National Bank of the Republic of Macedonia
Financial Stability and Banking Regulations Department

Structural characteristics of newly approved loans and assessment of the quality of banks' credit decisions by monitoring performances of these loans during uncertain economic periods - The Macedonian experience

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1. Introduction

This analysis focuses on the last phase of the crisis and the post-crisis period with the aim to examine the quality of banks' credit decisions taking into account the structural characteristics of loans at the time of their approval. The quality of credit decisions is determined by whether the banks adopted correct credit decisions and properly assessed the creditworthiness of customers at the time of the approval by monitoring the "performances" of loans over a period of six months and one year after the approval, respectively. The analysis covers the period from 2010 to the second quarter of 2014 and for each quarter the quality of loans that remained in the portfolio six months and one year after the approval, is examined. The analysis applies only to loans to non-financial entities and includes the entire banking system.

The quality of banks' credit decisions in this work is assessed according to the transfer of the newly approved into non-performing loans six months and one year after approval, respectively. The quarters in which banks adopted credit decisions at lower quality are evident also through the average level of risk of total loans within six months, i.e. one year after approval. The comparative analysis of loans that received a non-performing status within six months or one year after approval with the average of the transformed non-performing loans for all quarters after six months or one year aims to identify the time periods when banks' credit decisions were considered to be with lower quality. Having in mind that the banks' credit decisions are generally considered "bad" during crisis period, it is difficult to distinguish whether the lower quality of the banks' credit decisions is due to the crisis or results from the banks' inadequate assessment of the clients' payment capability. Therefore, the assessment of the quality of credit decisions in the starting period of this analysis, 2010-2011 is probably more influenced by the crisis than the banks' evaluation of clients, even though the negative effects of the crisis persisted in the later period as well, signaling the likely impact of the crisis. The periods in which the banks have adopted credit decisions of lower quality are compared also in terms of the average level of risk of the transformed non-performing loans in order to determine the periods of approving loans, which after six months and one year, respectively, proved highly risky and difficult to repay. The effect of credit decisions with lower quality on the growth of non-performing loans is assessed according to the share of the non-performing loans granted six months i.e. one year earlier in the annual and semi-annual change of total non-performing loans. The quality of the banks' credit decisions is assessed separately for the three most important economic activities, according to the structure of loans in risk categories at the time of approval and six months later. The analysis is mainly based on the data from the Credit Registry of the National Bank of the Republic of Macedonia (NBRM).

2. Analysis of newly approved loans

Newly approved loans are first analyzed in terms of the periods in which the most intensive credit activity of banks in the post-crisis period is registered, taking into account the changes in the monetary policy in this four-year period that are considered to have created additional space for more active lending to the private sector. The second part of the analysis of newly approved loans relates to their structural features and aims to identify the time periods in which: (1) the focus of banks was mainly put on lending to companies and households; (2) banks approved loans with the lowest interest rate for companies and households; (3) change was registered in the average maturity of newly approved denar loans and loans with currency component; (4) changes were registered in the currency structure of newly approved loans; and (5) banks were mostly lending to the companies in certain economic activities or approved loans for a specific purpose to households. The analysis of the structural features of newly approved loans is conducted at the level of the banking system, but in some respects the analysis is made by individual bank in order to perceive the behavior of individual banks and their share in the total amount of newly approved loans in periods of more intensive credit support.

2.1. Dynamics of the newly approved loans

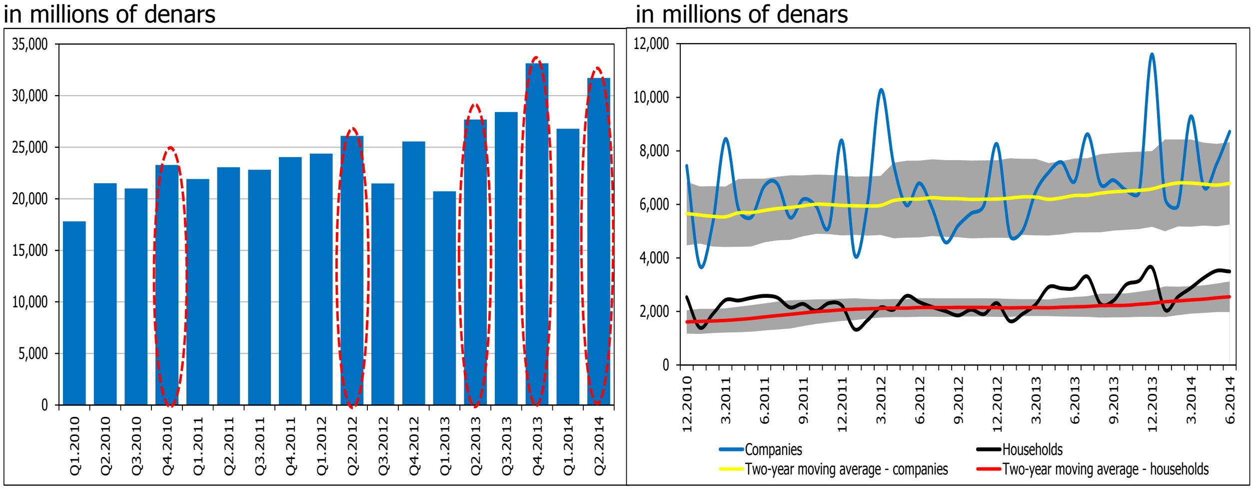
The more intensive lending activity of banks, observed on quarterly basis, is particularly prominent at the end of 2010, towards mid-2012, in the middle and the end of 2013 and in mid-2014. Upward movements in the credit market in these periods were registered amid generally more favorable external environment (being generally uncertain throughout the analyzed period), improved expectations of the banking and private sector, and growth in the total deposit potential of the banks, which enabled more active lending to the private sector.

Chart 1

Amount of newly approved loans to non-financial entities by the quarters (left) and monthly amount of newly approved loans by sector (right)

in millions of denars

in millions of denars

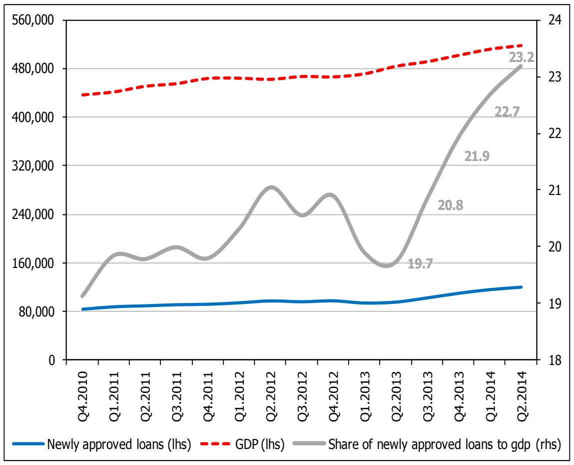


Source: NBRM's Credit Registry, based on data submitted by banks.

*Note: The shaded part in the right chart denotes the range of one standard deviation above and below the two-year moving average of the amount of newly approved loans.

At the end of 2010, fastest growth in new lending to the private sector since the beginning of the process of recovery of the credit market in late 2009 has been registered, after the first wave of world economic and financial crisis. However, the acceleration of banks' credit activity at the beginning was gradual, which is related to the banks inclination to maintain the quality of the loan portfolio and in general, maintain their stability, as opposed to the pre-crisis period of credit expansion, when the main purpose of the banks was to rise the volume of the loan portfolio and provide greater market share. Also in 2012, when credit growth accelerated slowly, after some stagnation in 2011, banks maintained more conservative and cautious approach in the evaluation of their customers, as well as in forming their opinions on the risk of the economy as a whole. However, in some banks, the process of "deleveraging" faced by parent banks, could also have a certain transmission effect on the weaker credit activity.

Chart 2
Annual amount of newly approved loans and GDP by quarters and share of newly approved loans in GDP
in millions of denars in %



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

Amid favorable developments in the real sector and relatively fast growth in the economic activity at the beginning of 2013, the positive developments were also transmitted to the credit market with a significant acceleration of the activity at the end of the year, whereby the registered quarterly credit growth was the strongest since the beginning of the crisis. Thus, at the end of 2013, the banks directed a substantial part of the approved credit support to the corporate sector. Such developments in the credit market indicate gradual improvement in the banks' perceptions of the company risk profile, influenced by the positive economic performances in the domestic economy and the improvement of economic activity indicators in the euro area as our largest trading partner. However, such a development is partly a result of the increased activity of individual banks, especially in the segment of lending to the corporate sector. In the second quarter of 2014 again there was an accelerated bank lending to the private sector, supported by the solid economic growth registered in the previous quarter. In terms of the dynamics of newly approved loans to GDP, starting from the third quarter of 2013, there is a continuous upward trend of the share of newly approved loans to GDP, due to the fact that in periods of faster economic growth the banks reacted by intensifying the lending and providing more active credit support to the private sector, thus increasing the amount of newly approved loans.

Changes in the monetary policy, carried out on several occasions in the period 2010-2014, also acted towards accelerated lending during the aforementioned periods. Thus, in order to make additional room for more active lending to the private sector, the NBRM lowered the key interest rate on several occasions since end-2009 and during 2010. Changes in the operational framework for the monetary policy implementation in April 2012, by reducing the frequency of auctions and introduction of the standing deposit facility (at one and seven day maturity)[2], initially caused significant changes in the banks' preference for placement of new funds towards greater funding to the private sector. The additional credit support from the second half of 2013 can be explained also as an effect of monetary eading in early 2013, when the NBRM lowered the interest rate on CB bills from 3.75% to 3.5% (and additionally in July 2013, when it was set to 3.25%). Given that the changes in monetary policy act with a certain time lag, this monetary easing had a stimulating effect on economic activity and credit growth to the non-financial sector in the forthcoming period.

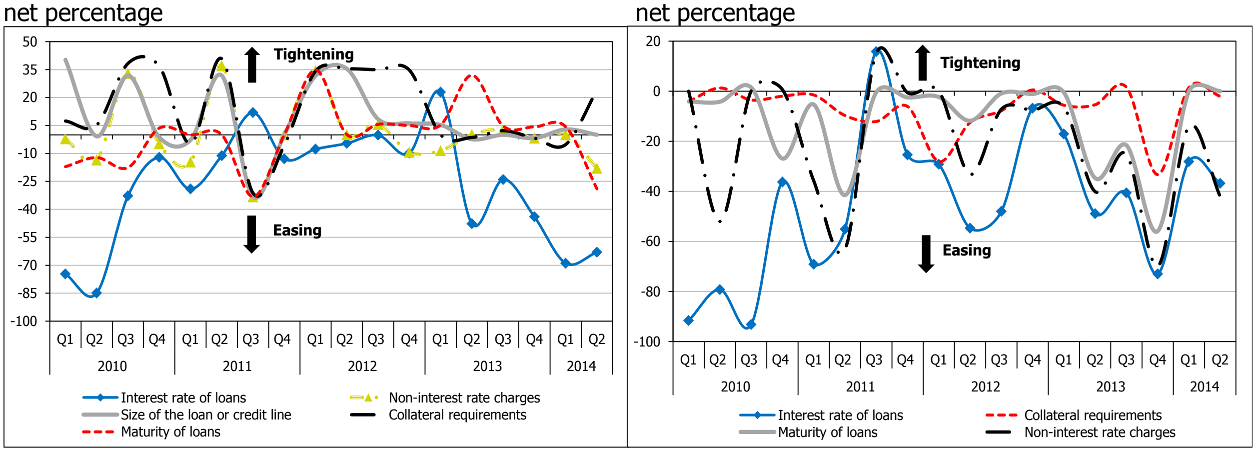
[2] With these changes, the operational monetary framework was expanded with the introduction of the repo auctions, too.

By observing the changes in individual credit conditions according to the NBRM's Bank Lending Surveys, in the last two years there is a considerable easing in the interest rate, non-interest charges and the maturity of loans for the loans granted to both, companies and households. The collateral requirements noted some easing but to lower extent for loans to households, however, for corporate loans this credit condition is still considered tight.

Chart 3
Changes in individual conditions for lending to companies (left) and households through consumer and other loans (right)

net percentage

net percentage

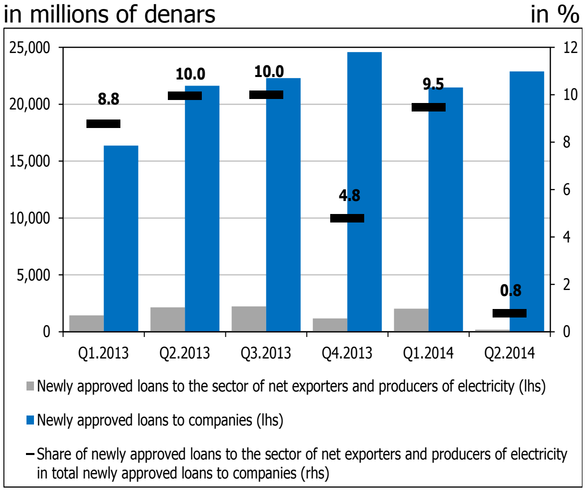


Source: National Bank, based on data from the Bank Lending Surveys

Chart 4
Amount of newly approved loans to net exporters and producers of electricity and total newly approved loans to companies, by quarters

in millions of denars

in %



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

The growth of new lending in 2013 resulted also from the newly approved loans to the sector of net exporters and producers of electricity. In accordance with the changes in the monetary instrument - reserve requirement[3] at the beginning of 2013, the base for allocating reserve requirement was reduced by the amount of these loans and liquidity was released, which made a room for further increase in the credit support to the private sector. Namely, in the first year of implementation of the non-standard measure in the reserve requirement, the newly approved loans to net exporters and producers of electricity amounted to Denar 6,995 million. Moreover, these loans accounted for 8.2% of the total newly approved loans to companies during 2013.

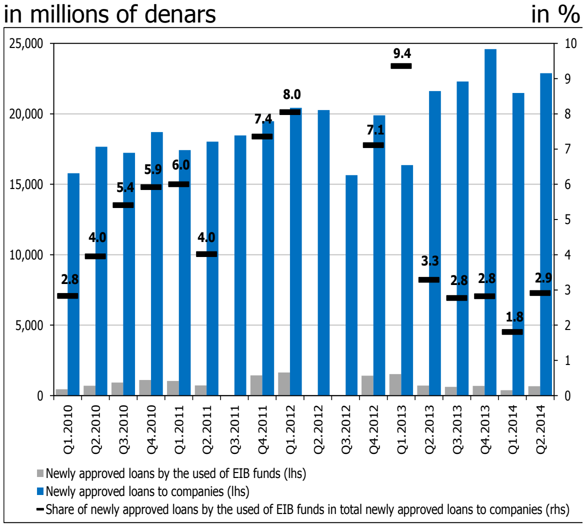
With the application of this non-standard measure during 2014, the newly approved loans

[3] With the Decision on the reserve requirement ("Official Gazette of the Republic of Macedonia" no. 153/2012, 98/13, 166/13 and 143/14) beside the reduction in the basis of the reserve requirements of banks for the amount of newly approved loans to net exporters and companies for financing projects for domestic electricity production for own account and/or commercial purposes, it is reduced also for the investments in debt securities denominated in national currency issued by the mentioned non-financial companies.

totaling Euro 2,883 million were placed with net exporters and producers of electricity, which is more than twice lower amount compared to the previous year. The share of the newly approved loans to net exporters and producers of electricity in the total newly approved loans to companies in the first half of 2014 (which is the time horizon in this analysis) was lower and amounted to 5.0% (mainly due to the developments in the second quarter of 2014).

In July 2013, the reserve requirement was modified again[4], with a purpose to increase the attractiveness of savings in domestic currency and to boost investment of long-term foreign capital and eventually, to encourage credit growth[5]. Moreover, it is considered that this change had contributed to the intensified lending of banks at the end of 2013 and in the first half of 2014[6].

Chart 5
Amount of loans approved by using EIB funds and total newly approved loans to companies, by quarters
in millions of denars in %



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

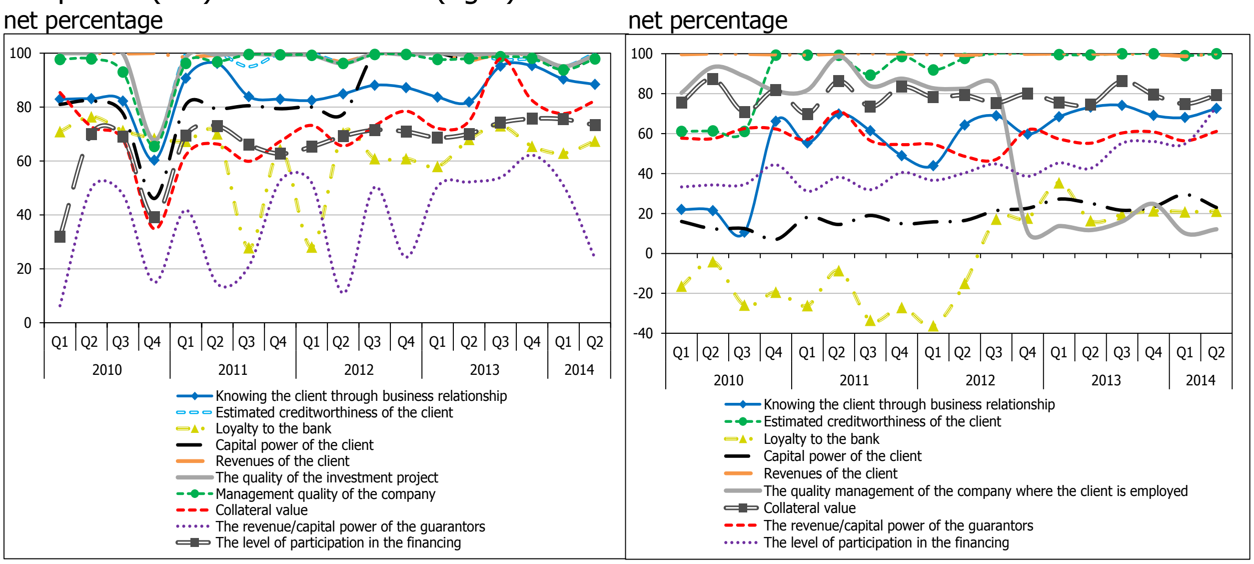
Growth in lending to the corporate sector can be explained, to a small extent, also by the use of EIB funds intended for corporate lending. The analysis of the share of new loans to companies placed with the use of funds from the EIB credit lines in total newly approved loans shows that around 9% of new loans to companies approved in the first quarter of 2013 are provided by using EIB funds, which is the largest share in the analyzed period. More significant share of these loans is registered also at the end of 2011 and some quarters of 2012, while in 2014 the share of the EIB loans in the total newly approved loans significantly reduced, which suggests better utilization of banks' own sources of financing. Regarding the share of EIB loans in the total newly approved loans to companies on annual basis, the biggest share of 4.6% was registered in 2010.

Given the great importance of the process of making the right credit decisions, the banks indicate the estimated solvency of the customer, the quality of the investment project and the management quality of the company as the most important factors in assessing the creditworthiness of companies and deciding on approval of loan applications, in the last five years. The importance of the customer's capital power and the level of participation in financing as individual factors for approving new loans to companies through the time frame covered in the analysis (2010-2014), increases significantly.

[4] These changes include increasing the rate of allocation of reserve requirement for the foreign currency liabilities and reducing the rate of allocation for denar liabilities.
[5] The amendments to the Decision on reserve requirement ("Official Gazette of the Republic of Macedonia" no.98/2013) introduced changes in the reserve requirement allocation rate, i.e. the reserve requirement ratio on foreign currency liabilities was raised by 2 percentage points, from 13% to 15%, amid simultaneous reduction in the reserve requirement ratio for the liabilities in domestic currency from 10% to 8%. This contributed to further maintainance and increase in the attractiveness of saving in denars. Also, the amendments introduced the allocation of a reserve requirement rate of 0% for banks' liabilities to non-residents - financial companies, with contractual maturity over one year, and for all liabilities to non-residents with contractual maturity over two years. For short-term liabilities to non-residents - financial companies in foreign currency with contractual maturity of one year, the rate of 13% is still being applied. In order to keep the reserve requirement in denars and in euro relatively stable, the amendments envisage increment of the part of the reserve requirement in euro, which is fulfilled in denars, from 23% to 30%.
[6] Source: Annual Report for 2014. National Bank of the Republic of Macedonia.

The evaluation of the creditworthiness of households, as a criterion for approving new loans, is mostly determined by the customer's revenues, customer's estimated creditworthiness and collateral value. Regarding the change of the importance of individual factors when determining the creditworthiness of households, it is more important to know the client through business relationship, than knowing the quality of management in the company which employs the client.

Chart 6
Evaluation of the importance of certain factors when assessing the creditworthiness of companies (left) and households (right)



Source: National Bank, based on data from the Bank Lending Surveys
*Note: The net percentage of importance of individual factors is the difference between the sum of the percentages for "extremely important" and "very important" and the sum of the percentages for "partly important "and "not important".

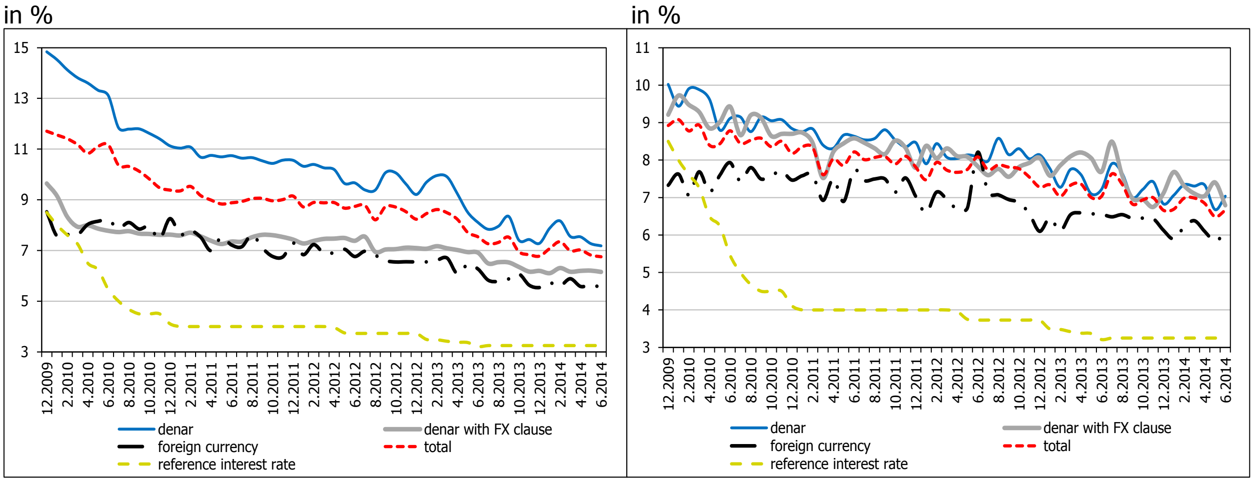
2.2. Structural characteristics of newly approved loans

The analysis of the dynamics of new lending to non-financial entities in the analyzed period and the factors which acted towards increased lending is followed by a detailed analysis of the structural features of the newly approved loans in terms of: (1) interest rate; (2) maturity; (3) currency; (4) sector; and (5) risk category upon approval.

Aiming at continuous net easing of lending conditions (particularly in the second half of 2013), the cost of newly approved loans as an individual credit condition has registered a steady downward trend throughout the entire period covered by the analysis. The average interest rate on newly approved loans to households shows a clear downward trend, contrary to the interest rate on newly approved loans to companies, which has registered stagnation in the downward movement mainly during 2011. The downward movement of the average interest rate on newly approved loans corresponds to the fall of the key interest rate during the analyzed period and its reduction to the lowest historical level in July 2013, as additional support for the process of economic recovery, together with the changes done in the reserve requirement (as explained before).

Chart 7

Average interest rate on newly approved loans to households (left) and companies (right), by currency



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

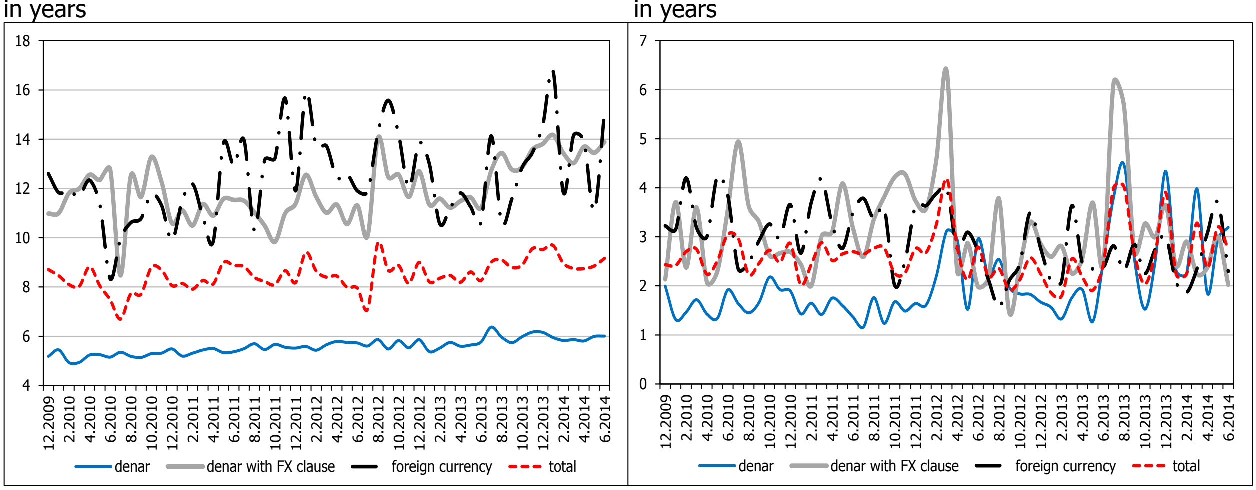
The average maturity of total newly approved loans to non-financial entities increased from 3.9 years in 2010 to 4.6 years in 2014, that was mainly caused by the longer maturity of newly approved loans to households, reaching 9.1 years in 2014 (from 8 years in 2010). The average maturity of newly approved loans to companies remained at a similar level in recent years, but analyzed in terms of currency, over the past two years there was some increase in the average maturity of newly approved denar loans and reduction in the average maturity of foreign currency loans. Given that the denar loans have the largest share in the structure of the newly approved loans to the corporate sector, the increase in their average contractual maturity indicates the gradual increase in the banks' risk appetite when financing the activities of the corporate sector. In 2014 the average maturity of total newly approved loans to companies increased slightly to 2.9 years as opposed to the maturity of 2.6 years registered for loans approved in 2010. This slight increase is due to the longer maturity of newly approved loans in denars (from 1.7 in 2010 to 3 years for loans approved in 2014), whereas the average maturity of newly approved foreign currency loans was reduced from 3.3 years in 2010 to 2.6 years in 2014. The average maturity of the newly approved denar loans to households increased slightly from 5.2 years in 2010 to 6 years in 2014, as opposed to the greater prolongation of the maturity of newly approved loans with currency component, which registered an increase of 2.4 years for foreign currency loans and 1.6 years for denar loans with FX clause for the period 2010 to 2014. Generally, the longer maturity is a characteristic of newly approved loans with currency component, as banks in this way are protected form the exchange rate risk. At the same time, their lower riskiness is confirmed by the fact that the foreign currency loans are generally less expensive for clients, having lower interest rate than loans approved in denars.

Analyzed by currency, the share of newly approved denar loans experienced steady growth in recent years, at the expense of loans with currency component. The share of credit support with currency component in the newly approved loans to companies has registered a downward trend since 2012, which is more prominent in lending in denars with FX clause. The main reason for this trend in the currency structure of newly approved loans to companies was the growing preferences of banks' depositors for saving in denars rather than in foreign currency, considering higher confidence in the domestic currency, as well as higher return reflecting the distinction between the reserve requirement rate from currency aspect (in July 2013), which further increased the attractiveness of saving in denars. This movement is less pronounced in newly approved loans to households, which is evident from the simultaneous, but weaker growth of newly approved denar loans with FX clause, indicating that the pronounced denarization on the part of the sources of funding (deposits) is not fully transferred on the part of loans approved to households.

Chart 8

Average contractual maturity of newly approved loans to households (left) and companies (right), by currency

in years | in years

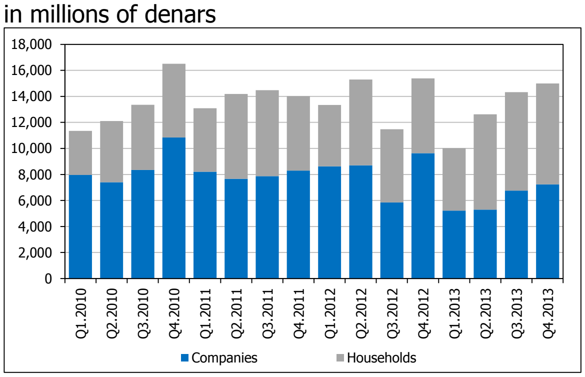


Source: NBRM's Credit Registry, based on data submitted by banks.

Chart 9

Newly approved loans by sector

in millions of denars



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

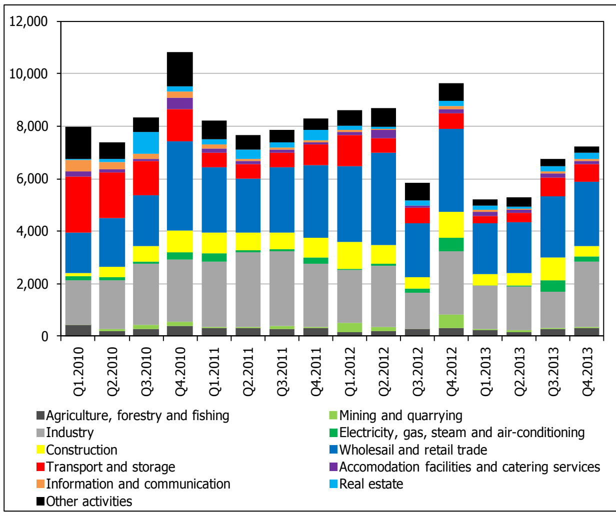
Typically, most present in the structure of newly approved loans are companies, receiving about 57.2% of total new loans approved by banks during the period 2010-2014Q2[7]. Analyzed by quarters, most of the loans approved in the first quarter of 2010 (70.2%), 2011 (62.7%) and 2012 (64.6%) were directed to companies, indicating a higher credit support to this sector at the beginning of the last years. However, the new credit support to households exceeded the support provided to companies in the last three quarters of 2013 (averaging 54.2% of total newly approved loans to non-financial entities).

[7] As of this section, the rest of the paper excludes the loans with a single repayment and credit cards and overdrafts due to the specific characteristics of these products in the granting and repayment of principal. In the case of loans with a single repayment the bank does not have an insight in the creditworthiness of the customer, as until the final maturity of the principal the customer repays only interest.

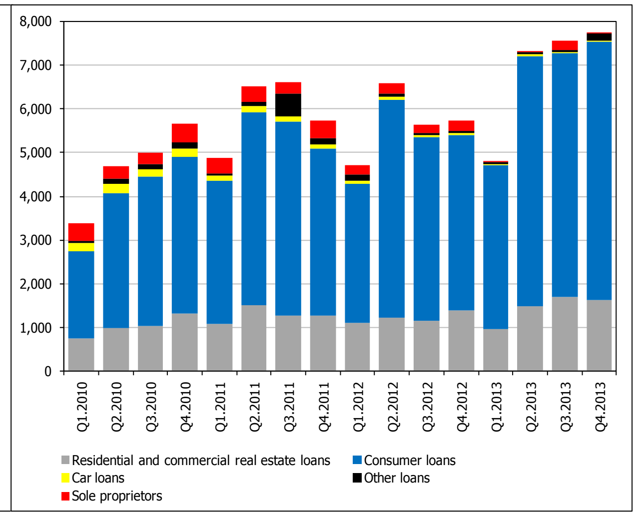
Chart 10

Structure of newly approved loans to companies according to activity (left) and households by type of credit product (right)

in millions of denars



in millions of denars



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

According to the structural characteristics of the newly approved loans, traditionally, most of the banks' credit support to companies (in the period covered by the analysis) was directed to customers in the activities "wholesale and retail trade" and "industry", averaging 31.5% and 28.0% by quarter, respectively. The growth of newly approved loans to the activity "supply of electricity, gas, steam and air conditioning" in the second half of 2013 is mainly associated with the non-standard measures in the reserve requirement for encouraging lending to this sector. Credit support to the construction sector is more volatile due to seasonal variation in the performance of construction works. The growth of newly approved loans to construction sector during 2013 is associated with the growth of construction activity which had largest contribution to the overall real GDP growth. The growth in construction activity was mainly contributed by transport infrastructure, and the remaining growth was a result of the positive developments in the housing and non-housing construction, which could be related to government and private investment (domestic and foreign). Most of the credit support of the households was provided by consumer and housing loans, averaging 70.0% and 21.4% (by quarter) respectively, of the total newly approved loans to this sector. In 2013, a decline was recorded in newly approved car loans and loans to sole proprietors.

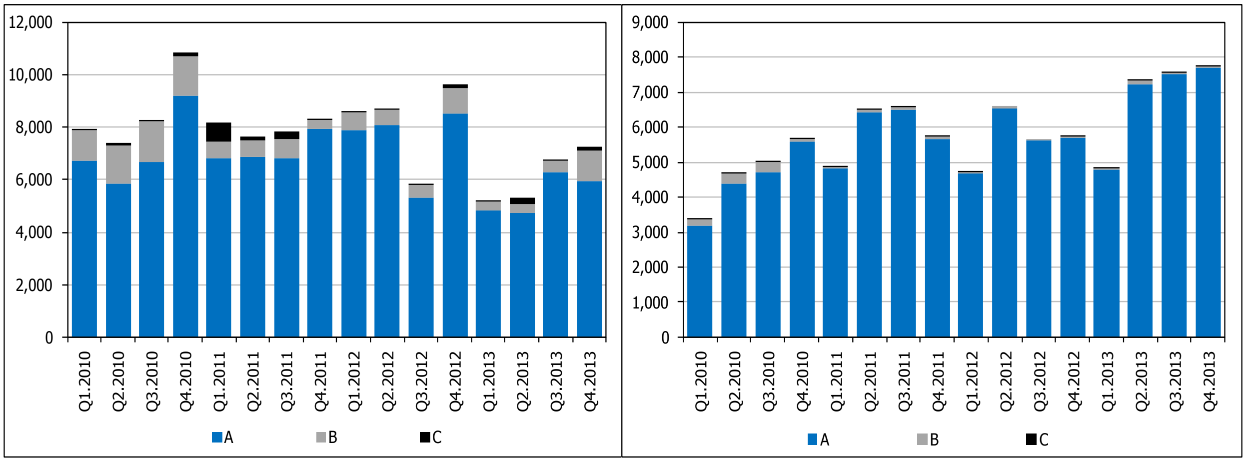
Usually, most of the newly approved loans remain in risk category "A" at the end of the quarter of approval[8]. Contrary to 2010 and 2011, when new loans in the risk category "A" at the end of the corresponding quarter of approval accounted for 85% of total newly approved loans to companies (on average, by quarter), in 2012 and 2013 the share of these loans increased by additional 5 percentage points (90% on average, by quarter). The smaller share of new loans in the lowest risk category in 2010 and 2011 is a result of the fact that a significant portion of

[8] According to item 6 of the Decision on credit risk management ("Official Gazette of the Republic of Macedonia" no. 50/2013, 157/2013 and 223/2015) the bank shall classify the client and/or the credit exposure in risk categories defined in item 7 of the Decision. During the classification the bank shall take into account: the creditworthiness of client, the regularity of settlement of liabilities and the collateral. Furthermore, the Decision specifies the criteria for assessment of clients’ creditworthiness, the aspects that shall be taken into account when determining the regularity of settling liabilities and the acceptable type of collateral.

loans were transferred in risk category "B" by the end of the quarter of approval (12% of total newly approved loans, on average), and a smaller part in the risk category "C". Newly approved loans to households almost fully remained in risk category "A" at the end of the quarter of approval (98% on average, by quarter).

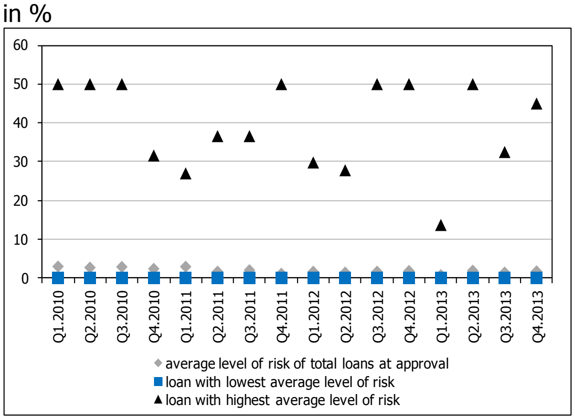
Chart 11
Structure of newly approved loans to companies (left) and households (right) according to the category of risk at the end of the corresponding quarter of approval

in millions of denars | in millions of denars



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

Chart 12
Average level of risk of newly approved loans at the end of the quarter of approval, by individual loans
in %



Generally, the average level of risk of total newly approved loans is in risk category "A" at the end of the quarter of approval, with the average level of risk being higher for loans approved in 2010 and 2011, since when it has improved. Such trends in 2010 and 2011 are attributable to the higher riskiness of loans caused by deterioration of their quality during the quarter of their approval. The average risk level of individual loans at the end of the quarter of approval ranges from 0% to 50%. The highest average levels of risk of 50% (in risk category "D" according to the new Decision on credit risk management[9], i.e. "C" according to the old decision) is registered with some loans approved in the first three quarters of 2010, the last quarter of 2011 the last two quarters of 2012 and the second quarter of 2013. The high average level of risk of individual loans at the end of the quarter of approval denotes "highly risky" credit agreements, which are likely to face further deterioration in the average level of risk, within six months i.e. one year after approval. However, it does not mean that the loans bearing higher risk at the end of the quarter of approval will be the same which will register deteriorated risk level after six months or one year from the approval. The average level of risk of total newly approved loans is 2.0% on average for all analyzed quarters, meaning that most loans remain

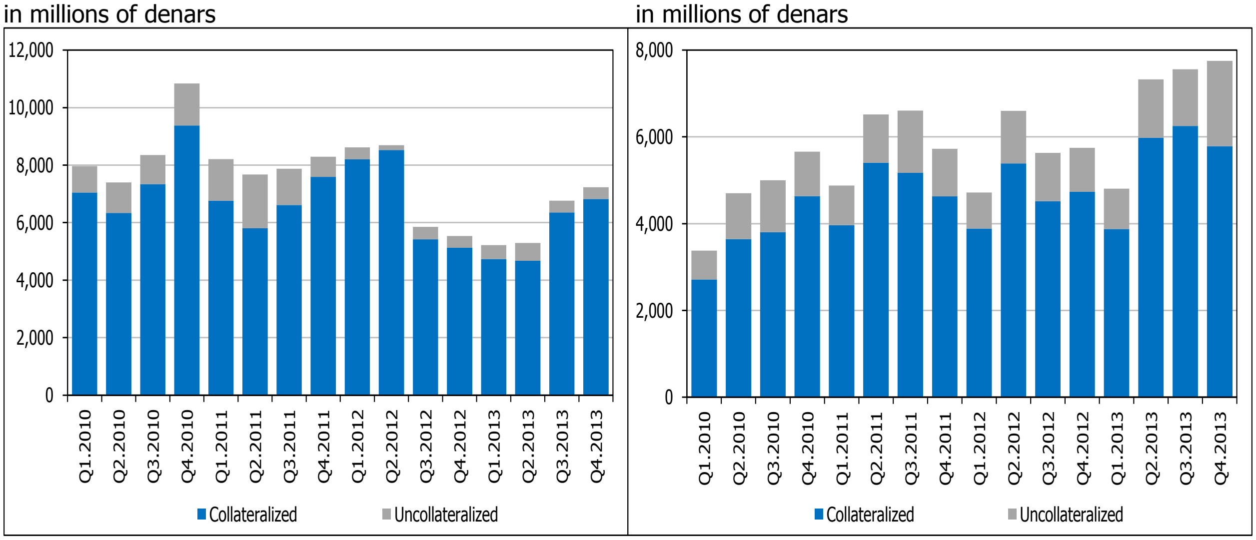
[9] "Official Gazette of the Republic of Macedonia" no. 50/2013, 157/2013 and 223/2015.

with low risk by the end of the quarter of approval, while the ones that experienced deteriorated credit quality are considers as exceptional cases. Nevertheless, these cases are present in each quarter. The analysis of the average level of credit risk of individual loans instead of the whole portfolio of new loans, aims to highlight the loans bearing high initial risk at the end of the approval quarter. If the analysis is based only on the average level of risk of the total newly approved loans, which is generally very low, we may miss to take into consideration that there are some loans bearing significantly higher risk than the average of total newly approved loans at the end of approval quarter.

Chart 13
Structure of newly approved loans to companies (left) and households (right) according to the coverage with collateral

in millions of denars

in millions of denars

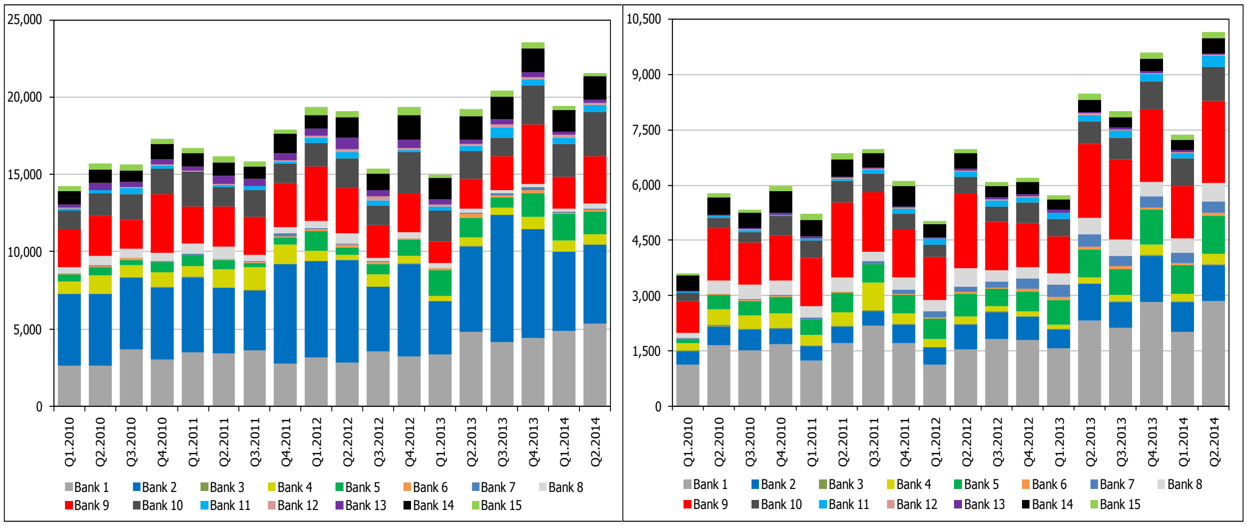


Source: NBRM's Credit Registry, based on data submitted by banks.

According to the collateral, about 90% of the newly approved loans to companies are collateralized. In 2010 and 2011, there was greater share of uncollateralized loans in the total newly approved loans, but after tightening of collateral requirements in 2012, the share of these loans was reduced. With the newly approved loans to households, the collateralized share is about 80% (taking into account that the analysis excludes credit cards and overdrafts on current accounts) on average for all quarters, and the uncollateralized part mainly refers to uncollateralized consumer loans.

The analysis of the newly approved loans by individual bank shows that about 75% of the newly approved loans to companies in the period 2010-2014 Q2 were approved by four largest banks, with a trend of increased lending in late 2013 and the first half of 2014, registered in two of these four banks. Growth of new lending but with lower intensity compared to the mentioned banks was registered in one medium-sized bank, but its share in the total newly approved loans to companies is still low and amounts to 4.9% for the period covered by the analysis. The concentration of newly approved loans is similar also among households, i.e. the same four banks placed about 67% of the total newly approved loans to households in the analyzed period.

Chart 14
Structure of newly approved loans to companies (left) and households (right) by bank
in millions of denars | in millions of denars



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

3. Assessment of the quality of banks' credit decisions

In order to try to assess the quality of the banks' credit decisions, an analysis of the "performances" of the newly approved loans in a relatively short period after approval was conducted. Thus, it is estimated how many of the newly approved loans maintained the regular status, and how many of them received a non-performing status for a period of six months and one year after approval, respectively. Moreover, some loans left the portfolio of total newly approved loans due to (early) repayment, write-offs, or restructuring of the claim that are established as new credit exposures in the process of restructuring[10]. For most of the loans that remained in the portfolio, customers regularly repaid the debt, and therefore banks' credit decisions in the short period of time after the approval could be assessed as successful. However, some loans require a relatively short period of time for determining the quality, while the assessment of the quality of some credit requires longer period of time. As time since the loan approval passes, the quality of banks' credit decisions cannot be properly assessed, as other factors may affect the performance of the loans and customer's debt servicing capacity that the bank was unable to take into account at the time of approving the loan application that is especially valid for the analyzed period in this study. For this reason the analysis is focused on understanding the behavior of newly approved loans for a period of up to one year after approval.

[10] According to the Decision on credit risk management ("Official Gazette of the Republic of Macedonia" no. 50/2013, 157/2013 and 223/2015) restructuring of claims shall mean establishing credit exposure by bank to replace one or multiple existing claims or to change existing credit exposure, thus amending the contractual terms as a result of deteriorating financial position of the client. Therefore, when restructuring claims banks have the option to give new number on the credit agreement (which is obligatory in case of restructuring multiple claims in one claim), or to keep the old number on the credit agreement. For the purpose of this analysis, as we are monitoring the performance of loans based on the number of the credit decisions, the restructured claims that receive new number on credit decision are not longer present in the portfolio, therefore, the quality of the credit decisions is assessed only for the loans that remain part of the credit portfolio six months and one year after approval.

The transfer of newly approved into non-performing loans within six months ranges from 0.5% to 3.2%. The percentage of transfer of newly approved into non-performing loans after six months is particularly high among loans approved in four particular quarters - the third quarter of 2011, the first quarter of 2010, the third quarter of 2012 and the first quarter of 2011[11]. *The largest transfer to a non-performing status was registered in the first quarter of 2012* for the loans approved in the third quarter of 2011. In conditions of decline in the domestic economic activity and high volatility in the global macroeconomic environment, the increased transfer to non-performing status can be linked to the difficulties experienced by the companies in settling their liabilities, considering the fact that most of the trade relations are with Europe, where the most important financial inflows of domestic companies came from. The fact that 3.2% of new loans approved in the third quarter of 2011 turned into non-performing six months later, may be considered as indication for low quality of the banks' credit decisions. *Substantial transfer into a non-performing status was recorded also in the third quarter of 2010* for the new loans approved in the first quarter of 2010. Despite the greater restraint and more conservative approach of banks to lending given the perceptions about the presence of a relatively high level of risk at the beginning of 2010, the quality of their credit decisions proved inadequate. In fact, many of the newly approved loans to companies received a non-performing status in just two quarters in conditions of recovery of the real economy, which for the purpose of this analysis is considered as signal for low quality of banks' credit decisions despite the favorable macroeconomic environment. This poor performance in terms of the quality of banks' credit decisions can be connected to the fact that improved economic conditions were mainly driven by inflow of foreign direct investments, meaning that part of the existing domestic companies obtaining the newly approved loans were irregular in complying with their monthly payments to the banks. *In the first quarter of 2013,* 2.3% of new loans approved in the third quarter of 2012 received a non-performing status, amid the uncertain economic environment and delayed spillover of the conditions from the real sector on the loan portfolio quality. In circumstances of unfavorable economic conditions, the analysis of the performance of newly approved loans six months after approval shows that banks made inadequate assessment of the creditworthiness of customers when deciding upon loan applications. Under the influence of the negative expectations in the euro area and the initial signs of spillover of the pressures from the unfavorable expectations in the domestic real economy, 1.9% of the *new loans approved in the first quarter of 2011* received a non-performing status in the third quarter of 2011. This transfer is typical for the companies, which corresponds to slowing economic activity in that period, since companies are usually more sensitive to movements in the business cycle and react faster than households. The quality of the banks' credit decisions may be affected by the increased risk in domestic economic activity associated with the economic problems in the euro area. Therefore, uncertain external economic conditions are considered to have impact on the possible irregularity of customers in the repayment of liabilities immediately after the loan approval, having negative influence on the assessment of the quality of banks' credit decisions.

The transfer of newly approved into non-performing loans[12] within a period of one year after approval ranges from 0.8% to 4.2%. This part of the analysis identifies the periods during which largest transfer in non-performing status was noticed, after the passing of additional six months from the approval period. A significantly increased transfer of newly approved into non-

[11] The quarters are listed in descending order of the transfer of newly approved loans into non-performing loans.

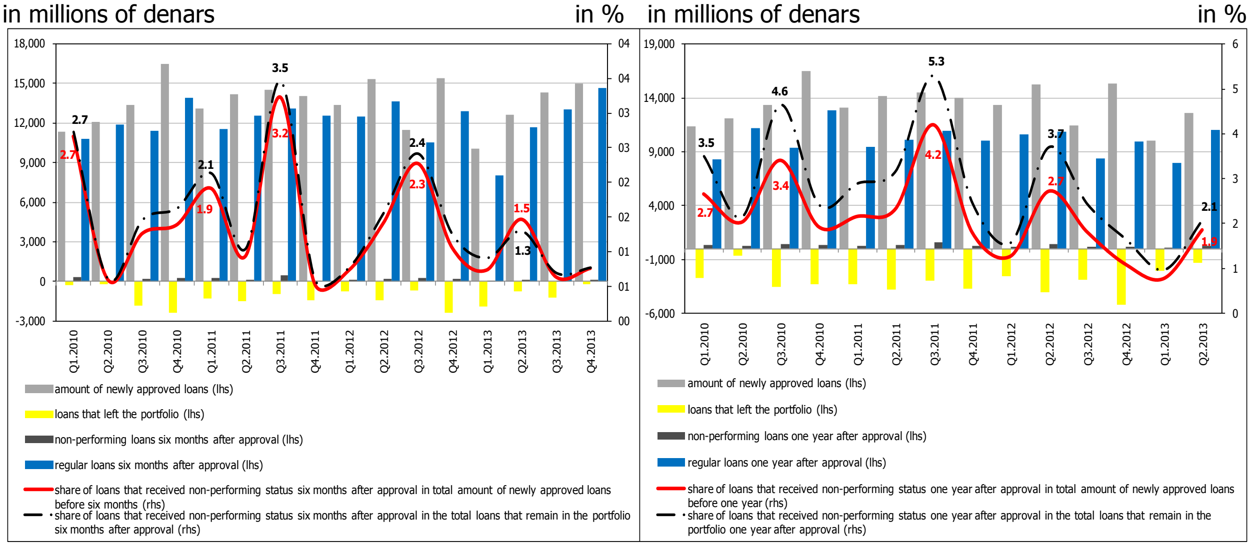
[12] In all charts that refer to the newly approved loans which received non-performing status within six months or one year after approval, the quarter indicated in the chart refers to the period in which the loans were approved, while their transfer to a non-performing status is six months or one year later.

performing loans within a period of six months up to a year after approval was registered in five quarters[13]. Thus, the greatest transfer of newly approved into non-performing loans after the expiration of the six additional months after the initial six months of approval is registered in the third quarter of 2011 for the loans approved in the same quarter of the previous year, or the loans approved in the third quarter of 2010. In this case, 3.4% of the new loans approved one year earlier received a non-performing status, which is 2.1 percentage points more than the newly approved loans that have gone into non-performing six months earlier (1,3% of newly approved loans in the third quarter of 2010 received a non-performing status six months later). This arises from the deteriorating financial condition of the customers from the corporate sector which occurred in circumstances of slowing economic activity.

Chart 15

Monitoring the performances of newly approved loans during six months (left) and one year (right) after approval

in millions of denars in % in millions of denars in %



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

Note: The red line represents the share of loans that received non-performing status six months or one year after approval in the total amount of newly approved loans, whereas, the black line represents the share of loans that received non-performing status six months and one year after approval in the total amount of newly approved loans that remain in the portfolio six months and one year after approval, respectively.

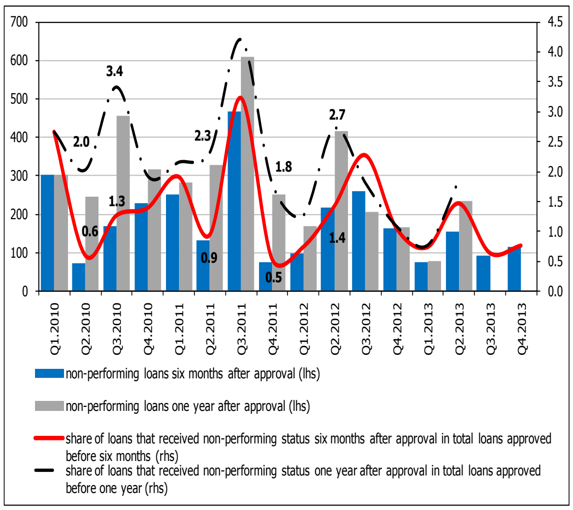
From the total newly approved loans in the second quarter of 2010, 2.0% received a non-performing status one year after approval is, compared with 0.6% which were transferred to non-performing only six months after approval. The transfer of newly approved into non-performing loans increased at the end of the second quarter of 2011, along with reemerging problems in the Euro area and the possible effects on the domestic economy, based on which banks still had perceptions of higher risks for the domestic economy and prospects of clients. Of the total newly approved loans in the second quarter of 2011, 2.3% received a non-performing status one year after approval in circumstances of unstable and uncertain environment (in the second quarter of 2012), i.e. 1.4 percentage points more than the newly approved loans with a non-performing status six months after approval. In the last quarter of 2012, amid still present risks and vulnerability of the domestic economy, 1.8% of the loans approved a year earlier received a non-performing status, while only 0.5% of these loans were non-performing at the

[13] For loans approved in the third quarter of 2010, second quarter of 2010, second quarter of 2011, fourth quarter of 2011 and second quarter of 2012, in descending order.

end of the second quarter of 2012. Of the total new loans approved in the second quarter of 2012, 1.4% received a non-performing status six months after approval, while 2.7% or additional 1.4 percentage points of newly approved loans received a non-performing status after the expiration of the additional six months after the initial six months from approval. This movement arises from the deteriorating risk profile of companies.

Chart 16
Non-performing loans which changed their status within six months and one year after approval

in millions of denars in %



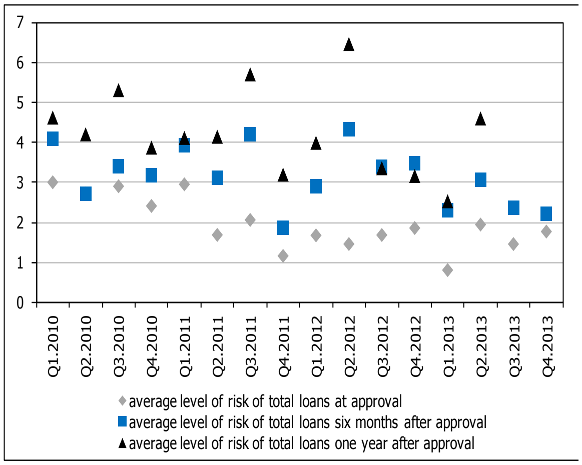
Source: NBRM's Credit Registry, based on data submitted by banks.

Loans approved in the third quarter of 2012 registered a decline in the transfer in non-performing status one year after approval, compared with the amount non-performing loans six months after approval, indicating that previous non-performing loans left the portfolio within a period of six months up to one year after approval due to full repayment, repayment of the due part and return of the loan to regular status, restructuring[14] or write-off of the claim. Regarding the newly approved loans that left the portfolio within six months or one year after approval, the reason can be assumed according to the time of leaving the portfolio. Generally, regardless of the year, most of the loans that left the portfolio at year-end are assumed to have been written off, as write-offs usually take place at year-end. Most of the newly approved loans that left the portfolio in the last two quarters of 2011, the first two quarters of 2012 and the third quarter of 2013 were probably restructured and were granted a new credit agreement, since in these quarters the highest growth of restructured loans was registered. It is more difficult to determine the loans that are no longer in the portfolio due to repayment, which could only be linked to the quarters when the growth of loans was weaker, but this will not be a relevant indicator because in the quarters of restrained lending and small movements in the amount of total loans the behavior of banks was mostly influenced by external factors and perceptions of high risks in the domestic economy and in the real sector.

The average level of risk of total loans within six months, i.e. one year after approval remains in risk category "A" in almost all quarters, signaling that most loans are retained in the lowest risk category and considered as successful credit decisions. The largest increase in the average level of risk of the loans extended six months earlier was recorded for credit decisions adopted in the third quarter of 2011 and second quarter of 2012. The average level of risk of total loans one year after approval also observes the highest growth for the loans extended in

[14] This is referring to restructured claims that received new number on the credit agreement in the restructuring process and left the credit portfolio. This is due to the inability to match the number of the new with the number of the old credit agreement. According to the new Instruction for implementation of the Decision on the contents and the manner of functioning of the Credit Registry ("Official Gazette of the Republic of Macedonia" no. 14/2014, 83/2015 and 225/2015) banks are obliged to report the number of the old credit agreement before restructuring and match this number with the number of the new restructured credit agreement. However, the obligation for submitting these data was effective from December 1, 2014, period that is not covered in this analysis, therefore, limiting the opportunity to use this match and assess the quality of restructured claims receiving new number of the credit agreement as well.

Chart 17
Average level of risk of total newly approved loans within six months and one year after approval
in %



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

these two quarters, but also in the third quarter of 2010. This is due to the large transfer of newly approved into non-performing loans, and the deterioration of the average level of risk of total approved loans. The average level of risk of total loans one year after approval is in risk category "B" only for loans approved in the third quarter of 2010 and 2011 and in the second quarter of 2012, while in all other quarters it remains in risk category "A". This can be considered as signal for lower quality of banks' credit decisions in these three analyzed quarters. In contrast, the smallest increase in the average level of risk one year after approval was registered for the loans approved in the first quarter of 2011 and the fourth quarter of 2012, which indicates high quality of credit decisions adopted in these two quarters.

The highest percentage of transfer of newly approved into non-performing loans was registered in the loans extended in the third quarter of 2011. Hence, banks' credit decisions in this quarter showed to be of the lowest quality of assessment of clients’ repayment capacity, as 3.2% and 4.2% of the newly approved loans became non-performing within six months and one year after approval, respectively. In summary, observed through time, banks' credit decisions from 2010 to mid-2012 are viewed as of lower quality, while starting from mid-2012 the quality of credit decisions improved. More precisely, riskier periods, when banks are considered to have made inadequate credit decisions, based on the transfer of newly approved loans into non-performing loans, are the first and the third quarter of 2010, the first three quarters of 2011 and the third quarter of 2012.

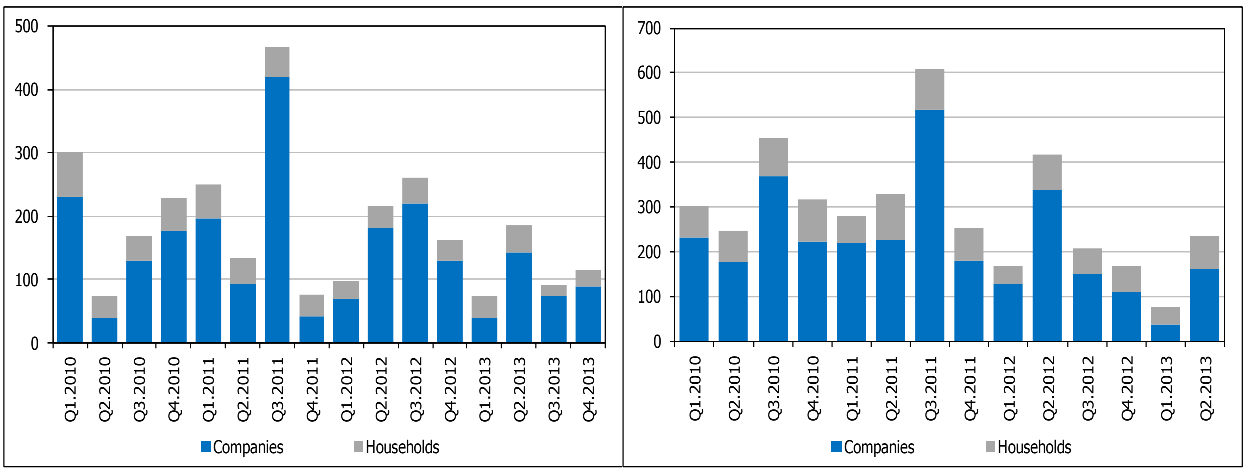
2.2. Structural characteristics of credit decisions with low quality

Most of the newly approved loans that received a non-performing status within six months after approval (74.1% per quarter, on average) were granted to companies. However, loans approved in the second quarter of 2010, the fourth quarter of 2011 and the first quarter of 2013, which received a non-performing status six months later, were almost equally distributed between companies and households. This is confirmed by the slower growth of non-performing loans to companies in these quarters. Newly extended loans that received a non-performing status one year after approval mostly comprise loans to companies (averaging 72.3% per quarter), with the exception of the non-performing loans approved in the first quarter of 2013 of which more than half (53.5%) were granted to households. According to the amount of loans that received a non-performing status within six months, i.e. one year, the most common are loans to companies approved in the third quarter of 2011. These non-performing loans are almost three times higher than the average amount of loans to companies that received a non-performing status after six months, i.e. almost two and a half times higher than the average non-performing loans within one year after approval. This ascertains that banks' credit decisions made in the third quarter of 2011, mainly to companies, were of inadequate quality, as significant part of them were transferred into non-performing status. As for households, the greatest transfer to non-performing status within six months was registered for the loans approved in the first quarter of 2010, with the amount of transferred non-performing loans being twice higher than the average non-performing loans within six months after approval, while loans approved in the second quarter of 2011 registered the highest transfer into non-performing status within one year after approval, which is 1.5 times higher than the average non-performing loans transferred after one year, for all quarters. Thus, loans to households approved in the first quarter of 2010 and the second quarter of 2011 are considered as credit decisions for which banks made inadequate assessment of clients' repayment capability in circumstances of uncertain economic environment.

Chart 18
Structure of newly approved loans that received non-performing status within six months (left) and one year (right) after approval, by sector

in millions of denars

in millions of denars



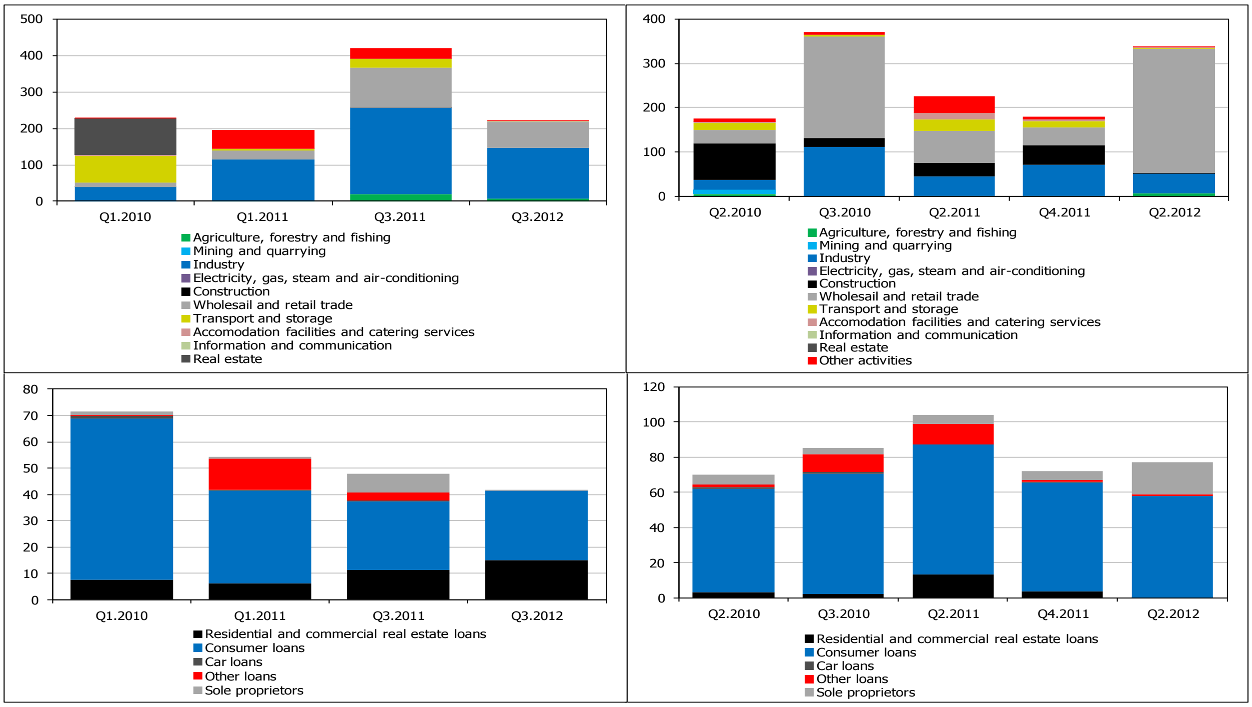
Source: NBRM's Credit Registry, based on data submitted by banks.

The analysis of non-performing loans to companies and households according to the activity and type of credit product, covers only the quarters in which the highest transfer of newly approved loans into non-performing loans within six months i.e. one year after approval was registered. Thus, loans which received a non-performing status within six months after approval were mostly directed to the activities "industry" and "wholesale and retail trade" (70.7%, 82.8% and 96.2% of the non-performing loans to companies approved in the first quarter of 2011, the third quarter of 2011 and the third quarter of 2011, respectively). In contrast, loans approved in the first quarter of 2010, with a non-performing status six months later, were mostly extended to customers from the "activities related to real estate" (44.3%) and "transport and storage" (32.1%) and to a smaller extent to clients in "industry" (16.6%). This movement confirms that in recent years the concentration of non-performing loans has increased in the activities "industry" and "wholesale and retail trade". Newly approved loans to companies that received a non-performing status one year after approval, mainly relate to clients from the activities "industry" and "wholesale and retail trade", with an upward trend over the years (from 30% for the non-performing loans approved in the second quarter of 2010, to 95.7% for the non-performing loans approved in the second quarter of 2012). In the second quarter of 2011 and in the last quarter of 2012, there was an increased share also of the non-performing loans to the construction sector in the total non-performing loans approved a year earlier. Most of the newly approved loans to households that received a non-performing status six months or one year later are consumer loans, and in some quarters an increased share of non-performing housing loans, other loans and loans to sole proprietors was registered.

Chart 19

Structure of newly extended loans that received a non-performing status within six months (left) and one year (right) after approval, by individual activities of companies (top) and individual credit products to households (bottom)

in millions of denars in millions of denars

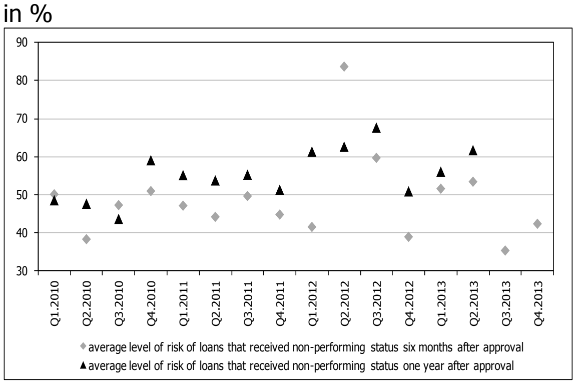


Source: NBRM's Credit Registry, based on data submitted by banks.

Chart 20

Average level of risk of the non-performing loans which changed their status within six months and one year after approval

in %



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

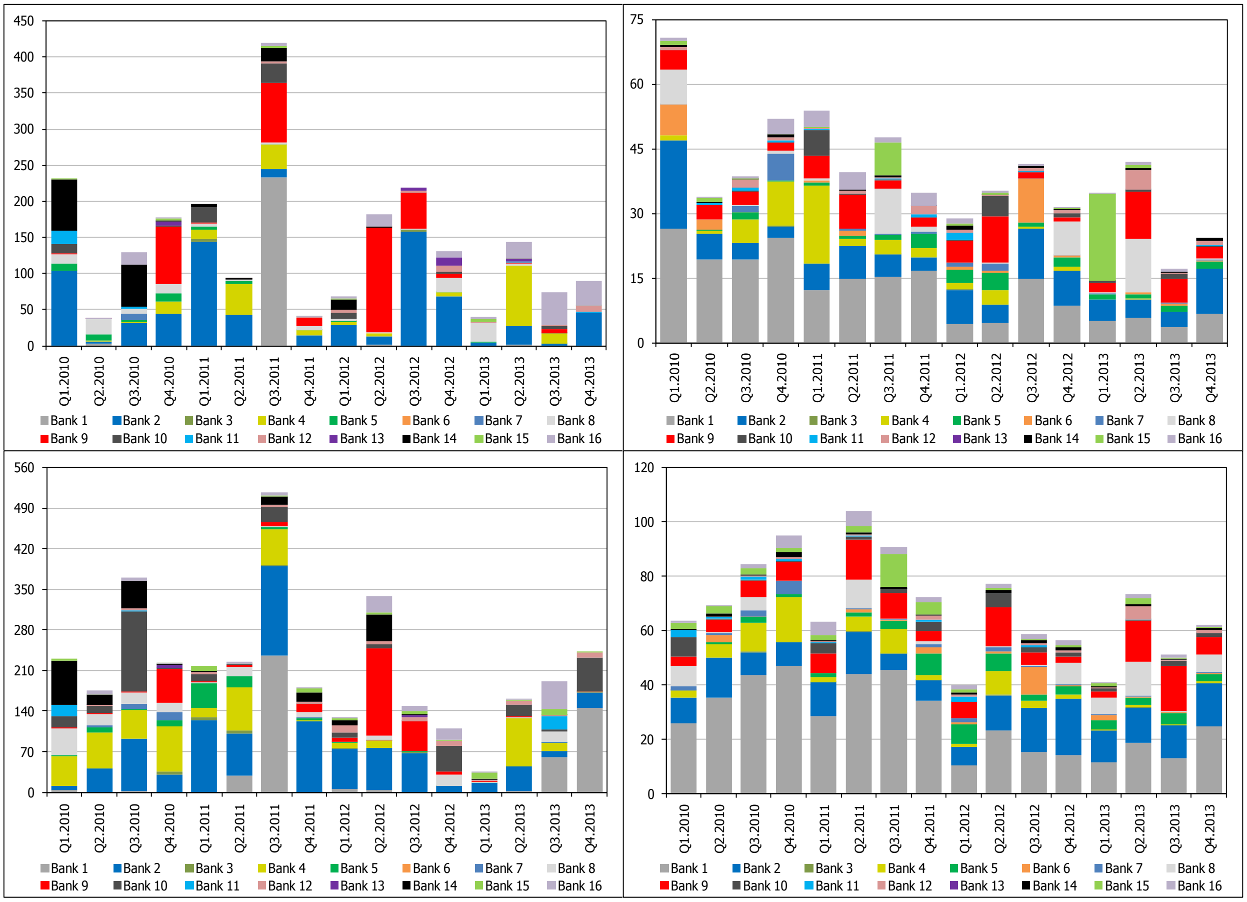
The average level of risk of non-performing loans within six months after approval is in risk category "D" or 48.7% on average, over the entire period of analysis[15]. By individual quarters, the average level of risk of non-performing loans ranges from 35.3% to 83.6%, but individual non-performing loans mostly have an average risk of 45% to 60%. The lowest average level of risk of non-performing loans within six months after approval was registered for the non-performing loans approved in the third quarter of 2013, and the highest for the loans approved in the second quarter of 2012.

[15] For the purpose of calculating the average level of risk of newly approved loans that received a non-performing status 6 months and 1 year after approval for the entire period of the analysis, the average level of risk of non-performing loans for each quarter is weighted with the share of non-performing loans for that particular quarter in the total transferred non-performing loans for all quarters included in the analysis.

Although the largest transfer of newly approved into non-performing loans was registered for the loans approved in the third quarter of 2011, the average level of risk of these loans was 49.6%, i.e. slightly above the average for all quarters. This indicates that although in some quarters a smaller portion of newly approved loans received a non-performing status, they bear high risk due to significantly longer delay of clients in repayment of their debt and therefore the quality of banks' credit decisions in those quarters is considered as inadequate. The fact that lower quality of banks' credit decisions, particularly noticed in some quarters, points out that there is not a continuous trend of inadequate credit decisions being made by banks, but this movement is present only in some quarters. In circumstances of uncertain economic conditions during the whole period of the analysis, this inconsistent trend shows that there are some immeasurable and uncovered risks from the outside environment that are not taken into account in the analysis, but have significant influence on the quality of banks' credit decisions. In terms of the average level of risk, lowest quality of banks' credit decisions is observed for the loans approved in the second quarter of 2012, with the average level of risk of non-performing loans approved in this quarter being 83.6%, or in the highest risk category "E". Analyzed by individual credit agreement, the average risk of non-performing loans ranges from 25.1% to 100.0%.

The average level of risk of newly approved loans that received a non-performing status a year later remains in risk category "D" and amounts to 55.3% on average for all quarters, while by individual quarter it ranges from 43.6% to 67.6%. The largest increase in the average level of risk of non-performing loans within six months to one year after approval is registered in the loans approved in the first quarter of 2012, which points to higher riskiness of loans that became non-performing in the period between six months to one year after approval or further deterioration of the risk of loans that received a non-performing status only six months after approval. With regards to the loans approved in this particular quarter, the average level of risk of the loans obtaining non-performing status increased from 41.5% at the end of the six months period from approval to 61.3% at the end of the one year from approval, but still remained in the same risk category "D". Almost all quarters registered a slight deterioration in the risk of non-performing loans in a period of six months to one year after approval, with the exception of non-performing loans approved in the second quarter of 2012, which registered higher risk within six months after approval (83.6%), but the average level of risk one year after approval fell by 21 percentage points and was reduced to 62.6%. This is explained by the reduction in the average level of risk of the non-performing loans within six months to one year after approval, possible return of some loans to regular status or some loans leaving the non-performing loans portfolio due to repayment, write-offs or restructuring of claims, as well as by lower average level of risk of the new loans that became non-performing in the period of six months to one year after approval. This raises the dilemma whether the loans approved in the second quarter of 2012 with a non-performing status six months later, should be considered as credit decisions for which the banks have assessed inadequately the clients' solvency, as after the expiration of the additional six months their average level of risk registered a downward movement, or improvement. In order to conclude with certainty about the quality of these credit decisions, it is necessary to examine the reasons for the decline in the average level of risk of individual loans, as well as the reasons for the substantial increase in the average level of risk of non-performing loans six months after approval.

Chart 21
Structure of non-performing loans six months (top) and one year (bottom) after approval, to companies (left) and households (right), by bank
in millions of denars
in millions of denars



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

Considering the fact that most of the newly approved loans are collateralized (on average 90% of corporate loans and 80% of loans to households, by quarter) it is presumed that a large part of those loans which received a non-performing status are also collateralized. The high coverage of non-performing loans with some form of collateral may serve as a potential source for repayment of non-performing loans. However, having in mind the current methods of valuation, banks are potentially exposed to risk of discrepancies in the estimated value and the actual market value, given the high risk of illiquidity in the market for the relevant collateral, making the credit risk transform into a risk of in(ability) to sell the property that would be foreclosed in the repayment of claims.

The structure of non-performing loans to companies six months and one year after approval by individual banks shows higher diversity. It can be noticed that the banks driving the non-performing loans to companies six months and one year after approval most often change over time, while three banks are constantly present with a share of 10%, or even bigger. For non-performing loans to households larger diversity of banks is observed with smaller participating shares, while, similar as in the case of companies five banks are constantly present with noticeable shares.

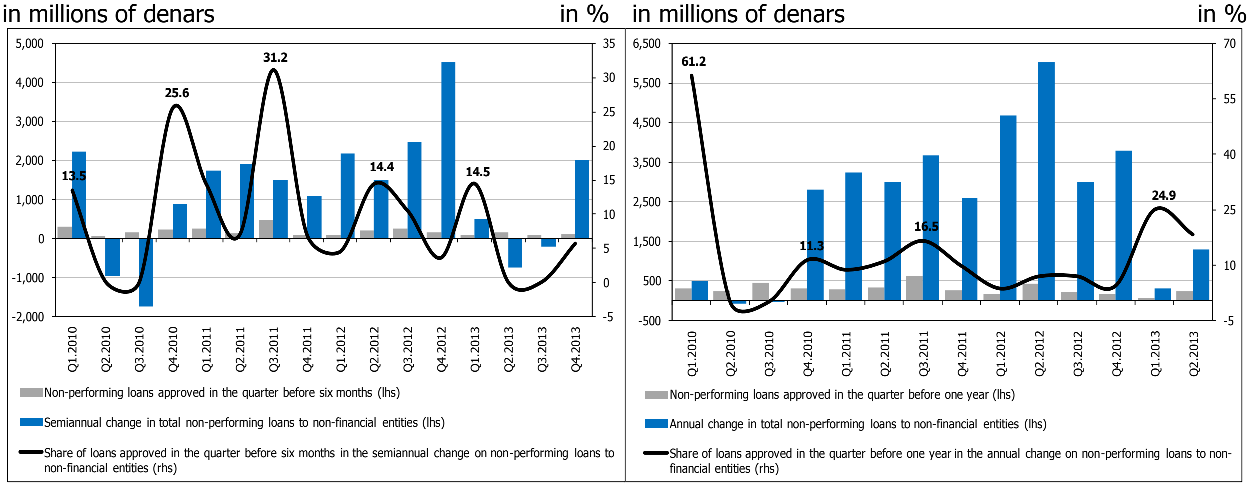
2.3. The effect of banks’ credit decisions with lower quality on the dynamics of non-performing loans

In order to assess the effect of banks' bad credit decisions on the dynamics of non-performing loans, an analysis was conducted of the share of non-performing loans approved six months and one year earlier in the semi-annual and annual change in total non-performing loans to non-financial entities, respectively. Thus, the loans approved in the first quarter of 2010, cause 61.2% of the annual change of non-performing loans in the period 31.3.2010-31.3.2011, whereby the credit decisions with low quality at the beginning of 2010 have significantly influenced the growth of non-performing loans a year later. Greater contribution of non-performing loans granted in the quarter a year earlier in the annual growth of total non-performing loans was registered also on 30 September 2012, 31 March 2014 and 30 June 2014. This indicates lower quality of banks' credit decisions in the first half of 2013, compared to the credit decisions in 2012, which demonstrated higher quality. In terms of the share of non-performing loans approved a year earlier in the annual growth of total non-performing loans, a significantly low quality was registered also in banks' credit decisions in 2011 and early 2010. Non-performing loans approved six months earlier cause 25.6% and 31.2% of the semi-annual growth of total non-performing loans as of 30 June 2011 and 31 March 2012, respectively. A significant contribution of the non-performing loans granted six months earlier is also registered in the semi-annual growth of total non-performing loans at the end of 2012 and the third quarter of 2013. These movements suggest that the non-performing loans approved only half a year earlier cause a significant portion of the semi-annual growth of total non-performing loans in 2011 and 2012, but have a declining influence on the change in the non-performing loans in 2014, whose annual change is largely due to the non-performing loans granted a year earlier. Hence, banks' credit decisions in 2013 proved to be more successful than in the previous years[16] and the process of identification of inadequate credit decisions made by banks requires a period of one year after approval.

Chart 22

Share of loans approved in the quarter before six months (left) and one year (right) in the semiannual and annual change in the non-performing loans to non-financial entities

in millions of denars in % in millions of denars in %



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

[16] Analyzing the transfer of the newly approved loans in non-performing loans within six months.

2.4. Assessment of the quality of banks' credit decisions for the most important activities of companies

The analysis of the risk category of new loans at the end of the quarter of the approval and six months later is observed as a transition matrix, in which the transfer of individual loans from one to another risk category cannot be identified, but it can be seen in which risk categories there is an increase, and in which categories there is a decline in loans, without knowing whether specific loan was transferred into the risk category "C" from the risk category "A" or "B". This shortened version of the transition matrix was carried out for the three most important activities of companies in terms of their share in total loans to companies and their importance in terms of the level of credit risk.

Table 1

Structure of newly approved loans at the end of the quarter of approval and six months later, by category of risk

in %

	Q1.2010	Q2.2010	Q3.2010	Q4.2010	Q1.2011	Q2.2011	Q3.2011	Q4.2011	Q1.2012	Q2.2012	Q3.2012	Q4.2012	Q1.2013
Industry													
A approval	78.9	83.6	89.5	81.0	66.3	92.1	84.9	96.6	88.0	88.8	87.8	84.4	91.4
A 6 months after approval	72.2	82.2	79.6	79.8	61.9	88.0	80.2	89.6	86.4	86.8	77.1	77.4	83.3
B approval	20.7	16.4	9.0	13.5	9.7	2.4	4.6	3.4	11.8	11.1	12.0	10.0	7.7
B 6 months after approval	25.2	16.3	17.1	11.9	14.4	4.4	7.3	10.1	12.7	13.0	9.7	8.8	16.7
C approval	0.4	0.0	1.4	5.5	24.1	5.5	10.5	0.0	0.1	0.1	0.2	5.5	0.8
C 6 months after approval	2.5	1.3	3.4	6.2	19.5	6.6	12.5	0.2	0.3	0.2	1.7	13.9	0.1
D 6 months after approval	0.1	0.2	0.0	0.4	3.3	0.0	0.1	0.0	0.6	0.0	11.2	0.0	0.0
E 6 months after approval	0.0	0.0	0.0	1.8	0.9	1.1	0.0	0.2	0.0	0.0	0.4	0.0	0.0
Construction													
	Q1.2010	**Q2.2010**	**Q3.2010**	**Q4.2010**	**Q1.2011**	**Q2.2011**	**Q3.2011**	**Q4.2011**	**Q1.2012**	**Q2.2012**	**Q3.2012**	**Q4.2012**	**Q1.2013**
A approval	82.6	96.3	98.0	73.1	98.6	92.0	65.5	97.6	99.2	97.8	96.8	98.0	98.8
A 6 months after approval	91.7	89.6	86.5	69.1	90.0	92.4	57.7	88.0	96.4	85.8	92.8	79.8	92.7
B approval	17.4	3.7	1.7	26.9	0.3	6.1	32.6	1.4	0.8	2.2	3.0	1.3	1.2
B 6 months after approval	8.2	7.0	10.1	19.5	10.0	7.6	31.7	9.5	0.6	5.7	7.2	18.8	6.1
C approval	0.0	0.0	0.3	0.0	1.1	2.0	1.9	1.0	0.0	0.0	0.1	0.6	0.0
C 6 months after approval	0.0	3.4	0.0	10.0	0.0	0.0	10.6	2.6	3.0	8.5	0.0	1.1	0.5
D 6 months after approval	0.0	0.0	3.4	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7
E 6 months after approval	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wholesale and retail trade													
	Q1.2010	**Q2.2010**	**Q3.2010**	**Q4.2010**	**Q1.2011**	**Q2.2011**	**Q3.2011**	**Q4.2011**	**Q1.2012**	**Q2.2012**	**Q3.2012**	**Q4.2012**	**Q1.2013**
A approval	78.9	83.6	89.5	81.0	66.3	92.1	84.9	96.6	88.0	88.8	87.8	84.4	91.4
A 6 months after approval	74.9	80.2	84.6	84.4	87.2	86.0	88.0	92.8	79.5	69.6	81.1	81.9	81.7
B approval	20.7	16.4	9.0	13.5	9.7	2.4	4.6	3.4	11.8	11.1	12.0	10.0	7.7
B 6 months after approval	24.1	19.3	14.8	14.4	11.2	11.4	6.5	6.0	9.3	6.4	7.7	13.8	15.7
C approval	0.4	0.0	1.4	5.5	24.1	5.5	10.5	0.0	0.1	0.1	0.2	5.5	0.8
C 6 months after approval	0.9	0.4	0.4	1.0	0.6	0.3	2.3	0.5	10.8	18.8	7.7	3.5	0.8
D 6 months after approval	0.1	0.0	0.1	0.3	1.1	1.9	3.2	0.6	0.4	0.2	1.0	0.8	1.7
E 6 months after approval	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	5.0	2.5	0.0	0.0

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

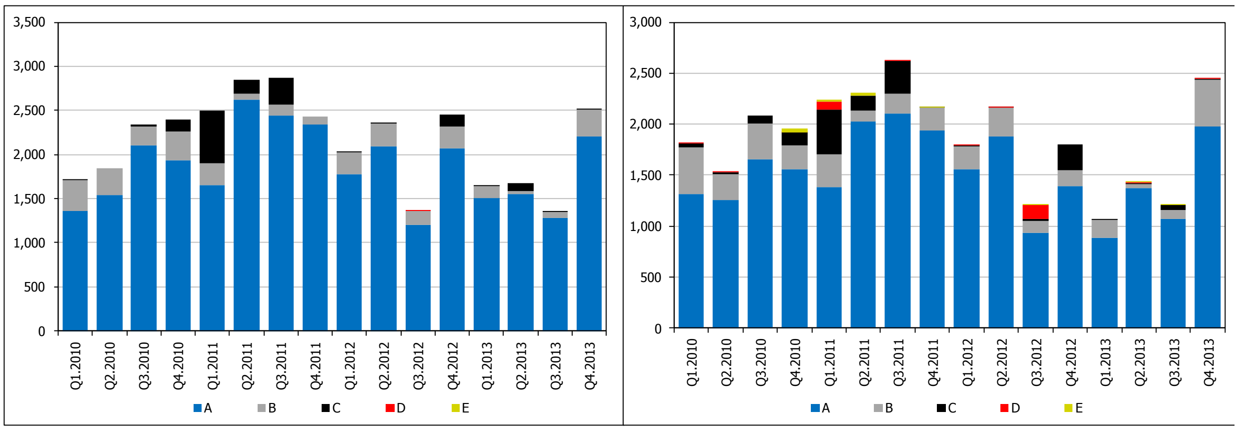
In the structure of the newly approved loans to the activity "industry", loans in the risk category "A" dominate with share of 86.4% at the end of the quarter of approval, while six months later the share of loans in this risk category decreased to 81.5%, due to the transfer of some loans in higher risk categories. By individual quarters, the decline of loans in the risk category "A" six months after approval ranges from 3.3% for loans approved in the first quarter of 2010 to 41.5% for loans approved in the first quarter of 2013. In contrast, loans in risk category "B" register different movements in the quarters. Thus, in five quarters they decreased after the expiration of six months from the approval, which ranges from 4.5% for loans in the first quarter of 2012 to 35.8% in the last quarter of 2012, which is explained with the transfer of some loans to the risk category "C", while in the other analyzed quarters there was an increase in loans in the risk category "B" six months after approval. A similar movement is registered in the loans in the risk category "C", i.e. in some quarters they declined, in others they grew after the expiration of six months from the quarter of approval. However, in the analysis the most dominant are the quarters when there was an increase in loans in the risk category "C" in the interval of 8.4% for loans approved in the third quarter of 2011 to 741.6% for loans approved in the last quarter of 2013, which is mostly due to the transfer of loans from the lowest risk category. In terms of the entire period of analysis, loans in the risk category "C" increased by 1.6% with simultaneous increase in their share to 5.1% (4.4% in the quarter of approval), six months after approval. Some loans were transferred in the highest risk categories, "D" and "E" with the participation of these risk categories in total loans six months after approval being equal to 0.8% and 0.3%, respectively.

Chart 23

Structure of newly approved loans to the activity "industry" at the end of the quarter of approval (left) and six months later (right), by category of risk

in millions of denars

in millions of denars



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

The loans extended to the activity "construction" in the analyzed period were almost entirely (93.2%) in the risk category "A" at the end of the quarter of approval. The share of loans in the risk category "A" six months after approval was reduced to 86.3% (or by 3.5 percentage points), at the expense of transfer of some loans in the higher-risk categories. By individual quarters, growth in the loans in risk category "A" within six months after approval was registered for loans approved in the second quarter of 2011 (19.1%) and the second quarter of 2013 (42.8%), which is explained by the reduced riskiness of the loans which had higher risk at the end of the quarter of approval. In all other periods when a decrease in loans in the risk category "A" was registered, there was a simultaneous increase in the risk category "B" and in some cases also in the risk category "C". The growth of loans in risk categories "B" and "C" of 68.4% and 585.4%[17] contributed to an increase in their share in total loans six months after the approval to 10.1% (6.3% in the quarter of approval) and 3.3% (0.5%)[18], respectively.

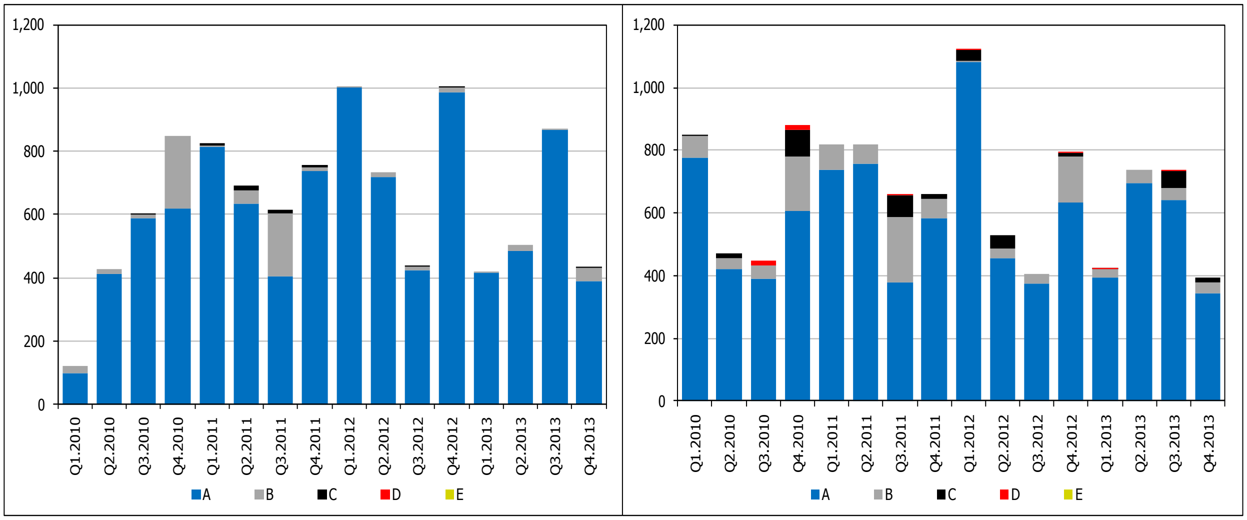
[17] The high rate of growth of the loans in risk category "C" is due to the low level of these loans in the quarter of approval.

[18] The share of loans in risk category "D" is 0.3%, while loans in risk category "E" are absent.

Chart 24

Structure of newly approved loans to the activity "construction" at the end of the quarter of approval (left) and six months later (right), by category of risk

in millions of denars in millions of denars

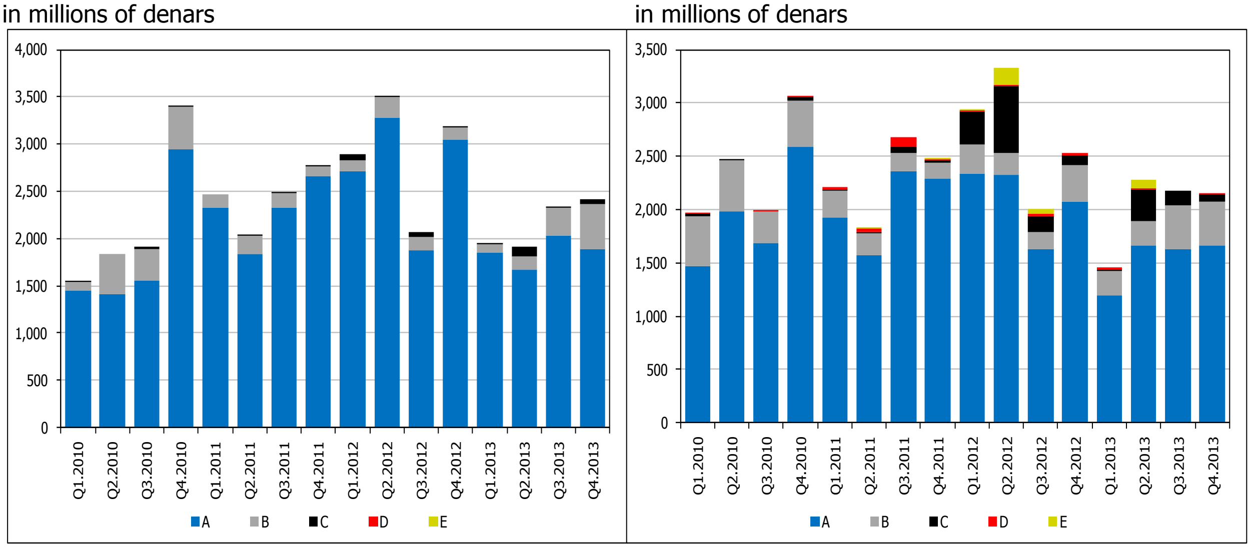


Source: NBRM's Credit Registry, based on data submitted by banks.

The loans in the risk category "A" account for 90.1% in the structure of the newly approved loans to the activity "wholesale and retail trade" at the end of the quarter of approval, while after the expiration of six months from the approval their share is reduced to 80.9%. Loans in risk category "A" decreased by 12.9% over the period of analysis, but also by individual quarters, with the exception of loans approved in the third quarter of 2010 (8.0%) and in 2011 (1.3%) when they registered a small increase due to the improved riskiness of loans which had a higher level of risk at the end of the quarter of approval. In all other periods when there was a decline in the loans in the risk category "A" six months after approval, there was a simultaneous growth in loans in the higher-risk categories. Furthermore, the reduction of loans in the risk category "A" was followed by faster growth in the risk category "C" and even in the highest-risk categories "D" and "E". Thus loans in risk categories "B" and "C" increased by 35.9% and 418.7%, respectively. Regarding the share of loans from the individual risk categories in total loans six months after approval the highest increase of 4 percentage points was recorded with the loans in risk category "C", with their share reaching 5.0%. The share of loans in the risk category "B" six months after approval is 12.6% (9.0% previously), while loans in the high-risk categories "D" and "E" participate with 0.7% and 0.8%, respectively.

Chart 25

Structure of newly approved loans to the activity "wholesale and retail" at the end of the quarter of approval (left) and six months later (right), by category of risk



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

Summarized, the decline in the loans in the risk category "A" for these three activities six months after approval can be linked with the transfer of most of the loans in the risk categories "B" and "C", and to a lesser extent, to the highest-risk categories. Although low, the quality of banks' credit decisions is considered sustainable because only a minor part of the loans received a non-performing status and treatment of difficult to collect claims, six months after approval. However, this may partly be explained by the short period of evaluation of the quality of only six months after approval.

3. Conclusion

This analysis attempted to assess the quality of banks' credit decisions, taking into consideration the structural characteristics of the loans on their approval. The conducted analysis of the assessment of the quality of banks' credit decisions indicated several periods in which banks made inadequate credit decisions and improperly assessed the repayment capability of clients at approval period, or clients that had satisfactory repayment profile at approval quarter proved to be clients with non regular repayment status later. Thus, banks' credit decisions from 2010 to mid-2012 were of low quality, while starting from mid-2012 the quality of credit decisions improved significantly. The largest transfer of newly approved into non-performing loans six months and one year after approval has been registered in the loans extended in the third quarter of 2011. Most of the credit decisions of banks that are considered inadequate were directed to companies from the activities "industry" and "wholesale and retail trade". The average level of risk of transferred non-performing loans is the highest for the loans approved in the second quarter of 2012, indicating that although in this quarter smaller portion of new loans received a non-performing status, they bear high risk and are considered as credit decisions with lower quality. The credit decisions of banks that are viewed with lower quality during the analyzed period dictate the annual and semi-annual change of non-performing loans one year and six months after approval. Thus, the non-performing loans approved half a year ago were the reason for the substantial part of the semi-annual growth of non-performing loans in 2011 and 2012, but have no impact on the semi-annual growth in 2014, when there is an apparent contribution of non-performing loans granted a year earlier to the annual change of non-performing loans in 2014. The analysis of the assessment of the quality of banks' credit decisions toward the three most important activities of companies showed that new loans mostly remain in the risk category "A" six months after approval, and the most common transfer is in risk category "B". Greater deterioration in quality is registered in the activity "wholesale and retail trade" and "industry" in which a substantial part of loans was transferred into the risk category "C" and only a small part in the highest-risk categories "D" and "E".

Nevertheless, the assessment of the quality of banks' credit decisions is difficult task, and this analysis captures only one aspect of the quality assessment process, or more precisely the transfer of newly approved loans into non-performing status six months and one year after approval and deterioration of the average level of risk of newly approved loans after the expiration of the same period. Still, there are other possible aspects to assess the quality of banks' credit decisions that can prove to be even more adequate and reliable, but due to data limitations and series length constraints the focus here was on the one particularly mentioned aspect. The main purpose of this analysis is to get an insight into the speediness of deterioration of the quality of banks' credit decisions. The fact that lower quality of banks' credit decisions is noticed in some quarters points out that there is not a continuous trend of inadequate credit decisions being made by banks, but this movement is present only in some quarters. Having in mind that deterioration of the quality of banks credit decisions is present in some isolated quarters and arises relatively shortly after approval (six months), the transfer of newly approved in non-performing loans can be related to specific external factors. In circumstances of uncertain economic conditions during the whole period of the analysis, this inconsistent trend shows that there are some immeasurable and uncovered risks from the outside environment that are not taken into account in the analysis, but have significant influence on the quality of banks' credit decisions. Therefore, the crisis and at that time present various external factors and uncertainties make difficult the assessment of the quality of banks' credit decisions. All the mentioned aspects confirm the difficulty to assess the quality of banks' credit decisions, as the quality during the analyzed period is most probably influenced by external factors unknown for the bank at approval period, besides the creditworthiness of the clients assessed by the bank at the moment of approving the loan application.

Furthermore, the period of assessment is short, or at most one year after the quarter of approval. Some loans require a relatively short period of time in order to determine the quality, while the assessment of the quality of some loans requires longer period of time. However, it is considered that as time from the loan approval passes, the quality of banks' credit decisions cannot be properly assessed, as other factors may affect the performance of the loans and customer's debt servicing capacity that the bank was unable to take into account at the time of approving the loan application, that is especially valid for the analyzed period in this study.

A shortcoming of this analysis is the fact that it does not include the period before the crisis, due to data constraints on newly approved loans before 2010. Having in mind that the analysis is focused on a period with uncertain economic environment and global financial crisis, as well as post crisis period, not having a longer time period of comparing the performances of newly approved loans for the purpose of assessing banks' credit decisions can be viewed as limitation. Summarized, this analysis gives valuable information on the quality assessment of banks' credit decisions based on performances of new loans six months and one year after approval. Some structural features of loans that proved to be difficult to repay (regarding the sectoral exposure, average maturity, currency and risk category in the quarter of approval) are also valuable insights that banks should take into account in the loan portfolio management.

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