ANALYSIS OF THE QUALITY AND PROFITABILITY OF ASSETS IN THE BANKING SYSTEM AND THE IMPACT OF MACROECONOMIC FACTORS ON ITS STABILITY: CASE OF LATVIA

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Abstract

The problems with commercial bank stability are related to macroeconomics, the policy of the central bank and government as well as with the finance management of the specific commercial bank. The commerce bank system is in continuous development and interaction with the external environment, its operations must not be separated from the economic operations in the particular country. The crisis in 2008 – 2010 demonstrated the problems of Latvian commercial banks which could have been averted by thoughtful control of the economic situation by commercial banks and supervisory institutions as well as control of asset quality and profitability.

The purpose of this paper is to:
- Research the influence of macroeconomic factors on the stability of commercial bank system as well as the profitability and quality of commercial bank assets using a systematic approach;
- Give practical recommendations to commercial banks and their supervisory institutions – regularly analyse and evaluate these influencing factors and the quality and profitability of commercial bank assets to ensure real stability of the commercial bank system.

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

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Key Words: stability, macroeconomic factors, asset quality


Nowadays the stability of the commercial bank system is especially important. Every country’s economic development is possible based on a stable commercial bank system. A stable commercial bank system in economic sense always shows positive development both now and in the future not just separate successes or short term stability. It ensures a stable and sustainable dynamic development that is not subject to risk of losses.

In the authors’ point of view the stability of commercial bank system is the ability of the system to function in the internal and external environment preserving its structure, stable equilibrium and long term security (see figure 1).

Figure 1: Schematic depiction of commercial bank system stability condition

The stability of the commercial bank system can be characterized both on macro level and micro level:
- Macro level – it is the ability of the system to sustain equilibrium. The sustainable equilibrium of the commercial bank system can be described as the ability to fulfill certain functions and operations while the unity of the system and the security of its elements is persistent which gives an opportunity to return to equilibrium after external shocks;
- Micro level (commercial bank level) – it is long term security. The security of commercial banks is a qualitative and quantitative characteristic of a specific commercial bank that has to be evaluated from the point of view of commercial bank clients, the commercial bank itself and society’s position.

The security level is determined for a short period of time and is approaching a static state not the dynamic one as a sustainable equilibrium and stability.

The particularity of the commercial bank system is that every commercial bank develops its own strategy by taking into account microeconomic considerations but the commercial bank system is creating a macroeconomic environment in which not only commercial banks operate but also all other economic entities (see figure 2).

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The commercial bank system is in continuous development and interaction with the external environment. The functioning of the commercial bank system must not be separated from the economic operations in the specific country. Their stability is affected by both the internal and external factors (see figure 3).

By considering the specific aspects of the commercial bank system, its dynamic development, level of activity and the existence of feedback (from external environment), the authors believe that a stable development of the commercial bank system can be ensured by certain micro and macro conditions. According to a research performed by the International Currency Board the stability of the commercial bank system is influenced by the following macroeconomic factors:

- country’s economic growth (GDP dynamics);
- level of current account balance;
- inflation level;
- interest rates and exchange policy;
- crediting boom and rapid price growth, and others.

By analyzing the country’s economic growth (GDP dynamics) (see figure 4) we have to say that the economy has a cyclical nature and the national economy does not develop evenly, a period of rapid growth is always followed by recession. As shown by numerous examples around the world this law works independently of whether the welfare level in the country is already high, or whether the country is on the way of reaching it. A question arises – what factors each time cause the slowing down of development: whether those are local or external factors like the price of oil, continuous stagnation in the EU markets or possible alterations in the real estate market. Real life experience has shown that the phase of economic expansion is not everlasting.
The question about the influence of the speed of GDP growth on the stability of the commercial bank system is weakly researched. In authors’ opinion this question has to be faced in the following context: how a severe drop in GDP growth rate, like it happened during the crisis in 2008 – 2010, will influence the stability of the commercial bank system. To be more precise, how GDP rapid slowdown\(^5\) scenario will affect the stability of the commercial bank system. The rapid slowdown scenario predicts\(^7\) a severe slowdown of economic activity with a very low level of growth or even a complete decrease and a complete collapse of the real estate market. The possible ways that the commercial bank system will be influenced in the author’s point of view are the following:

- Too rapid decrease of domestic demand that is connected to severe decrease of inflow of foreign financing and rapidly growing cost of external financing as a result from reacting to the bad macroeconomic indicators. As a result the ability to give out loans and finance various industries of local economy will lower, and the commercial banks considering the increased costs of external financing will have to increase interest rates. Rapid decrease of domestic demand will lead to decreased demand of not only loans but also all other services offered by commercial banks. That undoubtedly will decrease the level of commercial bank revenues and profitability, and as a result when the macroeconomic factors trigger a strong tension in the commercial bank system some unsecure commercial banks can go bankrupt;

- Swift increase of pessimism and no willingness to invest in the real estate which results in rapid decrease in production in the construction industry and other industries directly related to it as well as in the income from realised capital growth rapidly decreasing the consumer expenses. Moreover, rapid increase of pessimism can decrease business activity. In result the volume of debt securities will decrease together with their quality because damaging macroeconomic shocks will make it harder for debtors to entirely cover their liabilities to commercial banks lowering their solvency;

- International rating agencies reacting to poor macroeconomic indicators will lower the rating for the country and also some commercial banks. That will influence the ability of commercial banks to attract resources in the international financial markets at favourable terms. In result the expenses linked to debts will increase, thus interest rates will increase too. That will affect the safety of commercial banks and the stability of the commercial bank system.

The next macroeconomic factor is the level of the current account balance (see figure 5).

Increase of current account deficit proportion\(^8\) in the current account balance influences the stability in the commercial bank system and can cause:

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\(^6\) Rapid slowdown means GDP growth that is close to zero or even below, i.e. recession. GDP growth of 0-4% can be described as the grey area, and it is very unlikely that a country could stay in this area for long without deviating in one direction. If GDP growth decreases a lot below 4 % the negative impact on expectations and real estate prices can become too strong and the risks of rapid slowdown can increase because it may become impossible to sustain appropriate growth of domestic demand.


• Foreign capital inflow in the country that can stimulate an active increase in prices and a credit boom. Foreign investment increase indicates a favourable macroeconomic climate in the country and can be evaluated only positively. To assess foreign capital flow’s influence on the stability of the commercial bank system, its structure has to be evaluated. Latvia is a country that attracts capital and the main object of investments is the commercial bank system. That can be explained by the fact that the majority of Latvia’s commercial banks are owned by foreign organisations. In other words, the investment flow is not diversified. Huge capital inflow in the commercial bank system caused growth in debt securities which were mainly generated by entrepreneurial activities and issuing of long term loans that could negatively influence the quality of commercial bank assets especially if Latvia’s growth rate and the real estate prices would decrease;

• A negative balance of the current account is a signal that in the future can be followed by currency crisis with negative influence on the liquidity of the commercial bank system, thereby affecting the stability of the commercial bank system.

The next macroeconomic factor that influences the stability of the commercial bank system is the level of inflation. High inflation in Latvia (around 6 – 15 %, see figure 4) deals significant damage to the development of national economy and thus also to the growth of welfare level.

![Figure 6: The Change in Consumer Prices in Latvia, 2000 -2010 (%)](image)

High inflation’s negative influence on the national economy has been extensively researched concluding that long term growth in countries with high inflation is lower than in countries where it is moderate. Studies dedicated to the interaction of inflation and the commercial bank system explores this problem in the following ways (see figure 7):

• Inflation’s impact on the profitability level of commercial banks;
• Inflation’s impact on interest rates;
• Inflation’s impact on the development of the commercial bank system and the financial system as a whole.

![Figure 7: The Directions of the Inflation Impact on the Stability of Banking System](image)

When exploring the question about inflation’s influence on the profitability of commercial banks, the authors have analyzed connection between inflation and the net percentage revenue as well as the connection between inflation and level of profitability in total assets. For example, A Demiragua-Kunta in their research\(^9\) based on data from 1400 commercial banks from 72 countries in

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\(^9\) Evans Oven, Leone Alfredo M. Macroprudencial Indicators of Financial System Soundness. International Monetary Fund, April 2000, p. 10.


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time period from 1995 to 1999 showed a direct and close connection between the nominal commercial bank percentage margin\(^\text{13}\) and inflation. Demirguc-Kunt concluded that the net percentage margin increased slower than inflation rate, which means in real terms a decrease in profitability. In other studies\(^\text{14}\) authors concluded that when inflation growth increased the same happened also with the net percentage margin of commercial banks and also with other net profitability measures of commercial banks (profit, added value, proportion to asset volume of the commercial bank). The main conclusion of the research – the net profitability ratios of commercial banks increase slower than inflation rate. That illustrates the decrease of real profitability of commercial banks when inflation level grows.

To explore the question of inflation’s influence on interest rates, researchers\(^\text{15}\) have used statistic data of 70 countries for time period from 1989 to 1998. The authors found out that when inflation level increases, also the average nominal interest rates increase (the elasticity of nominal interest rates against inflation is lower than “1”). The results for real interests rates were completely opposite – in almost all cases when inflation increased, real interest rates decreased (except the interest rates for commercial bank loans and government bonds which do not depend on inflation). Hence, when the inflation level grows the nominal interest rate of commercial bank loans is subject to more adjustments that the interest rate of deposits.

However, John Boyd\(^\text{16}\) has explored the inflation’s influence on the development of the commercial bank system and the financial system as a whole. To assess inflation’s influence author used the following indicators: liquid asset and GDP ratio, commercial bank asset and GDP ratio, private sector loan and GDP ratio. In result John Boyd proved that inflation’s influence on the financial system is significant. In countries with higher inflation level the development of commercial bank system is lower than in countries where the inflation is low. Attention should be paid also to another conclusion of the study. John Boyd empirically proved that there exists a yearly boundary for inflation of 15 % above which the negative consequences of inflation are less severe.

The next macroeconomic factor is growth in crediting (crediting boom). That stimulates an increase of domestic demand so rapid increase of the given out loans by commercial banks (see figure 8) is not compatible with economic development indicator (inflation and current account deficit) improvements.

![Figure 8: The Volume and Structure of Loans Issued to Resident Enterprises and Households in Latvia, 2003 – 2008 half-year (mln. LVL)\(^\text{17}\)](image)

As shown by the data in figure 8, the amount of given out loans to companies and individuals in Latvia from 2005 to 2007 increased by 30 – 40 %. The reasons for so rapid crediting increase are various: rapid economic growth, Latvia entering the European Union and pegging the exchange rate of lat to euro that facilitated optimism with the further development of the country encouraging a continuously increasing amount of people to borrow from commercial banks. In addition, privatisation of land and the housing fund and real estate transaction arrangement increased the supply in the real estate market that was another condition for credit growth. The low interest rate level in the world markets (initially in USD, later in euro) ensured availability of cheap money to fund subsidiaries of the Swedish and Finnish banks and also in the world capital markets as a whole. In result, also the interest rate for loans targeted at the domestic market especially for loans in euro where lower than ever. More and more explicit became the competition between commercial banks that offered more lucrative products and lower interest rates. Crediting was stimulated also by the relatively high inflation rate and even higher price increase in the real estate market that from one side stimulated demand but from the other stimulated also spiral development of real estate prices as well as price increase for a wide range of goods and services.

By exploring the question about the possible influence of a credit boom on commercial bank solvency and the stability of commercial bank system, authors concluded that analysts and investors taking into account several factors made the management of

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\(^{13}\) A. Demirguc-Kunta calculated the net percentage margin as a ratio between net percentage revenues and assets.


\(^{16}\) Evans Oven, Leone Alfredo M. Macropurudencial Indicators of Financial System Soundness. International Monetary Fund, April 2000

commercial banks to increase their market share in the credit market. That created pressure on commercial bank employees that directly worked with giving out loans to increase the amount of given out loans. The employees of commercial banks cannot effectively fulfil their job obligations because they feel pressure from the management of the commercial bank when deciding whether to give out a loan. In result, mistakes and inaccuracies in evaluating clients emerge.

Rapid crediting increase (crediting boom) and active price increase can negatively affect the quality of commercial bank assets especially if Latvia’s development rate and real estate prices would decrease, thereby affecting the solvency of commercial banks and the stability of commercial bank system. Rapid crediting increase influences the standards for evaluating potential borrowers.

As shown before, macroeconomic factors significantly influence the stability of the commercial bank system and the insufficient analysis of that negatively affect financial results of commercial banks. The loss of the commercial bank system in Latvia that in 2009 amounted to 773 421 million LVL and in 2010 to 53 500 million LVL showed that commercial banks insufficiently evaluated the possible influence of macroeconomic factors and were not prepared for them. The authors recommend to commercial banks in Latvia to regularly (every month) evaluate the macroeconomic factors using stress tests and other methods, and based on the performed analysis adjust the operations, politics, and procedures of the commercial bank. The macroeconomic factors should also be evaluated by controlling institutions with an aim to timely react to changes in the external environment of commercial banks by correcting the standards of commercial bank operations and making prudential demands for ensuring stability of the commercial bank system.

2. Analysis of Latvia’s commercial bank system asset profitability and quality

2.1. Latvia’s commercial bank asset dynamics 1999 - 2010

Latvia’s commercial bank asset volume data about period from 1999 to 2010 can be seen in table 1. The data in the table shows the significant increase of commercial bank assets from 1999 (year when all banks wrote off all assets that were lost due to Russian crisis) until 2008 when bank assets grew almost 11.7 times. It can be seen also how the crisis in 2008 affected the assets of commercial banks in 2009. Latvia’s commercial banks lost assets with value of 1616 million LVL that is 7 % of total assets in 2008. It is a significant decrease in assets. Data about 2010 shows a positive trend – a gradual increase of assets.

Table 1: Assets of Latvia’s commercial banks 1999 - 2010, million Ls

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets, mln. LVL</td>
<td>9162</td>
<td>2699</td>
<td>3458</td>
<td>3699</td>
<td>5720</td>
<td>7855</td>
</tr>
<tr>
<td>Total assets, mln. LVL</td>
<td>2005</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
</tr>
<tr>
<td>Total assets, mln. LVL</td>
<td>1096</td>
<td>1586</td>
<td>2150</td>
<td>2291</td>
<td>2130</td>
<td>2154</td>
</tr>
</tbody>
</table>

Figure 9 shows the positive Dynamics of assets growth, the decrease in assets in 2008 as well as the gradual asset growth.

When exploring the assets of commercial banks it is important to pay attention also to their quality because positive dynamics of total assets without taking into account their quality cannot be a proof of banking sector and some specific commercial bank stability increase and can even create a misleading perception if the quality of assets is low.

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18 FCMC data: http://www.fktk.lv/texts_files/Bankas_ceturksnis_4_2010_L01.xls
2.2. Evaluation and analysis of Latvia’s commercial bank assets

The evaluation of assets quality undoubtedly is a very important task for every bank. Real life experience shows that low quality assets are the most common reason of bank bankruptcy. Thus, by continuously evaluating the quality of assets (special attention should be paid to crediting operations of the bank and investments into securities) it is possible to forecast the sustainability of the bank and timely avert a lot of problems.

We can claim that the quality of assets is influenced by the following factors:

- Characteristics of commercial bank crediting and investment policies (liberal or strict, aggressive or moderate);
- Loan and investment diversification level;
- The quality of bank loans and investments including things like proportion of delayed payments;
- Effectiveness of a system to manage problematic loans;
- Characteristics and volume of deal with subsidiaries and other stakeholders;
- Profitability of assets;
- Asset level of risk;
- “Working” assets proportion.

To assess the quality of bank assets the author uses CAMEL system which classifies assets by their quality based on external bank analysts.

Using the asset quality criteria a bank itself or its supervisory institution can determine the asset quality rating. For example, CAMEL asset quality rating consists of five evaluations:

Rating 1 – strong (or powerful) at which reserves for possible losses do not exceed 5% of total capital. In addition, a slight increase in reserves is possible if the overall financial state of the bank can be evaluated as stable, and the management of the bank is capable of dealing with problematic loans effectively. The proportion of large loans does not exceed 25% of capital. Also deals with assets as well as the proportion of risky assets and their dynamics do not raise any concerns.

Rating 2 – satisfactory, reserves for possible losses does not exceed 15% of capital. State of other indicators does not cause any serious concern.

Rating 3 – almost satisfactory, reserves for possible loses do not exceed 30% of capital. Other indicators are almost satisfactory.

Rating 4 – critical, reserves for possible losses do not exceed 50% of capital. State of other indicators is critical.

Rating 5 – unsatisfactory, reserves for possible losses exceed 50% of capital. State of other indicators is unsatisfactory.

When determining the ratings banks can evaluate the quality of their assets. Asset quality in the end influences the profitability of bank operations because level of delayed payments either already influences the profitable base of the bank or will do so in the near future.

Authors performed analysis to explore the asset quality of largest banks in Latvia. Results can be seen in table 2.

Table 2: Asset quality indicators and ratings for the largest banks in Latvia, 1999 - 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Swedbank</th>
<th>%</th>
<th>Rating</th>
<th>SEB bank</th>
<th>%</th>
<th>Rating</th>
<th>Latvijas Krājbanka</th>
<th>%</th>
<th>Rating</th>
<th>Citadele bank</th>
<th>%</th>
<th>Rating</th>
<th>Rietumu bank</th>
<th>%</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>16,3</td>
<td>3</td>
<td>24,9</td>
<td>3</td>
<td>43,7</td>
<td>4</td>
<td>19,6</td>
<td>3</td>
<td>8,0</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>8,8</td>
<td>2</td>
<td>11,3</td>
<td>2</td>
<td>15,1</td>
<td>3</td>
<td>8,2</td>
<td>2</td>
<td>37,97</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>11,9</td>
<td>2</td>
<td>7,96</td>
<td>2</td>
<td>9,2</td>
<td>2</td>
<td>7,7</td>
<td>2</td>
<td>6,95</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>9,9</td>
<td>2</td>
<td>6,0</td>
<td>2</td>
<td>6,2</td>
<td>2</td>
<td>8,9</td>
<td>2</td>
<td>5,5</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>5,9</td>
<td>2</td>
<td>6,2</td>
<td>2</td>
<td>7,5</td>
<td>2</td>
<td>11,0</td>
<td>2</td>
<td>0,8</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>5,9</td>
<td>2</td>
<td>5,3</td>
<td>2</td>
<td>1,7</td>
<td>1</td>
<td>6,9</td>
<td>2</td>
<td>0,0025</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>0,2</td>
<td>1</td>
<td>4,1</td>
<td>1</td>
<td>2,7</td>
<td>1</td>
<td>5,6</td>
<td>2</td>
<td>0,8</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2,5</td>
<td>1</td>
<td>2,6</td>
<td>1</td>
<td>2,7</td>
<td>1</td>
<td>2,7</td>
<td>1</td>
<td>0,6</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>1,6</td>
<td>1</td>
<td>2,9</td>
<td>1</td>
<td>2,9</td>
<td>1</td>
<td>0,1</td>
<td>1</td>
<td>1,96</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>9,5</td>
<td>2</td>
<td>13,3</td>
<td>2</td>
<td>4,3</td>
<td>1</td>
<td>2,1</td>
<td>1</td>
<td>16,7</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>78,9</td>
<td>5</td>
<td>103,0</td>
<td>5</td>
<td>19,5</td>
<td>3</td>
<td>2,3</td>
<td>1</td>
<td>15,9</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>24,4</td>
<td>3</td>
<td>11,6</td>
<td>2</td>
<td>1,7</td>
<td>1</td>
<td>6,3</td>
<td>2</td>
<td>8,2</td>
<td>2</td>
<td></td>
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</tbody>
</table>

By looking at the data in table 2 we can conclude that the value of asset quality indicators testify that the biggest reserves for bad loans were made in 1999 which is shown by the worst ratings. In 2000 the situation improved but the asset quality ratings let us

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21 American bank assessment system (further in text – CAMEL) was developed by bank supervisory agencies in 1978. Since then controlling institutions use it or a similar method to evaluate the operations of commercial banks. However, also many commercial banks use it for inner analysis. In the paper author will emphasise only two of five CAMEL components which are directly connected with bank assets – asset quality and asset profitability.

22 Latvijas Krājbanka annual report 1999 - 2010; Rietumu bank annual reports 1999 - 2010; Citadele bank annual reports 1999 – 2010

23 An indicator of asset quality is a proportion of reserves for loans and own capital

24 Tables was made by authors using data from commercial bank annual reports

25 Asset quality indicator expressed as percent
conclude that reserves in that year are still high meaning that the quality of assets was not especially high because no bank had a rating of one. A good quality of assets was reached in 2005; it was then sustained for three years. Macroeconomic factors affected unfavourably the quality of commercial bank assets. In 2008 the crisis made the assets quality rating even worse, an exceptionally high amount of write downs of reserves and bad loans happened in 2009. In 2009 banks like Swedbank, SEB bank had an unsatisfactory rating of asset quality, which was connected with the high proportion of loans in total assets. A rather good situation was in Latvijas Krajbanka and Rietumu bank – asset quality of these banks was almost satisfactory. In 2010 commercial bank ratings started to improve. Hence, we can conclude that meeting the criteria for ensuring high quality of assets is very essential for commercial banks in Latvia.

### 2.3. Evaluation and analysis of asset profitability (yield) of commercial banks in Latvia

Nowadays the competition is increasing even more between banks in Latvia and also between banks in other countries. One of indicators in such situation is decreasing profitability of financial instruments. We can say that the profitability of assets is one of the most important criteria for improving commercial bank assets. The adaptation of Latvian banks to the tendency of decreasing profitability of financial instruments currently could be implemented in two ways:

1. Minimising the decrease speed of profitability norm – decrease in the profitability norm in the current circumstances is inevitable, thus its more about softening this decrease not changing the direction of this tendency. It can be done by decreasing relative expenses by creating a resource base (increasing own capital share, lowering price of other resources), as well as with improving the relative efficiency of using assets by operatively transferring it to areas that at the given moment guarantees acceptable level of returns at lowest acceptable risk level.

2. Maximizing profits - bank has to assess the maximal possible return from active operations at the given bank development strategy by considering restrictions that are related to:
   - Need of meeting the FCMC normative,
   - Sustaining the necessary solvency level during the year,
   - Maintaining the necessary level of financial stability during the year,
   - Not exceeding the upper limits of all the financial risk indicators given in the normative.

Inevitable decrease in return on assets makes a need for an aim to ensure increase in the volume of profitable assets. To achieve it, one has to ensure:

- Increase in the speed of commercial bank asset growth,
- “Working” (return generating) asset proportion increase,
- Increase in the proportion of nonoperational revenues simultaneously slowing down the growth of nonoperational expenses. That can be attained not only by expanding and changing the structure of usage of traditional financial instruments but also by actively seeking new forms and methods to attract and create resources mainly by differentiating return generating operations.

Question about how effective is this method is still open because the search for new profit sources is connected with significant costs, dispersion of resources, taking them from traditional revenue generating operations. In addition, there is no clear perspective how to generate revenue in the new areas of operations, some difficulties are caused when making the needed economic argumentation. Large scope actions are performed to ensure readiness to carry out a number of new and progressive services that are beneficial for both the bank and clients. However, sometimes happens that this readiness is unnecessary because demand is lacking.

Assessment of asset profitability can also be done using CAMEL system. Return on assets (yield) is defined as net profit in respect to the average total value of assets (ROA ratio). It is useful to evaluate and analyse it at least for the past three years. This time period is chosen because using data for past three years decrease the effect of short term profit fluctuations that are dependent on the current phase of the business cycle and affects the state of the bank, thereby, making the return criterion more stable. By controlling returns it is important to evaluate whether the profit if high enough for the bank to be able to develop and in a case of necessity create reserves to cover all liabilities.

As ROA not always gives an adequate picture of profitability, the quantitative assessment has to be complemented with analysis of profit quality. Otherwise we cannot assess whether the bank’s profit is regular or it is a result from large one time operations. In result of the assessment the following ratings are given:

- Rating 1 – strong: is given, when net profit divided by average asset value (ROA) is larger than 1% and the profit used in calculating the asset profitability is large enough to completely generate needed reserve for covering losses as well as a for a certain capital growth. Even a slightly lower profitability does not contradict with rating 1 if growth in the amount of paid out dividends does not exceed the increase in profit and bank assets.

- Rating 2 – satisfactory; ROA is from 0.75% to 1%. Profit can even decrease but if they are high quality, ensures growth in reserves and is enough for the necessary capital growth.

- Rating 3 – almost satisfactory: ROA is from 0.5% to 0.75%. Profit is too low to generate satisfactory reserves and capital for the necessary capital (connected with bank development) growth. The quality of these profits is a signal of future problems.

- Rating 4 – critical: ROA fluctuates from 0.25% to 0.5%. Dynamics of net profit for banks with this rating fluctuates unpredictably with a tendency to decrease. Profit is too low to generate satisfactory reserves and ensure capital growth.

- Rating 5 – unsatisfactory: ROA is lower than 0.25%, the sustainability of bank is under threat, and bank works with losses.

Authors performed analysis by exploring the rate of return for the largest banks of Latvia; results are shown in table 3.

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27 Authors explored the resource prices for several banks in Latvia and concluded that they are decreasing (for example, deposit interest rates) but too low interest rates can lead to losing their clients.
Return on asset ratios show how large profit is for every lat of assets. As seen in table 3, in the period from 2001 to 2003 asset returns decreased a bit (average return on assets fluctuated around 0.015 Ls for 1 lat of assets). From 2004, when Latvia entered the European Union and foreign investment in large volumes entered in the Latvian commercial bank system, an active crediting of inhabitants had started, return on asset ratio rapidly increased: if in 2004 1 lat of assets generated – 0.0174 Ls profit then in the next year 1 lat of assets generated already 0.0212 Ls profit. In 2006 the ratio decreased to 0.0205 Ls profit for every 1 lat of assets because it was not possible to attract as many borrowers as in the year before. This tendency of assets to gradually decrease was present until 2008 when the world economic crisis, unfavourable macroeconomic situation affected the financial markets in Latvia. Wherewith, in 2008 and 2009 asset profitability coefficient decreased significantly and in 2009 1 lat of assets generated already 0.0351 Ls losses.

However, after balancing credit policy and strongly controlling for risks commercial bank system managed to improve the return on assets in 2010 and develop a tendency for the ratio to improve, although in 2010 there still were loses of 0.0161 Ls for every 1 lat of assets. In table 3 can be clearly seen the effect of the financial crisis in 2008 when ROA ratios of Latvian commerce banks dropped to critical levels. When evaluating this ratio together with the ratio quality indicator we can expect that also ROA ratios in the commercial bank industry will demonstrate a positive dynamics in the future.

3. Analysis of credit portfolio dynamics, quality and profitability of Latvian commercial banks

3.1. Analysis of credit portfolio dynamics and quality

In table 4 can be seen the strong impact of crisis in 2008 on the credit portfolio. We have to emphasise that Russian crisis in 1998 also influenced commercial bank performance in Latvia but the credit portfolio during that period did not show a tendency to decrease. As can be seen in figure 1 commercial bank assets decreased by 8.7% but not due to credit portfolio. Then the losses were connected mainly with investments in bonds. Crisis of 2008 lead to credit portfolio decrease by 1160 million Ls in 2009 and by 1095 million Ls compared to 2009. The biggest part from that decrease came from written down loans. Also the credit quality analysis (see table 5) shows that the credit portfolio worsened.

Table 3: Return on asset (ROA) ratios of commercial banks in Latvia, 2001 - 2010

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on assets ratios</td>
<td>1.52</td>
<td>1.50</td>
<td>1.45</td>
<td>1.74</td>
<td>2.12</td>
</tr>
<tr>
<td>Ratings</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Return on assets ratios</td>
<td>2.06</td>
<td>2.07</td>
<td>2.08</td>
<td>2.09</td>
<td>2.10</td>
</tr>
<tr>
<td>Ratings</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 5 using FCMC data at 31.12.2009 shows that only 74.5% of all loans were paid without delay, at 31.12.2010 the proportion of good loans were even lower - 73.4% from nonbank loans. That could be explained by the fact that both private and legal entities have significant problems with compelling with loan agreements. Also the principal amount of loans and interest rate proportion in total credit portfolio grow in 2010 compared to 2009. If in the end of 2009 paid proportion in loans were 8.6% then at the end of 2010 it was already 11.3%.

Table 4: Loans of commercial banks in Latvia (including transit loans), thousands Ls, 1994 - 2011

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Loans, thousands Ls</td>
<td>423269</td>
<td>202272</td>
<td>243059</td>
<td>464358</td>
<td>701113</td>
<td>815126</td>
</tr>
<tr>
<td>Loans, thousands Ls</td>
<td>2000</td>
<td>2001</td>
<td>2002</td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
</tr>
<tr>
<td>Loans, thousands Ls</td>
<td>105539</td>
<td>1607365</td>
<td>2125112</td>
<td>3000957</td>
<td>4380565</td>
<td>6960340</td>
</tr>
<tr>
<td>Loans, thousands Ls</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
</tr>
<tr>
<td>Loans, thousands Ls</td>
<td>10872855</td>
<td>14916115</td>
<td>16588865</td>
<td>15429209</td>
<td>14334188</td>
<td>14184571</td>
</tr>
</tbody>
</table>

Table 5: Quality of loans given out to nonbank entities by commercial banks in Latvia

<table>
<thead>
<tr>
<th>Distribution of loans by notional amount and/or percentage payment delay period and reserves for loan principal amount</th>
<th>31.12.09.</th>
<th>31.12.10.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thousands Ls %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without delay</td>
<td>11 500 586</td>
<td>74.5</td>
</tr>
</tbody>
</table>
In figure ten can be explicitly seen that the proportion of given out loans in total assets from 1995 to 2008 swiftly increased from 29.79% to 71.3%. (The drop in loan proportion in 1995 compared to 1994 can be explained by the consequences of Latvian bank crisis in 1995. We have to emphasise that the crisis in 1995 was connected with unreasoned crediting policy that led to decrease of assets and credit portfolio).

Figure 10: Loans (including transit loans) as percentage of total assets of Latvian commercial institutions from 1994 to 2010 (at the end of periods)

Unreasoned crediting policy and too high loan proportion in total assets that signals about undiversified assets led to very huge losses in bank operations also in 2008, 2009 and 2010 already show a decrease in loan proportion of total bank assets - 65.25% in end of 2010 that was caused by credit portfolio „cleaning“ and decreasing the number of given out loans.

3.2. Analysis of commercial bank revenues in Latvia

Analysis of commercial bank revenues in Latvia (see figure 11) also shows a rapid decrease in revenues starting from 2008 that can be explained by the influence of crisis in 2008.

Figure 11: Latvian commercial bank revenues, million Ls, 2001 - 2010

Figure 11 shows that from 2001 until 2004 commercial bank revenues continuously increased every year. Starting from 2005 to 2008 it can be seen that bank revenues increased very rapidly because the economic environment in the country was beneficial and

<table>
<thead>
<tr>
<th>Delay</th>
<th>Total Loans, Thousands</th>
<th>Reserves for principal amount of loans/% from principal amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delay up to 30 days</td>
<td>804,483</td>
<td>1,327,889 (8.6%)</td>
</tr>
<tr>
<td>Delay from 31 – 90 days</td>
<td>604,064</td>
<td>665 (0.0%)</td>
</tr>
<tr>
<td>Delay from 91 – 180 days</td>
<td>502,245</td>
<td>2,027,721 (13.1%)</td>
</tr>
<tr>
<td>Delay above 180 days</td>
<td>2,027,721</td>
<td>464,064 (3.9%)</td>
</tr>
<tr>
<td>Total loans, thousands.</td>
<td>15,439,765</td>
<td>1,543,9765 (100.0%)</td>
</tr>
<tr>
<td>Not divided</td>
<td>665</td>
<td>92 (0.0%)</td>
</tr>
</tbody>
</table>

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32 FCMC data: [http://www.fktk.lv/lv/statistika/kreditiestades/ceturksna_parskati/](http://www.fktk.lv/lv/statistika/kreditiestades/ceturksna_parskati/)
33 FCMC data: [http://www.fktk.lv/lv/statistika/kreditiestades/ceturksna_parskati/page2](http://www.fktk.lv/lv/statistika/kreditiestades/ceturksna_parskati/page2)
there was a credit boom. In the middle of 2008 the revenues of Latvian commercial banks started to decrease significantly. Even now the tendency of revenues to decrease can be felt and we can forecast that this tendency will sustain for a certain time while the economic situation as a whole will not improve.

4. Conclusion

The performed analysis illustrated the influence of macroeconomic factors on the stability of commercial bank system and found problems in Latvian commercial bank asset quality and profitability. Based on the analysis results the authors provide recommendations for improving the stability of commercial bank system in Latvia and improving results of commercial bank operations:

- Commercial banks and their controlling institutions have to regularly analyse macroeconomic factors because they influence the stability of the commercial bank system. If such analysis would be carried out the commercial bank system in Latvia could avoid many problems that due to crisis in 2008 – 2010 led to led to huge commercial bank system losses. In Latvia during the period from 2006 to 2009 the high inflation together with large current account deficit, rapidly growing consumption and amount of given out loans, and high real estate prices illustrated problems with economic equilibrium whose consequences negatively affect not only commercial bank system and results of their operations but also Latvia’s national economy altogether. The economic instability and growing macroeconomic risks did not stay unnoticed - rating agency Standard & Poor’s in May, 2007 increased the countries risk prognosis from stable to negative and started decreasing Latvia’s long term ratings to BB category;
- To ensure a professional analysis of macroeconomic factor influence the following things are needed – specialists, methodology, truthful and complete information to timely develop “medications” and recommendations that would be implemented by all stakeholders of the financial system. Considering that the legislation of Latvia has to be adjusted and the process of commercial bank supervision has to be divided into two levels: the micro level supervision of commercial banks could be performed by FCMC but at the macro level by the Central Bank of Latvia;
- Commercial banks has to regularly assess the macroeconomic risks and based on the results of their analysis have to timely change their policies (for example, credit policies) and procedures, risk management systems, thereby decreasing the influence of unfavourable macroeconomic factors on commercial bank operational results;
- To increase the efficiency of the supervisory institutions and decrease the impact of unfavourable macroeconomic factors on the commercial bank system stability the limits for prudential demands has to be set (for example, size of capital sufficiency ratio, size of liquidity criterion) based on the macroeconomic situation in the country at the exact point in time;
- Commercial banks have to regularly assess whether their operations meet the criteria “ensuring asset quality” (special attention should be paid to the credit operations of a bank and investments in bonds) by forecasting the safety of the bank and timely avoiding many problems.

Assessment of asset quality allows to:

1. Determine the necessary amount of reserves,
2. Determine the indicator of asset quality,
3. Determine the rating of the bank based on the asset quality ratio: when determining the banks rating it can assess the quality of its assets and whether it meets the criteria. The quality of assets in the end influences the profitability of bank operations because the amount of delayed payment either is already affecting the profitability or will do so in the near future.

The analysis of credit ratings of the five largest banks in Latvia show that reserves from 2008 to 2010 were large meaning that the quality of assets were either critical or unsatisfactory. In 2009 in such bank as Swedbank and SEB bank asset quality rating ewes unsatisfactory due to the high proportion of credits in the total assets. A better situation was in Latvijas Krajbanka and Rietumu bank – asset quality rating of these banks was almost satisfactory. In 2010 a tendency could be seen for theses rating to improve. Thus, we can conclude that meeting the criterion of asset quality is very topical to all commercial banks in Latvia.

- Commercial banks have to regularly assess whether they meet the criterion of “ensuring asset profitability (rate of return)” and adapt to the trend for decreasing profitability of financial instruments in Latvia in two ways: by minimising profitability norm’s decrease speed and maximising profit. Altogether, the asset profitability in Latvia’s commercial bank system is falling that is enforced by unfavourable influence of macroeconomic factors. Analysis has shown that the asset profitability ratios in Latvia’s commercial bank system were unsatisfactory in 2008 and even critical in 2009 and 2010. The decrease in the norm of bank asset profitability unavoidably is determined by the willingness to increase to principal amount of profitable assets and with that also increase in asset profitability growth. To do that the following has to be ensured:
  a) Increase in the growth rate of commercial bank assets that is very topical at the moment when liquidating the consequences of crisis in 2008;
  b) Increase in “working” (that is revenue bringing) asset proportion;
  c) Increase in nonoperational income mass simultaneously slowing down the costs of operating and nonoperational tools; that can be achieved not only by widening the usage structure of traditional financial instruments but also by actively searching for new forms to attract new resources and create new forms and methods to use these instruments mainly by diversifying profitable operations.

As proven in life, those commercial banks in Latvia whose assets meet these criteria rather well can deal with the problems with increasing asset profitability but at the level of system the asset profitability is falling. It means that performing a regular assessment of asset quality and profitability is topical for almost all commercial banks.
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