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Some Quantitative Aspects of Stability Management Strategy in a Bank

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Abstract

The stability of commercial bank system is the result of balanced development, which can be characterised by equilibrium and security over a longer period of time. The history of commercial bank system development indicates that reaching and sustaining this qualitative and quantitative state requires regulations and management. One of the most important parts of commercial bank management system is correctly chosen strategy in the circumstances of a changing environment. Strategy gives a possibility to look into the future of the commercial bank, forecast its goals, areas, scale and potential operational results in relation to resource sources and expenses. Nowadays a commercial bank without a strategy is a body of assets, which is encumbered with liabilities. In the paper quantitative stability management aspects are being analysed – commercial bank profitability, liquidity, asset quality and recommendations are given for ensuring bank stability.

Keywords: commercial bank strategy, stability, profitability, liquidity

1. Introduction

The banking crises, which have occurred both in transition economies and developing countries in the last 10 years, have strengthened conviction about the importance of a stable and well regulated banking system. Therefore, an increasing amount of attention has been paid to ensuring its stability and analyzing its development.

The stability of the banking system can be defined as the ability of it to function in a sustainable equilibrium under different economic circumstances and ensure that the system does not require infusions of external resources to maintain its operations. The history of development of banking systems shows that regulation and management are required to achieve this state quantitatively and qualitatively.

The management of the stability of the banking system is the totality of functions, methods and measures, which are implemented by the government, the central bank, the supervising institution (if it is separate from the central bank) and banks themselves. All of these stakeholders target the stable functioning and development of the banking system.

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Fig. 1. Schematic depiction of the commercial bank system stability management

One of the most important ingredients of the management of the stability of commercial banks is the correctly chosen strategy under constantly changing economic environment. The authors of this paper define the strategy of commercial bank as a long-term development strategy, which defines a sphere of operation, its means and forms and which is directed towards achieving stability. Designing the strategy allows to analyse the future of a bank, and to plan the objectives, spheres, scales and possible results of its operation by relating them to the sources and costs of resources. A modern commercial bank without a strategy is merely a collection of assets, which is encumbered with liabilities (Никонова, 2004).

Fig. 2. Components of commercial bank strategy

In order to relate the management of stability of commercial banks to other, more familiar elements of financial management, one can define a set of strategies, which includes:

- A financial strategy, which is directed to achieve a certain level of value for the bank, improve indicators such as return on equity or assets, increase shareholder value, etc.);
- A marketing or market operations strategy, usually directed to increasing the market share in operations, services or clients;
- A personnel management strategy;
- An information technology management strategy.

A bank can also develop and implement the stability strategy by unifying economic and social targets in its operation. One can describe the main economic objective of a bank’s operation is maximising profit in the interests of shareholders, who are investing money in bank’s capital in order to receive a constant stream of income in the form of dividends. However, such an objective is not directed towards the long-term functioning of the bank.

A better approach is to direct bank management towards maximising the value of the bank, which includes a variety of elements, such as obtaining profits, potential volume increase of commercial bank’s operations, increase in the shareholder value and stable dividends (Ляпрушин, 2002).

The social target of bank management bank is related to the increase in the spectrum of bank services in order to fully satisfy bank clients and an improvement of customer service culture. The social aspect can also express itself as the bank fulfilling a role in the development of a country’s economy by investing resources in different spheres of
the economy. Implementation of the social aspect need not conflict with profitability of the bank, indeed it is an essential element in sustaining it.

The above-mentioned targets determine the main quantitative aspects of stability management of the bank:

- Achieving a certain level of profitability, taking into account the acceptable level of risks. This objective necessitates the creation of the system for managing revenues, expenses and profit as well as the volume of assets and liabilities;
- Maintaining banks’ liquidity, by optimising cash flow and the structure of assets and liabilities. In this case the tasks of bank management are managing the cash flow, improving the structure and quality of assets and liabilities, controlling liquid assets and forecasting the liquidity position of a bank;
- Maintaining the quality of banks’ asset portfolios by analyzing their structure, profitability;

Thus, by developing and implementing stability strategies, which unite economic and social objectives, commercial banks can strengthen the stability of the banking system at the level of an individual institution as well as in aggregate.

The importance of designing stability strategy for banks increases along with globalization and financial market integration. A successful asset management strategy is the key ingredient of the stability strategy. Asset management strategy involves optimizing asset structure and managing asset profitability, which are needed because the banking industry is rapidly changing due to three different factors.

The first factor is technology - the most significant engine of the changes in the financial sector. The development of technology eliminates geographical boundaries and provides the possibility for new competitors to enter the market with their own, cheaper structures and business models. Secondly, banks have to encounter ever more demanding clients. A bank can only attract and keep a client with products and services that are easy to use and cheap. The third factor that facilitates changes on the market for financial services is globalization and the growing competition from foreign institutions.

2. Literature Review And Hypotheses

2.1. Management Strategies of Commercial Banks and their Relationship to Economic Fundamentals

A modern concept of strategy has been defined in the XX century by J. Von Neumann and O. Morgenstern (Neumann; Morgenstern, 1947). According to these authors, a strategy is a set of actions by the firm, which is determined by a particular situation. Later the concept of strategy has been made more precise, for example, by defining it as a model of plans, policies, tasks, objectives and opportunities designed to reach previously specified goals (Learnned, 1969).

The first literature devoted to the stability of the commercial bank system and management of stability has appeared only in the second half of the XX century — and its appearance was related to the end of the Bretton Woods system. Economic research in the second half of the XX century has considered the problems of achieving and sustaining a stable economic equilibrium. Theoretical aspects of the stability of banking system have been reflected in academic research by G. Schinasi (Schinasi, 2004) J. Sinkey (Sinkey, 1998), as well as work done by the International Monetary Fund (Houben, 2004) and the European Central Bank (2004).

A particularly topical question is which factors influence the stability of the banking system. The first empirical research, which analyzed the relationships between the conditions of financial sector and economic growth have shown that there is a relationship between economic and financial development (Goldsmith, 1973). The question of causality between the level of economic and financial development, however, remains open. Boyd and Honohan, for example, considered the impact of inflation on financial market and financial sector performance (Boyd, 2000; Honohan, 2003).

2.2. The Concept of Assets and Asset Management Strategies including Liquidity and Profitability Management

The modern concept of asset management and creation has been forged throughout several centuries and continues to develop. Economists were already researching assets as an economic category, as the banking system began to acquire the important role of a financial intermediary, developing together with the economies of nation states.

Broadly, there are three main theories that underlie the accepted understanding of asset allocation and management:

- modified neoclassical theory (developed among others by (Bischoff, 1971)) which described the dependence of investment and consequently asset creation not only on the lagged prices of capital, but also on lagged output;
- portfolio theory of investment, which related asset portfolio optimization to the notion of portfolio
returns, see (Markowitz, 1952);
• monetary theory, which emphasized the role of adjustment costs in determining the persistence of investment behaviour (see e.g. (Mussa, 1977)).

Financial management and business science focus on the question of optimizing bank assets directly and controlling correspondingly arising risks. There exists, for example, a substantial literature on credit ratings and the consequences of the Basel Regulatory framework for banks (see e.g. (Catarineu-Rabell, 2005; Jacques, 2008)).

Evaluating the quality of assets and taking management measures towards improving it is the key to developing a successful asset management strategy. Related contributions include, for example, (Dash, 2011) as well as (Kosmidou, 2011). Yang et al., in a contribution related to this paper, develops and evaluates a credit risk evaluation system for commercial banks (Yang, 2009).

This paper proposes two hypotheses:

H1: Active liquidity and profitability management allows banks to increase their overall stability and lower the influence of external factors on their performance.

H2: Successful asset management strategy controls both for the structure and profitability of assets as well as liabilities – sources of financing.

3. Methodology

3.1. Research Goal

The first objective of this paper is to characterize the contours of the optimal stability strategy for banks with an emphasis on banks operating in the transition economies. Because the development of an effective asset management strategy is an essential part of the stability strategy of any commercial bank, the second objective of this paper is to provide a way of summarising information about the quality and profitability of bank assets as well as to propose some strategies for effective asset management.

In conducting the analysis, the authors used various research methods like quantitative and qualitative methods of economic science including comparative analysis and synthesis, graphical illustration methods.

3.2. Analyses and Results

To verify the hypothesis the authors will analyse the parameters of the parameters of Latvia’s commercial bank operations with a goal to prove that the stability of commercial bank system depends on how successfully commercial bank managed profitability and liquidity parameters as well as implemented asset management strategy. If management of these aspects do not give preferable or acceptable results, commercial bank system is seriously threatened.

The significance and effectiveness of a strategy is connected with the role that is fulfilled by bank management system. In a changing economic environment no commercial bank will spend time on development and implementation of a long term strategy. The need for a strategy arises when macroeconomic and politic situation stabilises, when it is possible to more precisely forecast development tendencies of industries and specific institutions. On the other hand, the growing competition in banking system, which requires certainty that bank’s competitiveness level will increase, indicates a need for development of a strategy.

In changing economic environment bank operations and development strategy became the primary element of management. When implementing stability strategy, which unites economic and social goals, bank is required to set liability and asset management short-term and long-term goals. In the short-term perspective it is necessary to pay specific attention to the changes in bank’s inner and outer environment. In other words, it is necessary to ensure the fulfilment of parameters that characterises bank operations (ROE, ROA, capital adequacy, liquidity, net interest margin, etc) in an environment with fluctuating assets, liability price and expenses. The most important goal for managers is to find equilibrium between risk and profitability. In the long-term it is very important to maximise bank’s market value putting most effort not on minimising the risk but on effective risk management.

By implementing the stability management strategy in the short-term aspect it is possible to reposes on financial rations that have been calculated using information that has been included in commercial bank financial statement to analyse the current operations. However, the calculated financial ratios could be used in assessment of various commercial bank operation aspects when implementing the chosen strategy.

A very important element of stability management strategy is assessment of profitability level. In an economic meaning profitability and return terms coincide, thus actually return ratio (ROE, ROA, and others) dynamics
have to be analysed. There is no absolute criterion for the assessment of the profitability size. An increase in the profitability level always is evaluated positively.

When analysing the return on equity (ROE ratio), it has to be taken into account that the ratio for commercial bank system in Latvia (see Figure 3) in the period from year 2000 to 2007 was above 15%. Especially positively the ratio was affected by Latvia joining the EU. The situation started to change rapidly in 2008. When expenses increased for provisions for doubtful debts as well as increased prices for resources and the growth rate of crediting decreased, the bank ROE ratios significantly decreased and in the end of December reached 3.63%. The decrease in ROE mainly was affected by the rapid drop in profit margin. That was caused by the significant increase in expenses for provisions for doubtful debts and liabilities substantially decreasing profit before tax. All other components had less impact on the changes of ROE. The only thing that positively affected ROE was increase in the coefficient of borrowed resources due to decrease in equity and reserves. The ROE ratio of commercial bank system in year 2009 was negative - 41.61%. The decrease of net interest income and rapid increase in expense for provisions (by 930 million LVL during the year reaching 1 266 million LVL at the end of 2009) determined the losses for participants of the banking system. Commercial banks ended year 2010 with losses, however, compared to the previous year the losses had significantly decreased due to changes in the necessity for creating provisions. Total losses of banks in year 2010 constituted 360.7 million LVL. Expenses for provisions for doubtful debts and liabilities (main reason for losses in year 2010) significantly decreased (to 727.1 million LVL). When the commercial bank losses decreased, ROE ratio improved but still remained negative: – 20.4%. By analysing the ROE ration of year 2011 it has to be pointed out that the situation continued to improve. Large part of Latvia’s commercial banks finished the year with profit but the ROE of the system overall is still negative: - 11.17%.

The performed analyses about the return on equity (ROE) ratio of banking system in Latvia allows to conclude that the fluctuations of the ratio size were mainly caused by external factors, i.e. the economic crisis of year 2008, which caused negative impact on the main result of the banking operations – profit by decreasing both the economic value of banks and the level of profitability.

The competition in Latvian banking industry as well as the banking industries of other countries is currently intensifying, which causes a decrease in the yield of financial instruments. The return on assets is one of the most important criteria for the successful management of commercial banks’ assets. The adaptation of Latvian banking industry to an observed trend of the decline in the yield of financial instruments could now be implemented in two ways (Saksonova, 2002).

First, one can seek to minimize the speed of decline in the norm of returns. This can be achieved by a reduction of relative expenditure via creating the resource base (increasing own equity share or lowering the price of attracted financing), as well as with the help of a relative increase in the efficiency of asset utilization by quickly reallocating assets to areas where an acceptable rate of return is assured together with the correspondingly low levels of risk.

Second, one can maximize profits: a bank has to assess the maximum potential profit of asset operations, given its own development strategy and taking into account management constraints such as: the need to fulfil FCMC regulations, maintaining a necessary level of liquidity throughout the year, maintaining a necessary standard of financial stability throughout the year, etc.

Just as with the quality of assets, it is possible to assess the profitability of assets with the aid of a rating system (according with CAMEL system). The profitability (return) of assets is defined as the ratio of net profit relative to the
average total value of assets (ROA ratio). Since the ROA does not always provide an adequate representation of profitability, a quantitative evaluation should be enhanced by the analysis of the quality of profits. Otherwise it is not possible to judge whether observed returns are of a regular nature, or whether they are a result of large, but one-time operations. As a result of the evaluation, ratings similar to the ones described previously can be assigned.

The best rating is obtained, when the net profit ratio to the average asset value (ROA) is greater than 1 percent and the amount of profits used in the calculation of profitability is sufficient to fully cover possible losses as well as to ensure a certain increase in capital. The worst rating is obtained when ROA is lower than 0.25 percent, viability of the bank is threatened and it is operating with losses.

As one can see in Table 1, in the time period from 2001 to 2003, asset profitability had decreased only slightly. After 2004, when Latvia entered the European Union, there were significant foreign capital inflows in Latvian banking industry and rapid lending activity had begun. The return on assets in banking industry had increased rapidly from 2004 to 2005. In 2006 a slight decrease was observable. This tendency of asset profitability to gradually decline was observable until 2008, when the world financial crisis had affected Latvian financial market as well. Hence in 2008 and 2009, the return on assets decreased rapidly.

However, after balancing their lending policy and strictly controlling risks, the banking industry had managed to increase its asset profitability in 2011 and it had increased relative to the previous year, though banks were still making losses. In Table I, the influence of 2008 crisis, when return on assets and ratings for Latvian commercial banks had declined to their critical levels, is clearly visible. After evaluating these indicators together with the asset quality indicators, it is possible to expect that return on assets in the commercial banking industry will demonstrate positive dynamics in the future. At least in part these positive dynamics will almost certainly be a result of an explicit strategy of the Latvian government in cooperation with international lenders, who participated in the bailout package, to preserve the stability of the financial sector.

After reviewing the available empirical information, one can arrive at the conclusion that Latvian commercial banks will be able to recover to positive asset profitability, but that it is likely to remain low for an extended period of time.

Another very important component of stability management strategy is liquidity. The liquidity of commercial banks unarguably is a prerequisite of commercial bank security and factor affecting the stability of the commercial bank system. Liquidity can be defined in a narrower and wider way in micro and macro level. In narrower meaning commercial bank liquidity in micro level is the ability for commercial banks to fulfil their liabilities and satisfy client demands. In macro level it is formation of cash turnover and operational redistribution of resources in the environment of economic subjects.

It is difficult to provide a comprehensive liquidity assessment using coefficients. Liquidity coefficients are used to evaluate commercial bank operations; in different countries the higher margins of the coefficients have been

![Fig. 4. ROA ratio of Latvia’s commercial bank system (percent) years 2000 - 2011 (FCMC data)](image-url)
set differently (Jaņiņoņa, 2003). The margin is used to control financial state of commercial banks as well as protect interest of their clients.

According to Liquidity requirement fulfilment regulations (Likviditātes prasību, to izpildes kārtības un likviditātes riska pārvaldīšanas normatīvie noteikumi, 2010) commercial banks have to sustain liquid assets in an amount to cover their liabilities at a satisfactory level but not less than 30 percent from the total sum of bank’s current liabilities (liquidity ratio). Current liabilities are liabilities on demand and liabilities with term not exceeding 30 days. As shown by the data in figure 3 in the accounting period the liquidity parameter of Latvia’s commercial bank system is within the acceptable limits but it has a tendency to fluctuate. Due to continuing instability and tense liquidity situation in world financial market in years 2008 – 2009, continuing decrease in deposits and worsening the macroeconomic situation in Latvia, the liquidity risk of commercial banks increased, especially in the short term. In the end of year 2008 the commercial bank liquidity situation was worsened by outflow of deposits that was caused by the rapidly growing unpredictability of the future of Latvia’s national economy, lower growth of depositor income, lower availability of credit resources for financing business activities and using the created provisions for covering loans for which client cash inflow is not sufficient. Despite the outflow of deposits during the 4th quarter of year 2008, the FCMC denoted liquidity ratio remained high and in the end of the year was 52.85 – just a little lower than at the end of year 2007 (55.7%). It has to be pointed out that the FCMC denoted liquidity ratio had a tendency to increase during years 2009 – 2011, when bank profitability decreased (ROE, ROA ratios).

Fig. 5. Liquidity ratio of Latvia’s commercial bank system (years 2000 – 2011), percent (FCMC data)

Ideally bank’s asset structure is determined taking into account the goals of stable profitability for different assets, increased efficiency of capital utilization, the increase in liquidity and stability and the diversification of the bank’s portfolio of assets. A bank can create different asset portfolios: conservative, moderate, speculative, etc.

In context of this article, the accepted terminology “conservative”, “speculative” etc., when discussing portfolios, is used taking into account not only the profitability and terms of the assets themselves, but mainly the time stability of liabilities that are transformed into the assets. It is important to mention, that liability’s time stability is not exclusively dependent on the time profile of the claim. A part of long term liabilities (long term deposits) as well as stable balances on VOSTRO accounts (liabilities on demand) or attracted short-term interbank loans can also have high time stability.

Therefore the degree of the time stability of the liabilities can be described with the probability that a given volume of liabilities will be preserved for a certain time. It is clear that classifying time stability as high, medium or low is quite subjective; therefore it has to be implemented with care.

Throughout their operation banks have to constantly perform asset transformations, increasing their maneuvering ability and preserving assets and their profitability.

It is possible to distinguish three types of asset transformation, which banks use in the process of their operation: quantitative, qualitative and time. Quantitative transformation is transforming comparatively small deposits into significant amounts of money (assets), which is necessary to finance large enterprises. Qualitative transformation is used to decrease asset risks. Resources attracted by the bank (liabilities) are placed using diversified asset portfolios, which means increased safety both for the assets and the liabilities. Apart from that banks perform constant monitoring of the borrowers, which also decreases risks of losing the assets.

In context of creating optimum asset portfolio, the time asset transformation has a special meaning. Generally asset time transformation is transforming short-term deposits into medium and long-term loans, which can destroy bank’s current liquidity. This risk can be partially decreased, using short-term interbank loans and derived instruments of financial markets (swap, futures etc.). Effective asset time transformation occurs, when the assets being placed are fully backed with liabilities with corresponding time stability. Apart from that, the interest rate, which a bank is paying for attracting liabilities, is connected with the interest rate, which it gets from its assets.
Asset transformation can also appear, when the profitability of certain financial markets has a tendency to decrease, the moderate asset portfolio, which has a larger profitability than conservative asset portfolio, can be increased using conservative asset portfolio.

On the other hand, if certain financial markets’ profitability has a tendency to grow, the bank, taking into account the principle of caution, can shift a part of the moderate asset portfolio into a conservative asset portfolio. It is important to mention, that the concept of optimum asset portfolio provides that the size of conservative portfolio can be increased only when balanced by liabilities with high time stability, whereas the moderate asset portfolio can be increased using liabilities with high or medium time stability. In that way asset transformation can occur with different asset portfolios, whose source of creation are liabilities with high or medium time stability.

Banks have to follow changes in real liabilities with different time stability closely (ideally – every day), in order to implement timely measures of their asset portfolio transformation to maintain current liquidity. The above mentioned asset transformations are performed using corresponding instruments in each case.

If there is a decrease in liabilities with high time stability, banks can lower financing for their borrowers, firstly, by lowering the clients’ unused credit lines, and in that way decreasing their external obligations. If the decrease in the profitability of asset portfolio occurs because of the increase in the costs of liabilities, banks can use floating rates, when placing its assets. For example, in case of the increase in the interest rate for the attracted deposits and VOSTRO accounts, banks can, according to the contract, increase the floating loan interest rates for the use of the credit line.

The management policy for attracting liabilities also has to be in agreement with the banks ability to adequately and efficiently use attracted resources. The price policy on the market of attracted resources and therefore banks’ expenditure is defined using the strategy chosen by the bank, and depends on cost of the operation and the chosen strategy.

Finally, large institutions are able to offer services with lower costs than smaller ones. The cost minimization strategy leads to an increase in market share. The advantage for a bank is the growth of its client base, because clients are attracted by a relatively low price of a product or a service. Directly or indirectly that leads to an increase in banks’ assets.

The performed analyses and deducted conclusions verify the hypotheses of the authors and allows to put forward recommendations for improvement of Latvia’s commercial bank system participant stability.

4. Conclusion

Based on the results of empirical analyses the authors give recommendations for strengthening of commercial bank system stability and improving commercial bank operation results.

In the years prior to the crisis of 2008 asset structure of Latvian commercial banks had been mismanaged and had become progressively skewed towards mortgage loans. The rapid growth of liquidity in the banking system had led to a misallocation of capital. In this paper, the author had first reviewed the dynamics of the profitability and volume of assets in the Latvian banking industry. The author also developed a rating system for evaluating these indicators.

This paper proposed a management strategy of separating asset portfolios into distinct groups and ensuring that each type of asset portfolio is backed by a liability with a corresponding time profile. In addition, the role of the overall bank’s strategy on the market was analyzed and it was shown how it relates to the decisions on asset allocation.

When implementing stability management strategy, commercial banks have to constantly analyse and forecast macroeconomic factors (inflation level, GDP dynamics, etc) because these factors affect the stability of commercial bank system. It is necessary to implement adjustments in the actual operation of commercial banks, policies and procedures based on the performed analyses. If such analyses would be carried out, the commercial bank system of Latvia could avoid numerous problems that led to significant banking system losses in year 2008 - 2011.

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