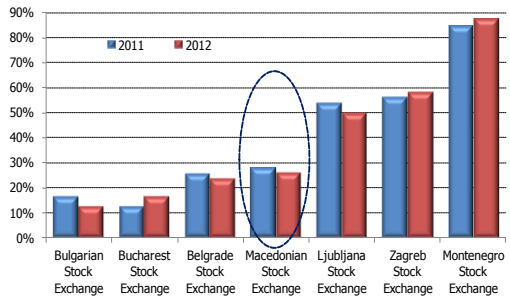
[147] Correlation between the total trading and market capitalization.

Figure 171 Market capitalization by markets segments relative to GDP



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

Figure 172 Share of the market capitalization of the regional stock exchanges in GDP



Source: Web sites of the regional stock exchanges, IMF, Macedonian Stock Exchange and National Bank calculations

market capitalization of bonds amounted to Denar 7,354 million, which is 14.1% less than last year (in 2011 the decline was 31.6%).

Such movements caused a reduction in the share of the market capitalization of the three market segments in GDP. The level of total market capitalization to GDP ratio was reduced from 27.6% (end of 2011) to 26.0% (end of 2012).

Reduced share of market capitalization in GDP was registered in the stock exchanges of Bulgaria, Belgrade and Ljubljana, while other stock exchanges in the region registered an increased share of market capitalization in GDP.

In 2012, in conditions of reduced overall stock market turnover, the average share of resident legal entities continued to rise on both the purchasing and selling side of the total stock exchange turnover. Like last year, also in 2012 they retained the role of single net-purchasers of securities, achieving the same amount of net purchase as in 2011 (Denar 742 million). Thus domestic legal entities confirmed the position of the main long-term investment generators on the capital market in the Republic of Macedonia. The motives of domestic legal entities for the continuous net purchase of securities during 2012[148], as in past years, are based on expectations for growth in the price levels on the capital market in the long term, and thus receiving yield from stock exchange trading.

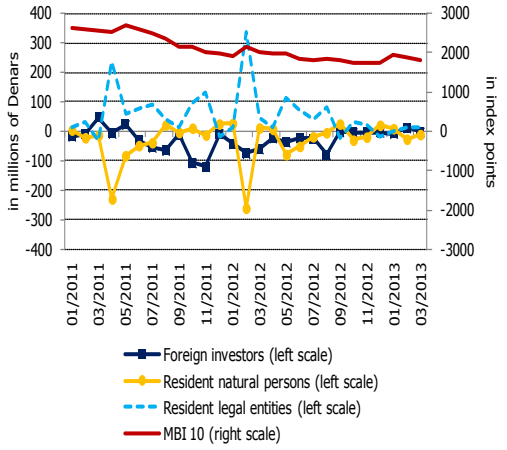
[148] Exceptions are September and December 2012, when domestic legal entities realized somewhat smaller amount of sales of securities on net basis.

Table 17 Structure of the total turnover on the stock exchange by the type of investor

Type of investor	Purchase side of the stock exchange turnover			Selling side of the stock exchange turnover		
	2010	2011	2012	2010	2011	2012
Average share of foreign investors	23.1%	18.7%	10.1%	27.9%	26.5%	20.0%
Average share of resident legal entities	40.2%	51.8%	66.6%	24.1%	35.5%	50.9%
Average share of resident natural persons	36.7%	29.5%	23.3%	48.0%	38.0%	29.1%

Source: Web sites of regional stock exchanges and National Bank calculations
Note: According to the releases on the web site of the Macedonian Stock Exchange, the calculation of the percentages of the average share does not take into consideration the individual block transactions with the shares of certain companies, as well as the public offer of shares of " Kapital Banka" AD Skopje.

Figure 173 Net effect of the trading of individual investor types and MBI-10



Source: Web site of the Macedonian Stock Exchange and National Bank calculations
Note: The calculation of the net effect of the total stock exchange trading does not take into consideration the individual block transactions with the shares of certain companies, as well as the public offer of shares of "Kapital Banka" AD Skopje, according to the releases on the web site of the Macedonian Stock Exchange.

At the expense of the increased participation of domestic legal entities, **in 2012, a decline was registered in the average share of resident natural persons and foreign investors** on both the purchasing and selling side of the stock exchange turnover. In 2012, these investors registered the same net amount of trading of Denar 371 million, respectively. Also, the debt crisis in some of the Euro area countries and the trends in the global economy in 2012, the stagnation of the Macedonian economy largely contributed to the reticence of investors from investing on the stock exchange (especially noticeable was the small presence of foreign investors), and the liquidity of the securities. It all caused a reduction in the turnover and the general level of prices on the market. The new operational framework of the monetary policy of the National Bank, which allowed release of liquidity into the system, among other things, provides support for the capital market by providing higher flow of funds to meet the liquidity needs of the market entities through a long-term investment.

During 2012, no trading in government bonds on the OTC markets[149] was registered.

[149] 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. The last trade of the government bonds on the over the counter market was performed in March 2009.

Despite the reduction in the number of members[150] of the Macedonian Stock Exchange in 2012, the degree of concentration of trading generally decreased. The decline is primarily due to the significantly reduced amount of signed block transactions, which were largely concentrated among the most active members[151]. On the other hand, the stronger reduction of the total turnover from standard trading than the reduction of the turnover among the five member states with the largest amount of standard trading, caused an increase in their participation, and consequently concentration. The high **share of the turnover with the five/ten most traded securities in the total turnover** is indicative of the low liquidity of the Macedonian capital market, i.e. its relatively small width (low offer of securities with different characteristics).

Table 18 Indicators for the concentration degree on the secondary capital market in the Republic of Macedonia

Concentration indicators	2010	2011	2012
Number of stock exchange members'	20	18	15
CR3 for the total stock exchange members' turnover	65.0%	81.3%	59.4%
CR5 for the total stock exchange members' turnover	74.3%	88.7%	74.7%
CR5 for the total stock exchange turnover in standard trading	62.6%	64.7%	72.1%
Turnover with the five most traded securities/total turnover	81.5%	80.2%	80.4%
Turnover with the ten most traded securities/total turnover	93.0%	93.9%	94.5%
Share of the five shares with the largest market capitalization in the total market capitalization	61.9%	62.3%	62.8%
Share of the ten shares with the largest market capitalization in the total market capitalization	80.0%	80.4%	82.2%

Source: Web sites of regional stock exchanges and National Bank calculations
Note: In the determining of the CR3 and CR5 indicators for the total stock exchange turnover and the total turnover based on standard trading of the members, the turnover of the brokerage houses which ceased to be members of the Macedonian Stock Exchange in 2012 is also included.

The reduction of the total volume of the turnover and the downward trend in price levels contributed to the deepening of the loss of brokerage houses, and for some of them even their survival on the market was put in question. Total assets of the

[150] At the end of 2012, 15 authorized participants performing activities with securities on the Macedonian Stock Exchange were registered (10 brokerage houses and 5 banks licensed for securities operations). In 2012, the membership of two brokerage houses was permanently revoked ("Bro Dil" AD Skopje and "Bitola Broker" AD Bitola), and one member voluntarily stepped out of membership ("Ohridska Banka" AD Ohrid).
[151] The data taken into consideration when calculating the turnover 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.

brokerage houses reduced also in 2012, but at a faster pace (Denar 101 million, or 24.6%, compared with the decrease in 2011, which amounted to Denar 56 million, or 12.1%). In 2012, brokerage houses operated at a loss, which amounted to Denar 12 million, which is higher by 4.8% compared to the loss realized in 2011[152].

NEW RULES FOR LISTING ON THE STOCK EXCHANGE

In accordance with the amendments to the Law on Securities of January 23, 2013 ("Official Gazette" no. 13/2013) and the Rules for Listing on the Macedonian Stock Exchange, which came into force on March 03, 2013, a new market subdivision on the official market of the stock exchange was introduced - "mandatory listing". This segment will contain listings of securities that are not currently listed on the official stock exchange and whose issuers, as of December 31, 2012 have:

- nominal capital of at least Euro 1,000,000;
- at least 50 shareholders;
- distribution of shares to the public of at least 1%, and
- audited financial statements for the last two years.

As of April 30, 2013, the total of 90 joint stock companies have submitted an application to the stock exchange for mandatory listing, on which the stock exchange decides within 60 days of the receipt or completion of the application.

Mandatory listing will increase the transparency of the companies, because the novelty includes a requirement for disclosure of the income statement (quarterly), all financial reports (semi-annually), the public call for holding the General Meeting of Shareholders, decisions passed at the General Meeting of Shareholders, annual reports on the operations and all other price sensitive information, defined in the Rules for Listing.

The new Rules for listing on the stock exchange have changed the criteria for listing on the existing subdivision "stock exchange listing", so that the requirement for the amount of the capital increased from Euro 500,000 to Euro 5 million, and the percentage of distribution of shares to the public declined from 15% to 10%.

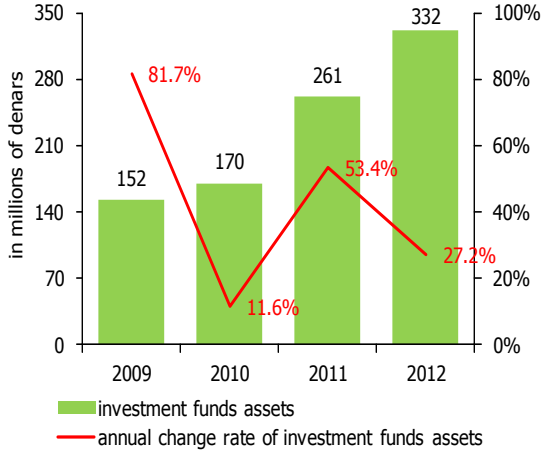
At the same time, another new market subdivision was introduced - "small joint stock companies listing". Listing on this market subdivision is voluntary, according to the business policy of the companies. The new market of small companies on the stock exchange is intended for newly established joint stock companies or smaller companies whose development plans provide financing through the capital market. Listing on this market subdivision will allow these companies to have proper representation before the investors and gain a status of a listed company. In order to be listed on this subdivision, the company should have audited financial statements for the last year and capital of at least Euro 250,000, without criteria for minimum number of shareholders and distribution of shares to the public.

[152] Source: The Securities and Exchange Commission and National Bank calculations.

3.5.2.3 Investment funds in the Republic of Macedonia

In 2012, investment funds[153] still had very little importance within the Macedonian financial system. Despite the relatively rapid growth, their share in the total assets of financial institutions accounted for only 0.1%. Inflows of funds from the sale of stake documents in 2012 increased, but at the same time higher outflows of funds from investment funds based on the purchase of stake documents is noticeable. However, net inflows on this basis contributed to the increase in the assets of open-end investment funds. Moreover, due to favorable movements on some financial markets on which investment funds invested, in the last quarter of 2012 the nominal annual yield of investment funds registered positive values. However, investment funds management companies continue to operate with a negative financial result.

Figure 174 Assets of the open-end investment funds

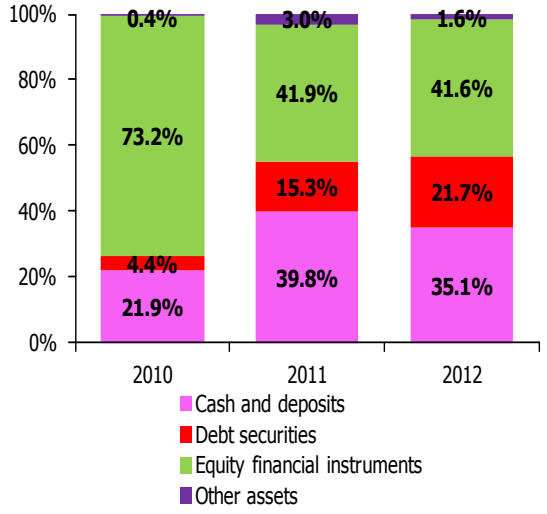


Source: Security exchange commisiion

The assets of the open-end investment funds continue to grow at a relatively fast pace. According to the realized annual growth rate of 27.2% in 2012, open-end investment funds are the second by the speed of growth in the domestic financial system, immediately after the pension funds. Net-inflows from transactions with stakes of investment funds during the year were the generator of the growth of the assets of open-end investment funds with a share of 58.3%. Price changes on investments during the year accounted for 41.3% of the annual change in the assets of investment funds.

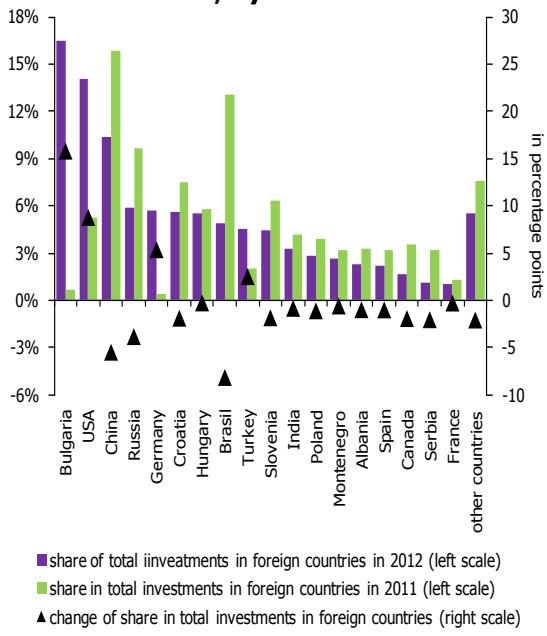
[153] The analysis in this part of the Report does not include the private investment funds, nor the private funds management companies, having in mind that pursuant to the Law on Investment Funds ("Official Gazette of the Republic of Macedonia" no. 12/2009, 67/2010 and 24/2011), in the Republic of Macedonia no supervision on the operations of the private funds, i.e. of the authorized companies for management with private funds is envisaged, nor there is an obligation set for submitting regular reports to a competent body.

Figure 175 Structure of the assets of investment funds



Source: Security exchange commisiion

Figure 176 Assets of investment funds invested abroad, by countires



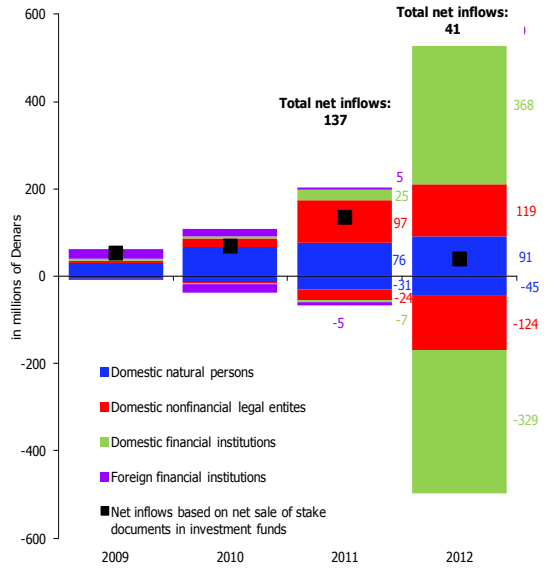
Source: Security exchange commisiion

Net assets[154] of investment funds registered nearly identical annual change, which is expected given the fact that net assets include more than 99% of the total assets of investment funds. The structure of the investment funds by type of financial instruments did not record major changes in 2012. Equity instruments still have the greatest share in the assets structure, as the equity risk is the most significant risk to the performance and size of open-end investment funds. Most important among equity instruments (with a share of 84%) are the shares and stakes issued by foreign issuers (joint stock companies or investment funds). Also, 40.5% of the annual change in the assets of investment funds resulted from the growth of investments or the value of equity instruments. The largest annual increase (of 80.5%), and thus the largest share in the annual change in the assets of investment funds (by 45.3%) was that of debt securities. Generator of this growth were mainly investments in domestic government bonds, and to a lesser extent investments or growth in the value of foreign corporate bonds. On the other hand, in 2012, the assets structure registered a decline in the share of cash and investments in deposits, primarily due to the lower annual growth rate of these instruments (of 12.1%), compared with the growth of other components of funds' assets.

At the end of 2012, the share of investments abroad in the total assets of investment funds was 45.2%, and compared with 2011 it increased by 6.4 percentage points. Predominant in the structure of investments abroad, are the equity instruments, comprising 77.8% of these investments. Analyzed by country, in 2012, there was a greater increase in the share of assets invested in Bulgaria, the USA and Germany. Investing in foreign financial markets means taking greater currency and country risks by the open-end investment funds, which in turn require greater capacity of companies to identify, monitor and manage risks, especially when investing in equities.

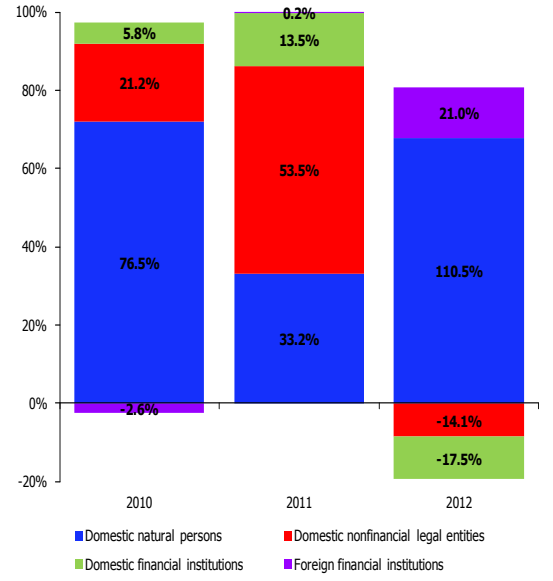
[154] Net assets of investment funds are obtained when the value of the fund's assets is be reduced by the value of its liabilities.

Figure 177 Structure of inflows and outflows based on transactions with stakes documents in investment funds



Source: Open investment funds' web sites

Figure 178 Structure of net-inflows based on transactions with documents for stakes in investment funds



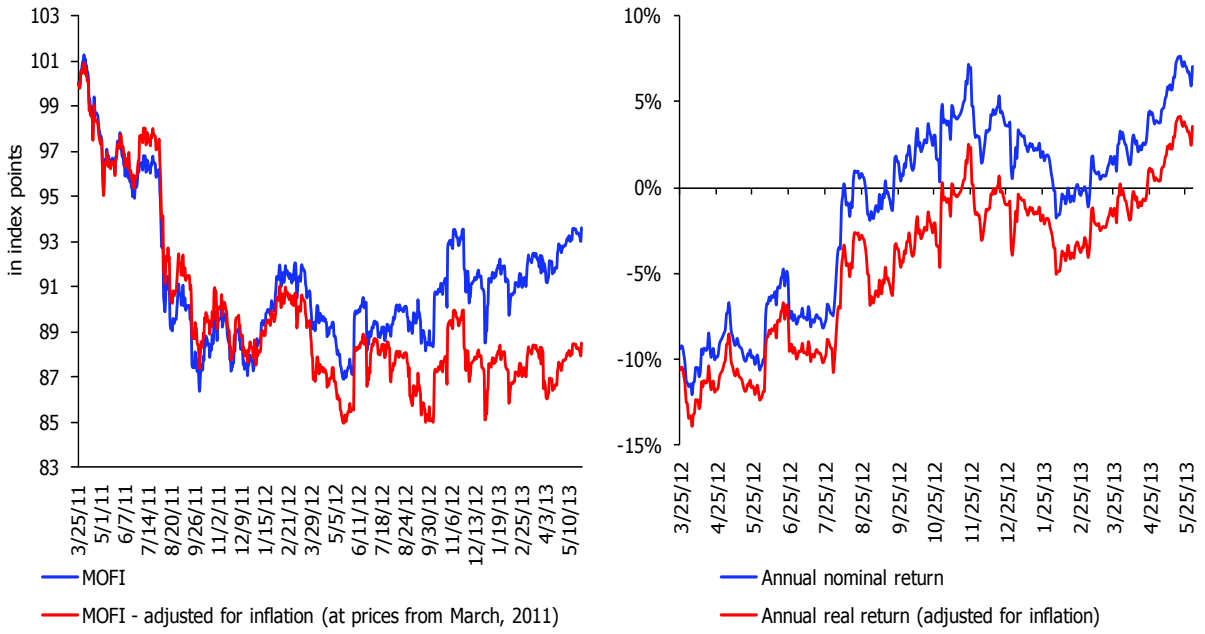
Source: Open investment funds' web sites

Predominant in the structure of investments of open-end investment funds in the country are time deposits in domestic banks with a share of 56.0% at the end of 2012, which reinforces the dependence of open-end investment funds on the banking system.

In 2012, there was a more significant increase in the inflows and outflows of funds based on the sale or purchase of documents for stakes in investment funds. The largest contribution to the increased trading in documents for stakes in the investment funds was that of the domestic (mostly non-bank) financial institutions and non-financial legal entities, which appeared mostly on the selling side of trading in stakes documents, but had high share also on the purchasing side of trading.

In 2012, inflows based on net sales of documents for stakes in open-end investment funds decreased by Denar 96 million, or 70.1%, compared with the previous year, which is a result of the actual outflows of funds from domestic non-financial legal entities, versus the inflows generated from these entities last year. Resident natural persons had the highest contribution to the inflows based on net sales of stakes documents and again had the highest share in the total number of issued documents for stakes in the funds (of around 45%).

Figure 179 Index on movements in prices of documents for stakes in investment funds (MOFI) and annual return on open investment funds (right)

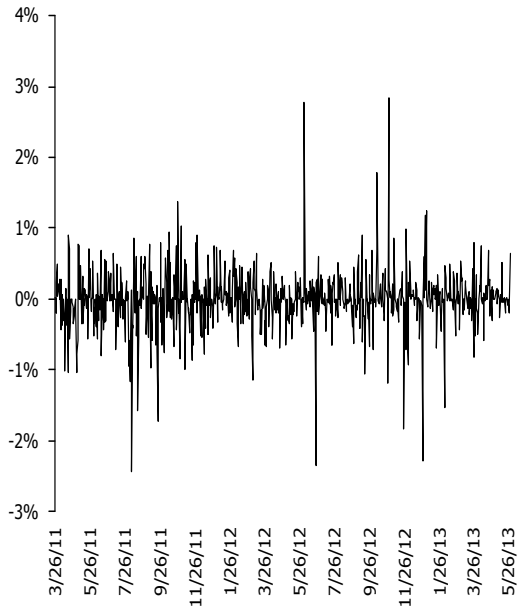


Source: MSE web site and calculations of NBRM staff

*Note: The index on movements in prices of documents for stakes in investment funds (MOFI) is constructed by the NBRM, as a price index weighted with the value of individual funds' net-assets. MOFI is constructed as a weighted average of the value of individual indexes on movements in prices of documents for stakes in each of the investment funds. This value is afterwards corrected with the so-called correction factor, which is determined whenever there has been a change in the number of investment funds, thus providing a time comparability of the index. As a base of MOFI, with a value of 100, is taken 25.3.2011, since when the data necessary for calculation of MOFI are available.

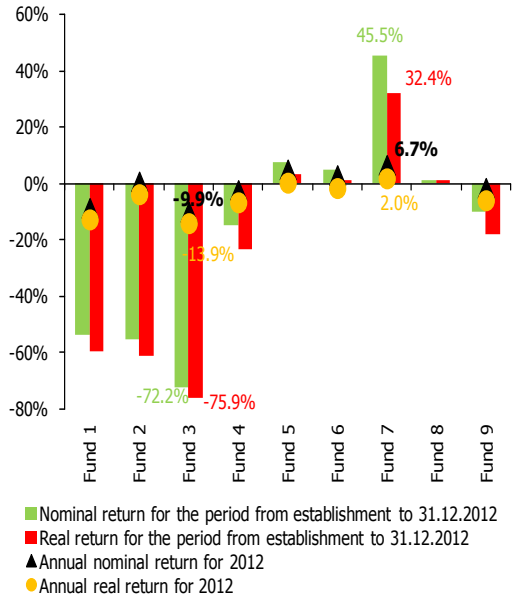
On annual basis (December 31, 2011-December 31, 2012), the index of price movement of documents for stakes in open-end investment funds (MOFI) increased by 1.2% (real yield is negative and amounted to -3.3%). However, in the first nine months of the year, the nominal annual return on net assets of open-end funds was consistently negative, and in the last quarter of 2012 it rose above zero. Compared with the previous year, MOFI index showed slightly more pronounced volatility in 2012, when some daily changes in the value of this index amounted to +/-3%. Analyzed by individual funds, four of the open-end investment funds ended the year with positive nominal annual return on net assets (as of December 31, 2012, the market share of these funds in the total value of net assets was 56.6%). However, as of December 31, 2012 in five of the open-end investment funds (with market share in

Figure 180 Daily change of MOFI



Source: MSE web site and calculations of NBRM staff

Figure 181 Returns on individual investment funds



Source: MSE web site and calculations of NBRM staff

the net assets of 46.2%) the price of stake documents is under the initial issue price of the stakes, indicating a total negative return on the net assets of these funds from their establishment, to the end of 2012.

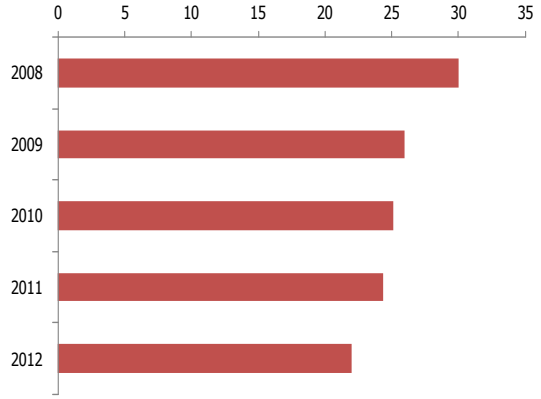
Investment funds management companies consistently record a negative financial result, which puts in question their solvent operations. In 2012, the four investment funds management companies had losses amounting to Denar 15 million, which fully absorbed the total capital and reserves (two of the companies, at the end of 2012 had negative equity and reserves). Most of the open-end investment funds management companies were established shortly before or after the peak of the global financial crisis. At the same time, the reasons for their tenuous profitability should be sought in the weak activity of potential investors (given the worsened general financial situation, but probably also the insufficient awareness about these financial institutions by the investment community in the country), as well as the relatively high competition that exists in this segment of the financial system, whereby the relatively small invested amounts of potential investors are "diluted" with more funds. Despite the threatened survival of the open-end investment funds management companies, it is a segment of the financial system that is small in scale and can not cause significant distress to the stability of the entire financial system of the country (the total amount of the assets of the open-end investment funds management companies and the assets of funds is 0.1% of GDP for 2012).

ATTACHMENTS

Attachment 1 Process of deleveraging of European banks

The financial crisis that began in 2007 has shown that banks worked with significantly low capitalization rates, which had a negative impact on their ability to cover the rising losses and risks. In conditions of limited opportunities for covering liquidity needs (reduced activity on the interbank money market, limited access to the debt securities market, and in some countries the reduced deposit base) and deteriorated economic conditions, banks began to sell the assets held for trading, to reduce excessive lending and to take actions to increase their capital position. This was the beginning of the process of deleveraging of banks, which, as of 2008, has been particularly present and important for European banks. Thus, in the period from 2008 to 2012, the aggregate level of the indebtedness rate, measured as the ratio between the assets of the largest European banking groups and their capital, decreased from 30 times at the end of 2008, to 22 times at the end of 2012[155]. This ratio was mainly reduced through the growth of capital (35%), while the reduction in the assets of major European banking groups is much lower (only 1%), although this trend is changing somewhat in 2012.

Figure 182 Level of indebtedness (leverage) of large European banking groups



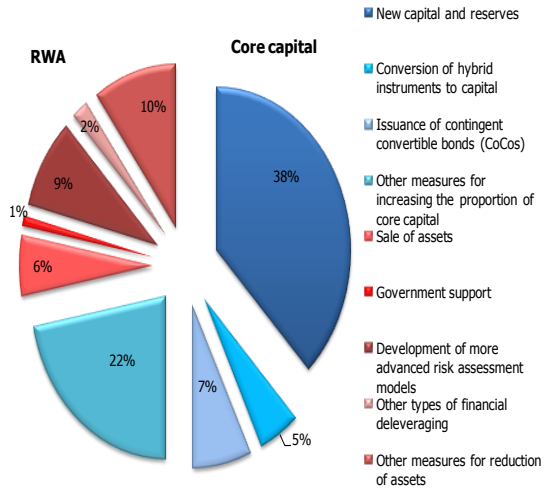
Source: ECB, Financial Stability Report for 2010, 2011 and 2012.

Besides the banks' perceptions of the need to strengthen their capital base, its growth was largely caused by the measures undertaken by national and international regulatory and supervisory authorities to strengthen the stability of the financial sector and reduce systemic risk. In this regard, the most important is the adoption of the so-called Basel 3 Accord, adopted by the Basel Committee on Banking Supervision in December 2010, which prescribes higher and more stringent capital and liquidity requirements for internationally active banks[156]. Although the agreement allows for a period of eight years in which banks must comply with the new requirements, market expectations, and measures taken by the European Banking Authority (EBA) forced banks to speed up their deleveraging plans and attain some of the standards earlier than anticipated. Namely, based on the stress - testing of 71 banks in the European Union[157] in December 2011, EBA issued a recommendation to the national supervisory authorities to oblige banks to increase the proportion of core capital and risk-weighted assets (so-called "Tier 1" rate) to 9% until June 2012. Most banks have reached the projected target, even to a greater extent than planned. The total increase in the required amount of core capital

[155] Most of the analysis is based on data published in the Financial Stability Review of the ECB, May 2013.
[156] Although standards that the Committee prescribes these standards are accepted by many national supervisory authorities, and are therefore treated as an international standard.
[157] Stress tests were conducted by the EBA in order to determine the required level of capital to cover credit losses and strengthen the stability of the banks. Stress tests showed a lack of an adequate level of core capital in 37 banks, totaling Euro 115 billion. However, 10 of these banks were already part of a specific program of restructuring, and therefore they were not subject to the requirements set out in the recommendation of the EBA. The lack of core capital in the other 27 banks was set at Euro 75.8 billion.

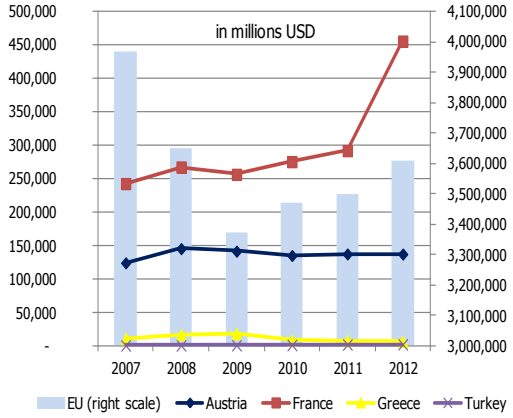
of these 27 banks reached Euro 115.7 billion at the end of June 2012[158]. This increase was mostly (72%) due to the direct increase in the positions that are part of the core capital (primarily equity capital and reserves), and the amount of free capital as a result of the reduction of risk-weighted assets (28%). Thus, in only one year, the total amount of own funds of the twenty-seven banks involved in the process of recapitalization increased by nearly 13%.

Figure 183 Recapitalization structure



Source: EBA

Figure 184 Loans to foreign non-banking institutions for selected EU countries



Source: The Bank for International Settlements.
Note: The data for the EU refers to the 16 countries that provide data to the BIS.

The impact of the deleveraging of European banks passed on to the rest of the world. Mainly the following four channels of transmission of the effects of the deleveraging can be identified[159]: (1) reduction of the foreign claims, especially claims on foreign banks, (2) sale or reduction of the investments in foreign subsidiaries, (3) reduction or deleveraging of subsidiaries of European banks and (4) increase in the cost of financing their subsidiaries. The data of the Bank for International Settlements[160] on European banks shows that throughout the crisis period, their claims to other regions are reduced by 26%. These developments are particularly unfavorable for the countries of Central and Eastern Europe in which the presence of European banks is significant not only for the banking systems of these countries, but also for the local economy. In addition, a common feature for most of these countries is their bank-oriented financial systems. In conditions of a lack of alternatives to bank products and underdeveloped capital market, deleveraging of European banks and their subsidiaries in these countries poses a serious risk to the private sector and the economies in which these subsidiaries operate.

Taking into account the experiences from previous crises and expectations of market participants[161], it should be expected that the process of deleveraging of European banks will continue in the coming years. Nevertheless, it can be concluded that the risk of systemic

[158] Final report on the implementation of Capital Plans following the EBA's 2011 Recommendation on the creation of temporary capital buffers to restore market confidence, EBA, October 2012.
[159] Erik Feyen and Ines Gonzales del Mazo, "European Bank Deleveraging and Global Credit Conditions - Implications of a Multi-Year Process on Long-Term Finance and beyond", World Bank Policy Research Working Paper (WPS6388), March 2013.
[160] BIS Quarterly Review, June 2013.
[161] In 2012, Deloitte conducted a survey on the expectations of 18 banks from eight European countries regarding the causes, trends, amount and impact of deleveraging of banks. Most of these banks (71%) expect that the deleveraging will last at least for another five years (European Bank Deleveraging, Deloitte Bank Survey, 2012).

growth of financial disintermediation is reduced. Measures of EBA and the ECB, along with the announcements of further European integration by establishing a banking union and a single supervisory mechanism, certainly contribute to reducing this risk. However, given that the causes and effects of the crisis in the EU have not been eliminated yet, one should be careful regarding the risk of strengthening the deleveraging of European banks. Further deepening of the debt crisis in the EU and the deterioration of economic trends may diminish the profitability of European banks and growth of non-performing loans, which may limit the ability of banks to increase their capital. In such conditions, European banks could strengthen the level of capital only through further deleveraging.

Attachment 2 Measuring the competitiveness in the banking system with the Lerner index

Competition in the banking system is a broad term that covers many aspects of the banking environment and the behavior of banks. According to the theory of perfect competition, the market sets a price that is affordable for both the borrower and the depositor. Higher level of competition in the banking system contributes to the improvement of the efficiency of banks and facilitates the access to banking services, without having to disrupt the stability of the financial system.

Theoretically, approaches to measuring competition in the banking system are grouped into three categories, namely: 1. Measurement through performance indicators and market structure 2. Measurement through specific regulatory indicators for the formal barriers to the entry in the banking system and the degree of restriction on bank activities, and 3. Measurement through empirical approaches to competitiveness that measure the change in output components amid change in the price of the input components. The first and second category of approaches are grouped into so-called structural approaches while the third category is among the so-called non-structural approaches. However, competition cannot be measured through structural approaches, i.e. through indicators such as the number of institutions, the Herfindahl index and other measures of concentration, due to the inability for these indicators to represent adequately the dynamics of competition and due to the fact that a highly concentrated market does not necessarily imply weak competition. Non-structural indicators such the Lerner index (1934) and the H-statistics of Panzar and Rosse (1987), through their assessment of the price behavior of banks are considered appropriate measures to determine the competitiveness of the market.

This analysis is based on the Lerner index, which indicates the degree of market power of banks, due to which it is a commonly applied measure for competitiveness in the banking literature. Lerner index is a single measure of competitiveness calculated at the individual bank level.

Lerner index determines the market, i.e. the price power of a bank, by measuring the extent to which the bank can set the prices of banking products and services above marginal cost (the costs of the basic input components for the conduct of banking operations). In this way, the index actually represents the margin above the marginal costs, so that the higher the margin, the greater the market power of a certain bank and the lower the level of competition in the banking system. The market power of the bank depends on the elasticity of demand. Theoretically, in a perfectly competitive banking system, the cost that 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).

Lerner index is calculated according to the following formula:

$$L_{it} = \frac{1}{|e|} = \frac{P_{it} - MC_{it}}{P_{it}}$$

and it consists of two components. The main component, P_{it} is the price of bank products/services, represented by the ratio of total banking income (interest bearing and non-interest bearing[162]) relative to the total assets for the bank i in the period t. The second component, MC is the marginal cost for the bank i in the period t, which is not calculated directly, i.e. it is derived from the translog cost function, which estimates the elasticity of total cost relative to the price of the main input components of banks. So, first we estimate total costs, from which marginal costs are derived.

The translog cost function is represented as:

$$lnTC_{it} = \beta_0 + \beta_1 lnQ_{it} + \frac{1}{2}\beta_2 (lnQ_{it})^2 + \sum_{k=1}^{3} \beta_k lnW_{k,it} + \sum_{k=1}^{3}\sum_{j=1}^{3} \beta_{kj} lnW_{k,it} lnW_{j,it} + \sum_{k=1}^{3} \gamma_k \, lnQ_{it} lnW_{k,it} + \varepsilon_{it}$$

where TC is the total cost (interest expenses, costs for employees, depreciation and other expenses of the activity) of the bank i in the period t. Q_{it} represents the total assets and is used as an approximate value of bank output components. $W_{k,it}$ are the prices of the three key input components for banks, including: funding costs, labor costs and costs of physical capital (k and j apply to the three input components). The cost of funding is represented by the ratio of interest expenses and deposit insurance premiums on the one side and the deposits and other borrowings on the other. The costs for employees are calculated as a ratio between wage costs and total assets of banks. The calculation of the cost of physical capital includes the 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 foreclosures), which is an indicator of the cost of owning tangible assets.

When evaluating the translog cost function, a limit for linear homogeneity of level 1 is established 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 set to 1, which means that amid their equal percentage increase, total costs will also increase equally.

Marginal costs are obtained from the first partial derivative of the translog function of the total cost relative to the output components. The estimated coefficients of the function of the total costs are used in the calculation of marginal costs.

$$MC_{it} = \frac{TC_{it}}{Q_{it}}\left[\beta_1 + \beta_2 lnQ_{it} + \sum_{k=1}^{3} \gamma_k lnW_{k,it}\right]$$

By replacing the value of the coefficients of the cost function in the equation for marginal cost, marginal costs are obtained separately for all banks in the sample, for each time period. At the level of the banking system, the index is calculated as the average of its value for

[162] Total interest and non-interest income includes income from: interest, fees and commissions, trading, foreign exchange differences and other income from the activity (excluding extraordinary income).

all banks, separately for each time period. After obtaining the index for each quarterly date, its annual value is the average of the value of the quarterly dates for each year.

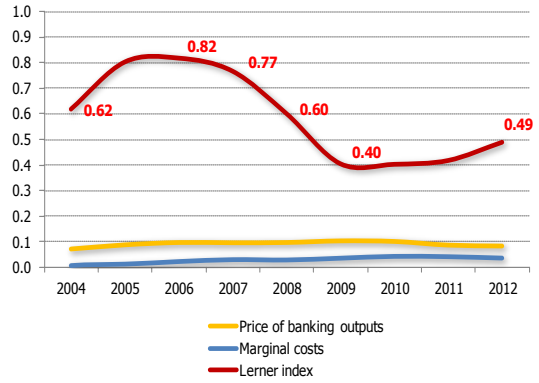
The level of competition in the banking system is determined by the interpretation of the value of the index, as follows:

- In case of perfect competition, the value of the index is close to zero. This suggests that the price equals the marginal cost, the price elasticity of demand is large or infinite and banks have no market power,
- In case of monopoly, the value of the index moves towards 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 of market power, where there is monopolistic competition. Higher value of the index means higher market power of the bank and lower competitiveness in the banking system.

The level of competition in the Macedonian banking system is determined by the Lerner index, by using quarterly data for the period from 2004 to 2012. The sample consists of 15 currently active banks, with the exception of the Macedonian Bank for Development Promotion AD Skopje, as it performs specific activities and does not collect household deposits. For estimating the total cost a panel model with fixed effects is used. As an additional specification, a cross-section SUR - PCSE panel is selected, which reduces the intersection relationship of banks.

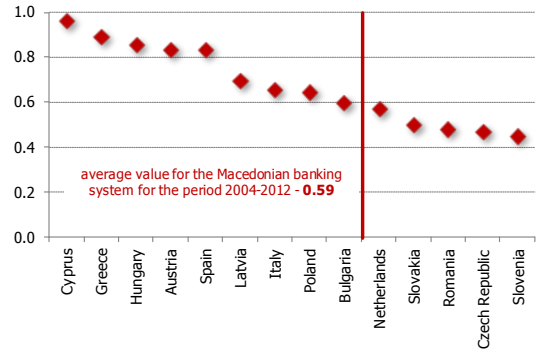
Calculations for the Macedonian banking system show that the Lerner index changes over the years, mainly moving from lower to higher competition. Competition began to rise in 2007, as a result of incipient consolidation of the banking system and the consolidation of individual banks, the entry of foreign investors, strengthening of the corporate governance and expanding the network of branches of small and medium-sized banks. It was in this period that a strong growth in lending activity of banks was registered, due to the increased demand for credits by households and enterprises and looser credit conditions as a result of the increased competitiveness. The banking system reached the highest level of competition in 2009, which should be interpreted with a certain amount of caution, because the effects of the global financial crisis have reduced the scope of banking activities (including certain measures of the National Bank, such as the allocation of a mandatory deposit for exceeding a certain amount of credit growth, which contributed to calming the credit growth in the years before the crisis), which increased competition in the banking system. Beside as a result of the slower growth of bank activities, profitability and efficiency of the banking system decreased also under the influence of the worsening quality of the loan portfolio and the limited opportunities

Figure 185 Dynamics of the Lerner index and its components



Source: NBRM, based on data submitted by banks.

Figure 186 Average value of the Lerner index for the period 2001-2009, by country



Source: Andries и Capraru (2012), paper: Competition and efficiency in EU27 banking systems.

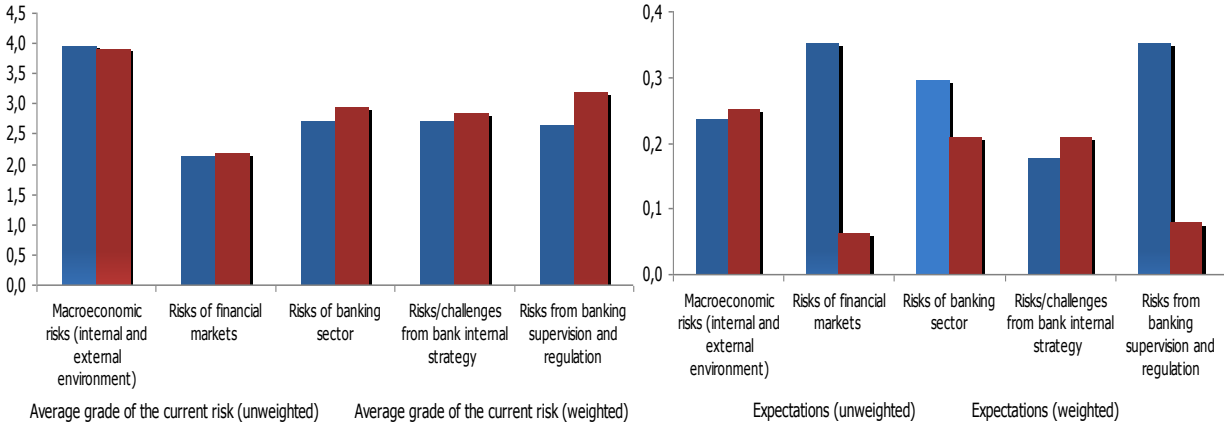
for banks to reduce operating costs. Due to the lower volume of new activities undertaken and the increased risks in the operations of large banks, the banks have become more similar to each other. In such circumstances, smaller banks have started to become more competitive in offering banking products, in order to take a larger market share and compete with the larger banks. The recovery of the economy from the negative effects of the global crisis contributed to the return of the scope of banking activities in the normal range, and in the coming years it is expected that the index will converge to the pre-crisis level, i.e. toward reduced competition. The fact that the Lerner index shows the highest competition in the banking system in times of crisis indicates that the index is intended to measure the competition in normal conditions, rather than in times of crisis. The average value of the Lerner index for selected European countries shows that Macedonia is among the countries with lower value of the Lerner index, i.e. with medium level of competitiveness. However, this should be interpreted with caution due to the different time scale of the calculations and the fact that the period of uncertain and changing economic environment (2010-2012) is not included in the calculation of the index of other European countries.

Attachment 3 Survey of banks' perceptions for the risks in their operations

This survey, conducted by the National Bank of the Republic of Macedonia at the end of 2012, presents the banks'[163] perceptions of the main risks they are facing at the moment, and their expectations regarding the potential risks they expect to be exposed to during 2013. The survey covers five risk groups: macroeconomic risks (domestic and external environment), risks of financial markets, banking sector risks, risks from internal strategy of the bank or banking group and risks arising from banking supervision and regulation. Banks assess the current level of each of the five groups of risks in the range of 1 to 5 (1 indicates that the risk group has little importance for the bank, while 5 means that this risk group is very significant for the bank at the moment). Future expectations are expressed by a qualitative assessment for the direction of risks in the next year (growing - "+1" declining - "-1" or unchanged - "0").

Like last year, banks assess the risks from the macroeconomic environment as the most important, with emphasis on the risks that come from the external environment. Risks arising from financial markets and banking regulation and supervision are risks that banks expect to gain importance during 2013.

Figure 187 Banks' perception for the overall risks in banking system of the Republic of Macedonia

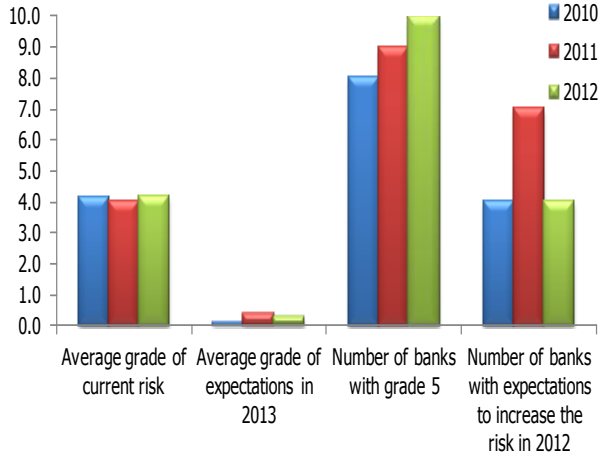


Source: NBRM, on the basis of provided answers to the survey of banks
*The weights of the banks' responses is based of the share of banks' assets in total assets of the banking system

[163] The survey includes the responses of all 16 banks that make up the banking system of the Republic of Macedonia as of 31.12.2012.

Macroeconomic risks[164] in 2012 are of the highest importance on the scale of all the risks covered by the survey. There is great uncertainty among the banks about the risks that may spill over into the Macedonian economy from the outer environment due to the negative expectations, lowering the credit ratings of most countries, and primarily due to the increased risk of failure of the planned export arrangements of domestic companies. Consequently, this will affect the creditworthiness of borrowers, thus worsening the quality of banks' loan portfolio. According to the banks, the situation in the construction industry indicates downward movements as a result of slower and unrealized collection of claims, which can cause potential problems with construction companies in terms of liquidity and ability to repay loans to banks. On the other hand, in contrast to the banks' perceptions in 2011, this year banks expect gradual stabilization of the industrial production. Encouraged by the positive signals obtained from the stable and upward trends in demand for metals on world markets, movements in the prices of raw materials in the metal and food industries, banks expect that these industries will overcome the liquidity problems.

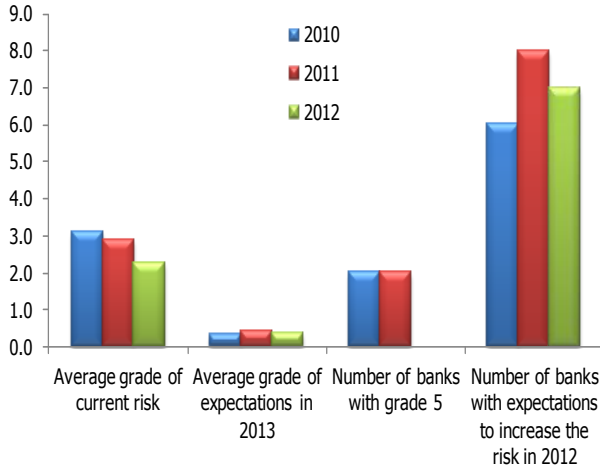
Figure 188 Banks' perception of the macroeconomic risks



Source: NBRM, on the basis of provided answers to the survey of banks

According to the banks, the group of risks arising from the developments in financial markets is the least significant group of risks that banks faced at the time of answering the survey, but at the same time it is a group of risks that banks expect to gain importance during 2013. These expectations of banks are based on the unstable international financial markets and the debt crisis in some European countries, which could have a negative impact on the Macedonian financial system. Also, banks are particularly wary of the risk associated with the current situation of the domestic capital market, low trading volume, low liquidity of the capital market, low level of financing of the companies through new issues of securities and alike. Banks expect that the amendments to the Law on Securities will boost the liquidity of the capital market in the Republic of Macedonia, and increase the volume of trading.

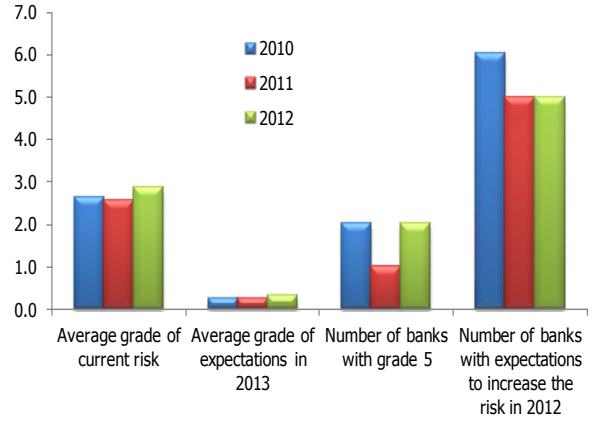
Figure 189 Banks' perception of the risks from the financial markets



Source: NBRM, on the basis of provided answers to the survey of banks

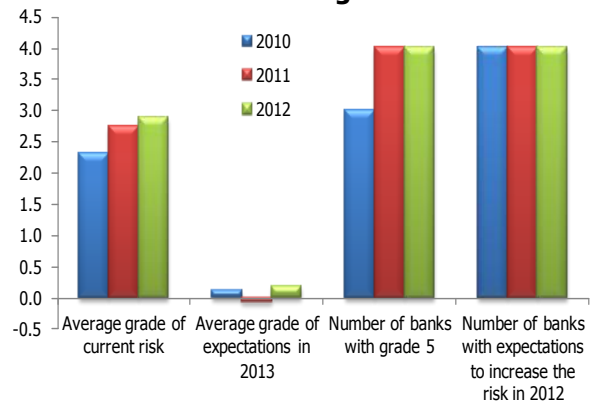
[164] In the following analysis the estimates obtained from banks are not weighted.

Figure 190 Banks' perception of the risks from the banking system



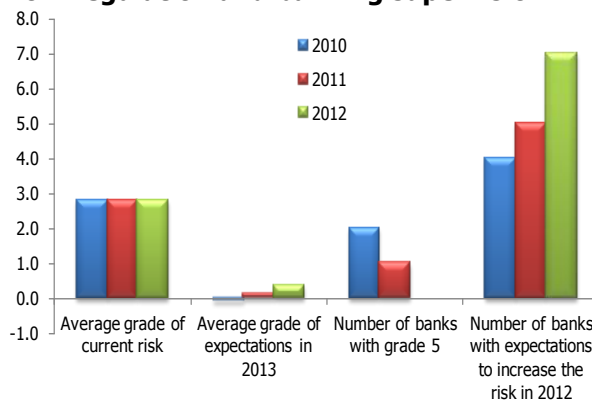
Source: NBRM, on the basis of provided answers to the survey of banks

Figure 191 Banks' perception of the risks from their internal strategies



Source: NBRM, on the basis of provided answers to the survey of banks

Figure 192 Banks' perception of the risks from regulation and banking supervision



Source: NBRM, on the basis of provided answers to the survey of banks

The average rating for the banks' perceptions of the risks of the banking sector increased slightly, while expectations are unchanged compared to the previous year, due to the stability of the banking sector, healthy competition and appropriate risk management. The lack of new banking products is the only risk that banks perceive in this group, and some of the banks said they plan to introduce new products for the corporate sector and households in card operations, electronic and mobile banking etc. The possible consolidation of the banking sector and of some banks in the future would contribute to increased competition in the supply of cheap loans, increased efficiency and easier access to finance.

According to the banks' perceptions, the risks of internal strategy are upward in recent years and are expected to grow also in 2013. Operational risk of banks is the generator for this risk group, and it is perceived through the possibility of layoffs and the risk of using outsourcing services. Moreover, due to the absence of adequate competition among outsourcing companies, banks expect the costs on this basis to remain high in the future.

The level of risks arising from banking supervision and regulation is unchanged compared to the previous year. However, taking into account the changes in banking regulation in the previous period, banks expect that these risks will gain in importance during 2013. Banks find that these changes will adversely affect their financial results and would require changes to banks' software applications, the implementation of which would require substantial human and financial resources.

Attachment 4 Macro stress - testing of the banking system in the Republic of Macedonia

Changes in the financial sector that have taken place over the past few decades have led to a strengthening of the role of risk management at the level of a separate financial institution, but also created a need for paying more attention to the vulnerability of the system as a whole by the national regulatory and supervisory authorities around the world. Therefore, macro stress tests were created that basically assist the regulatory and supervisory authorities to identify structural vulnerabilities of the system and its overall risk exposure, and to examine the resilience of the system as a whole to a variety of extreme but plausible shocks.

Generally, there are three basic methods of conducting stress tests: sensitivity tests, scenario analysis and reverse stress testing.

In applying the sensitivity test, extreme shock is applied directly to one or more risk factors or more practically, to the risk measures that banks use (e.g., doubling the ratio of the share of non-performing loans in total loans, decline in liquidity of 50%, etc.), which is then followed by an indirect determining of the adverse effect on the financial result of the banking system and in particular the level of capital and the capital adequacy ratio. In a relatively simple and quick way the sensitivity test provides information on the impact of the change of one/several risk factors on the overall performance of the bank (or a segment), without getting into the underlying shocks, or into determining the reasons which led to a sudden and extreme change in the bank's risk measures. This method of stress testing is often used by the supervisory and regulatory authorities worldwide, including the National Bank of the Republic of Macedonia[165], but the absence of information about the interdependence of changes in the external environment and banks' risk measures are considered important weakness of the sensitivity tests. Because of this, the scenario analyses and reverse stress testing are usually preferred and they are the two basic methods that are applied in macro stress tests.

Scenario analyses examine the banks' resistance to extreme, however theoretically possible scenarios, but in the context of a wider internal and external environment in which they work. Thus, when analyzing the scenario the reasons that may lead to changes in the (level of) risk measures are taken into account, usually expressed as extreme, but theoretically possible changes/developments of various, mainly external factors over which the operations of the bank as an individual unit almost have no serious impact (e.g. number of economic and financial factors, such as the general level of interest rates, GDP, unemployment, stock indexes, commodity and real estate prices, etc.).

The reverse stress tests start from an assumed state of insolvency, illiquidity of banks, or great loss shown in the performance or significant materialization of the credit risk (increase in non-performing loans) which is then followed by identifying the causes, events, scenarios, changes in risk factors that can lead to the originally assumed position of the banks.

When performing macro stress tests, the main challenge is finding the real interdependence between the changes in the external environment and the risk measures,

[165] The results of recent tests of sensitivity conducted by the National Bank can be found in the Report on the Banking System of the Republic of Macedonia in 2012 (http://www.nbrm.mk/WBStorage/Files/WebBuilder_Bankarskiot_sistem_RM_2012.pdf).

which is the foundation upon which macro stress tests are further conducted, either in the form of scenario analysis or reverse stress test. Hence, the implementation of these analyses is based on the application of, more or less, complex quantitative (econometric) methods and models, and the risk of inappropriate or wrong model (model risk) is always present.

In the past, the National Bank has made efforts to establish the interdependence between the ratio of the share of non-performing loans in total loans, as a measure of banks' exposure to credit risk and some basic macroeconomic variables, which would further serve as the basis for conducting macro stress tests. Focusing solely on the credit risk measures is justified given the fact that credit risk is the most significant risk in the range of risks the banks in the country are exposed to. However, in order to perform a comprehensive macro stress test in the future it is desirable to take into account the interdependence that exists between the measures for other risks that domestic banks are exposed to, on the one hand, and macroeconomic variables, on the other.

By applying a dynamic panel method with GMM technique (Generalized Method of Moments), on a sample of 15 banks[166] that operate over the entire analyzed period (a quarterly time series, from the first quarter of 2003 to the fourth quarter of 2012 is applied), the following two econometric equations were derived, which "passed" all relevant diagnostic tests regarding their proper placement and specification:

Equ. 1: $\mathrm{LNPL_{it}} = -0{,}567 + 0{,}735 * \mathrm{LNPL_{it-1}} - 0{,}023 * \mathrm{GDP\_GR_t} - 0{,}014 * \mathrm{EMP\_GR_t} + 0{,}013 * \mathrm{INF_t}$

Equ. 2: $\mathrm{LNPL_{it}} = -0{,}702 + 0{,}703 * \mathrm{LNPL_{it-1}} - 0{,}022 * \mathrm{GDP\_GR_t} - 0{,}016 * \mathrm{EMP\_GR_t} + 0{,}015 * \mathrm{REINT_t}$

where,

LNPL: logit form of the ratio of the share of non-performing loans in total loans, i.e. ln(NPL/(1-NPL)), where NPL indicates the participation of non-performing into total loans;
GDP_GR: annual growth rate of real GDP;
EMP_GR: annual growth rate of the employment rate;
INF: annualized quarterly rate of inflation;
REINT: real lending interest rate (on the system level);
i: indication for bank , i = 1 , 2 , ... , 15;
t: indication for period, in this case quarter.

Also, by using another popular method (vector - autoregressive model, VAR), the earlier results regarding the interdependence of the indicator for the share of non-performing loans in total loans and selected macroeconomic variables, were mainly confirmed.

Having established the interdependence that exists between the rate of non-performing loans and the underlying macroeconomic variables, macro stress tests to assess the resilience of the banking system and individual banks to assumed external shocks on selected variables, may be performed. For the needs of the macro stress tests so-called long-run elasticity coefficients

[166] Virtually all that are operating as of 31.12.2012, except MBPR AD.

are used, which take into account the cumulative effect of the assumed changes in macroeconomic variables on the share of non-performing in the total loans.[167] As of December 31, 2012, the two common methods of macro stress testing were conducted: reverse stress test and scenario analysis.

The reverse stress test starts from the assumption for transferring 10% of the credit exposure classified in risk categories "A" and "B" into risk categories "C", "D" and "E". Such changes in the level of quality of the credit exposure of banks mean doubling of the share of non-performing in the total loans at the level of the banking system (rate of increase of non-performing loans by individual banks ranges from 1.4 to 5.4 times). This is followed by establishing the required shock for each macroeconomic variable (at ceteris paribus), which will cause the predetermined extreme change in the share of non-performing into total loans. Impairment for the new non-performing loans is treated as unrecognized impairment and special reserve, which as a deductible item reduces the core capital, own funds and, consequently, the capital adequacy ratio.

Table 19 Results of macro-stress test, as of 31.12.2012 (reverse stress test)

Changes caused as a consequence of an assumed transfer of 10% of credit exposure classified in risk categories "A" and "B" towards risk categories "C", "D" and "E"		
Description	*Before shock*	*After shock*
Share of nonperforming loans to total loans	10.5%	20.7%
Capital adequacy ratio (CAR)	16.9%	8.5%
Number of banks with CAR below 8%	0	6
Number of banks with CAR below 2%	0	0
Required recapitalization, in thousands of Denars (% of GDP for 2012)	/	3,388,307 (0.7%)
Required deleverage, in thousands of Denars (% of risk weighted assets)	/	55,388,138 (22.0%)
Required shocks of each macroeconomic variable, seperately, for materialization of the previously assumed changes		
Description	*Latest available data*	*Required shock (ceteris paribus)*
Annual change of GDP (real terms)	0.1%	-10.4%
Employment rate	39.3%	32.5%
Annualized quarterly inflation rate	-1.1%	17.0%
Real active interest rate (at system level)	3.3%	16.7%

Source: NBRM calculations, on the basis of data obtained by banks and State Statistical Office.
Note: The latest available data on macroeconomic variables are as of 31.12.2012, except for annualized quarterly inflation rate (Q1:2013).

In the **scenario analysis,** the shock is generated by assuming an unfavorable deviation of each macroeconomic variable from its projected (assumed) level, amounting to two standard deviations (this is usually associated with a statistical significance level of approximately 95.45%). Assumed extreme changes of each macroeconomic variable are combined with each

[167] The long-term coefficient of elasticity for different macroeconomic variables is calculated when the coefficient before the macroeconomic variable of econometric equations previously presented (so-called short-term ratio) is divided by the difference of 1 (one) and the coefficient before the lagged dependent variable (logit - form of the ratio for the share of nonperforming loans in the total loans, with a time lag of one period - quarter). Such estimated long-term coefficients are significantly higher than the short-term, and their use in implementing macro stress tests raises the level of the extremity of assumed shocks.

other (which is not the case in the reverse stress tests), thus neglecting possible inconsistency in the direction and intensity of shocks. By using the estimated long-run elasticity coefficients the increase in the participation of non-performing loans in total loans, i.e. the amount of the new non-performing loans as a result of a deterioration in the macroeconomic environment (the share of non-performing into total loans at the level of the banking system is increased by more than three times, while by individual bank, the growth of this share ranges from 2.4 to 3.6 times) is determined. Similarly as in the previous method of stress testing, the impairment for the new non-performing loans is considered as a deductible item from the core capital and own funds, which reduces the capital adequacy ratio.

Table 20 Results of macro-stress test, as of 31.12.2012 (scenario analysis)

Assumed combination of shocks in macroeconomic environment (unfavorable deviation of each macroeconomic variable from its projected or assumed level, in the amount of two standard deviations)		
Description	*Latest available data*	*After shock*
Annual change of GDP (real terms)	0.1%	-6.1%
Employment rate	39.3%	36.4%
Annualized quarterly inflation rate	-1.1%	14.1%
Real active interest rate (at system level)	3.3%	10.2%

Changes caused by the assumed combination of shocks in the macroeconomic environment		
Description	*Before shock*	*After shock*
Share of nonperforming loans in total loans	10.5%	33.0%
% of credit exposure classified in "A" and "B, that transfers to risk categories "C", "D" and "E"	/	22.2%
Capital adequacy ratio (CAR)	16.9%	-2.0%
Number of banks with CAR below 8%	0	11
Number of banks with CAR below 2%	0	9
Required recapitalization, in thousands of Denars (% of GDP for 2012)	/	24,411,920 (5.3%)
Required deleverage, in thousands of Denars (% of risk weighted assets)	/	14,033,615 (3.0%)

Source: NBRM calculations, on the basis of data obtained by banks and State Statistical Office.
Note: The latest available data on macroeconomic variables are as of 31.12.2012, except for annualized quarterly inflation rate (Q1:2013).

The results of the scenario analysis are significantly worse than the reverse stress test, due to the combination of shocks of different macroeconomic variables in performing the scenario analysis. When performing the reverse stress test, the capital adequacy ratio of the banking system does not go down below 8% (although with 6 banks, capital adequacy is reduced below this level), in none of the banks capital adequacy decreases below 2% and the recapitalization that part of the banks need in order to have capital adequacy equal to or greater than 8% does not exceed 1% of GDP for 2012 (at current prices). In contrast, when performing the scenario analysis, the own funds of the banking system are completely absorbed, there is a large number of banks that are insolvent, and the recapitalization that part of the banks need in order to have capital adequacy equal to or greater than 8% exceeds 5% of GDP for 2012. Assumed changes in macroeconomic variables when performing the macro stress - test (in both the scenario analysis, and the reverse stress test) are pretty extreme, with low probability of realization and as such, significantly deviate from the projections for future developments of macroeconomic variables that the National Bank regularly conducts.

ANNEX