THE MANAGEMENT OF THE LIQUIDITY RISK

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1. Introduction

The banks are an important and influential sector of international businesses. They maintain the confidence in the monetary system because of the close relationship with the legislative and executive authorities. There is, therefore, a major interest regarding the welfare of banks, especially on their solvency and liquidness, and on the degree of risk associated with various operations.

Among bankers the following metaphor is used: *"the cash is the bank's breath"*. The liquidness is necessary for the banks in order to provide the funds necessary for development and to compensate for the fluctuations of expected and unexpected balance sheets.

Through the liquidness of a bank we understand its ability to effectively cope with the withdrawal of deposits and the maturity other debts and to meet the additional financial requirements for the loans and investments portfolio. A bank has an adequate cash flows potential when it is able to obtain the necessary funds (by increasing debt, the ownership and sale of assets) immediately and at a reasonable cost. The price of liquidness is dependent on the market conditions and the perception of the market on the risk level of the owing institution. In order to maintain the credibility to customers and the financial community, banks must record an appropriate degree of liquidness.

Liquidness is a general feature of the assets, reflecting their ability to be processed quickly and with minimum costs in cash or available in current accounts.

The risk of liquidness arises as a result of non-correlating the maturities between the posts of assets and liabilities, in practice developing the phenomenon of extending the maturities of assets and reducing their liabilities. The liquidness needs of the bank occur when customers withdraw significant amounts of the deposits made at the bank, in the condition of non-reimbursing at their term the loan and interests and, not least, due to psychological factors, appearing the so-called phenomenon of "bank run" in the conditions of the existence, on the market, of certain information relating to the payment difficulties of a banking institutions, which causes lenders to require immediate and full repayment, as well as some rumors of feedback without a valid basis (self-fulfilling prophecies) which may cause the loss of credibility of the bank or even its bankruptcy.[1]

Among the causes that determine the appearance of the risk of liquidness we include: the economy, non-correlating the maturities on deposits and loans, financial indiscipline of the economic agents, dependence on the evolution of the financial market.

The main **indicators for the analysis of liquidness** are:[2]

➢ *global liquidness*, which can reflect the possibility of patrimonial elements of assets to turn into short-term

[1] Marin Oprițescu, coordinator, *The Management of Risks and Banking Performances*, Universitaria Publishing House, Craiova, 2006
[2] Ilie Mihai, *The Technique and the management of Banking Operations*, Expert Publishing House, Bucharest, 2003

cash flows to meet due payment obligations;

- *immediate liquidness*, which can reflect the possibility of patrimonial elements of treasury to meet short-term debt;
- *liquidness in terms of total deposits*, which indicates the possibility of patrimonial elements of assets to meet the liabilities represented by total deposits;
- *liquidness in terms of total deposits and loans,* which can illustrate the possibility of patrimonial elements of assets to meet the liabilities represented by total deposits and loans.

Also, in order to **estimate the liquidness risk** it is calculated:

- *the position of the liquidness*, calculated in days, weeks and months, whose optimization consists of balancing the liquid assets with the immediate liabilities. In case of a *negative position*, the bank must resort to emergency financing sources: loans from the interbank market, loans from the central bank or the sale of assets, and in the case of a positive value, the surplus of liquidness is placed in short term deposits on the interbank market;
- *the liquidness index* is calculated as the ratio between weighted assets and liabilities by the average number of days (months, years) correspondent for each maturity date or the current number of the respective maturity group. If the liquidness index is: 1, the bank should not be processing maturity; <1, the bank must convert short-term liabilities into long-term assets; >1, the bank converts long-term liabilities into short-term assets;
- *the liquidness rate* is expressed as a percentage and indicates the degree of dependence of the bank against the money market as a whole or against a particular segment of it and it is calculated according to the formula: new loans contracted/due loans x 100. A super-unitary rate indicates the decrease of liquidness due to the increase in the degree of debt, the relationship being inversed in the case of a sub-unitary rate;
- *the "total loans/total deposits" report* reflects the proportion of resources placed and attracted;

The interpretation of these indicators of liquidness is not always easy. Their analysis is performed separately in the short term and long term, and the investments and resources must have an actual chargeability and not legal.

The National Bank of Romania monitors the indicators of bank liquidness under the financial reports submitted periodically and takes into account the level recorded in according the general qualification of the bank, the bank liquidness having a special importance at European level for the conduct of monetary policy.

2. Principles and techniques for bank liquidness management

The insurance of an adequate liquidness is an essential part of the global management of a bank. The concern of the banks to maintain an adequate liquidness is caused by unexpected financial need at minimum costs. In this regard, banks assume a *price of liquidness* which depends on the market conditions and the ability of the bank to attract resources. A bank has adequate liquidness when it is able to obtain the necessary funds in real time and at reasonable costs. The price for ensuring adequate liquidness assumed by a bank is a function that depends on market conditions and the level of interest rate risk and credit. An excess liquidness cause additional costs for the bank and by default the reducing of profitability and a reduced liquidness may cause the sudden interruption of business.

Achieving and maintaining an optimal liquidness are **prerequisites** for: the normal course of the banking business by providing the bank's customers with sufficient financial funds; the fulfillment of the commitments assumed by the bank; avoidance of forced liquidness of the assets of the bank in case the funds would be insufficient; providing immunization of the bank against the volatility of the parameters market-exchange and interest rates; avoidance of accessing the funds provided by the monetary authority.

The importance of liquidness does not stop at bank level; it has a much greater importance, given that the registration of syncope in providing liquidness to a bank may generate unfavorable situations for the entire banking system.

In general, the management of bank liquidness is based on the following **principles:**[3] the bank approves annually a strategy for the operational management of liquidness; the bank management is informed of the situation of bank's liquidness both systematically, and as soon as changes occur in the current liquidness and the one forecasted; the bank periodically reviews the limits of levels of liquidness positions and the assumptions used in the management of liquidness, promoting scenarios of type *what if*; the bank regularly supervises the relations of market access of resources and ensures the ability to sell assets; the bank periodically reconsiders the plans for crisis situations in order to achieve the strategy regarding the management of liquidness crisis and the procedures for covering liquidness shortfalls.

The liquidness risk management is focused on two components: *development and implementation of liquidness risk policies* of the bank, which mainly aim to maintain an adequate liquidness, permanent monitoring of liquidness and the *policy of reporting obligations*.

In the management of bank liquidness, particular importance is given to the *minimum reserve required* established at BNR. The regulations in force require the establishment of the minimum reserve required both for the means in lei, and for those in foreign currency. Formation of the minimum reserve required generates, for any commercial bank, two effects: on the one hand, it limits the possibility of granting credits, with a corresponding decrease in incomes from interests; on the other hand, it provides the minimum required liquidness necessary for the fluency of payments.

The Basel Committee has developed a set of key principles in the management of liquidness risk. Addressing liquidness in the opinion of the Committee must not be centered only on the Bank's quantification of the liquidness position at present, but it is necessary to develop various scenarios, including extreme situations that generate liquidness crisis, in order to shape the management of liquidness risk. As with the management of other risks, liquidness management is an integral part of the strategy of the bank and includes quantification, monitoring and controlling liquidness risk.

3. Assessing the current state of the Romanian banking system in the context of the international financial crisis

Mr. Mugur Isărescu, the BNR Governor, in the press communiqué from October 2008, regarding the state of the banking system of Romania categorically stated that "the solvency and liquidness of the banks in Romania is one of the best, not only in the region but also worldwide."

Romania is not totally away from the global financial crisis, but it is not directly affected by it. Romanian banks are independent and relatively financially stable, having a solid situation with a sound that is above the average region, in terms of solvency and liquidness, but cautious in terms of credit. Financial institutions in our country have own capital that cannot be withdrawn at any time. Moreover, "the central bank is ready to intervene with injections of

[3] Iuliana Predescu, *The banking activity between performance and risk*, Expert Publishing House, 2006, p. 79

liquidness when necessary, if it will be" revealed Mr. Isărescu.

Respecting European standards, the BNR made a change in the legislation, requiring commercial banks in Romania to have specific emergency plans, if certain indicators should deteriorate. Fortunately, none of these plans became operational, which means that the banks were far from crisis, thus far from the situation of the application of these plans. The rumor was the one who fueled the exacerbation of this crisis, said Mr. Isărescu.

Lately it has been noted that the sterilizations of the National Bank have become smaller and smaller in value, because banks are granting credits and no longer have the cash, says Mr. Nicolae Cinteză, the director of the Division of Supervision of BNR. In the banks' balance sheets changes occur in the structure of the different categories of assets. The cash flows decrease and increases the volume of loans granted. Lately the cash flows from the portfolio of banks, which they placed at BNR, were turned into loans. It can be said that lending volume increased simultaneously with the decline of cash flows. BNR is currently still in the net debtor position, sterilizing liquidness from banks. But BNR position tends to become a creditor, that will provide loans to banks who demand it, but it is necessary that the banks would have in their portfolio state titles, which will be securities for any eventual loans.

Also, in case of liquidness problems, the banks can withdraw money from the minimum reserve required established at BNR. The average monthly reserve established in BNR must be equal at least to the amount calculated according to the laws. During the month, this can vary and increases or decreases. The banks in Romania have huge amounts of reserves at BNR.

In order to cover temporary liquidness needs, the banks open credit lines to one another, in terms of higher costs.

The indicators of liquidness and solvency of the banking system is at comfortable values.

According to the latest available data published by BNR, the solvency indicator was 11.85% in September, before the banks were hit by the financial crisis, declining from 13.78% in 2007 and 18.12% in 2006, but above the minimum threshold of 8%.

The quick depreciation of the leu and the increase in bank interest rates are beginning to influence more strongly the behavior of bank customers. Faced with the rise of bad loans (their share in total system was doubled in 2008, up to the level of 1.4%) and by default the risk provisions, the banks are starting to feel pressure on capital.

Therefore the supplementation of social capital is the simplest form of financing to which the banks can turn to. The entry of the financial crisis in Romania has triggered a wave of increase of social capital in commercial banks to ensure liquidness. Three banks have increased their capital ever since the last months of the last year and other six are preparing to do so. At least 335 million euro will enter the Romanian banks this year. The money comes from capital increases that Bank Post, Transylvania, CEC and MKB Romextera they could operate in the immediately following period. Libra Bank and Millennium Bank may also decide the operation, according to some sources in the banking market.

Large banks still prefer the old forms of financing, not being decided if they would increase their capital. Neither Raiffeisen Bank nor BRD Société Générale do not intend to make this move, being convinced that the financial results from 2008 and the use of profit to fluidize cash flows will provide a solid base of capital in 2009. BCR has approved a whole timetable for the issue of bonds in order to enhance cash flows. Unfortunately, because of the interests over 20% to which these bonds may be issued, the bank timetable does not provide the date on which they will be issued by the bank.

Regarding the indicator of liquidness, it dropped to 2.25% in October, when the banks were faced with massive withdrawals of depositors caused by rumors concerning the fragility of certain banks, but returned to a record level of 2.51% in November, above the level in the last three years.

Also Andreas Treichl, Erste Bank president, the majority shareholder of BCR, said that the biggest Romanian bank does not require financial assistance from the Romanian state. Moreover, BCR is among the few banks that promotes in these moments also credit products, not just the ones attracting savings.

Under the conditions of restricting foreign funding, the banks will need to rely more on resources attracted from clients to increase the funding volume. But the financial crisis has led to a decrease, in the last months of the year, in the savings in banks, despite very high interests. That is why the banks are still more dependent on the liquidness provided by the National Bank, through loan facilities, now playing the role of creditor on the bank market. Bankers are of opinion that none of the banks in Romania have solvency or liquidness problems and the market situation is due to the attack on the leu which was conducted by foreign entities.

Many other banks are forced to drastically reduce the lending activity or even to stop it, in order to balance the risk indicators.

Banks whose credits/deposits report is supra-unitary in favor of premiums must rebalance the ratio between loans and deposits primarily due to the decrease in the number of loans and less by supplementing savings. The credits/deposits report in the banking system was at 135% at the end of last year, while in the foreign currency loans the ratio was 2 to 1, and in the case of loans in national currency the ratio was sub-unitary. But there are banks where loans exceed 3 or 4 times the volume of deposits, which is why they had to double back suddenly. Some banks still have difficulties in obtaining cash flows in lei, due to reduced experience regarding the use of loans from BNR and as a result of lack of state securities which guarantee these loans.

However, the conditions on the banking market in Romania look totally different this year versus last year. In addition to attracting deposits from firms and population, credit institutions had until the middle of last year a lot of funding opportunities to ensure liquidness and credit fluidization: from subordinated loans from foreign parent banks, until issuance of bonds on the national and international markets or simple operations on the interbank market. After the deduction of cash flows and the increasing costs of all these forms of financing, commercial banks need to find new solutions to finance the activity.

The BNR governor expects that the rate of credit growth to slow down from over 50% per year to 25-30%. Although the granting of credits will soften, the problem of interest charged by commercial banks still remains. The large difference between high interest rates on interbank markets (by 13-17% per year) and the rate of monetary policy (10% per year) is caused by distrust in the system put out by the rumors. To these are added the anticipations regarding loans which the Ministry of Economy and Finance (MEF) must make on the market at end of the year, said the BNR governor. Some banks preferred to maintain the excess of liquidness, not winning anything, therefore not exposing itself. Interests grew even after the appearance of information regarding the large amounts which MEF would have to borrow, showed the BNR chief, when presenting a report to Parliament on the effects of the international crisis on Romania.

4. Liquidity Risk Management in BCR Erste Bank

Since last year we are facing a new challenge, a plague which had been forgotten in the past 80 years: an ongoing international financial crisis. This situation further highlights the importance of proper management of business continuity for organizations worldwide. Those organizations which carry out analysis of risk assessment and impact on business on a regular basis have a better and updated vision on the importance of their current business processes that could be used to provide a prompt response to the global crisis.

In this context and in the spirit of the above mentioned BCR Erste Bank is concerned with the development and use of procedures, policies and control and limitation of liquidness risk. The Bank has procedures for tracking and limiting liquidness risk and an alternative plan for the funding of liquidness risk in crisis conditions.

In order to limit liquidness risk, liquidness risk management for BCR, involves the following **actions**:

- *more stringent limits for the indicators of liquidness*, determined in accordance with the provisions of BNR Norms no. 1/2001 regarding the liquidness of banks and which provides that the minimum limit of indicator of liquidness in each band due, would be 1. Given the specific economic conditions specific to the internal banking environment and the volume of operations that that may otherwise adversely affect the liquidness indicator, BCR has established to maintain a margin of 12% over the level established by BNR cumulated for the first two due bands (the maturity remaining up to three months). This margin is necessary because, in accordance with the provisions of BNR Norms no. 1/2001, the excess liquidness made on each maturity band, except the last band, is added to the actual liquidness level related to the next maturity band, thus constituting a prerequisite for obtaining a corresponding indicator (supra-unitary) for the superior maturity bands, while the first band (up to 1 month) and possibly the second band (up to 3 months), the bank must really have an effective liquidness higher than the necessary. In light of the development in the volume and structure of the Bank's balance sheet, of the legislative changes occurred and of other economic and financial factors, this minimum limitation can be updated by decisions of the Committee of Management Assets and Liabilities (ALCO).

- *monitoring the liquidness risk against a single person*, in accordance with the provisions of BNR Norms nr.1/2001, the high liquidness risk against a single person is the liquidness risk against a single person (any person or group of individuals or legal persons that are economically linked between them), whose value is at least 10% of the balance sheet liabilities, other than loans, and the financing commitments given by the bank and highlighted off-balance sheet. If the high level of liquidness risk against a single person exceeds 15% of total balance sheet liabilities, other than loans and financing commitments given by BCR and highlighted off-balance sheet, the necessary liquidness will be calculated by recording at the account value of balance sheet liabilities on maturity and those representing on term deposits they have against the person.

For the monitoring of high liquidness risk against a single person and taking into account the features of the internal economic environment, the specialized directions of BCR monitor the main individual and legal persons to which the bank records liquidness risk, in order to permanent place within the limits imposed by BNR Norms or.1/2001, such as: monitoring liquidness risk against a single person as defined in the BNR norms no. 1/2001 for exposures exceeding 100 million in Lei equivalent; monitoring liquidness risk against a single legal person as defined in the BNR norms or.1/2001 for superior exposures up to higher levels of 300 million in Lei equivalent. Depending on the evolution of the bank balance sheet and other economic and financial factors, such levels may be subject to the approval of the Executive Committee for their review;

- Limits and standardized tests of liquidness at Erste Group level

The importance of an adequate liquidness management has been highlighted by recent turmoil in the market generating an increase in the volatility of asset prices and an extension of liquidness problems. Over 2008, BCR focused its efforts to improve the standards of liquidness management taking into account the experience gained during the crisis.

According to the standards of Erste Bank Group the bank has implemented the following analysis and liquidness limits tailored to the specific market in Romania:

- *Short-term limit* (the limit is based on the net flow calculated on 5 days);

In order to meet an immediate liquidness crisis, the bank must have held a sufficient amount of eligible collateral securities to enable the attraction of funds if the market cannot provide collateral unsecured credit. Given that in the event of a liquidness crisis, the pressures are on short term, BCR decided to implement a limit of liquidness on the short term, standard at Group level. This short-term limit refers to the net flow on 5 days to be covered by eligible collateral free separately on each main currency: local currency - RON - and EUR. The two most important criteria to be taken into account in calculating the daily limit value for collateral liquidness limit on the short-term are the availability and suitability of titles. In other words, this limit of liquidness on the short term must be calculated and monitored daily for each of the two currencies mentioned above;

- The limit that is based on scenarios and "stress testing";

In order to measure liquidness risk a new model of analysis called "traffic light system" has developed. This analysis is based on different scenarios and shows the bank's ability to cope with the different types of liquidness crises. The "Traffic light system" provides a dynamic image of the bank's liquidness depending on different scenarios for liquidness crises and the time horizon for which the analysis is made.

The "Traffic light system" considers 5 liquidness scenarios:

- Normal conduct of business - internal and external environment poses no special problems;
- Moderate image crisis - drop in profits and/or negative image;
- Severe image crisis - downgrade at least 2 qualifiers;
- Moderate market crisis - mild recession, moderate political crisis, severe crisis in a sector other than the banking one, which affects the financial industry;
- Severe market crisis - the banking crisis, severe and prolonged recession.

The impact of liquidness crisis largely depends on its duration. A moderate prolonged liquidness crisis may have similar effects to a severe crisis on the short term. For this reason "the traffic light system" takes into account two time horizons: 1 month and 1 year.

The results of limit liquidness are presented under the form of traffic light colors for each combination of a crisis scenario, time horizons and currency, as follows:

- GREEN – the output volume can be covered by the entries generated by liquid assets non-core;
- YELLOW – the output volume can be covered by the entries generated by all liquid assets (core and non-core);
- RED – the output volume is greater than the total entries generated by liquid assets (core and non-core).

Current liquidity limits that are based on different scenarios and time horizons are presented in the tables below:

1 Month Analysis

	Normal conditions of developing the activity	Moderate image crisis	Severe image crisis	Moderate market crisis	Severe market crisis
All currencies	GREEN	GREEN	YELLOW	GREEN	YELLOW
RON	GREEN	GREEN	YELLOW	GREEN	YELLOW
EUR	GREEN	GREEN	YELLOW	GREEN	YELLOW

1 Year Analysis

	Normal conditions of developing the activity	Moderate image crisis	Severe image crisis	Moderate market crisis	Severe market crisis
All currencies	GREEN	YELLOW	RED	GREEN	YELLOW
RON	GREEN	YELLOW	RED	GREEN	YELLOW
EUR	GREEN	YELLOW	RED	GREEN	YELLOW

The results of the "traffic light system" analysis are regularly reported to the local ALCO by the Management Directorate of the Balance Sheet. In case the limits for the analysis of liquidity "system semaphore" are not met, the Management Directorate of the Balance Sheet will present in the local ALCO a list of recommendations that will include possible measures that could generate the future compliance of limits.

➢ *The GAP Report of liquidity*

More than those mentioned so far, BCR has lined up the liquidity GAP report to the standards of Erste Group. The Management Directorate of the Balance Sheet regularly presents the liquidity GAP report adapted to the local Committee of Management of Assets and Liabilities for all currencies, combined and separately for each currency that represent at least 5% of total assets at the bank.

BCR also has established an alternative funding plan, which is an important part of the management process of liquidity risk, which must be prepared and maintained by each financial institution, providing a framework for solving liquidity problems in both the short term and the long-term if the bank cannot finance, partly or in full, the activities in a normal period of time and at a reasonable cost.

Any bank should adopt decisions correlated to the results and the risks it wishes to take, in order to achieve such levels, knowledge and application of some key measures for adopting future decisions regarding the risk-profit relationship, together forming a central objective of bank management.

5. Conclusions

Maintaining the solvency is a necessity that ensures the proper functioning of the institution, thus the insufficient cash flows can significantly affect the current activity and involves important financial and image. Banks must predict with great accuracy the needs of liquidity, so that the cash-flow fluctuations to be included in the projections made.

The banks protect themselves against liquidity risk through **specific methods and techniques,** aimed at both the bank's resources and investments, such as:

● *on the line of bank resources*: consolidation of the resources attracted from non-bank customers; promotion of banking products on long-term and short-term; effective management of reputation risk and developing an appropriate regional network, in order of closeness of the bank to customers; transactions on the capital market; the increase of capital and own funds etc.

● *regarding the investments of the bank*: granting credits based on maturities, in line with the maturity of resources, maintenance of the minimum reserve required at the required level; active position on the interbank market; diversifying the portfolio of loans, etc.

The banks must submit an analysis of assets and liabilities that are grouped into relevant maturity categories based on the remaining period between the balance sheet date and the contractual maturity date. It is essential to use the same type of maturities for assets and liabilities, in order to disclose their balance. This clarifies the extent to which there is a correlation between chargeability of assets and liabilities and the degree of dependency of the bank on other sources of liquidity.

The Central Bank monitors the bank liquidity indicators to be taken into account in providing the general rating of the bank. At European level, the banking liquidity problem is considered important for the conduct of monetary policy and less significant in terms of prudence. As a result, there wasn't yet an attempted of harmonization of the system of indicators used for the appreciation/limiting of the degree of liquidity. Liquidity control is a task of the bank authority of the host-state, but a harmonization of these standards is necessary because the field of liquidity risk must also be covered.

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