

BULGARIAN BANKING SYSTEM 2008-2012: STRIVING FOR CONFIDENCE UNDER LOWER ACTIVITY

Current article studies the response of Bulgarian banks to the liquidity shock resulting from the withdrawal of non-resident capital of the banking system and the effects of liquidity hoarding on the credit activity. Liquidity risk management is analyzed by following the changes in assets and liabilities in bank balance sheets, focusing on the assets with the highest liquidity. Results showed that under higher liquidity risk the banking management decisions are dominated by striving for confidence. Commercial banks increase the share of liquid assets, but the higher bank liquidity does not contribute to an increase in bank lending. The banking system proves to be less liquid in its ability to expand the credit supply to the private sector. On this basis, more active intervention of the Bulgarian National Bank is recommended to improve the functioning of credit markets.

JEL: E51; G21; O11

After several years of expansion growth in lending activity and accumulation of related risks, the 2008 liquidity contraction in the financial markets has revealed the real cumulative effects. Faced with the challenge of preserving financial stability in the period 2008-2012, commercial banks (CB) changed the aggressive credit policy of accumulating profits to striving for confidence through the only possible tool at the time – management of balance sheet assets and liabilities.

Financial, respectively, bank stability is a prerequisite for low and stable interest rates in the economy, but during the recession in the recent years, the stability of the banking sector has been maintained through restrictive lending policy, an increase in bank liquid assets and credit rationing. Lack of effective dialogue between the CB and the businesses additionally contributes to a weak loan demand and increases the pessimistic expectations of the private sector. Widely proclaimed high bank liquidity in public sources is more often pointed out as an indicator for a stable and secure banking sector, and is not seen as a base and a prerequisite for higher credit supply. At the same time bank lending remains low and the annual increase in bank loans proved to be insufficient.

Strong contraction of lending in the economy in recent years continues to provoke discussion on the sources of the low volume of credit. Loans to non-financial enterprises (NFE) remain almost the same on average for the entire period regardless of quantitative categories. More often, the low amounts of the loans is considered due to reduced demand for credit, as a result of the contraction of aggregate demand and weak economic activity. On the other hand, the low credit activity may result from the supply side and may express reduced credit supply. Credit rationing is inherent to credit markets. In years of economic growth, the access to credit is limited primarily to economic sectors with low profitability and

higher risk. In order to reduce credit risk and generate higher profits CB redirect financial resources to more profitable economic sectors. Under adverse economic conditions CB apply restrictive credit policy and limit access to credit to a larger part of the economic agents. When applied to all economic sectors, credit rationing leads to lower bank credit supply in the economy. In this case, the effect of limiting access to credit market occurs at macroeconomic level and directly reduces the amount of loans offered to the private sector. As a result of prolonging limited access to credit market, the demand for credit also reduces.

In the pre-crisis period, a significant factor for high bank liquidity and confidence (against short-term liquidity shortages) is the inflow of foreign capital from the euro area. Although Bulgaria is not a member of the euro area and (therefore) Bulgarian banks had limited direct access to European financial markets, the volume of non-resident deposits in the banking sector increases annually. Through the channel of parent banks CB managed to obtain unlimited amounts of cheap credit resources for Bulgarian business. After the sharp decline of non-resident capital since 2007 cross-border capital flows have not yet been restored. The reason for that should be given to a greater extent to the lack of appropriate investment opportunities arising from the unfavorable domestic business environment rather than the liquidity shortages and the problems with capital adequacy of banks in the euro area. In most countries, the financial and economic crisis manifested first as a crisis of financial institutions¹ and then turned into crisis in the real sector. In Bulgaria the crisis of real economy, including higher inter-company indebtedness, happened under macroeconomic (bank) stability. Annual reduction of the credit volume in this case logically focuses the attention on the CB liquidity risk management. The main factors that will reduce bank lending propensity under uncertainty are the expectations of liquidity problems in short term and/or liquidity shortage in the banking system.

Besides the reduction of foreign capital flows into the banking system, the risk of liquidity problems increases due to deteriorating quality of loan portfolios. The share of bad loans rose significantly by the end of 2012, along with debt ratios and low efficiency of the private sector. Higher inter-company indebtedness and limited alternative sources of funding for NFE due to financial crisis are largely an argument in favor of increased demand and reduced supply of credit.

Revealing the reasons for low volume of credit favors primarily the decisions of the policy makers. Effective microeconomic policy involves the application of different measures depending on whether the low credit volume is due mainly to factors of supply side or demand side. In the first case, the low level of bank loans results from restrictive bank credit policy as banks expect an increase in credit risk that may not be covered by a larger increase in the risk premium (credit rationing). Along with the increased credit risk, the lack of confidence between CB and limited

¹ The 2007 financial crisis put even sharper the question of regulating credit institutions' liquidity. For more details on the new measures related to the regulation of bank liquidity, see Trifonova, 2011, p. 31-56.

external funding sources also contribute to low supply of bank credit. In such case the macroeconomic policy should be aimed at improving the conditions for economic growth and providing more liquidity at credit markets (i.e. by central bank liquidity release) in order to recover confidence and stimulate greater credit supply. When the low level of credit is due to lower demand for credit, the causes should be sought in the expectations of economic agents for lower demand in medium term and further decrease in corporate profits. In such case, the weak credit demand is generally addressed by the instruments of fiscal policy to increase aggregate demand and by initiating credit expansion from the central bank.

Liquidity management

In the context of the financial crisis since 2007 a number of studies worldwide shows that credit institutions' general response to the worse economic conditions is liquidity hoarding, as a reaction to the highly reduced liquidity in the interbank markets, increased financing costs and expected losses from asset write offs.² In response to the external shock of liquidity contraction banks increase their reserves in central banks and investments in highly liquid securities, reduce inter-bank financing and hasten the sale of capital instruments.³ Sustainability of funding sources in liability side of banks' balance sheets, mainly the level of deposits and equity, is defined as a significant factor in liquidity management.⁴ Reduced market liquidity in recent years has increased the role of deposits as stronger dependence on deposits is observed for smaller banks.⁵

The hoarding of liquidity in the literature is interpreted with two motives, precautionary and speculative motives, as a result of the expectations of credit institutions for further market fluctuations. They are based on the expectation of lowering the inter-bank market liquidity in the short run. Hoarding liquidity shows precautionary patterns when banks anticipate difficulties in attracting external funding. In order to mitigate the effects of the liquidity shock, banks strengthened their liquidity positions. Although difficult access to highly liquid markets does not mean it is impossible to draw cash resources, the sale of less liquid assets (as a possible source of funds) will be implemented at a higher market value of assets. Another reason for accumulation of liquidity buffers is the probability of asset liquidation and attracting external financing at a higher cost.⁶

² Acharya and Merrouche, 2012; Berrospide, 2013; Heider, Hoerova, and Holthausen, 2009.

³ De Haan and Van den End, 2011.

⁴ Berger and Bouman, 2009, 2010 consider bank capital a key determinant in liquidity management and proved that hoarding liquidity vary in terms of bank size. Cornett et al. (2010) specified that banks with sustainable sources of financing have better possibilities to provide loans during financial crisis.

⁵ Berrospide (2013) proved capital has significant influence for hoarding liquidity in economic crisis.

⁶ Gale, Yorulmazer, 2013, p. 291-324.

Precautionary motive occurs in case higher demand for cash resources in the future is anticipated and (therefore) asset prices decrease, resulting in fire sales to generate liquidity. Uncertainty and collapse of the inter-bank market create conditions for banks with greater liquidity to deliberately restrict the credit supply to other credit institutions to further advantage from the lower asset cost.⁷ Assuming the existence of future liquidity shocks, the more liquid banks could profit from purchasing assets at low prices. In this sense, the expectation of lower liquidity at the financial markets determine the accumulation of liquidity buffers by financially sound banks to take advantage of future investment opportunities.⁸

Considering Bulgarian financial market also may be assumed differences in the role of deposits as a source of funding for CB with different market share. Given the inefficient inter-bank market, the sustainable outflow of non-resident capital and a strongly limited function of Bulgarian National Bank (BNB) as a lender of last resort, attracting deposits from the domestic market stands out as a key source for accumulation of liquidity in the banking sector during recession.

This paper studies how CB (by bank groups⁹) manage liquidity risk in the current economic crisis and the effects of the accumulation of liquidity buffers on bank lending to private sector. Liquidity management is examined through an analysis of changes in assets and liabilities in the banks' balance sheets, focusing on the assets with the highest liquidity.

Hoarding liquidity in the banking sector is inherent for the periods after financial and economic crisis and loss of confidence. Following the severe banking crisis in 1996-1997 CB gradually increased excess reserves in BNB. By 2000, CB accumulated 26%¹⁰ liquid assets as a proportion of borrowed funds (secondary liquidity) and continue increasing liquidity in the coming years. In 2005 the share of liquid assets increased to 31%¹¹ and in the end of 2003 reached 33%.¹² Hoarding high liquidity could be explained with two reasons. First, CB are very cautious to liquidity shocks in terms of a run on deposits, and second, maintaining higher reserves suggests that the banking sector is stable and secure and will not allow to re-fall in systemic risk. During the current economic crisis (2008-2013), under increased cost of capital (interest rates on deposits) and limited external sources of financing, an increase in the banks' propensity to hoard liquidity (Figure 1 and 2¹³) could be observed again.

⁷ Acharya, Gromb, and Yorulmazer, 2008.

⁸ For more details see Diamond, and Rajan, 2009, p. 606-610.

⁹ Commercial banks are grouped according to the methodology of BNB – up to 2012 Group I consists of the first five banks with the largest assets (UniCredit Bulbank, DSK Bank, United Bulgarian Bank, Raiffeisenbank (Bulgaria), and Eurobank EFG Bulgaria), in Group II fall all other Bulgarian banks and Group III consists of the branches of foreign banks in Bulgaria.

¹⁰ BNB, 2000 Annual report, p. 170.

¹¹ BNB, 2005 Annual report, Appendix 45 Bank Liquidity as of 31.12.2005.

¹² BNB, 2007 Annual report, p. 42.

¹³ Source of data in all figures and tables in current article is the public information from the BNB website.

Figure 1

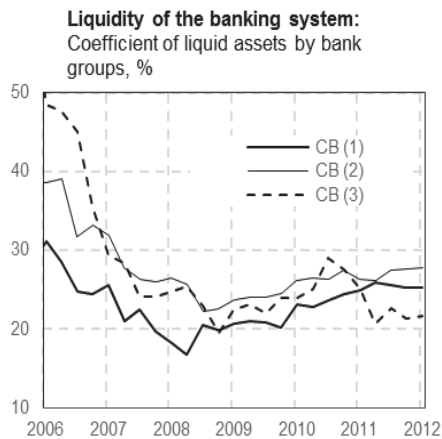
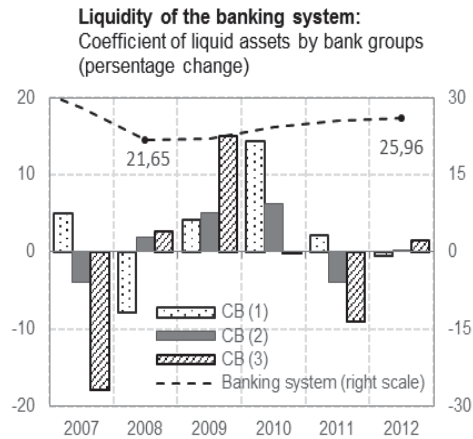


Figure 2



The fact that liquidity in the banking system decreased by the end of 2007 by 7% is very indicative. Such decrease represents the overall decline in liquid assets in the banking system, but the liquidity shock and limited access to financial markets had greater impact on the liquidity of CB(2)¹⁴ and contributed to the negative growth of liquid assets.

At the end of 2008, the banking system lost 34% of its liquidity compared to 2006 and recorded the lowest proportion of liquid assets of 21.63% (despite the reduction in liquidity, it remained high and significantly exceeded the minimum required liquidity of 10%). Withdrawal of foreign capital in 2007 and 2008 decreased liquidity of CB(1) by 7%. Given that they had over 76% of total assets of the banking system during this period, it can be assumed that the decrease in liquidity will influence overall credit supply in short term. Striving to increase liquid assets was evident in 2011 too. CB(1) managed to reach 2007 liquidity levels by attracting deposits from the domestic market. Predominant share of foreign banks in CB(1) explains the maintenance of lower liquidity compared to CB(2).

The increase in liquid assets in recent years is the basis of the public stated high liquidity in the banking system (expressed by the coefficient of liquid assets). Accumulation of liquidity buffers strengthen the liquidity position of CB, but this can not be assessed unambiguously. At microeconomic level, the increase in liquid assets is an attempt to reduce bank liquidity risk and to increase resilience to internal and external shocks. On the other hand, at macroeconomic level, hoarding liquidity "freezes" credit funds and limits credit supply. Such management of liquidity risk that increases liquidity buffers and leads to a reduction of bank loan supply will have a negative effect on the lending of private sector. Hoarding liquidity

¹⁴ Commercial banks of first, second and third group are labeled accordingly: CB(1) CB(2) and CB(3).

in recent years is prompt by precautionary motive, but at the same time the banking sector shows insufficient liquidity to extend lending to the private sector. Proof of this is the critical level of credit supply in recent years.

Several key factors could be pointed out to explain the accumulation of high amounts of bank liquidity:

- an expectation for future liquidity shocks (the possibility CB to experience future liquidity problems);
- uncertainty about the short-term improving of access to financial markets;
- an expectation to write off a significant share of bad assets (watch exposures and non-performing exposures) and capital loss.

Considering prevailing foreign presence in Bulgarian banking sector the risks of external liquidity shocks for foreign banks' subsidiaries arises mainly from the continuing withdrawal of non-resident capital of the banking sector, the lack of confidence across CB and the uncertainty regarding the recovery of low-cost funding from parent banks.

Liquidity shock effects from 2008 capital outflow and the impact of the inefficient inter-bank market could be easily studied in the asset management of the CB, differentiated by groups. There are substantial and significant changes across the balances of the different bank groups that are indicative of the uneven impact of liquidity shock on CB with different market share (Table 1).

Table 1

Selected indicators from banking system balance sheet by bank groups
(percentage change, 2008-2012)

<i>Assets</i>	CB(1)	CB(2)	CB(3)
Cash and cash balances with central banks	21.71	55.51	85.92
Financial assets held for trading	59.09	323.97	79.51
Financial assets designated at fair value through profit or loss	-48.09	5.10	-
Available-for-sale financial assets	58.00	116.30	2112.00
Loans and receivables	-2.52	30.98	24.13
Held-to-maturity investments	-8.81	22.09	-
<i>Total assets</i>	2.68	38.56	46.31
<i>Liabilities</i>	CB(1)	CB(2)	CB(3)
Deposits from credit institutions	-65.46	-25.70	102.37
Deposits (other than from credit institutions)	26.41	58.02	-4.81
<i>Total equity</i>	24.03	68.69	-236.51

Sources of funding for CB(1) contract significantly, with greater dependence of the credit supply on non-resident deposits. CB(1) accumulate less liquidity buffers related to 2008 and keep applying restrictive credit policy. During 2008-2012 the CB(1) increase the short-term and medium-term liquidity. The most liquid assets, including cash and cash balances in the BNB, increased by 22%, investments in available-for-sale securities by 58 % and part of the securities held to maturity are transformed into available-for-sale financial assets. At the same time, loans to the private sector

decreased by 2.57%. CB compensate the loss of profits from low credit activity (low supply of new loans) with an increase in investments acquired for short-term profit from their sale. Securities held for trading increased by 59 % over the period. As a result, CB(1) accumulate liquidity buffers and maintain a satisfactory level of profits. When dealing with clients, only funding to clients with debt instruments rose from 0 in 2008 to 15,730 thousand in 2012.

Investments in securities intended to maintain liquidity buffers are primarily financed by deposits from non-credit institutions (NFE and households) and by capital increase. The capital borrowed from credit institutions was significantly decreased in 2012 – by 65% compared to 2008. The main source of deposits from credit institutions in the period up to 2008 was the capital of parent banks. In subsequent years, despite the faltering capital inflow from the parent banks CB(1) managed to attract even greater volume of cash resources from the domestic market. As the structure of assets reveals, the acquired deposits do not reach the real sector (lending remains low), but are redirected towards investments providing short-term profit and liquidity or take the form of highly liquid (cash) reserves.

Under economic crisis and high confidence in the banking system (deposits increased by $\frac{1}{4}$ of the period up to 2012), maintaining high liquidity buffers shows that CB(1) act very cautiously. The reasons could be found in the CB's asset structure. It is noteworthy that in 2008 82% of the assets of CB(1) represent loans to the private sector (Table 2). Extremely high proportion of the loans in CB's balance sheets makes their future financial stability highly sensitive to the loan portfolio quality.

Table 2

Share of loans of the total assets of the banking system by bank groups (%)

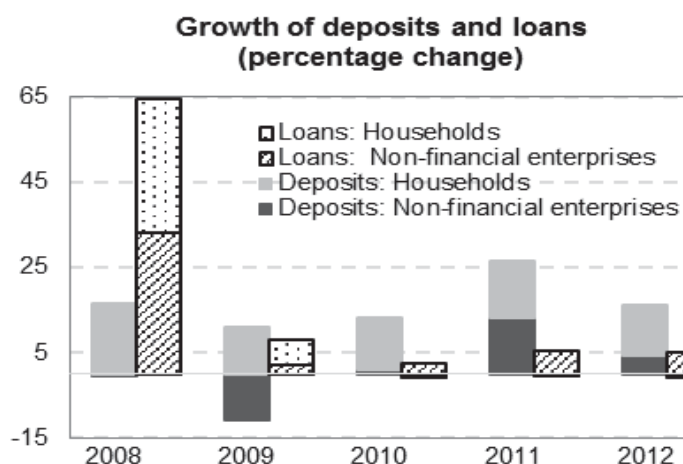
Bank groups	2008	2009
CB(1)	81.73	77.55
CB(2)	77.18	72.97
CB(3)	84.38	39.60

CB conceded to become highly vulnerable to loan repayment, which led to tightened credit standards for obtaining new loans. By 2012 CB(1) reduced the share of loans to 77%, resulting in an increase in financial assets and a decrease in the absolute amount of the loans. Reduction of the share and the amount of bank loans and the obvious intention of hoarding liquidity in the banking sector give grounds to specify that CB(1) limit credit supply during that period.

The tendency of increasing liquid assets is also observed in the asset management of the banks from the other two groups. CB(2) maintain higher liquidity compared to the five banks with largest asset size by increasing cash and cash balances at the BNB by 55% and investments in securities available-for sale with 324%. Credit growth in the economy, though weak in 2008-2012, is entirely due to higher loan supply by CB(2). Compared to CB(1), the decrease in deposits of other credit institutions in CB(2) balance sheet is significantly lower. Credit growth of 30%

compared to 2008 and the investments in securities are financed primarily with a significant increase in equity and funds attracted from non-credit institutions. CB(2) and CB(3) increase loans to private sector during the 5-year period, but again it is observed a tendency to shrink the share of loans of total assets. Under the current structure of liabilities (the ratio of loans to deposits is nearly one) and yet high share of loans we can expect subsequent contraction of the level of credit in the short term.¹⁵ To stimulate the supply for more and higher volume of bank loans an injection of additional liquidity in the banking system (not increasing in bank liquidity indicators) is needed. Only by releasing liquidity by the BNB, microeconomic policy could achieve an immediate effect on money supply and credit supply. In this sense, the BNB passive behavior (of non-intervention) additionally contributes to low credit growth and the subsequent negative macroeconomic effects, such as low investment activity, low loan demand, mistrust and weak inter-bank funding.

Figure 3



Barely functioning of the inter-bank lending market, including the denial of intervention by the BNB at credit market, determines the growing importance of deposits of non-credit institutions in the CB' sources of funding since 2008. Household savings traditionally have significant contribution in the liability side of bank balance sheets (over 70%). In terms of sustainable economic growth (2002-2007) the attraction of new deposits was positively correlated with the steeply increasing bank credit supply. During the ongoing recession and uncertainty in the economy household savings in the banking system keep showing an increase, but a different role for the deposits has been assigned. Although after 2009 deposits again began to increase at accelerated rates, credit growth strongly declined from

¹⁵ Minasian (2010b) indicates that the practice has determined that "tolerable level of credit risk assumed loans to non-financial sector to engage around 55% of the assets of the banking system".

64.5% in 2008 to an average of 2.44% for the period 2009-2012 (Figure 3). In 2011, with the highest growth in deposits during the economic crisis, 13% of households and 13% for NFE, the supply of credit remains almost unchanged. Over the past three years, loans to households have negative growth.

The negative credit growth rate shows that the capital borrowed from households and NFE is not sufficient to reach the pre-crisis level of lending. The growth of deposits in 2008-2009 is to a greater extent a function of restructuring liabilities in the CB's balance sheets as a result of the withdrawal of non-resident capital and reveals strong precautionary motive. As a result, banks' total assets increased slightly, and the supply of credit does not correlate with the high growth in deposits. In the coming years the role of savings in the banking system increases, despite the gradual decline of interest rates (the demand for capital from the financial sector decreases).

Decisions related to the attraction of saving deposits from non-financial sector and financing loans with deposits are an element of the CB credit policy and have a direct effect on the level of bank credit supply, while the impact on credit demand is indirect through the changes in interest rates and loan terms. Liquidity buffers indicate a lack of confidence and high precautionary behaviour of CB. Due to the high dependence of the loans to the level of deposits, reducing the growth of deposits (with the exception of growth in household deposits by 6% in 2009), imposes a decrease in bank lending activity in the coming years (2009-2011). Interest rates continue to decline, but the bank credit policy remains strongly restrictive. Restructuring of the bank balance sheets shows clearly a policy of credit rationing. Limiting access to the credit market put pressure on new investments and contributes to deepen the inter-company debt in medium term. Taking into consideration the negative effects of limited access to credit, a positive assessment cannot not be given to a policy of liquidity risk management, which increases banks' liquid assets but restricts the flows of capital to the private sector. By withdrawal from the credit market CB do not perform their fundamental role of distribution and redistribution of money capital in the economy. CB do accumulate excess cash from the public (10-12% growth in new deposits in the banking system in recent years), but fail in their main function of credit intermediation (credit shows negligible growth). Meanwhile, CB make efforts to maintain an acceptable level of profitability, often by shifting a part of the cost of non-performing loans to the regular payers (through a unilateral change in the contracted interest rates). For these and other reasons arising from the behavior of bank managers, some authors indicate that CB leave *"the impression that the "highest levels" of credit institutions are far from certain "elementary truths" related to the economic role of credit institutions"*.¹⁶

Contraction of credit activity

Transfer of the negative effects of the reduced liquidity in the financial markets to the real economy is manifested by means of contraction of bank lending, as CB strive

¹⁶ Vachkov, 2012, p. 17-39.

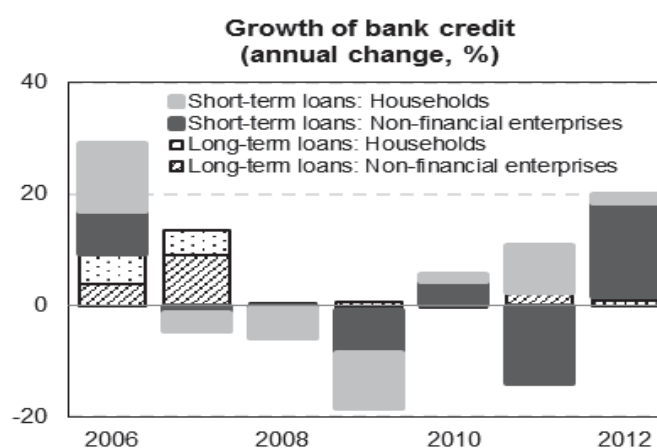
to maintain confidence and financial stability. The volume of loans to households and NFE remain almost at the same level, loan increase is insignificant and insufficient to generate economic growth (Figure 3). In general, higher loan supply under low loan demand lowers the interest rates. Although the interest rates over the last three years decreased, the bank credit policy hardly can be described as a loose policy. Determining the impact of the factors of supply and demand side on credit level faces some difficulties due to their derivative nature. There are objective reasons that low lending activity is driven by the supply side, and is not only due to low demand. Empirical evidence that CB limit the access to credit market and reduce the supply of credit in the period 2008-2011 can be found at least in three directions: (1) the dynamics of short-term loans, (2) the quality of the CB loan portfolios, and (3) the interest rate dynamics on deposits with short maturities.

Dynamics of short-term loans

It can be assumed that the effect of liquidity shortages will occur most quickly in the dynamics of short-term credit for NFE and households. Sudden decrease in liquidity as a result of external shocks to the banking system (such as withdrawing non-resident capital, lack of confidence) will limit banks ability to offer loans in short term. It can be expected that further increase in market uncertainty and liquidity risk, will proceed to low supply of bank credit in long run.

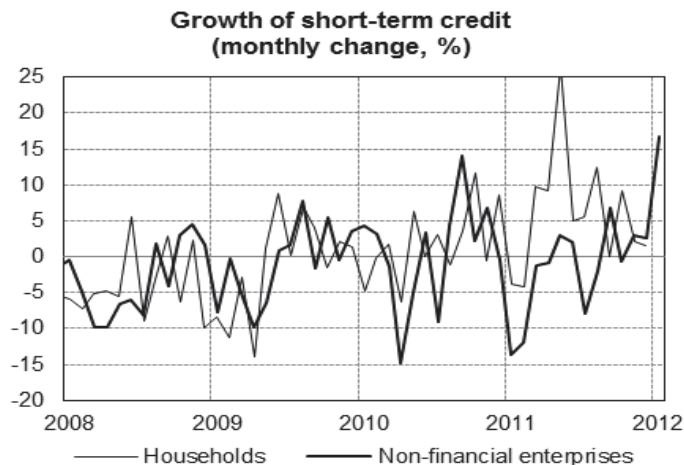
In the recent years indicators for lowering the bank credit supply can be found in bank lending dynamics to the private sector. Given the weak consumer demand and increasing inter-company debt it can be assumed that NFE will strive to overcome liquidity shortages by increasing the demand for funds in short term. From mid-2007 until the end of 2009 there was a sustainable contraction in short-term bank loans. The growth rate of bank loans shows a clear downward trend for NFE and households with higher sensitivity of consumer credit to the changes in economic conditions (Figure 4).

Figure 4



The reason for quicker response of households to changes in the macro-economic dynamics should be searched at households' shifting expectations for the future economic development from positive to negative. As an additional factor may be pointed out the accumulated household debt during the years of credit expansion (considering the high growth of consumer credit), but greater importance should be attributed to the growing economic uncertainty in that period. The annual change in the short-term credit for NFE compared to the change in consumer loans shows a slight time lag, but the attention should be focused on the sharp drop of the short-term financing for NFE at the end of 2007. During this period, the economic crisis was still in its early stages and there were no objective conditions for reducing the demand for bank loans from the NFE. Those anticipatory response of the CB is rather a preventive reaction to the growing uncertainty in the international financial markets. Given that the market share of affiliated banks in Bulgaria during this period (2007-2008) reaches 80%¹⁷ and the ability to use low-interest financing from parent banks decline, it is not surprising that bank credit supply contracts sharply by the end of 2007. During the forthcoming years high cautiousness of the CB was supported by deterioration of the bank credit portfolios and the growing share of loans classified as non-performing and loss (Figure 9). As a result, short-term credits for NFE show consistent negative annual growth by the end of 2009, and the growth in 2010 could not maintain sustainable levels.

Figure 5



Monthly dynamics of the short-term loans show an increase in bank loans in the first half of each year followed by a decrease in the end of the year (Figure 5). The observed loan cycles are more likely to express an uneven supply of credit (due to

¹⁷ BNB - 2008 Annual report, p. 47.

liquidity problems) than non-linear demand for loans. Since the end of 2011, offering of short-term loans for NFE compared to the consumer loans showed slow growth, which may be explained with slow recovering of NFE.

A brief look at the dynamics of long-term loans also specified a slow dynamics in credit supply in the long run. Long-term loans decreased by the end of 2008, and since 2009 remained at the same level. There was no difference in lending to households, including housing loans. Although housing loans and long-term loans for NFE (it can be assumed that the majority of them are investment loans) are secured by assets of even greater value than the loan CB remain cautious.

Considering the evidence of CB's insufficient liquidity to provide loans and limited external funding sources there could be identified two factors whose influence on the CB' willingness to finance long-term investments in crisis is intensifying. The first one is the dominating small maturity of short-term borrowed capital since 2008. It is known that CB balance their exposures between short-term funds in the form of deposits and the significantly greater maturity of long-term loans. Deposits with maturity up to 3 months traditionally take a large share in the CB balance sheets – over 50% up to 2008 and 46% in 2009. The second factor is the increase in the share of deposits in bank liabilities compared to the pre-crisis period. While the capital of the parent bank is aimed at generating higher profits by offering bank loans, financing loans with deposits requires different treatment of attracted funds.

It is noteworthy that the decline in loan growth began in late 2007 and early 2008, when GDP growth was 6%, consumer demand raised with 4.9% and investments in fixed capital reached 20.4% in 2008.¹⁸ The high values of these macroeconomic indicators leave no doubt for lower loan demand in that period. On the one hand, it can be assumed that the reduction in credit growth results from a restrictive policy of BNB as in mid-2007¹⁹ the central bank increased significantly the rate of minimum required reserves of CB from 8% to 12%. Considering the low credit supply as a positive effect of the monetary policy could be argued. Evidences from the last decade clearly show that the effects of the BNB policy do not affect CB's credit policies at all. Restrictive bank credit policy in early 2008 implies that CB doubted of future liquidity shortages and/or deterioration of loan portfolios a year before the economic crisis in the country to deploy to a full extend.

Considering low lending activity, evidences of credit rationing could be found in the dynamics of average size of a bank loan and the number of provided bank loans. Credit rationing occurs in cases "*when lenders determine the interest rate and still provide less than asked credit*".²⁰ It can be summarized that credit rationing refers to two types of restrictions applied by CB: First, within a group of borrowers with identical features, only some of them receive credit, or second, there is a group of loan

¹⁸ BNB, 2008 Annual report, p. 17.

¹⁹ Ibid., p. 40.

²⁰ Jafee, Russell, 1976, p. 651.

applicants, which for a given amount of bank credit does not receive bank loan at any interest rate²¹. As a consequence, access to credit market is limited, and CB provide fewer loans and/or offer credit in a smaller amount than wanted.

CB respond to the increased uncertainty in the period 2008-2012 resulted in shrinking the volume of provided loans and restricting access to credit to the private sector. During that period the average size of a loan and the number of loans for NFE and households changed.²² CB increased the average size of a loan for NFE, while the number of loans remains almost not changed after a slight decline in 2009 (Figure 6). CB prefer to restrict credit market access by funding fewer investment projects of higher value. Restrictive credit policy is more pronounced in household loans (Figure 7). Simultaneously with the increase in the average loan size per household the number of provided loans reduces. At the end of 2008, the size of a household loan amounted to an average of 6,000 Levs, and at the end of 2011 it rose to nearly 8,000 Levs. At the same time the average number of household loans decreased from nearly 2,890 to 2,530 thousands.

Figure 6

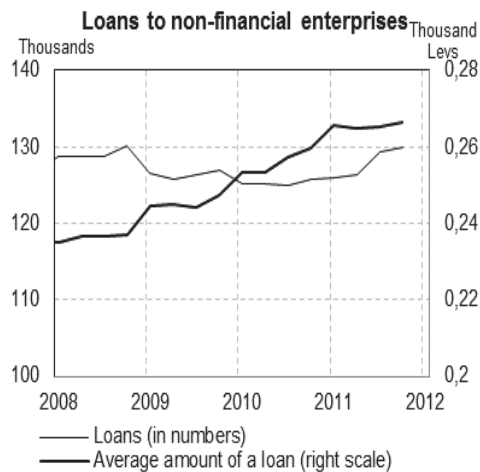
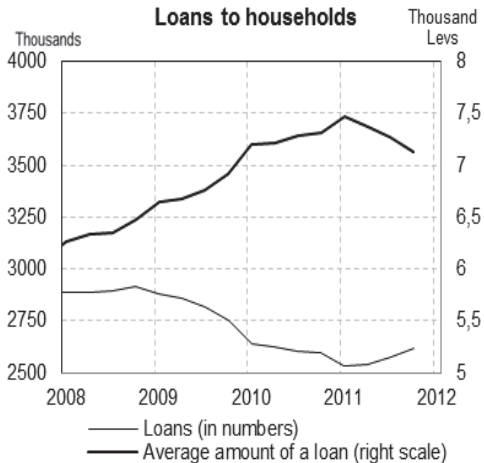


Figure 7

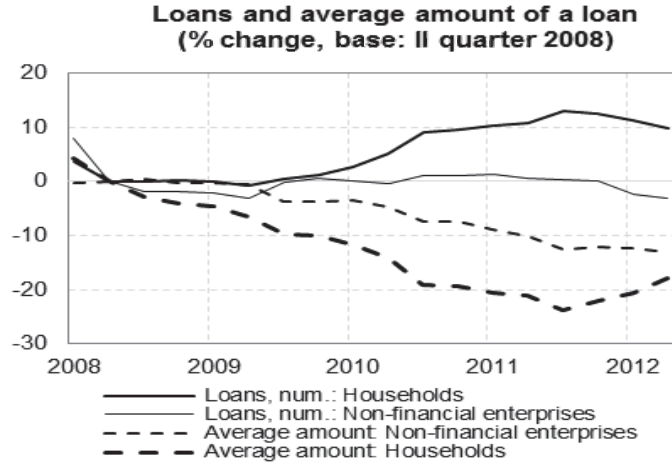


In the first quarter of 2012 compared to 2008, the number of loans to households decreased by 13% and the average size of a loan by 23.8%. (Figure 8). Loans to NFE shows less fluctuations. Financing of investment projects as a share decreased by 12.3%, and kept almost the same number of projects in 2008-2012.

²¹ Stiglitz, and Weiss, 1981, p. 394-395.

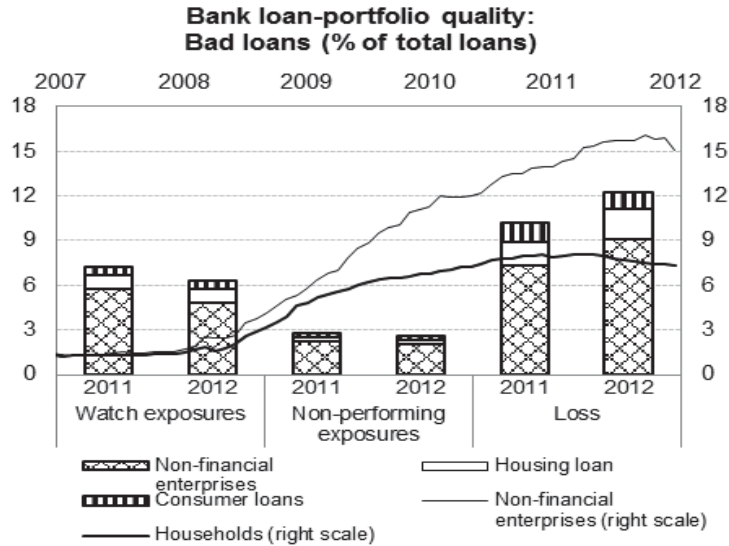
²² The average size of a loan is calculated as the total amount of credit for one quarter is divided by the number of loans for the same quarter.

Figure 8



Perhaps the strongest argument in favor of the reduction of bank loan supply is the sharply deteriorating quality of loan performance in CB's credit portfolios. The ability of the private sector to repay its obligations to CB worsened almost 5 times in the last four years (Figure 9). By 2008, the share of bad and non-performing loans do not exceed 5%, and reach the extremely high 25.6% in mid-2012.²³

Figure 9



²³ BNB, www.bnb.bg

The biggest contribution to higher credit losses from bad loans have loans to NFE, followed by housing loans. In 2012, bad loans to NFE reached over 16% of total bank loans and over 71% of bad loans, while non-performing household loans, including losses do not exceed 5% and 23% respectively. Significantly higher proportion of NFE bad loans contributes to reducing the level of credit in the period after 2008.

Considering indicated significant potential loss of bank capital and the expectation of further write-off of bad assets, the reduced willingness of CB to lend to private sector (expressed as a function of the quality of bank loan portfolios) seems justified. The behavior of CB clearly shows that the restrictive credit policy will be changed only after a decrease in the high proportion of bad loans. So far, a positive signal for reducing bank loan losses is the decreasing watch loans and non-performing loans in 2011 and 2012²⁴. It can be expected faster credit growth in the medium term only if the volume of high risk exposures follow sustainable downward trend. The bad credit performance of the private sector is a factor that reduces both the demand and supply of credit, but the impact on the supply side undoubtedly has a stronger effect.

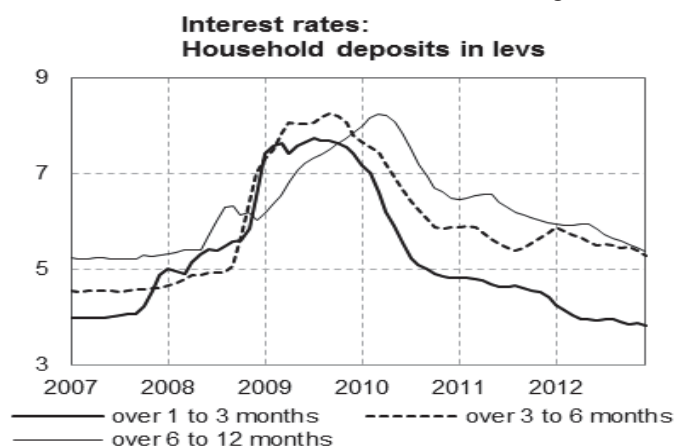
It is noteworthy that bank credit showed negative growth, respectively, the supply of credit decreases since 2008 (Figure 4), but signs of deteriorating the creditworthiness of private sector occurred in 2009. The short time lag from the application of restrictive credit policy to rapid and sustained deterioration in credit quality shows, on one hand, that the creditability (profitability) of the economic agents is unsustainable due to the impact of external shocks, and secondly, some of the problems resulted in the reduction of the company's liquidity started in the period before the economic crisis. Last but not least, the poor flexibility of the borrowers reveals that CB credit policy during last decade was imprudent and taken under the pressure of rising profits.

*Interest rate dynamics on deposits with
short-term maturity*

Most clear idea of CB's demand for short-term funds can be given by the dynamics of interest rates on short-term deposits. Higher interest rate level at domestic market is an indicator of increased bank demand for short-term funds, while lower interest rates on deposits implies a weak demand. In 2008-2009 the short-term interest rates on deposits with short-term maturity rose with the fastest rate and showed a strong need of attracting short-term funds in the banking system. Since the end of 2008 and in 2009 interest rates on deposits with maturity from 1 to 3 months exceeds interest paid on deposits with maturity from 6 to 12 months (Figure 10).

²⁴ Data on risk exposures by categories are available only for the period 2011-2012. Up to 2011 the BNB stated only aggregated information on the level of bad and restructured loans of non-financial enterprises and households.

Figure 10



In 2012, again it can be seen an increase in interest rates on deposits of 3 to 6 months to the level of deposits with higher maturity 6 to 12 months. The high demand for cash resources with short-term maturity in 2012 shows that the deficit for short-term funds has not been overcome, and the banking system experienced insufficient liquidity. CB still face difficulties in raising capital. It is not justified to explain the low credit activity in the economy only with weak loan demand when CB reduce intentionally the inter-bank financing, increase investments in available-for-sale and other highly liquid assets and maintain large amount of excess reserves. During the reported period, the rate of gross investments and domestic consumption decreased annually and contribute to reduce the aggregate demand in the economy, including the demand for credit.

Conclusion

In the period 2008-2012 the bank management decisions are dominated by striving for confidence. In response to the lowered liquidity in the financial markets (as inflows of non-resident capital sharply reversed) and limited sources of external funding CB restructure their balance sheets. The risk of liquidity shortages is addressed by increasing the assets with high liquidity and decreasing less liquid and riskier assets (bank loans). Bank liquidity risk is managed by intentionally reducing the bank loans to other credit institutions and increasing the loanable funds from domestic market (primarily from NFE and household deposits).

By restructuring their balance sheets, the CB as financial intermediaries transfer both positive and negative effects from the changes in financial markets to the private sector. Reduction of the level and share of bank loans results in limited sources of external financing for NFE and put pressure on their economic performance, liquidity and investment activity. Adverse effect of hoarding liquidity (measured as a high rate of liquidity coefficients) is constrained access to credit and reduced lending to private sector.

Along with the poor quality of credit portfolios, another important determinant for contraction of credit supply is the high share of loans in the asset side of the CB's balance sheets. The loan share of total bank assets shows steady decrease in the recent years, and by 2012, its values rated for CB(1) 78% and CB(2) 73%. Although the reduction for 2008-2012 is significantly above 4% (Table 2), the loan share still indicates a high percentage rate. Given the current level of liquidity in the banking system and the limited sources of funding for CB (the BNB is restricted to act as a lender of last resort), a significant increase in bank credit supply in short run can not be expected. The objective assumptions are in favor of further contraction of the loan share in the bank balances and credit rationing. To increase lending, banking sector needs a new injection of additional liquidity by the central regulator. In the situation of inefficient functioning of the credit markets, low credit activity and apparently restricted access to credit market, the silent response of the BNB remains unclear. Since the beginning of the economic crisis the BNB does not take any direct and effective intervention, but "shows passivity in regulating bank liquidity".²⁵ Moreover, CB benefit from the BNB passive behavior and have adopted a waiting position for better economic conditions and improved market confidence. Bank credit activity is improperly considered only a consequence of the economic activity, and not as a source of economic growth. As repeatedly stated in economic studies, the BNB has the necessary tools to intervene in credit markets under the currency board²⁶ conditions. BNB should accept the reasonable sharp criticism for non-intervening on the credit markets during this critical period for the private sector, 2008-2012. In order to facilitate the provision of loanable capital to the private sector and to stimulate the investment activity, the BNB is strongly required to revise its policy of non-interference. Moreover, whether the weak credit activity in the economy is driven by the demand or supply side, the BNB intervention to stimulate credit growth is equally imperative.

Not surprisingly, the credit market continues to function inefficiently due to the withdrawal of the main agents in it – the banks and the central regulator. CB accumulate liquidity buffers and annually increase the rates of liquidity coefficients, but the increase in liquid assets does not contribute to an increase in bank willingness to supply loans. In the early stages of the financial and economic crisis in response to the liquidity shock in the international financial markets credit institutions worldwide first sought a short-term solution in balance sheet management. Soon the central banks adopted a reasonable monetary policy to ease credit institutions to overcome the liquidity shortages and to reduce the uncertainty.²⁷ The application of traditional instruments of monetary policy and quantitative easing repeatedly smooth down the financial markets, but do not contribute to credit growth. The experience gained from

²⁵ Minassian, 2010a.

²⁶ Detailed analysis on potential and real possibilities of BNB to have an effect on money supply under currency board is performed in Minassian and Stoyancheva, 2012, p 92-105.

²⁷ ECB changed the reference interest rate four times and applied number of measures to ease external financing only in 2008 (see ECB Annual report 2008-2013...)

the those central banks' interventions allows, on the next stage, to be considered more flexible and unpopular policies in 2009.²⁸ On the contrary, BNB has not applied all possible policy instruments to alleviate CB to overcome the liquidity shock from withdrawal of non-resident bank capital and the restricted access to international financial markets. Raising funds from the domestic market and increasing the interest rates on deposits (2008-2009) was met with implicit consent. During these and subsequent years low credit activity in the economy is not addressed by additional measures to expand money supply.

On the other hand, hoarding liquidity by CB should be considered a negative assessment of the risks and threats resulted from the influence of domestic factors – such as delayed (institutional) reforms, inconsistent economic policies, frequently changing requirements and standards for businesses, economic uncertainty and a lack of confidence. CB's precautionary behavior should attract the attention, on the one hand, of the BNB, since the credit markets operate inefficiently and, on the other hand, of the government due to the obvious need for short-term institutional reforms and recovering the confidence among the economic agents.

The significance of recovering the confidence is underlined by the withdrawal of non-resident capital (a major part of the deposits of banking institutions in CB balance sheets). Regardless of the seemingly positive macroeconomic (fiscal) indicators of national economy, attracting capital inflows will be a continuous process directly related to the efforts of macroeconomic management to overcome the internal obstacles to economic growth. Expectation that the flows of foreign capital will increase automatically to pre-crisis levels, solely as a result of the recovery of the European economy is unrealistic. The problem with the deficit of confidence and attraction of foreign capital will continue with the same severity after recovering the world economy unless related short-term policy is not adopted.

Government policy also contributes significantly to the lack of confidence and the pessimistic expectations of economic agents. In 2008-2012 the government failed to find effective solutions to support the economic growth and to solve the deepening socio-economic problems within the limits imposed by strict budgetary policy. Commonly referred to as positive the tightened fiscal discipline came in strong contradiction with the evident delay of the necessary structural reforms, overdue payments to the private sector and reduced incomes of economic agents. A transparent and effective functioning administrative environment is a key factor for economic growth and foreign investment attraction and requires an additional budget expenditure. Bulgaria has domestic reserves for increasing capital flows in the economy, at least in terms of additional reduction of the CB's minimum reserve requirement held at the BNB and changes in tax policy.²⁹

²⁸ Detailed description and distinction of traditional and non-traditional instruments of monetary policy makes Smaghi (2009). See Smagi, 2009.

²⁹ Although maintaining a proportional tax (since 2008) continues to provoke discussion, it is difficult to prove a positive effects on the economic growth in the years of recession. An active fiscal policy is extremely necessary to enable the government to support the economic growth. In this regard,

While in most EU countries, the level of public debt severely limits the deployment of fiscal policy in Bulgaria fiscal discipline is a function of the currency board. The calls for higher government spending meet the sharp criticism of the supporters of conservative fiscal policy. In 2012, the government resisted the strong public pressure to increase spending, but a number of issues remain unsolved, including the institutional and structural reforms, for which economic growth slows down. Most common argument in favor of the tight budget discipline is the provision of long-term financial stability, but the imposed restrictions can be seen as a weak willingness of the politicians to take responsibility to carry out substantial reforms with long-term effects. The refusal to change the current governance model and to make the necessary reforms shows the government mistrust that the additionally injected capital will be used efficiently and productively in the economy.

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In 2008-2012 period CB responded to the liquidity shortage in the financial markets by increasing liquid assets and decreasing assets with higher risk. The increased liquidity in the banking system does not directly contribute to an increase in bank credit supply. There is no reason to assume that the low level of credit to private sector arises only from weak demand for credit. Given the current analysis of the bank credit activity, arguments are found that the CB restrict the supply of credit in order to strengthen their liquidity positions and reduce the liquidity risk in short term. Lowering interest rates on deposits in 2008-2010, the higher demand for capital with short terms (3 months) and the high share of bad and non-performing loans in this period are factors that affect exclusively the supply side. With the BNB withdrawal from the credit market, external funding of the private sector is minimized, and the economic growth lacks its investment grounds. Given the negative effects of the liquidity shock in 2008 and the obvious precautionary hoarding of funds in the banking sector, the BNB acts passively. Passivity of the BNB can not be assessed positively in terms of the current economic crisis and ongoing recession. The release of additional liquidity by the BNB in the banking system is crucial to stimulate lending and restore confidence.

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Minassian (2010b, p. 85) states: "it is certain that we will see the opposite dynamics (of corporate tax in Bulgaria), the question is when?", see also Gechev, p. 44-53.

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