BANK CAPITAL ADEQUACY EVALUATION AND MEASUREMENT: PROBLEMS AND SOLUTIONS

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Abstract

The matter of bank capital adequacy evaluation is of great importance, and ensuring the relationship between risk and capital is one of the main conditions of financial stability of banks. Financial stability of the banking system is provided for at international level by means of Basel Committee rules. Due to introduction of new regulatory capital requirements banks are required to pay great attention to capital adequacy, analysis of its sources, structure and consider possibilities to ensure their compliance with the new Basel III rules until the set deadline.

The aim of the study is to evaluate capital adequacy in Latvian commercial banks, reveal existing problems, related with evaluating of bank capital adequacy and to develop suggestions on improving bank capital adequacy according to the effective and the planned Basel Committee requirements.

Methodological, analytical materials and publications of the Bank of Latvia, the Financial and Capital Market Commission and the European Parliament, and Basel Committee on Banking Supervision regulatory documents on commercial banks' capital adequacy evaluation were used in the research process. Publications in periodicals, statistical information of the Association of Commercial Banks of Latvia, the Republic of Latvia Credit Institutions Law and regulations of the Financial and Capital Market Commission were taken into consideration. The capital analysis of Latvian commercial banks was performed mainly based on financial information of banks: annual financial reports, balance sheet and notes to it, bank's capital flow and capital adequacy reports, capital adequacy and risk management methods, official audit reports on financial standing of commercial banks available with annual reports of banks. Analytical and business publications, opinions of specialised agencies (Moody's Analytics, PricewaterhouseCoopers) and financial publications in mass media - were used as well.

Key words: Capital adequacy, Risk-weight assets, Credit risk, Market risk, Operational risk, Capital buffer, Tier 1 capital, Total capital.

1. THEORETICAL ASPECTS OF BANK CAPITAL ADEQUACY EVALUATION

A bank's capital is a mandatory and integral part of its financial resources, and its development in the form of core capital is a required step even before establishing a commercial bank (S.Saksonova, 2006).

The capital also serves as an indicator of the bank's credit solvency, since the total amount of its assets may not exceed a certain capital adequacy limit, which means that the maximum amount of the bank's assets depends on the size of its capital. The size of capital greatly determines the bank's competitiveness (H.Greuning and S.Brajovic Bratanovic 2009).

Foreign economics professor O.Lavrushin (О.Лаврушин 2009) and economist O.Sviridov (О.Свиридов 2010), believe that capital adequacy ratio reflects an overall evaluation of a bank's financial stability, and exposure of a commercial bank to possible risks. So in this case capital adequacy is based on stipulation that a bank's capital must correspond to the amount of assets of the commercial bank considering balance sheet assets' degree of risk as well.

Several economists have examined the concept of capital adequacy, including Russian scientists M.Vahrameyeva (М.Вахрамеева) and V.Salin (В.Салин) (2002). In their scientific articles they express the opinion that capital adequacy ratio reflects a bank's own funds net share in liabilities. Thus according to them a bank's capital performs diverse and important functions aimed at ensuring a commercial bank's viability on the financial market.

O.Sviridov (О.Свиридов) (2010) maintains that a commercial bank needs sufficient capital to

provide adequate cover for risks assumed in due course of its business.

Russian economist A.Kopitova (А.Копытова, 2009) interprets capital adequacy as a factor reflecting a bank's overall stability and connects the concept to potential risks of a bank, with a comment that the greater the specific weight of risk-generating assets on a bank's balance sheet, the greater the bank's capital should be.

The American scientist D.Chorafas (2004), in his turn, believes that the main function of a commercial bank's capital is generation of bank's income and profit respectively, and provide for a possibility to cover unexpected operating losses of a commercial bank.

American scientists H.Schooner and M. Taylor (2009) in their book „Global Bank Regulation: Principles and Policies" offer an identical definition, but in addition to that they stress the possibility to use capital of a commercial bank to cover possible losses caused by credit risk.

American economists H.Greuning and S.Brajovic Bratanovic (2009) hold a view that capital adequacy level must be consistent with the risk level of the bank's operations.

Latvian economist M.Kudinska (2005) and American economists H.Greuning and S.Brajovic Bratanovic (2009) holds a view that capital adequacy reflects resources of a bank's capital required as protection against credit risk and similar risks related to a bank's assets' portfolio and off-balance sheet items.

In the Financial and Capital Market Commission's regulations capital adequacy is defined as the amount of provisions to cover a bank's operating losses. (FCMC, 2014).

Table 1 shows, which regulated and unregulated risks inherent to a bank's activities must be taken into consideration in capital adequacy evaluation by a bank.

A bank's capital structure consists of Tier 1, Tier 2 and in special cases Tier 3 capital components, from which the calculated capital reduction items are deducted.

Table 1

Legal regulation of risks of commercial banks (FCMC, 2014)

Risks, for which minimum regulatory capital requirements are established	**Risks, for which no minimum regulatory capital requirements are established**
Credit risk	Interest rate risk
Market risk	Liquidity risk
Operational risk	Laundering of proceeds from criminal activity and terrorism financing risk
	Concentration risk
	Other risks

Basel II rules offer the following structure of capital division and relations ratios between its constituents (see Figure 1).

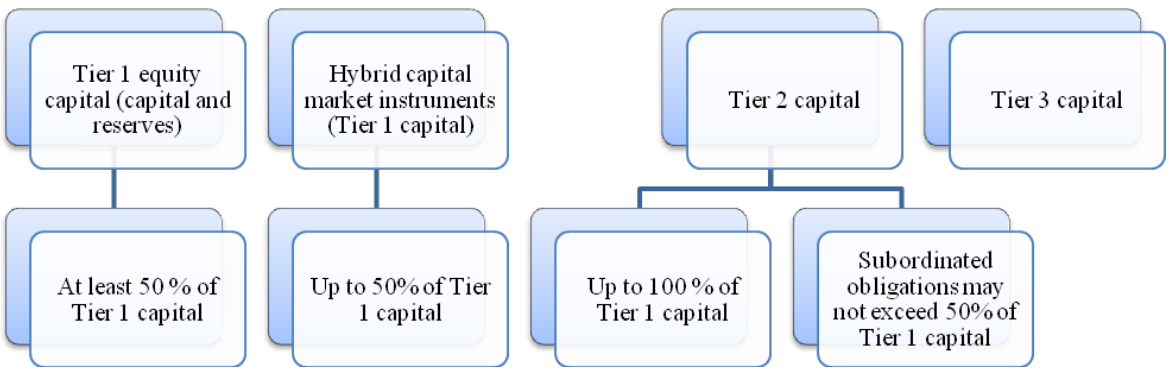

Figure 1. Division of capital and relative ratios between its constituents (FCMC, 2012)

As early as in 1995 Basel Committee proposed a concept of Tier 3 capital allowing banks to resolve and overcome market risk problems by issue of short-term subordinated obligations (FCMC, 2013).

In 2010 Basel Committee announced the Third Basel Accord under the title "A Global Regulatory Framework for More Resilient Banks and Banking Systems". The aim of introducing Basel III requirements is strengthening of financial system and avoidance of financial practice leading to new global crises. The new regulations require increase of size of capital of banks, improving its quality and reducing interest in using financial instruments with high leverage. The changes are aimed at increasing capital quality of banks, coherence and transparency of capital basis, and strengthening of capital cover ratios for risks. Basel III rules are scheduled for implementation starting from 2013. The implementation process of began in 01 January 2011. The observation stage lasted until the end of 2012. The implementation was divided into several stages, with the deadline in 2019 (BCBS, June 2011).

The new Basel III requirements change in essence the definition of capital and establish stricter requirements for components included into equity capital. Tier 1 capital is comprised of Tier 1 common equity, and Tier 1 additional capital, which includes capital market instruments satisfying certain requirements - the aforementioned instruments must be undated and should not contain any components facilitating their repurchase, they must offer a possibility to write off their principal in certain cases or be convertible into Tier 1 equity capital. Basel III specifies requirements for including components, for example, subordinated capital, into Tier 2 capital. Tier 3 capital, in its turn, is excluded from the calculation of equity capital. Basel III establishes that components included in Tier 1 capital must cover losses from the institution's operating activities, but components of Tier 2 capital must cover the institution's losses in case of its liquidation. In addition Basel III provides for amendments in regard to components of equity capital reduction calculation and their deduction procedure. As it introduces stricter equity capital definition requirements under Basel III, it simultaneously requires larger equity capital, because it introduces higher Tier 1 equity capital and Tier 1 capital ratios. According to the new requirements the minimum Tier 1 equity capital adequacy ratio in the final year should amount to 4.5 % of risk-weighted assets, but the minimum Tier 1 capital adequacy ratio – to 6 %. The minimum Tier 1 and Tier 2 equity capital adequacy ratio remains unchanged - 8 % of risk-weighted assets. But in addition to that Basel III introduces the capital buffers system, requiring the banks to maintain capital adequacy at a level exceeding the aforementioned minimum ratios to ensure compliance with the minimum capital ratios whenever necessary during stress periods. Basel III introduces two types of capital buffers: capital conservation buffer in the amount of 2.5 % and counter-cyclical buffer 0 – 2.5 %, thus Tier 1 equity capital ratio has to be 7 %, including the buffer, but the minimum Tier 1 capital ratio – 6 % of the risk-weighted assets, which means that capital adequacy ratio also increases to 10.5 %. The competent supervisory institutions will be entitled to request banks to create the counter-cyclical buffer 0 – 2.5 % during periods of high credit growth. The purpose of the aforementioned capital conservation buffer is to cover losses under stressful circumstances, so that the minimum Tier 1 equity capital ratio and the minimum Tier 1 capital ratio under stressful circumstances would not drop under 4.5 % and 6 % respectively. In case of failure to satisfy the aforementioned capital buffer maintenance requirements Basel III stipulates a restriction on distribution of profit (for dividend payments, share repurchase and bonuses) (BCBS, 2011).

Basel III requirements with regard to counterparty credit risk become considerably stricter for banks using internal models. They are aimed at transactions with derivative instruments, repurchase transactions and securities' financing transactions. Basel III introduces stricter characteristics for use in calculation models of risk transactions' value. Basel III also envisions introduction of leverage ratio. The ratio provides additional level of protection against model risks and evaluation errors. Its immediate purpose is to limit rapid growth of bank assets at the cost of attracted funds and ensure sufficient amount of high quality capital in the system (BL, 2011).

2. ANALYSIS OF FACTORS INFLUENCING CAPITAL ADEQUACY BY MEANS OF BREAKDOWN OF LATVIAN BANKS IN GROUPS

Before performing analysis of Latvian banking sector's capital adequacy level, evaluation of capital adequacy of Latvian banks in comparison to other European countries should be made.

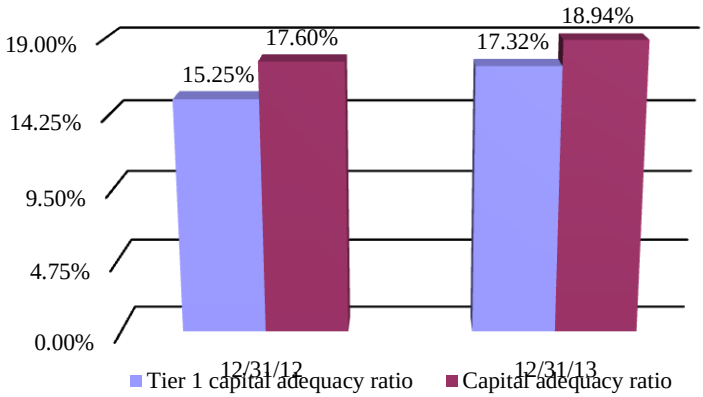

Figure 2. Capital adequacy ratios of Latvian commercial banks (31.12.2012 / 31.12.2013)
Source: prepared by the authors based on FCMC data, 2013 / 2014

In 2013 capital adequacy of Latvian banking sector at the level of consolidation groups of banks exceeded the average level in EEZ member states (CAR – 15 %). In 2013 in EEZ states the aforementioned ratio reached only 15.0 %, whereas in Latvia it amounted to 18.94 % (see Figure 2) (FCMC, 2014).

For further analysis of capital adequacy, the authors split all Latvian commercial banks into 4 groups in accordance with the capital belonging criterion:

Group 1 – banks established on private Latvian capital

Group 2 – banks established on European capital

Group 3 – banks established on Eastern capital

Group 4 – banks established on national state capital.

Belonging of banks was determined taking into consideration the most specific weight of the investor's country (more than 50% in equity).

At the beginning of 2014 the number of banks in the country shrank to 17. As a comparison, at the end of 2013 20 banks and 9 branches of foreign banks operated on Latvian market. The number of commercial banks in Latvia for the most part shows a growth tendency and since 2001 has increased by 11.11 %. The data of 2013 does not indicate such positive tendency any more, since the number of banks during the year shrank by 15 % (or by three banks). Interest of foreign investors in Latvian market in the long term remains at the same level, illustrated by the increased concentration of investments of non-resident shareholders in equity capital of banks registered in Latvia (see Figure 3).

During the period of time from 2001 to 2013 concentration of foreign capital in Latvian banking sector on the average exceeded 56.69 %, and in 2013 reached 58.83 %. The majority of banks registered in Latvia have foreign (East and European) capital. In 2013 investments of investors from East in Latvian banks' capital reached 41.18 % of the market (2012 - 30 %). Banks with qualifying holdings of European shareholders, in their turn, have 17.65 % of Latvian banking market. Compared to 2012 their specific weight has dropped by 7.35 %, because AS UniCredit Bank (withdrawal of licence at the beginning of 2014) and AS Norvik bank left the East capital group of banks (strategic investor changed and a resident of Russia became the main shareholder of the bank) (see Figure 3).

Predominance of foreign investments in Latvian banking sector is also shown by changes in capital and reserves broken down in groups of banks (see Figure 4).

This data also shows prevalence of banks registered in Latvia with foreign (East and European) capital. In 2013 the specific weight of capital and reserves of the group of banks with East capital in the banking sector amounts to 9.34 % (in 2012 - 7.37 %), the specific weight of capital and reserves of the group of banks with European capital, in its turn, amounted to 62.29 % (in 2012 - 63.64 %) of the market. Capital and reserves of groups of banks with Latvian and Latvian state capital amounted to 28.36 % (in 2012 - 28.99 %), (see Figure 4).

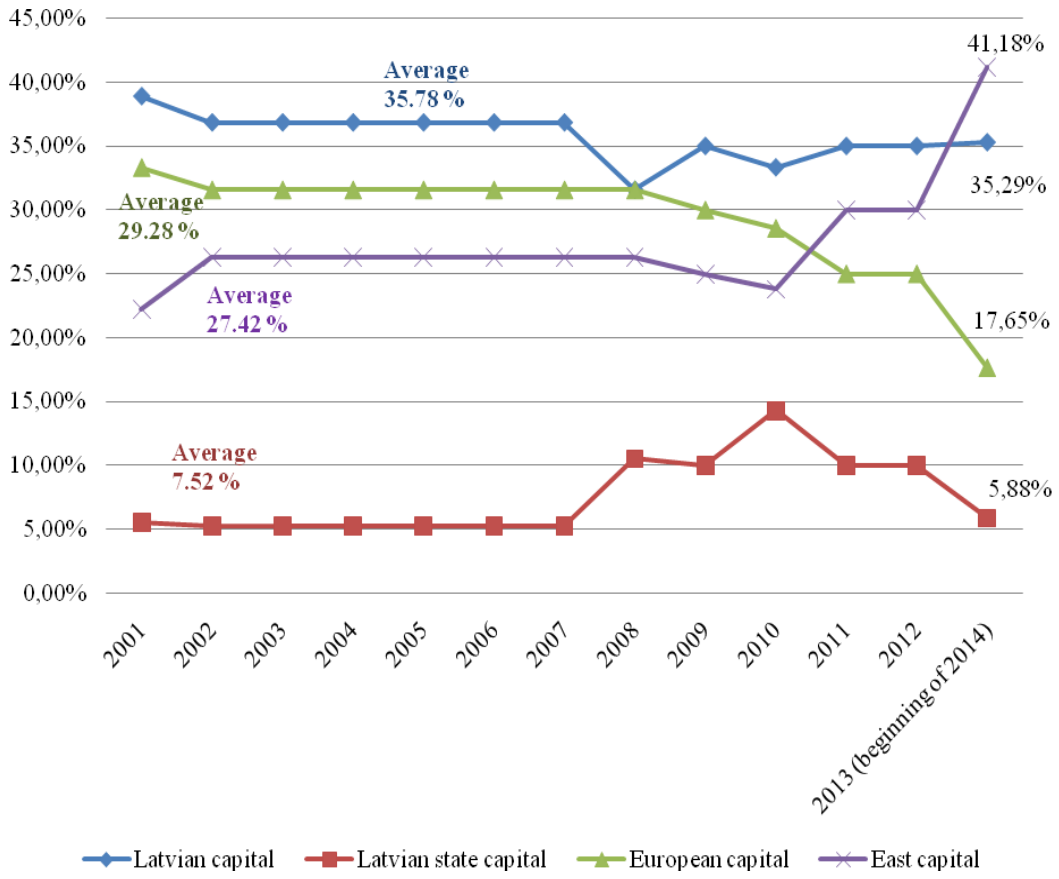

Figure 3. The structure of Latvian banking sector based on the number of banks broken down in groups of banks by capital ownership

Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2001 – 2013

Figure 5 illustrating the result of evaluation of risks inherent to activities of Latvian banks shows the specific weight of each group of risks, which must be evaluated, in the total capital requirement for risks. The most significant risk for banks still is credit risk, and at the end of 2013 credit risk capital requirement amounted to 89.24 % of the total amount of capital requirements (at the end of 2012 – 89.6 %). Market and operational risks make up a small part of capital requirement of banks (10.76 % - in 2013, 10.4 % - in 2012) and have no material impact on capital adequacy ratios.

Each group of banks optimized costs of attracted resources and partially repaid subordinated investments, thereby reducing by 119 846 thousand EUR (in 2012 – 123 364 thousand EUR) Tier 2 capital of Latvian banking sector and ensuring a rather small specific weight of it in equity capital 15.22 % (in 2012 - 13.89 %).

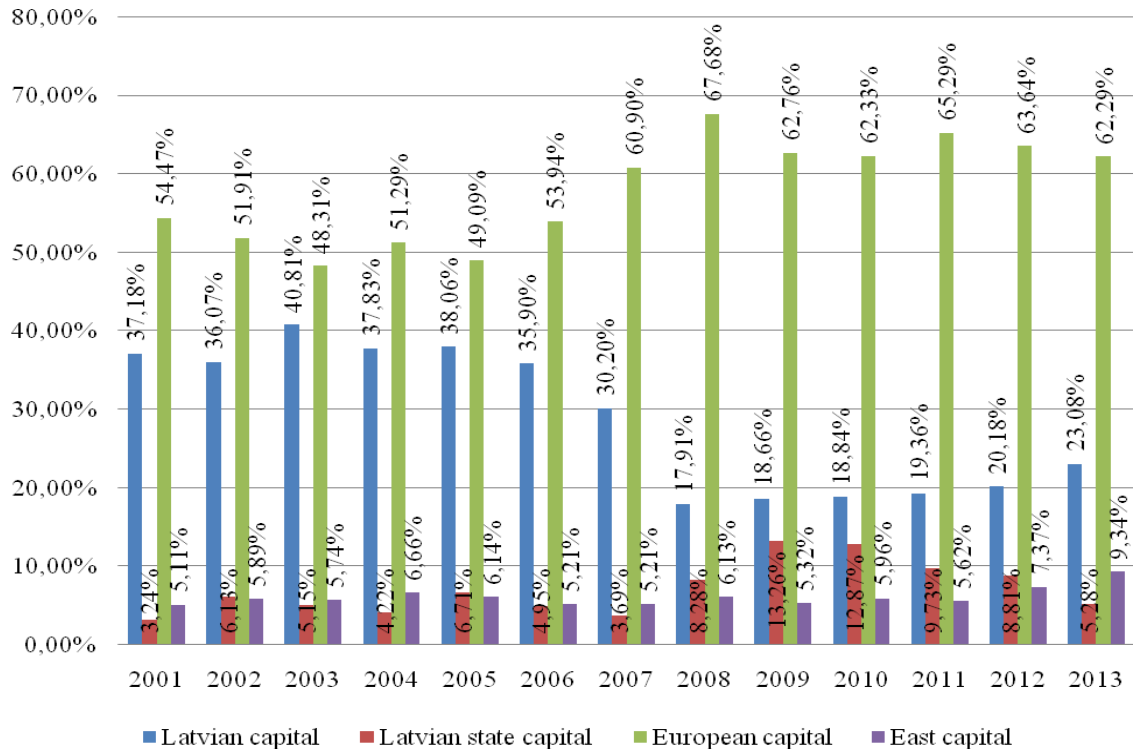

Figure 4. Latvian banking sector's structure according to the specific weight of capital and reserves broken down in groups of banks by shareholders' country

Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2001 – 2013

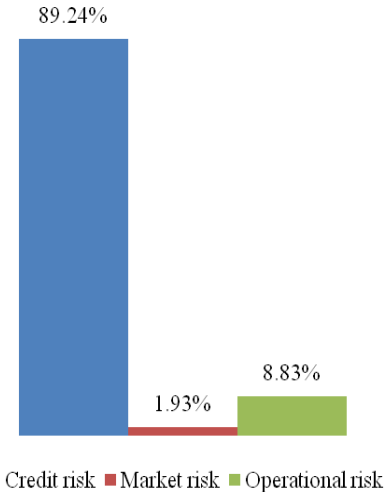

Figure 5. The structure of capital requirements for risks in Latvian commercial banks in 2013

Source: prepared by the authors based on FCMC data, 2014

Evaluating equity capital distribution with the aim to determine the specific weight of foreign capital on Latvian market one should group of banks with European capital holds on the average 54.25 %, the group of banks with Latvian capital – 27.75 % and others (groups of banks with East and Latvian state shareholders) – 18.0 %. The capital structure of Latvian banks in each period is dominated by Tier 1 capital and at the end of 2013 constituted 85.53 % (in 2012 - 87.15 %) of the total amount of capital in groups of banks. Comparing the present value of capital to the data of 2001 the total equity capital of banks at the end of 2001 amounted only to 432 054 thousand EUR. The specific weight of foreign capital in the equity capital of Latvian banks was already considerable at the time - 61.48 %. Groups of banks with European (56.36 %) and East (5.12 %) capital made up the indicated percentage share. The state of Latvia, in its turn, in 2001 was the sole

shareholder of AS Mortgage and Land Bank of Latvia, and the bank's equity capital accounted only for 4.17 % (see Figure 6).

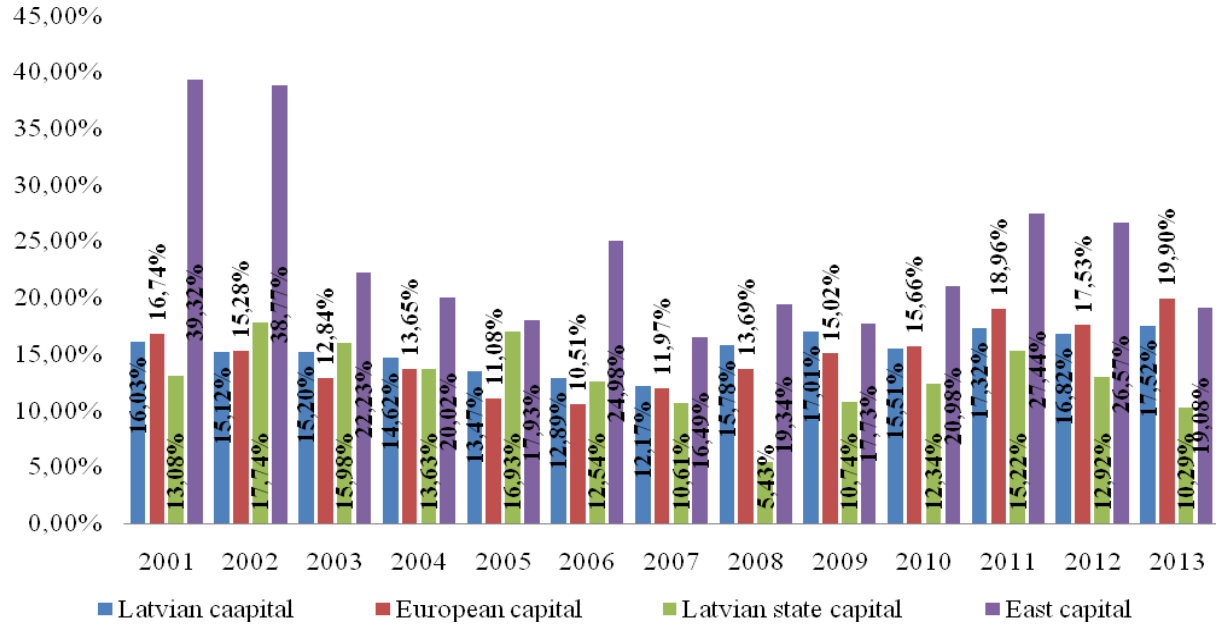

Figure 6. CAR breakdown in groups of banks

Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2001 – 2013

The greatest risk of Latvian banking sector is credit risk caused mainly by credit portfolio size increase. The group of banks with East capital was able to achieve the highest capital adequacy ratio (on the average during the period 23.91 %), because the specific weight of loans on balance sheets during the analysed period (2001 – 2013) was small compared to all other groups of banks. Accordingly components of the total amount of credit risk had little impact on amounts of risk-weighted assets. In the last quarter of 2013 the capital requirement for credit risk in the banking sector amounted to 1 041 715 thousand EUR or 89.24 %, with dispersion using breakdown in groups of banks from 52.27 % (the group of banks with European capital) to 10.02 % (the group of banks with East capital) (see Figure 7).

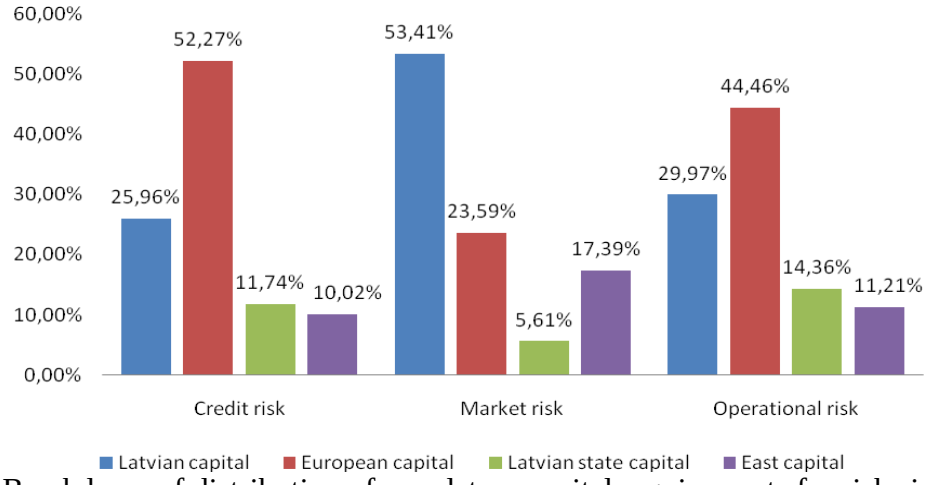

Figure 7. Breakdown of distribution of mandatory capital requirements for risks in groups of banks, 31.12.2013

Source: prepared by the authors based on FCMC data, 2014

In 2013 only the group of banks with European capital attained the greatest share of credit risk 52.27 % of the market. Banks of this group are more focused on providing services to local customers and especially lending, thus a significant part of their credit portfolios constitute loans to residents. That explains the great specific weight of credit risk in these banks. In addition banks focused on non-resident business do not engage to such extent in lending activities, the specific weight of their credit portfolio in their assets is roughly half as big as that of universal banks. The credit risk capital requirement of the group of banks with Latvian capital in 2013 amounted to 270 469 thousand EUR (2012 – 246 305 thousand EUR), 50.33 % (2012 - 63.82 %) less than that of the group of banks with European shareholders. The credit risk capital requirement of the group of banks with East capital was insignificant compared to all other groups of banks and amounted to 104 358 thousand EUR (2012 – 53 806 thousand EUR), (Figure 8).

Capital adequacy ratio is tightly bound to the amount of profit or loss, because the result of operating activities must be included in capital calculation as shows Figure 9. Profit may be used to increase Tier 1 capital. Losses of a bank, in their turn, deteriorate the total capital adequacy result. Analysis of the group of banks with State capital illustrates this tendency. In 2012 losses of the group amounted to 44 670 thousand EUR and the group's capital adequacy was the lowest (13.43 %) compared to other groups. In 2009 the group of banks with East capital suffered losses in amount of 35 738 thousand EUR, which also caused reduction of capital adequacy by 1.61. In 2009 and 2010 losses of the group of banks with Latvian capital caused reduction of capital adequacy by 1.50 %. But profit in amount of 269.707 thousand EUR in 2013 had a positive effect on capital adequacy ratios, which increased by 0.70 %. Losses of the group of banks with European capital caused reduction of capital adequacy by 1.43 % in 2012, but profit in 2013 in amount of 106 195 thousand EUR increased capital adequacy ratio by 2.37 % (Figure 9).

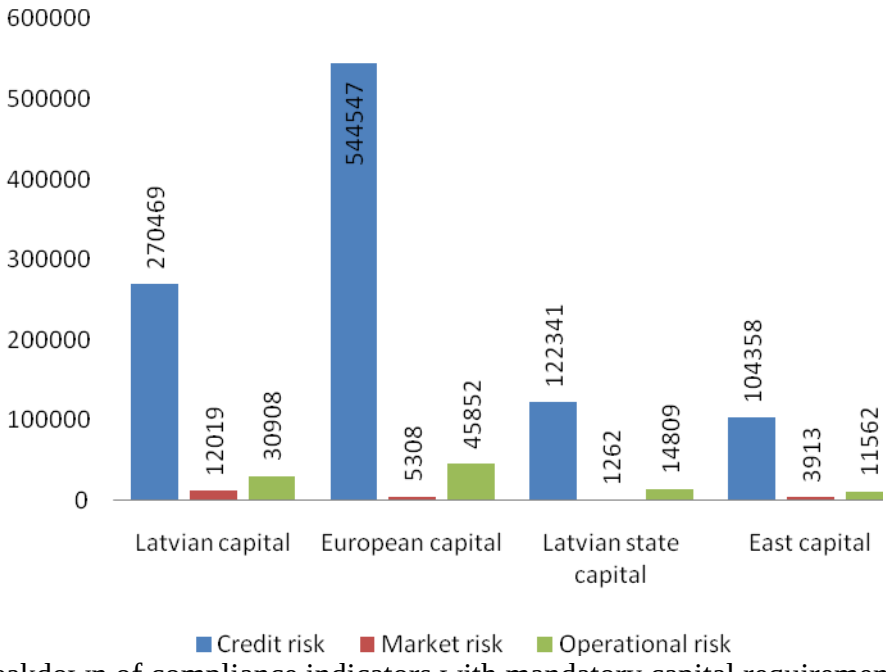

Figure 8. Breakdown of compliance indicators with mandatory capital requirements for risks in groups of banks, 31.12.2013

Source: prepared by the authors based on FCMC data, 2014 (000'EUR)

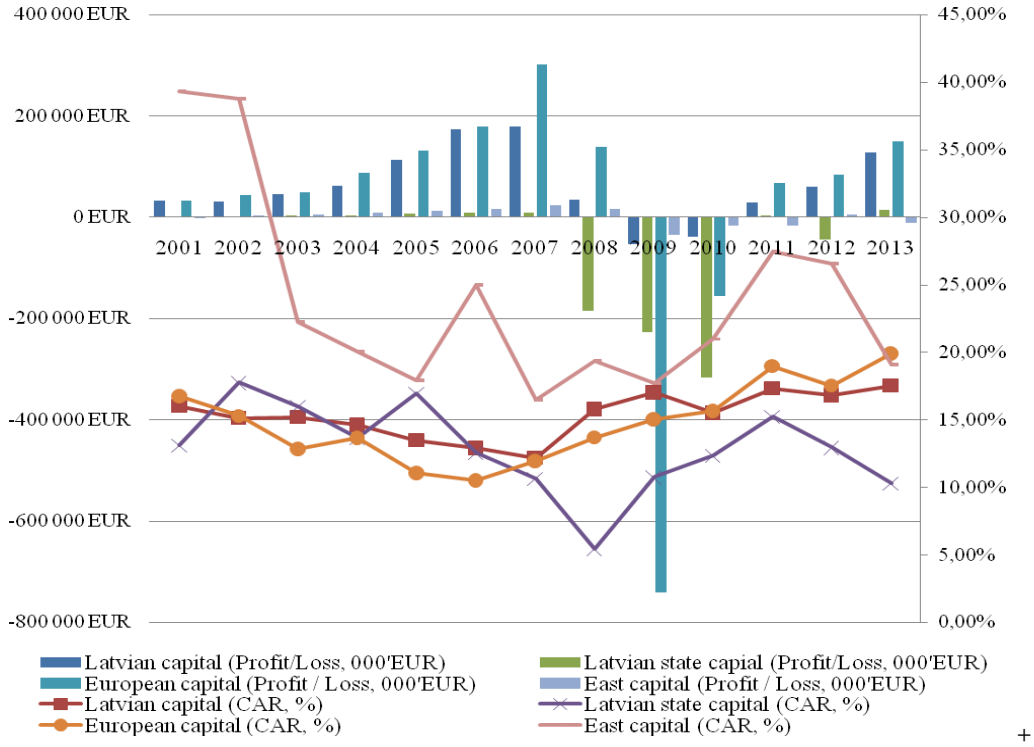

Figure 9. Breakdown of relation between profit and capital adequacy ratios in groups of banks

Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2001 – 2013

Relation between provisions for problem debts and capital adequacy ratios shows the direct relationship, because provisions have impact on reduction of profit, but deterioration of credit portfolio quality causes increase of provisions and respectively increase of credit risk, all of which results in reduction of CAR ratios. The relation is illustrated by Figure 10.

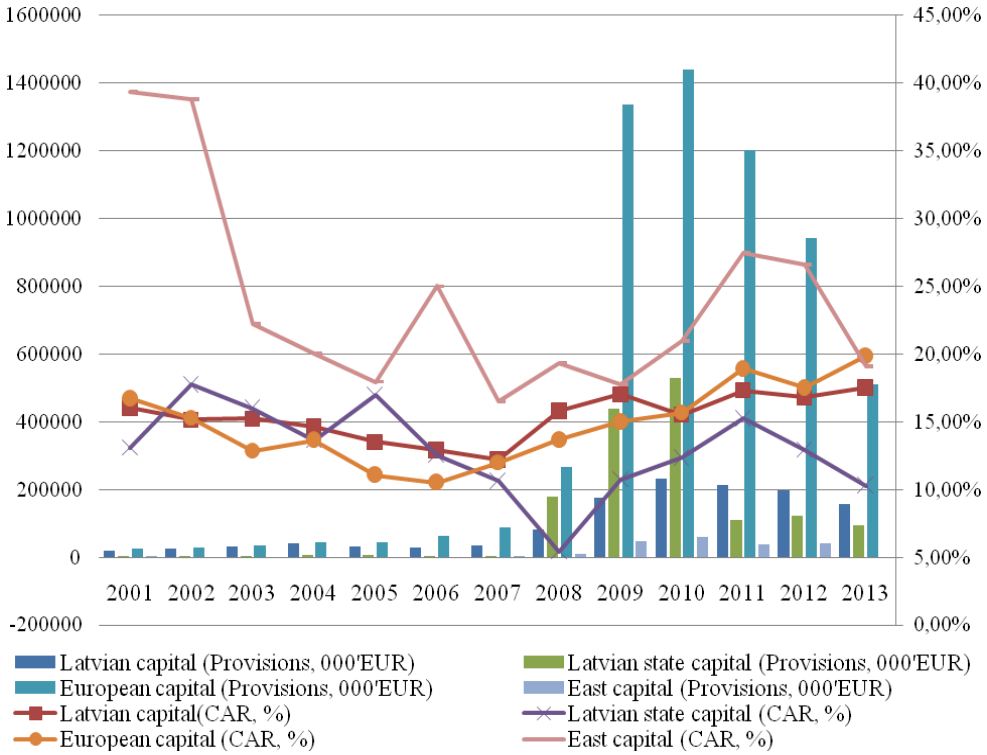

Figure 10. Breakdown of relation between provisions for problem debts and capital adequacy ratios in groups of banks

Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2001 – 2013

3. EVALUATION OF THE NEW BASEL III REQUIREMENTS IMPACT ON CAPITAL ADEQUACY OF LATVIAN BANKING SECTOR

After introduction of Basel III rules Latvian banks will also have to satisfy stricter equity capital quality and capital adequacy requirements. To avoid being taken unaware by the problem in 2019 banks should make estimates and evaluations already at the beginning of the process to establish the reaction of the banking sector to changes and make evaluations and decisions about stabilizing the capital of Latvian banks. The study performed by Basel Committee about the quantitative impact of Basel III requirements on the need to create provisions for strengthening the common equity of banks in 27 different countries proves that 94 evaluated banks with equity capital exceeding 3 bln EUR will require additional investment of 577 bln EUR in Tier 1 capital to ensure the regulatory minimum adequacy ratio at 6 %. The rest of banks with equity capital up to 3 bln EUR need an investment in amount of 25 bln EUR to ensure the required Tier 1 capital ratio. Latvian banking sector could be put in the second group of banks and therefore results of Basel Committee study could be used as a starting point for evaluation. The new rules also introduce changes to treatment of risk-weighted assets. The research data of Basel Committee's study shows that the second group of banks (including Latvian banks) will experience increase of risk-weighted assets only by 4 % (BCBS, 2010).

Examination of impact of introducing Basel III requirements on capital adequacy ratios of Latvian banks, first of all, includes evaluation of increase in risk-weighted assets of banks. Analysis was performed using quantitative change ratios published in the Basel research.

Figure 11 reflects changes in the value of risk-weighted assets after introduction of Basel III requirements in 2019 applying the ratio of changes in risk-weighted assets (4%) to the current 2013 risk-weighted assets of Latvian banks. The most significant increase in risk-weighted assets will be experienced by banks with European shareholders' capital, they will grow by 300 140 thousand EUR. Banks with Latvian shareholders' capital, the respective position will increase by 163 560 thousand EUR. Increase of this position for banks with Latvian state and East capital, in its turn, will be small, the total amount of risk-weighted assets will grow by 125918 thousand EUR.

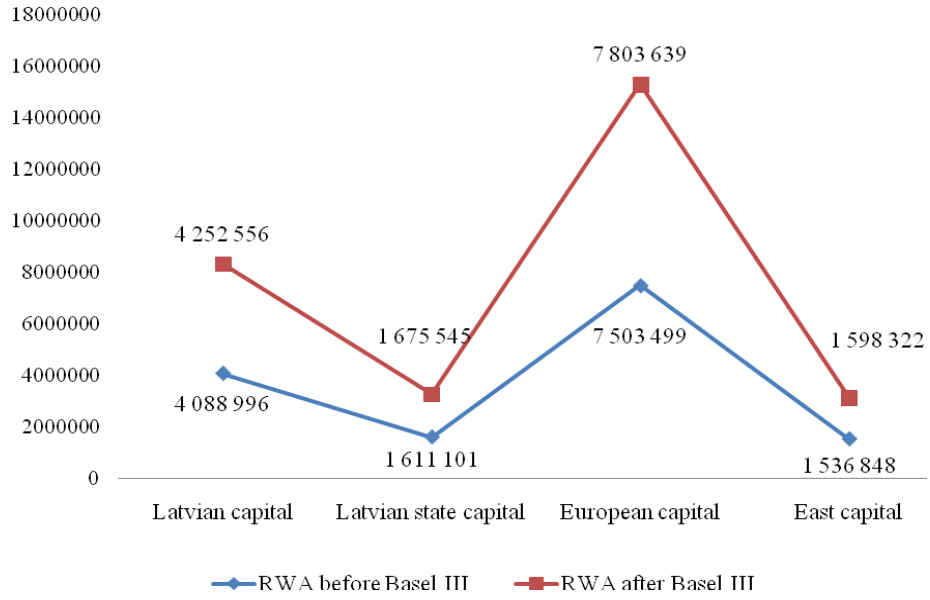

Figure 11. Breakdown of changes in the value of risk-weighted assets in groups of banks
Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2013 ('000 EUR)

Changes in risk-weighted assets affect also capital adequacy of each group of banks. Figure 12 shows breakdown of changes in Tier 1 capital adequacy in groups of Latvian banks after introduction of Basel III requirements.

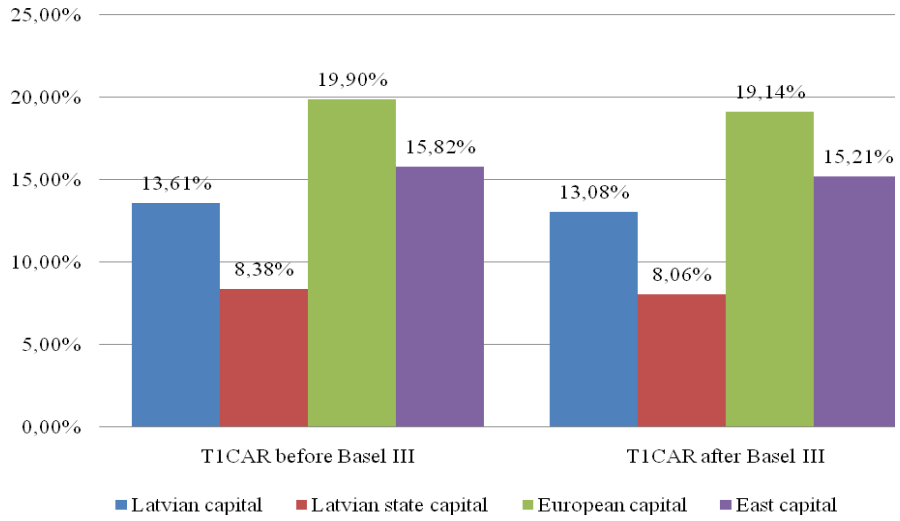

Figure 12. Breakdown of Tier 1 capital adequacy changes in groups of banks
Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2013

Evaluation of Tier 1 capital adequacy changes shows that Latvian banks in general will be able to ensure sufficient capital adequacy. The group of banks with European capital Tier 1 capital adequacy will drop by 0.77 %, thus ensuring the highest result 19.14 %. The result of the group of banks with Latvian state capital adequacy ratio will decrease only a little, by 0.32 %, but adequacy of Tier 1 capital will be at critical level 8.06 %. Groups of banks with East and Latvian capital will loose on the average 1.13 %. Thus each group of banks will be able to ensure Tier 1 capital ratio of 6 %, maintaining also a considerable reserve on the average over 7.87 %, and ensure compliance with the common equity adequacy standard in the mount of 7 % (including 2.5 % buffer).

Examination of changes in equity capital adequacy helps to evaluate fully changes in capital adequacy ratios after introducing Basel III in the banking sector. The group of banks with European capital will be able to ensure the highest capital adequacy level (19.14 %) with reduction ratio 0.77 %. The group of banks with Latvian state capital will be critical as their capital adequacy after introduction of Basel III will decrease by 0.40 %, thus the group's capital adequacy will be at 9.89 % (the standard is 10.50 %). Capital adequacy of groups of banks with Latvian and East capital will decrease by 1.40 % on the average, and their capital adequacy ratio will exceed 17 %.

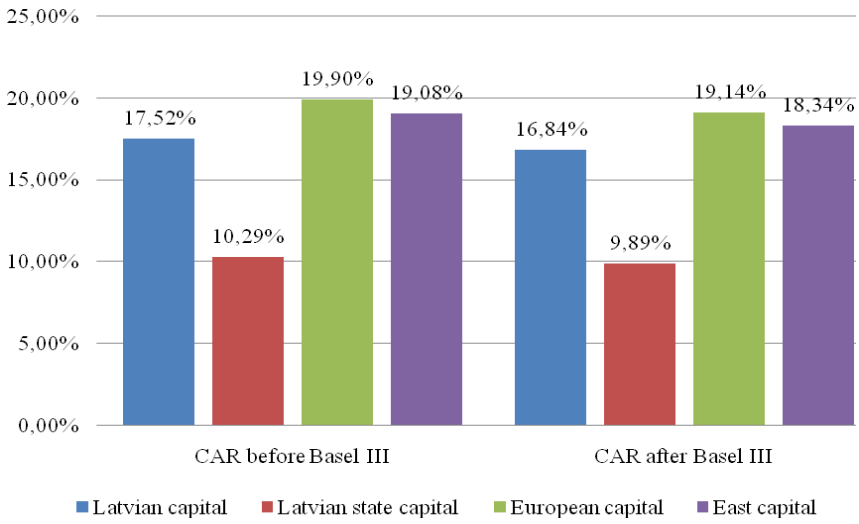

Figure 13. Breakdown of equity capital adequacy changes in groups of banks
Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2013

In 2019 according to new regulations equity capital adequacy ratio of every bank must be at least 10.50 %. Respectively, after applying the new regulatory standards to the current indices of financial activities (2013) Latvian banks will be able to satisfy this ratio as well. Changes of each ratio in each group of banks are dispersed differently, but it is clear that as a result of introducing the new Basel III requirements capital adequacy of banks will drop (see Table 2).

Table 2

Breakdown of changes in Tier 1 capital and equity capital adequacy ratios of Latvian banks in groups of banks

Grouping of Latvian banks by the capital's origin country	Changes in Tier 1 capital adequacy after introducing Basel III	Changes in equity capital adequacy after introducing Basel III
Latvian banks with European shareholders' investments in their capital	-0,77%	-0,77%
Latvian banks with Latvian shareholders' investments in their capital	-0,52%	-0.67%
Latvian banks with State shareholders' investments in their capital	-0,32%	-0,40%
Latvian banks with East shareholders' investments in their capital	-0,61%	-0,73%

Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2013

Regardless of the conclusion made as a result of the performed analysis that each group of banks already is in a position to satisfy Basel III requirements for capital adequacy, results of the analysis show that two Latvian commercial banks presently will not be able to ensure the required capital adequacy indices (see Table 3).

Table 3

Conformity of capital adequacy ratios of the commercial bank ABC (State capital) and the commercial bank XYZ (East capital) to Basel III requirements

Name of the bank	Commercial bank ABC (State capital)	Commercial bank XYZ (East capital)
Reported period (year)	2013 Basel III requirements	2013 Basel III requirements
Tier 1 capital (000 EUR)	94920	23527
Equity capital (000 EUR)	116492	34273
Risk-weighted assets (000 EUR)	1177580	444562
Tier 1 capital against risk-weighted assets, standard (%)	6,00%	6,00%
Tier 1 capital against risk-weighted assets, actual (%)	8,06%	5,29%
Reserve (%)	2,06%	-0,71%
Equity capital against risk-weighted assets, actual (%)	9,89%	7,71%
Equity capital against risk-weighted assets, standard (%) (the so-called buffer)	10,50%	10,50%
Reserve (%)	-0,61%	-2,79%

Source: prepared by the authors based on consolidated annual reports of Latvian banks, 2013

Evaluation results of the commercial bank ABC (State capital) indicate that the bank's equity capital adequacy would not exceed 9.89 %, respectively 0.61 % under the new capital adequacy standard (10.5 %). Upon evaluation of the commercial bank XYZ from the East group one must

conclude that this bank fails to satisfy Basel III capital adequacy regulations as well. Tier 1 capital adequacy ratio does not reach the standard by 0.71 %, the total capital adequacy ratio, in its turn, is 2.79 % lower than the standard (10.50 %).

4. CONCLUSION

Capital adequacy of Latvian commercial banks evaluation study has led to the following conclusions.

1) In 2010 Basel Committee on Banking Supervision developed stricter equity capital adequacy requirements for commercial banks to enhance stability of commercial banks.
2) In the long-term introduction of Basel III recommendations shall have a positive effect on the financial stability of the banking system, because commercial banks will choose more balanced growth strategies. The authors conducted a study based on an evaluation of readiness of Latvian commercial banks to fulfill Basel 3 requirements towards the capital adequacy in 2019 and authors did not aim to quantify the capital adequacy in the period from 2014 to 2018.
3) Capital and reserves of Latvian commercial banks for the most part consist of foreign investments. The specific weight of state investments in the capital of Latvian commercial banks does not exceed 5.28 % (2013), which indicates prevalence of private investments in Latvian banking sector.
4) The average capital adequacy ratio of Latvian commercial banks satisfies Basel Committee's requirements (at the end of 2013 equity capital adequacy amounted to 16.70 % (2012 – 18.16 %)).
5) At the end of 2013 the amount of risk-weighted assets in Latvian commercial banks had increased by 12 166 322 thousand EUR compared to the beginning of the analysed period.
6) The analysis of the impact of Basel III requirements on capital adequacy ratios of Latvian commercial banks showed that banks already maintain them at the level of new standards taking into consideration the additional mandatory capital reserve (10.5%). The group of banks with Latvian state capital was only partially able to satisfy the new Basel III standards and ensure equity capital adequacy only at 9.89 %.
7) One should also note that based on data of 2013 the ability of two Latvian commercial banks (State capital and East capital) to comply with the new Basel III requirements is under doubt. This can be explained by insufficiency of own funds in the capital of commercial banks to cover the increased volume of risk-generating assets.
8) The authors suggest that a sufficiently important role in increasing the capital adequacy in the future will play a profit. It is known that in 2013, compared with 2012, the size of profit of the banking sector in Latvia increased by 40% (or 1.4 times). It is expected that in the period from 2014 to 2019 the profitability of the banking sector of Latvia will rise considerably. The average annual growth rate of profit since 2014, could reach more than 20%. This means that profits will replenish the banks' capital.

Based on results of the study and conclusions made the following proposals have been prepared.

For Latvian commercial banks:

1) Commercial banks should ensure constant supervision of the volume of risk-generating assets and tighten the control of introduced capital ratios and their adequacy changes based on Basel III requirements.
2) In present time banks should calculate each month Tier 1 capital and equity capital adequacy ratios to ensure thorough control of their capital adequacy levels according to the present (Basel II) and future (Basel III) regulatory requirements.
3) Use possibilities to increase the core capital by means of share issue for public offering and to be offered to the existing shareholders.
4) With the increase of profit of commercial banks use the possibility to increase the equity capital from internal sources of the commercial bank, for example, by means of capitalisation.

5) Banks should ensure evaluation of their capital adequacy by means of stress situation modelling according to their internal procedures and procedures of supervisory institutions (FCMC and Basel Committee) to identify weaknesses in the bank's capital and assets' structure.

6) Reduction of provisions made for problem debts reviewing the initial (stricter) terms of agreements with customers, offering restructuring of loans and other problem assets.

7) To reduce the credit risk, which has the greatest impact on capital adequacy ratios, the quality of credit portfolio management should be improved by strengthening the credit monitoring and introducing stricter evaluation requirements of borrowers' creditworthiness.

8) To achieve consistency between a bank's risks and capital required to cover them, commercial banks as they accumulate historical data must develop and approve risk evaluation methods based on internal ratings of the commercial bank.

9) Commercial banks operating actively on the non-residents market, especially in countries with high country risk, should perform detailed analysis of such regions and increase the capital reserve, if necessary, depending on the country risk level of placement country of assets.

Additionally for the commercial bank ABC from the group of banks with State capital:

10) To achieve the minimum capital adequacy level, including the mandatory capital reserve (10.50 %), bank ABC must increase its equity capital by at least 7.1 million EUR. The increase can be attained using the following methods:

1)1) Attracting a new strategic investor (shareholder), selling the bank;

1)2) Attracting subordinated capital resources;

1)3) Partially (to an insignificant extent) by capitalizing the profit to increase the capital under the condition that its stable growth will be maintained.

Additionally for the commercial bank XYZ from the group of banks with East capital:

11) Based on results of the study indicating that the bank XYZ could be unable to satisfy the new capital adequacy requirements (Basel III) the author would recommend for the bank to perform on a constant basis analysis of the balance between capital and risks. As the balance approaches the minimum critical mark the bank should use certain sources to increase the capital and implement policies aimed at reducing the amount of risk-generating assets to achieve compliance with capital adequacy standards.

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