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**IMBALANCED LIQUIDITY RISK MANAGEMENT:
EVIDENCE FROM LATVIAN
AND LITHUANIAN COMMERCIAL BANKS**

Keywords: liquidity ratios, asset and liability management, gap analysis, liquidity risk, and imbalanced liquidity.

J E L Classification: G21.

Abstract: The nature of the liquidity risk lies in specific peculiarities of banking institutions activities. Thanks to a big amount of short-term resources banks can afford to offer long-term loans drawing their profit from higher interest rates on loans. It causes a situation with a discrepancy in the terms and the sums of assets and liabilities. As a result, the bank is exposed to the risk of being short of current liquidity in case a large number of depositors would like to withdraw their money. The bank is able to collect its resource base either by attracting additional deposits at higher interest rates or by means of a compelled unprofitable realization (selling) of its other assets. Apart from that, another source of potential liquidity problems is bank sensitivity to the fluctuations in interest rates: in case they grow, some of the depositors could withdraw their money in

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search of higher income in other deposits (investments); obtaining liquid assets by means of loan borrowing could prove to be more expensive while some kinds of loans could turn out to be unavailable.

Taking into account the above-mentioned, the authors make a research of the problems of imbalanced liquidity in commercial banks considering the influence of both external and internal factors; reveal the reasons which have caused them, as well as expose the drawbacks in the imbalanced liquidity risk management.

■■■ INTRODUCTION

There are many banks around the world that are faced with the problem of imbalanced liquidity, which is related with mismatch of obtained funds and assets operations. Commercial banks are increasing the quantity of long-term loan that are not secured by long-term resources. The short-term resource transformation into the long-term assets threatens bank liquidity, and as a result, can lead to the bank insolvency. But the content of an unnecessarily high sum of liquidity assets can have a negative impact on the banks profitability, because the money in the customers' current accounts does not earn anything. Therefore the management of liquidity is very important. The management of the commercial bank should choose liquidity assessment methods that would be able to identify, evaluate and manage every factor that influences liquidity.

The financial crisis in Latvia and Lithuania had several factors that contributed it: with the joining of the European Union (EU) the commercial banks had too much faith in the sharp increase of the income levels of the population, the cheap loans from foreign banks and the optimistic forecasts on the economic development resulted in an increase of credit transactions. The excessive increase assets (loans) in the commercial banks until mid-2008 promoted an investment boom in the real estate market and the creation of a price bubble and its eventual rupture. Because of the low-quality loan portfolio considerably decreased the liquidity of commercial banks in Latvia and Lithuania. This example proves the necessity of liquidity management and evaluation the problems in commercial banks.

The research objects of this paper are Latvian AS "Lats banka" and Lithuanian AB "Lats bankas", which is a subsidiary of Latvia's bank and independently operates in Lithuania's bank sector.

The aim of this research is: Based on the assessment and the management of liquidity theory to make the Latvian and Lithuanian commercial banks' liquidity analysis and evaluations, to detect existing problems of liquidity manage-

ment in Latvian and Lithuanian “Lats” banks and to develop proposals for improvement and development of liquidity management process.

To achieve the aim of this research the following objectives are solved:

- to study theoretical aspects of commercial banks liquidity and to determine the factors that influence it;
- to clarify the reasons for commercial banks liquidity problems;
- to make a comparative liquidity analysis between Latvian and Lithuanian commercial banks;
- to ascertain the risk levels of an imbalanced liquidity;
- to study Basel III regarding the management of commercial banks' liquidity;
- to work out some suggestions for „Lats” banks in Latvia and Lithuania that could increase efficiency of liquidity management.

THE RESEARCH METHODOLOGY AND THE COURSE OF THE RESEARCH PROCESS

During the research the following analyzes are used: analytical, graphical, statistical and empirical research method. The theoretical and methodological basis for this research comes from specialised scientific literature, textbooks, the legislative provisions of the Republic of Latvia and the Republic of Lithuania, regulations of supervisory authorities and the published annual reports of the banks.

LIQUIDITY RISK MANAGEMENT: THEORETICAL ASPECT

Liquidity and liquidity risk management are the key factors for the safety of business operations in any commercial banks (Bertham 2011). Recently, many banks are facing the problem of liquidity strain when severe competition about how to attract deposits forces the banks to find other sponsors (Smith, 2012). Unreasonable liquidity is the first sign of financial instability (Schinasi 2011). Together with the development of finance market, opportunities and risks in liquidity management of commercial banks will also meet a correlative increase. This shows the importance of planning the liquidity needs by the methods with high stability and low cost in order to sponsor for business operations of commercial banks in the global growing competition (Kochubey, Kowalczyk 2014).

Liquidity risk can be measured by two main methods: liquidity gap and liquidity ratios. The liquidity gap is the difference between assets and liabilities at both present and future dates. At any date, a positive gap between assets and

liabilities is equivalent to a deficit (Bessis 2009). Liquidity risk is usually measured as liquidity ratio which is practically calculated in two different forms. In first type, liquidity is adjusted by size which includes the ratio of cash asset to total asset (Barth 2003; Demirguc-Kunt 1998), the ratio of cash asset to deposits (savings) (Chen 2010). Second type includes the adjusted loan by the size which includes the ratio of total asset and/or the ratio of net loan to total asset (Kosmidou 2008). In first type, the higher is the liquidity ratio, the higher is the liquidity level, and therefore, it is less vulnerability against bankruptcy. In contrast, in second type, the higher are the values of ratios, it will represent that banks will undergo higher liquidity risk. Financial gap ratio introduced by Saunders and Cornet (2007) is used in this study. They expressed that liquidity risk criterion is determined based on financial gap. Bank managers mostly assume core deposits as stable source of funds which can permanently finance the supply of banking loans. Generally, core deposits are regarded as loan resources with the least cost. Financial gap is defined as the difference between loan and bank's core deposits. If financial gap is positive, the bank should fill this gap by its cash funds through selling cash assets and borrowing from money market. Therefore, financial gap can be estimated by subtracting the borrowed funds from the cash assets. This financial gap represents financial needs of the bank after selling its cash assets. When the economy is under stagnation and financial market increasingly demands for Cash funds, it is when the banks are more exposed on liquidity risk. Therefore in this study, it seems that financial gap is a more appropriate alternative for liquidity risk of the bank. For standardization of financial gap, the variable of financial gap is divided by total asset (Naser Ail Yadollahzadeh Tabari, Mohammad Ahmadi, Ma'someh Emami 2013).

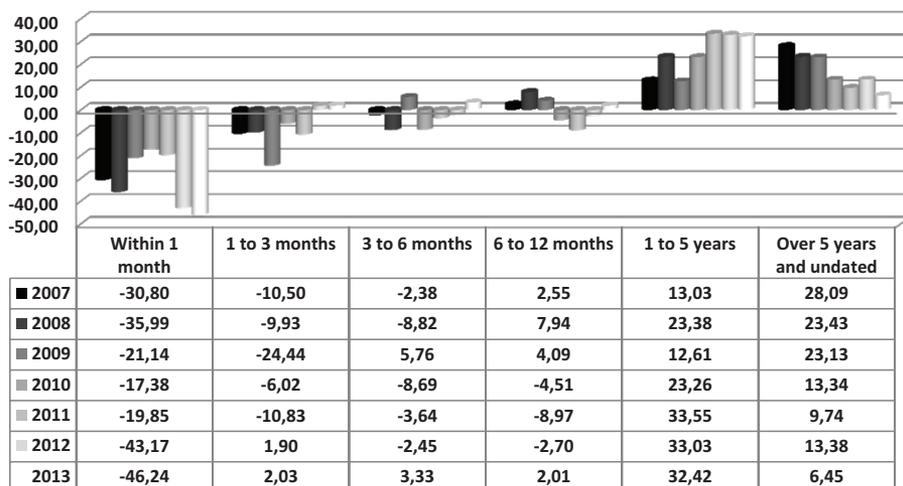
Recent studies indicate that liquidity risk arises from the inability of a bank to accommodate decreases in liabilities or to fund increases in assets. An illiquidity bank means that it cannot obtain sufficient funds, either by increasing liabilities or by converting assets promptly, at a reasonable cost. In periods the banks don't enjoy enough liquidity, they cannot satisfy the required resources from debt without conversion the asset into liquidity by reasonable cost. Under critical conditions, lack of enough liquidity even results in bank's bankruptcy (Group of Studies 2008).

THE LIQUIDITY ANALYSIS FOR THE LATVIAN AND LITHUANIAN COMMERCIAL BANKS „LATS”

To be able to assess a bank's liquidity level it is necessary to analyse the commercial banks' the structure of terms and sums for assets and liabilities, and assess their position of liquidity. The net liquidity position is calculated using the gap-analysis for each group of terms (up to 1 month, from 1 to 3 months, from 3 to 6 months, from 6 to 12 months, from 1 to 5 years and more than 5 years) and is examined separately. A positive net liquidity position indicates the surplus of resources in each term group of assets and liabilities. The higher the positive position of net liquidity in the group ,up to 1 month', the higher is the current liquidity of the bank. A positive position of the net liquidity in the long-term groups means that there is a long-term resource deficit. A long-term resource deficit can be covered by the bank's equity. But, in case the bank's equity is insufficient to cover the long-term assets, it could cause problems with liquidity when the time has come to fulfil the long-term liabilities. A negative net liquidity position in each assets and liabilities term group indicates the surplus of outside funds that are distributed in this term group. The higher the negative net liquidity position of the group, comparing it with the short-term and the long-term groups, the higher is the liquidity risk. The reason for this is that the short-term resources are deployed to the long-term investments. This could result mismatch between short-term liabilities and long-term assets. A negative net liquidity position for the long-term group shows that the long-term resources are used not only for long-term investments, but also for short-term assets. This kind of resource placement is positive for the liquidity of a bank. A total liquidity position is the gap between assets and liabilities in a total cumulative position and it is calculated by an accruing term sequence. Konovalova, Kudinska, Rozgina and Zelgalve (2008) consider that in general the term structure of the assets and liabilities give the possibility the surplus resources to distribute between different term groups. This action takes place when long-term resources are transformed into short-term investments or vice versa. It should also be noted that the transformation of short-term resources into long-term investments could worsen the liquidity of a bank. Therefore is necessary constant supervision of the assets and liabilities maturity structure. Banks may decide on transforming short-term resources into medium-term or long-term investments, but only if their liquidity is not in danger.

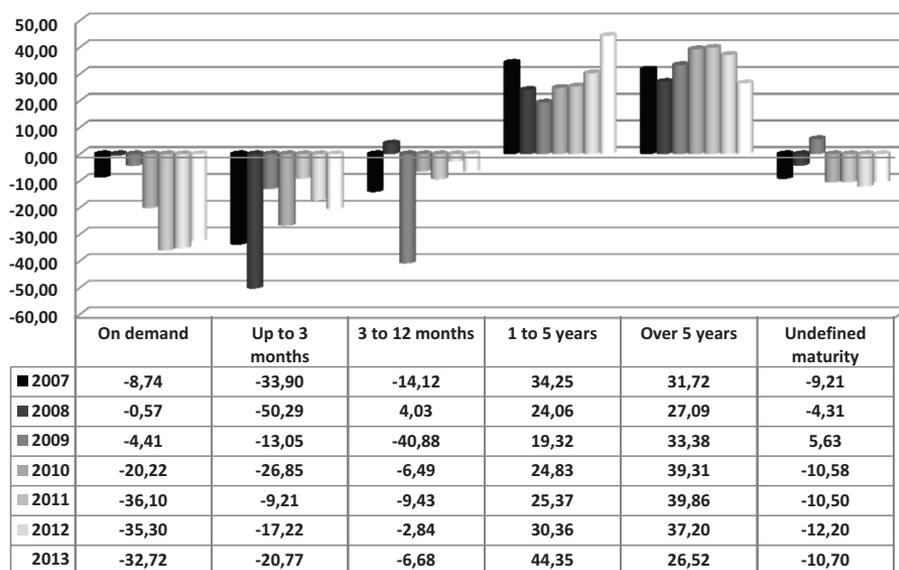
While doing the comparative analysis of imbalanced liquidity risk for commercial banks the author uses *the net relative gap*. The net relative gap is a relation between the absolute net gap value and total assets amount. Figure 1 shows the changes in net relative gap of Latvian AS „Lats banka” in the analysed years while figure 2 shows the respective information of Lithuanian AB „Lats bankas”.

Figure 1 shows that the greatest gaps are with maturity up to 1 month are in the years 2007, 2008, 2012, 2013, which indicates a surplus in the short-term outside funds. The net relative gap in the mentioned years is considerably high: 2007 – 30.80%, 2008 – 35.99%, 2012 – 43.17%, but in 2013 it is 46.24%. It should be noted that Latvian AS „Lats banka” high negative position of net liquidity (up to 1 month) indicates that the surplus of these resources are divided for ensuring the bank’s short-term and long-term asset operations. In the other years Latvian AS „Lats banka” the net relative gaps with maturity up to 1 month is smaller: 2009 – 21.14%, 2010 – 17.38%, 2011 – 19.85%, but for longer terms – 1 month to 1 year the range of the gaps for all researched years were considerably lower and indicated a better balance of assets and liabilities. The gap-analysis of long-term (longer than 1 year) assets and liabilities indicates the highest mismatch of terms, which is characteristic to a long-term resource deficit, which was found in all analysed years of Latvian AS „Lats banka”. The net relative gap indicators for Latvia’s researched bank on term deposits from 1 to 5 years in 2007 was 13.03%, in 2008 it was 23.38% and in 2009 – 12.61%, deposits with a term of more than 5 years and indefinite terms were even higher: 2007 – 28.09%, 2008 – 23.43% and 2009 – 23.13%. It should be noted that from the year 2007 to 2009 Latvian AS „Lats banka” was in danger, because there was a great imbalance of the short-term liabilities and the long-term assets and that resulted in a higher imbalanced liquidity risk, because the short-term resources were used for financing the assets operations with long terms. In the following years (from 2010 to 2013) the analysis for long-term assets and liabilities (more than 1 year) in AS „Lats banka” still showed the high imbalance of assets and liabilities and the long-term resources deficit (see fig. 1). On this basis the author can state that from 2008 to 2013 Latvian AS „Lats banka” had liquidity risk, because a large part of their short-term resources were transformed into long-term investments.

Figure 1. Latvian AS „Lats banka” Relative Gaps from 2007 to 2013 (%)

Source: created by authors on the base of annual financial reports of the commercial bank.

The data in figure 2 indicate that the subsidiary bank, similar to the parent bank, had the highest gap of assets and liabilities in the analysed time period with maturity on demand and up to 3 months. This bank had surplus of short-term resources and this proves that both banks, the subsidiary bank and the parent bank, apply the same liquidity management policy. For longer terms of assets and liabilities (from 3 months to 1 year) Lithuanian bank shortens the gaps diapason in all analysed years, except 2009, when the relative gap from 3 months to 1 year reached 40.88%, pointing out that middle-term resources had a surplus. Similar to the parent bank, Lithuanian bank's long-term assets and liabilities (from 1 to 5 years and more than 5 years) had the highest the imbalance of terms (see fig. 2). The bank had the long-term resources deficits in all researched years. Therefore AB „Lats bankas” is in serious danger, because the inconsistency of maturity between the bank's short-term liabilities and long-term assets is exceptionally large, which resulted in an increased liquidity risk. The risk increased because the short-term resources were financed by long-term investments. Continuing analysis it is important to assess the amount of resources that were turned into long-term assets.

Figure 2. Lithuanian AB „Lats bankas” Relative Gaps from 2007 to 2013 (%)

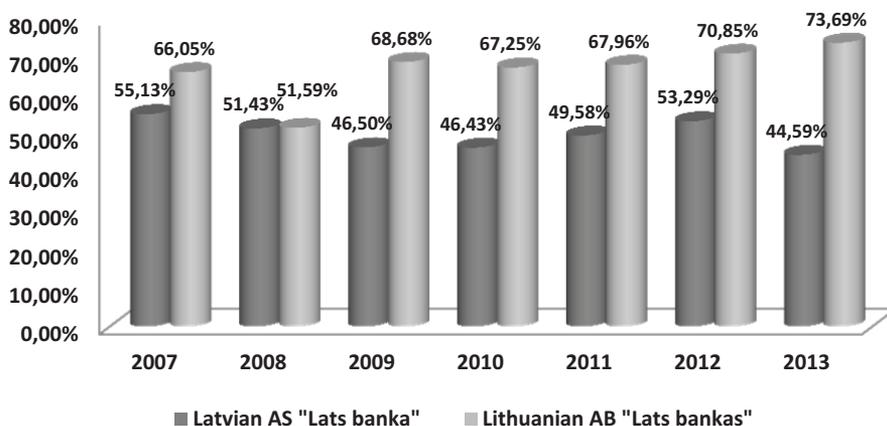
Source: created by authors on the base of annual financial reports of the commercial bank.

The short-term resources transformation coefficient is determined by the gap of short-term resources and short-term assets in relation to short-term resources. The results of the calculations can be seen in figure 3, which made by the authors. In the period of 2007 to 2013 both analyzed commercial banks had the short-term resource surplus, certain part of which the banks could to transform to the long-term assets. But a group of authors – Konovalova, Kudisnka, Rozgina and Zelgalve (2008) consider that the share of short-term resources, which are turned into long-term investments, must not exceed 20%.

The calculated transformation ratios have proved the previously mentioned conclusions of the authors. All researched years showed that both banks had a very high indicator when short-term (up to 1 year) resources were turned into long-term assets (with a term of more than 1 year). Latvian AS „Lats banka” had very high transformation coefficient in 2007, 2008 and 2012 (53.13%, 51.43% and 53.29%), which indicates the highest liquidity risk in these years. Lithuanian bank had the lowest indicators in 2007 and 2008, which still were three times higher than recommended 20% and were higher than the parent bank’s indicators. The short-term transformation ratios show that Lithuanian bank’s the short-term resources were turned into long-term investments. The

bank increased transformation ratio from 52% into 74% thereby lowering its liquidity in researched time period. The lowest transformation indicator for Latvian AS „Lats banka” was 44.59% in 2013, but it was still more than recommended 20%. In the previous years the bank’s ratios was much higher – 2011 – 49.58% and 2012 – 53.29% thus achieving the level of 2007 and 2008.

Figure 3. Latvian AS „Lats banka” and Lithuanian AB „Lats bankas” Resources Transformation Ratio from 2007 to 2013 (%)



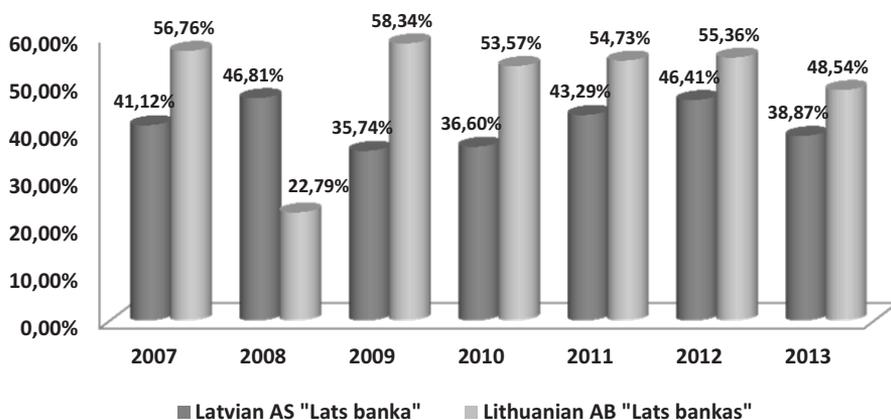
Source: created by authors on the base of annual financial reports of the commercial bank.

In this research the authors also calculated *the imbalanced liquidity coefficient*. The calculations of the imbalanced liquidity coefficients of Latvian and Lithuanian „Lats” banks for the time period of 2007 to 2013 is shown in figure 4. The calculation of the imbalanced liquidity coefficients confirmed the previously made conclusions regarding the high percentage level of the imbalanced assets and liabilities.

Latvian AS „Lats banka” the imbalanced coefficient of liquidity had the lowest value in 2009 and 2010, but even in this time period the coefficients were extraordinarily high and that indicates that more than 30% of the bank’s assets sum was financed by short-term resources. In 2011 and 2012 the mentioned ratios of Latvian AS „Lats banka” had increased significantly and in 2012 already exceeded 46%. But in 2013 the bank was able to lower the imbalanced liquidity coefficient till 38.87%. In analyzed period the liquidity coefficient of Lithu-

anian AB „Lats bankas” had a greater imbalance than the parent bank in Latvia, except in 2008 when this indicator only slightly exceeded 22%.

Figure 4. Latvian AS „Lats banka” and Lithuanian AB „Lats bankas” Liquidity Imbalanced Ratio from 2007 to 2013 (%)



Source: created by authors on the base of annual financial reports of the commercial bank.

Latvian AS „Lats banka” and Lithuanian AB „Lats bankas” banks have a very imbalanced structure of assets and liabilities (see fig. 3 and 4). Currently both of these banks are not conservative and do not pay enough attention to the management of liquidity risk. The commercial banks had fundamental problems in all researched years regarding imbalanced liquidity, which indicates that the bank’s administration does not pay enough attention to the liquidity management of the bank. Both banks have a large amount of resources in the current accounts and term deposits up to 1 month, but the biggest part of short-term deposits is an unstable resource base. Thereby commercial banks that invest in unstable long-term and medium-term investments are subjected to the imbalanced liquidity risk.

CALCULATION OF LIQUIDITY IN ACCORDANCE WITH BASEL III

During the time of the world’s financial crisis, which began in mid-2007 (in Latvia – mid 2008), many banks started to implement intensive actions in order to provide the minimum level of liquidity. Before the crisis, the financial sys-

tems usually had a liquidity surplus and, because of this, the risk of liquidity and its management were monitored far less than other risks. But the financial crisis showed the speed at which a liquidity crisis can appear and at what speed the financial resources can disappear, thereby increasing the assets assessment problem. The most characteristic sign of the financial crisis was insufficient and ineffective method of managing liquidity risk. Acknowledging the necessity for an increasing level of bank's liquidity risk management and control, the Basel Committee on Banking Supervision (BCBS) developed a new version of Basel III. It provides for the introduction of uniform requirements for the maintenance of a sufficient amount of liquid resources reserve in order to prevent the in the future periods of crisis the high level of insufficiency financial resources. In this case, for commercial banks are offered two new ratios, which regulate the condition of liquid assets:

1. LCR – Liquidity Coverage Ratio
2. NSFR – Net Stable Funding Ratio

The Liquidity coverage ratio (LRC) is an essential element of Basel's III reforms, which is regarded as the liquidity world standard for banks. LRC needs to strengthen global regulations of liquidity management with the objective to stimulate the world-banking sector being stronger. LCR stimulates stability of the banks in the short-term period. According to the requirements of Basel's III, in case of a crisis, the bank's liquid assets reserves should cover the predicted cash outflows in 30 calendar days. These measures will allow banks to have the necessary liquidity level in case unexpected withdrawals of cash or if a bank has troubles receiving a loan in the interbank market. In other words, the LCR will help improve the banking sectors ability to absorb upheavals and lighten the impact from financial and economic strain. LCR can be calculated with the formula 1.

Formula 1. The Liquidity Coverage Ratio

$$\text{LCR} = \frac{\text{Stock of HQLA}}{\text{Total net cash outflows over the next 30 calendar days}} > 100\%$$

Source: Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools (2013).

For each element of high quality liquid assets of HQLA were determined the share, which can be applied to calculate LRC:

Table 1. Illustrative Summary of the LCR
(percentages are factors to be multiplied by the total amount of each item)

Item	Factor
Stock of HQLA	
A. Level 1 assets	
Coins and bank notes	100%
Qualifying marketable securities from sovereigns, central banks, PSEs (Public sector entity), and multilateral development banks	
Qualifying central bank reserves and domestic sovereign or central bank debt for non-0% risk-weighted sovereigns	
B. Level 2 assets (maximum of 40% HQLA)	
Sovereign, central bank, multilateral development banks, and PSE assets qualifying for 20% risk weighting	85%
Qualifying corporate debt securities rated AA- or higher and qualifying covered bonds rated AA- or higher	
Qualifying RMBS (Residential mortgage backed securities)	75%
Qualifying corporate debt securities rated between A+ and BBB-	50%
Qualifying common equity shares	

Source: Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools (2013).

Net cash outflow in the next 30 calendar days is established by the BCBS proposed formula 2, where the stress scenario is a severe drop in rating, a partial loss of deposits, the loss of unsecured funding, etc. According to this scenario the cash outflow and inflow is calculated in accordance with the legislative standards (the minimum coefficient for stable deposit withdrawal is 7.5% etc.).

Formula 2. The net cash flow in the scenario of severe stress

Total net cash outflows over the next 30 calendar days = outflow – inflow
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Source: Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools (2013).

The LCR will be established on the 1st of January 2015 and the minimum requirement at first year shall be 60% (see table 2). Furthermore, the LCR requirement will increase by 10% each year, meaning that by 2019 it shall be 100%.

This approach shall be used to ensure that the implementation of the LCR occurred without interruptions.

Table 2. The minimum requirement for the liquidity coverage ratio (%) from 2015 to 2019

Minimum LCR	2015	2016	2017	2018	2019
	60%	70%	80%	90%	100%

Source: Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools (2013).

On the one hand, 100% of the liquid assets amount greatly increases a bank's ability to fulfil their liabilities; on the other hand, it also greatly decreases the profitability of a bank. The requirements of the LCR are strict and by following them the commercial banks are encouraged to invest their free resources in securities with high liquidity, in order to gain some profit while complying with liquidity requirements. Thus in order to maintain liquidity the commercial banks should to purchase quickly marketable securities, and at the same time, because of the great demand, the stock markets could reduce the coupon payments and discount rates for quickly marketable securities. The authors have calculated the LCR for Latvian AS "Lats banka". The LCR has been calculated based on the accessible data of annual reports of Latvian AS "Lats banka" for 2010, 2011, 2012 and 2013. For the calculations the LCR were used the balance data from annual reports regarding securities, securities portfolio quality and the contractual undiscounted cash flows of the financial liabilities from contracts up to 30 calendar days that apply to financial liabilities of AS "Lats banka" (Table 3).

Table 3. The calculations HQLA and LCR of Latvian AS “Lats banka” from 2010 to 2013

The indicators		Stock of HQLA	2010		2011		2012		2013	
			th.euro	%	th.euro	%	th.euro	%	th.euro	%
A. Level 1 assets	Coins and bank notes	100%	252343	50.45	326775	58.23	248587	35.52	502860	48.05
	Qualifying marketable securities from sovereigns, central banks, PSEs and multilateral development banks									
	Qualifying central bank reserves and domestic sovereign or central bank debt for non-0% risk-weighted sovereigns	100%	84187	16.83	15374	2.74	145967	20.86	89351	8.54
Level 1 assets total:			336531	67.28	342149	60.97	394545	56.38	592211	56.59
B. Level 2 assets (maximum of 40% HQLA)	Sovereign, central bank, multilateral development banks, and PSE assets qualifying for 20% risk weighting	85%	145372	29.07	177125	31.56	284144	40.6	351324	33.57
	Qualifying corporate debt securities rated AA- or higher and qualifying covered bonds rated AA- or higher	85%	2545	0.51	26730	4.76	5924	0.85	35819	3.42
	Qualifying corporate debt securities rated between A+ and BBB-	50%	15710	3.14	15171	2.70	15171	2.17	67189	6.42
Level 2 assets total:			163627	32.72	219026	39.03	305238	43.62	454333	43.41
Level 2 excess over 40% of HQLA			–	–	–	–	-25321	-3.62	-35687	-3.41
Total value of stock of HQLA:			500158	100.00	561175	100.00	674471	100.00	1046544	100.00
Total net cash outflows over the next 30 calendar days			907496		999050		1227203		2004018	
LCR			55.11%		56.17%		54.96%		52.22%	

Source: created by authors on the base of annual financial reports of the commercial bank.

While calculating, the authors obtained the following LCR coefficient values: 2010 – 55.11%; 2011 – 56.17%; 2012 – 54.96% and 2013 – 52.22%. The authors’ calculations have been shown in table 4 and indicate that Latvian AS “Lats banka” is not ready to fulfil the requirements of the BCBS from 2015.

Continuing the research it is necessary also look into the other new liquidity indicator, which was proposed by the BCBS – *The Net Stable Funding Ratio* (NSFR). The objective of NSFR is liquid assets coverage by 100% at the expenses of 1-year stable liabilities. The NSFR planned to be implemented on the 1st of January 2018 (Basel III: The Net Stable Funding Ratio 2014). The NSFR was created that investment assets, off-balance sheets and other securitised assets could to receive financial support by stable liabilities. The purpose of this indicator is to limit the reliance on large financial sources in periods of liquidity surplus and promote the more precise liquidity risk assessments for all sheets of balance and off-balance sheets. This kind of approach will help the commercial banks lower the possibility of a sudden deterioration of the liquidity indicator and prevent the increase of liquid assets reserves on the account through the short-term sources of funding.

The NSFR is calculated by the formula 3 (Basel III: The Net Stable Funding Ratio 2014).

Formula 3. The Net Stable Funding Ratio

$$\text{NSFR} = \frac{\text{Available amount of stable funding (ASF)}}{\text{Required amount of stable funding (RSF)}} > 100\%$$

Source: Basel III: The Net Stable Funding Ratio (2014).

The gist of the NSFR is: the greater is the amount of the non-liquid assets in the bank, the greater is the necessity for a secure and stable financial support because the stable resources outflows would be less probable and it would allow using these resources as financial support of non-liquid assets in stress situations. A short characterisation of the NSFR and its components can be seen in table 4.

Unfortunately, the authors were not able to calculate the NSFR, because did not have the necessary data in annual reports of the researched banks. Taking into consideration that the NSFR will be introduced only in 2018, therefore NSFR calculations are not topical for this research.

The main discussion in the financial sector about NSFR:

- The possible reduction the commercial banks' ability to offer long-term loans because of difficulties of finding long-term resources in the inter-bank markets.

- The possible risk that the bank sector refuses to give out to companies long-term loans.
- The increase of securitisation operations in order to avoid the long-term financing of loans for private sector.
- The increase costs of refinancing in the interbank markets.

All of the previously mentioned discussion topics are very important to commercial banks and the national economy and the reason for this is that the main role of commercial banks – resource redistribution, is becoming impracticable. The implementation of the NSFR will not allow the commercial banks to lend the companies, because the banks will be unable to ensure a large and stable amount of resources to finance less- or non-liquid assets. That is why, the authors' point of view that the discussions in the international finance sectors regarding the NSFR are reasonable and the BCBS should make corrections before the new requirements will enter into force.

Table 4. Summary of assets categories and associated RSF factors

Components of ASF category		Components of RSF category	
Item	ASF factor	Item	RSF factor
<ul style="list-style-type: none"> – Total regulatory capital – Other capital instruments and liabilities with effective residual maturity of one year or more 	100%	<ul style="list-style-type: none"> – Coins and banknotes – All central bank reserves – Unencumbered loans to banks subject to prudential supervision with residual maturities of less than six months 	0%
<ul style="list-style-type: none"> – Stable non-maturity (demand) deposits and term deposits with residual maturity of less than one year provided by retail and SME customers 	95%	<ul style="list-style-type: none"> – Unencumbered Level 1 assets, excluding coins, banknotes and central bank reserves 	5%
<ul style="list-style-type: none"> – Less stable non-maturity deposits and term deposits with residual maturity of less than one year provided by retail and SME customers 	90%	<ul style="list-style-type: none"> – Unencumbered Level 2 assets – HQLA encumbered for a period of six months or more and less than one year – Loans to banks subject to prudential supervision with residual maturities six months or more and less than one year – Deposits held at other financial institutions for operational purposes – All other assets not included in the above categories with residual maturity of less than one year 	50%

Components of ASF category		Components of RSF category	
Item	ASF factor	Item	RSF factor
<ul style="list-style-type: none"> – Funding with residual maturity of less than one year provided by non-financial corporate customers – Operational deposits – Funding with residual maturity of less than one year from sovereigns, public sector entities (PSEs), and multilateral and national development banks – Other funding with residual maturity of not less than six months and less than one year not included in the above categories, including funding provided by central banks and financial institutions 	50%	<ul style="list-style-type: none"> – Unencumbered residential mortgages with a residual maturity of one year or more and with a risk weight of less than or equal to 35% – Other unencumbered loans not included in the above categories, excluding loans to financial institutions, with a residual maturity of one year or more and with a risk weight of less than or equal to 35% under the Standardised Approach 	65%
<ul style="list-style-type: none"> – All other liabilities and equity not included in above categories, including liabilities without a stated maturity – Derivatives payable net of derivatives receivable if payables are greater than receivables 	0%	<ul style="list-style-type: none"> – Other unencumbered performing loans with risk weights greater than 35% under the Standardised Approach and residual maturities of one year or more, excluding loans to financial institutions – Unencumbered securities that are not in default and do not qualify as HQLA including exchange-traded equities – Physical traded commodities, including gold 	85%
–	–	<ul style="list-style-type: none"> – All assets that are encumbered for a period of one year or more – Derivatives receivable net of derivatives payable if receivables are greater than payables – All other assets not included in the above categories 	100%
–	–	– Summary of off-balance sheet categories	
–	–	– Irrevocable and conditionally revocable credit and liquidity facilities to any client	5% of the currently undrawn portion
–	–	<ul style="list-style-type: none"> – Other contingent funding obligations, including products and instruments such as: – Unconditionally revocable credit and liquidity facilities; – Trade finance-related obligations; – Guarantees and letters of credit unrelated to trade finance obligations; – Non-contractual obligations 	National supervisors can specify the RSF factors based on their national circumstances.

Source: Basel III: The Net Stable Funding Ratio (2014).

FINAL REMARKS AND CONCLUSIONS

1. By taking into account the results of the gap-analysis, it was ascertained that the Latvian and Lithuanian “Lats” banks have a surplus of short-term resources. A high negative net position of short-term liquidity is proof that these surplus resources have been transformed into long-term asset operations.
2. The net relative gap-analysis of long-term assets and liabilities shows that the analysed banks have a long-term resources deficit.
3. The short-term liquidity of both “Lats” banks was in danger. The reason for this was that the imbalance between the short-term liabilities and the long-term assets was very big.
4. The calculation of the short-term resources transformation coefficient allowed the author to discover that both of commercial banks had transformed short-term resources into long-term asset operations thus decreasing banks’ liquidity. The value of the coefficient shows that the lack of long-term resources in the Lithuanian subsidiary bank was so great that in case of a crisis situation the bank will be unable to ensure that all of the liabilities are fulfilled and it may result the bank insolvency.
5. The calculations of the imbalanced liquidity coefficient have proven that the researched commercial banks have a high imbalance level of assets and liabilities. The risk of an imbalanced liquidity shows that the researched banks’ liquidity is in critical condition, because of the transformation of short-term resources into long-term assets.
6. It was ascertained that both banks had a large amount of resources in their current accounts and term deposits from 1 to 3 months, where the biggest share of short-term deposits is an unstable resource base of the banks. By investing the unstable resources into long-term and middle-term assets the analysed commercial banks take for themselves a high imbalanced liquidity risk.
7. According to the new indicator – LCR of Basel III, the authors came to a conclusion that Latvian AS “Lats Banka” is still not ready to comply with the BCBS requirements by 2015.

Based on the acquired results and conclusions, the authors have worked out suggestions that could be beneficial to the liquidity management of the researched Latvian and Lithuanian commercial banks.

1. In order to control the liquidity risk, the authors suggest to the banks to use the imbalanced liquidity coefficient and liquidity gaps. Based on the gap-analysis it is possible to evaluate the liquidity position of the bank.
2. Both commercial banks should develop and regularly supervise their restrictive limits for the gaps positions, thus it allows them to determine the necessary amount of liabilities or assets for specific term groups and regulate these positions.
3. After detection the high coefficient of the short-term resource transformation, the authors recommend for both banks promptly to change their liquidity management policy and to give priority attention to attracting long-term resources. That will be exceedingly necessary in maintaining long-term liquidity. Long-term resources can be increased through the following tools:
 - attracting syndicated loans;
 - issuing stock or long-term debt securities;
 - increasing the share capital;
 - offering to regular clients more favourable term deposit conditions when concluding a long-term contract.
4. Considering the high coefficient of short-term resource transformation of the Lithuanian bank, it is recommended to make an asset restructuring or to sell part of assets (e.g.: to sell the real estate) or limit issuing of long-term loans.
5. Both researched banks should focus on issuing short-term loans (up to 1 year) or to offer their clients the possibility to shorten the term of loan with lowering the interest rates. Thereby lessening the imbalance between the short-term resources and the long-term assets.
6. The authors recommend not transform the surplus of the short-term resources into long-term assets, but in moderate amounts resources should be invested into the short-term loans in the interbank markets, into the reserve in Central banks or correspondent accounts (foreign banks) and for the purchase of liquid securities. Thereby it will become possible to achieve a balance between assets and liabilities by maturities.
7. It is recommended to do the regular stress-testing, undergo simulations of problematic situations, as well as verify the researched banks' liquidity, solvency and durability against various stress situations.
8. The commercial banks should perform the short-term liquidity planning in accordance with the cash flows based on the new requirements of Ba-

sel III. This is especially recommended for Lithuanian subsidiary bank, which, at this point does not make or not publish contractual undiscounted cash flows of the financial liabilities from contracts up to 30 calendar days.

9. It is recommended for Latvian AS “Lats banka” increases the amount of liquid securities till 2015 in order to increase the LCR to the minimum of 60%. Beginning with 2015 Latvian AS “Lats banka” should increase the amount of high liquid assets by 10% each year until their liquidity coverage ratio reaches 100% by 2019. Compliance with these demands will allow the bank to endure powerful cash outflows in crisis situations and finding a way to overcome the deficiency of liquidity assets.

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