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Management of Liquidity Risk and the Banking Activity: The Banking System of Kosovo as a Case

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Abstract

The banking sector in Kosovo continues to have a high level of sustainability and financial stability. Two substantial components for the stability of the banking system appear to be liquidity and liquidity risk. The purpose of this paper is to analyze liquidity management in Kosovo's commercial banks through liquidity risk indicators from 2008 to 2017. By comparing the methodology of the data presented, the study will assess the state of management of the liquidity risk of commercial banks. From 2008 until now, commercial banks in Kosovo have had liquidity reserves at a level higher than the level required by CBK, which means that exposure to liquidity risk was minimal.

Keywords: *Liquidity Risk; Banking Systems; Liquidity*

JEL classification*: G17; G21*

Introduction

The Banking sector is the most important part of the finance sector that mediates financing between the lender and the borrower. Similar to the banking activities has been existing for many years which developed in a parallel way with the needs, as well as the tire function has been to accumulate deposits and provide loans to financial agents seeking capital (Allen,F., & Santomero,M.A., 1998).

Based on various literature and authors, two very important components for the stability of the banking system are liquidity and liquidity risk. The structure of the financial system in Kosovo is dominated by the banking sector, which accounts for over 70% of the total financial assets, while the system is the main tool financing the economy of the country, often called the main engine of economic growth.

Liquidity and liquidity risk are two concepts that are interrelated, so is unavoidable to study the liquidity risk without treating liquidity. Liquidity is an essential element of any trading and solvent entity that might be

defined as the availability of financial and equivalent resources. The liquidity gives the banks the potential to meet their expected and unexpected liabilities in a timely manner so that their day-to-day activities can continue without interruption (Banks, 2005). Lack of sufficient monetary assets may risk the most important bank activities that boost the probability of facing severe financial situations (Banks, 2005).

The purpose of this paper is to analyze the liquidity risk management in Kosovo's commercial bank, liquidity rush to be analyzed through Liquidity Risk Merchants Loans / Deposits, Liquid Assets / Total Assets and Liquid Assets / Short-Term Liabilities from 2008 to in 2017.

The paper is organized in this way: introduction, Revision Literature, research methodology, findings, and conclusions.

Literature Review

It is crucial to note that the risk has to do with possible deviations from expectations that we have from an investment. Recent developments in the banking market have increased the need, as well as complicated the risk measurement function, risk management and integrated approaches to internal controls (Greuning,H., & Bratanovic,B.S., 2009, p. 21).

The financial risk mainly relates to the risk the bank faces during its operation in the market, where the main tool used to identify financial risk is the detailed analysis of the position of the banking sector.

An important element of risk management is to understand the risk of return from different asset and investor trades (Ahmed, H.,& Khan,T., 2007).

Intermediation activity is the main and the most important activity of the banking sector during which banks may be exposed to the risk of liquidity. In this line, the liquidity risk is existent due to the financing way which uses uncertain cash resources or the lack of fund resources at a reasonable cost including a range of short-term and long-term instruments such as interbank debt and customer deposits, etc., (Bessis,J., 2015). However, asset-liability management is the modern tool by which the banking sector attempt to predict and minimize the risk that the banking activity may be faced with.

The recent financial crisis confirms that liquidity velocity may disappear and that the non-liquidity situation may last for a long period of time (BCBS, 2008).

Liquidity risk management is the responsibility of the bank and therefore the bank should establish a strong liquidity risk management framework that ensures sufficient liquidity, including the coverage of high quality liquid assets (BCBS, 2008). It is imperative that every bank has a strategy in its programs related to bank risk management. Following this, the strategy should be developed by senior management of the bank in order to minimize the opportunities that risk exposure affects the banking activities (Tileaga, C., Nitu,O., Nitu,V.C., 2013).

Furthermore, the authors (Myers,C.S., & Rajan,R., 1998; Mueller, 1998; BCBS, 2008), efficient liquidity risk management in daily activities is achieved through bank asset management, while in the medium term it is achieved through management of structure the obligations of the bank.

According to the (Korean Institute of Finance, 2010), the main objective of liquidity risk management is to provide sufficient and reliable liquidity at any time and under all circumstances. Liquidity risk management is carried out by monitoring liquidity, as well as by planning the resources and utilization of funds by the bank.

The bank should be aware of the failure of various sources of funding such as particular client groups, individual clients, traders, and financial instruments and markets (Falconer, 2001).

Effective liquidity risk management assists in securing the ability of the bank to meet its obligations and reduces the possibility of negative scenarios (Kumar, M., & Yadav, Ch. G., 2013).

Banks generally use a variety of technical tools depending on the type of liquidity risk they want to estimate (liquidity risk, unexpected liquidity risk, liquidity risk). To measure the liquidity risk authors (Vento, A.G., & Ganga, L.P., 2009) in their case study, used three approaches: Access to the Stock Market, Cash-Based Approach, and Hybrid Access.

The authors (Rudhani, H. R., Ahmeti, S., Rudhani, R., 2016) a case study "Influence of internal factors on bank profitability in Kosovo" have treated the risk of liquidity as one of the internal determinants of the performance of Bank. The authors found a negative relationship between the liquidity risk and profitability, concluding that commercial banks can increase their profitability by raising the level of bank lending and other investments, however, by managing on daily basis the risk of liquidity as well as the impact on other risks.

The liquidity risk has been empirically and theoretically analyzed by the authors (Chen,K., Shen,H.Ch., Kao,L., Yeh,Y.Ch., 2018) by treating as an internal determinant of the bank performance. The authors found a negative correlation between liquidity risk and the performance of the bank in the market-based financial system. The authors showed that the causes of liquidity risk include the components of liquid assets, dependence on external financing, supervisory and regulatory factors, and macroeconomic factors.

Furthermore, capital adequacy, as well as interest rates on loans, loans, and interbank transactions, has a positive impact on banks' liquidity, while negative impacts on liquidity have inflation, business cycle and financial crises (Vodová, 2011).

A liquidity assessment of Polish banks during the crisis was made by the author (VODOVÁ, 2013) in his research paper, who confirmed that during this time only a few banks financed the activity of loans from the deposits of their clients. Most banks need other sources of financing such as loans from banks or other debt funds, such as trading financial instruments and securitization, which has contributed to boosting the crisis.

The ratio of loans to total assets and liquid assets in rapport with deposits and short-term financing was determined by the author (Munteanua, 2012) as the determinant of the liquidity of the bank. The research focused on three periods 2002-2010, 2002-2007 and the crisis period 2008 -2010. The research results proved that in the period 2002-2010, first-class capital, non-performing loans, and inter-bank financing had a negative impact on the liquidity of the bank. Following this line, the impact of these indicators was the same in the pre-crisis period as well as during the period of the crisis 2008-2010 only non-performing loans had a negative impact while other indicators were statistically unimportant. Based on the results of the research, the other indicator defined by the author as a specific indicator of the bank, the ratio of income expenditures had a positive impact on the liquidity of the bank in the first period 2002-2010. On the other hand, it did not have any impact on other periods, while non-performing loans interest had a positive impact only in the pre-crisis period while in other periods there had an insignificant impact. Regarding the macroeconomic indicators employed in the model, the credit risk rate had a positive impact over the period 2002-2010 and it had a negative impact on the pre-crisis period, while in the crisis period the impact was slightly noticeable. Moreover, the findings of the author had proven that the inflation rate had a negative impact on the pre-crisis period, while in the period of the crisis had a positive impact.

On the other hand, the authors (Johannes, P.S., Sheefeni,J., Nyambe,J., 2016) were focused on analyzing empirically the relationship between macroeconomic indicators and liquidity risk. The results of the research proved that the Gross Domestic Product has a positive and significant impact in the liquidity of banks, and is therefore considered by the authors as the main determinant of bank liquidity. Furthermore, the relationship between the monetary policies of the regulatory with the liquidity of the bank was positive but statistically insignificant. Moreover, the results show a negative correlation between the inflation rate and the liquidity of the bank.

Research and Methodology

This research paper has used qualitative methods that bring together quantitative analyses and empirical analyses of various authors. A qualitative approach has been used by many authors in order to correlate different topics, incorporating various findings and different point of view of authors on describing issues based on their research or experiences. The qualitative approach helps researchers to analyze the critical thinking of various authors, which enable the development of understanding and meaning of contributions of the authors and their experience (Pharm, 2015).

Furthermore, through a comparative methodology of presented data, the study will assess the liquidity risk management status of commercial banks in Kosovo, and the results presented in the research will be analyzed and compared with the best practices of liquidity risk management.

Findings

Although the global financial crisis affected the deceleration in banking activity, the financial system in Kosovo grew, both by the number of institutions and the asset value. Based on the data in table 1 we may observe that the growth of financial institutions from year to year has increased with the exception of pension funds which did not change even nowadays. The total number of financial institutions from 65 in 2008 grew to 97 in 2017, which in the first place was 49.23%.

Table 1: Number of Financial Institutions

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Comercial Bank	8	8	8	8	9	9	10	10	10	10
Insurance Company	12	11	12	13	13	13	14	15	15	15
Pension Fund	2	2	2	2	2	2	2	2	2	2
Financial Aid	29	28	28	34	38	39	42	44	48	52
Microfinancial and non-banking financial instutions	16	19	17	20	17	17	18	18	16	18

Source: CBK (Central Bank of Kosovo), Financial Stability Report, Other Reports

According to the published reports by the CBK, the evaluation of assets in the financial sector from 2008 (2.24 billion euros) increased to 3.64 billion euros by 2017 (5.91 billion euros), showing in percentage the total increase in the value of assets of the financial sector from 2008 to 2017 was 163%.

However, the banking sector leads regarding contribution in the structure of assets of the financial sector from 2008 to 2017, followed by the pension trust. By using a comparative analysis between the years presented in Figure no.1, it is clearly seen that the participation of assets in the banking sector has a downward trend until 2017. This decline in the contribution of assets from the banking sector in the total financial assets is a result of an increase in the pension fund assets as a percentage over the years.

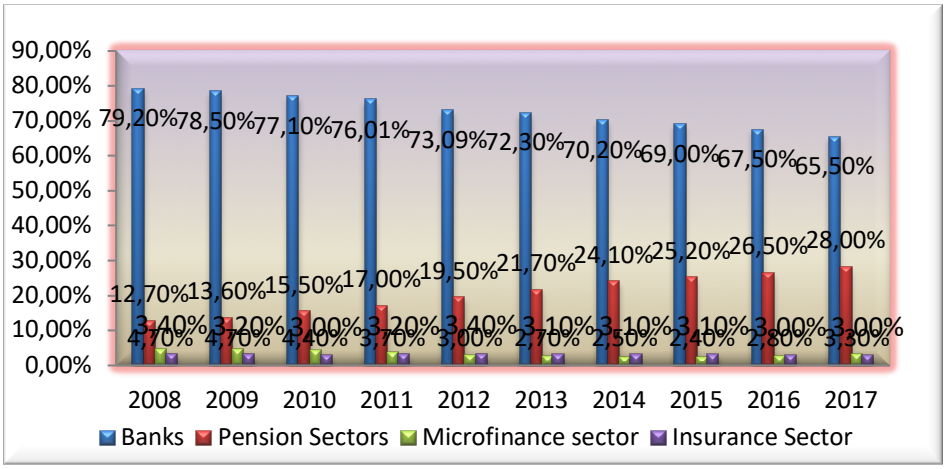

Figure 1: Financial Sector Summary
Source: (Central Bank of Kosovo), Financial Stability Report, Other Reports

If we conduct a retrospective analysis of banking assets, it is clearly seen a year-to-year growth. For this growth which varies from year to year, the main contribution was by issuing loans and securities investments. In 2009, we may low increase in total banking assets compared to 2008, this deceleration in asset growth was a result of the reflection of the financial crisis, which affected a compulsion of lending by banks. In 2011, there was a noticeable improvement in banking asset growth, as a result of the recovery of the economic environment. Essential contributors to the overall growth of bank assets continue to be investments in securities and loans. Based on the table no.2. Commercial banks in the coming years also have a stable increase in banking assets where the contributors to this growth continue to be the same.

Table 2: Evaluation of Bank Assets by year

Year	Evaluation of Bank Assets (mil)	Increase in %
2008	1.77	39%
2009	2.09	18.1%
2010	2.20	5.3%
2011	2.48	12.7%
2012	2.65	6.9%
2013	2.79	5.3%
2014	3.06	9.7%
2015	3.27	6.9%
2016	3.64	11.3%
2017	3.87	6.3%

Source: CBK (Central Bank of Kosovo), Financial Stability Report, Other Reports

Although, since 2008 due to the global financial crisis has had the impact of the external macroeconomic environment and reduced profitability, where the banking system of Kosovo managed to manage with fewer fluctuations of the direct risks (liquidity risk and solvency risk) that the system faces banking. The global financial crisis during 2008 -2010 caused a decrease in profitability in the banking sector, which was reflected in the profitability indicators such as ROA, ROE, and NMI. This decrease was caused by the deceleration in the banking intermediation activity. Based on the published Central Bank Reports from 2008 to 2017, albeit the decrease in profitability indicators, the performance was still positive. During the financial crisis period, banks were cautious in terms of liquidity risk management, based on the reports during this period, where the liquidity rate of the banking sector was higher than is required by the CBK's monetary policy. The level of liquidity satisfaction and non-exposure to the risk is assessed as the banking sector in Kosovo functions according to the model where the structure of funding sources is dominated by deposits accumulated within the country which are characterized by a low cost and sustainability on other funding resources such as external financing and wholesale financing (CBK, Financial Stability Report No.4, 2013). Another indicator that contributes to financial stability in Kosovo throughout the period is also capital adequacy, which is the indicator of total capital adjustment to risk-weighted assets. The level of capital is one of the most important indicators of the sustainability of the banking system, given the fact that capital is considered to be the main pillar to cover the potential losses in case of any shock to the banking system (CBK, 2011).

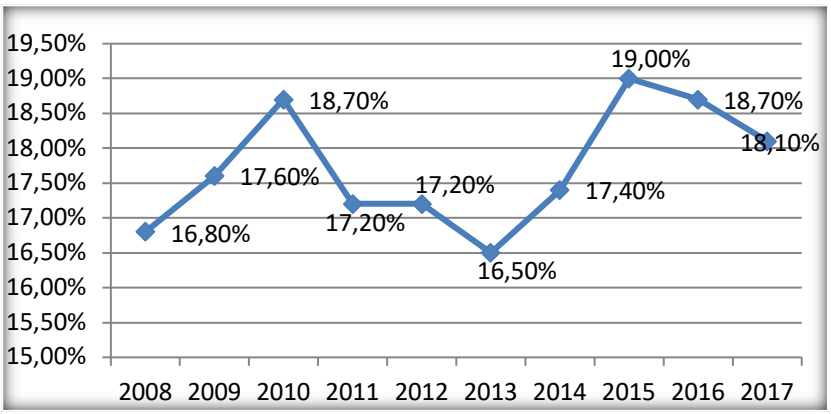

Figure: 2 Capital Adequacy Requirements (CAR)
Source: CBK (Central Bank of Kosovo), Financial Stability Report, Other Reports

Figure 2 shows the trend of the capital adequacy indicator from 2008 to 2017. From the analysis of this trend, we may see that the level of capitalization in the Banking sector in Kosovo every year has been above the required level according to the CBK regulation which is required to be 12%. In 2013 is seen a more pronounced decline in the capitalization rate due to the change of the CBK capital adequacy regulation which established in December 2012, in this way, the Central Bank of Kosovo changed the way of calculating the sufficiency of the capital by the banks. Apart from capital adequacy as an important indicator, is the quality of capital, based on CBK reports the capital of banks in Kosovo mainly consists of first-class equity (equity of shareholders and profit) and a very small percentage contributes the second-class capital which is the subordinated debt.

Table 3: Indicators of liquidity risk in the banking sector in Kosovo

Liquidity risk indicators	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Loans/Deposits	80.5 %	77.7 %	80.2 %	83.0 %	83.2 %	83.0 %	78.1 %	77.9 %	80.7 %	82.8 %
Current Assets / Total Assets	31.8 %	34.6 %	32.3 %	26.6 %	22.6 %	21.9 %	23.0 %	22.9 %	26.6 %	25.4 %
Current Assets / Current Liabilities	43.1 %	43.6 %	40.6 %	33.7 %	28.3 %	27.9 %	29.2 %	29.0 %	34.4 %	32.3 %

Source: CBK (Central Bank of Kosovo) annual reports

Based on Table 3, Liquidity risk indicators show that the banking sector in Kosovo has assessed the liquidity risk on the basis of these reports: credit to deposit ratio, comprehensive liquid assets ratio with total assets and liquid assets ratio with current liabilities.

From the results presented in the table, we note that the first liquidity risk ratio, the ratio between loans and deposits from 2008 to 2017, has increased from 83.3% (maximum value) to 77.7% (minimum value). In 2009, 2014, 2015 we may see that the ratio between loans and deposits is below the value recommended by the Central Bank (80%). The financial stability reports published by CBK indicate that during 2009 the report between loans and deposits ratio is below the level recommended by CBK due to the withdrawal of deposits from the PTK (Post-Telecomunication of Kosovo) from account in commercial banks to government accounts. While the causes of the slight fall of the report betwen loans and deposits ratio, in 2014 and 2015 based on these reports, are the highest annual growth of deposits compared to the growth of loans.

In the results of the second indicator (ratio between total liquid assets and total assets) presented above, we see a slight increase of this ratio in 2009, based on financial stability ratios this increase has been attributed to the deceleration in loan issued by bank. While after 2009, the value of this indicator decreases as a result of increased loan issuance and bank investment in financial instruments which is considered as a stable

source for the bank. The third indicator, raport between liquid assets and short-term liabilities fluctuate between 43.6% (maximum value) and 27.9% (minimum value). According to the financial stability ratios, the growth and decrease of this indicator is attributed to the increase or the decrease of liquid assets in raport with short-term deposits or vice versa. Moreover, based on the regulation adopted in 2012 by the Central Bank, the recommended ratio between liquid assets and short-term liabilities is 25%. The results presented in Table II-2 show that during the period 2008-2017 values of this indicator were above the 25% level, which would indicate that the banking sector in Kosovo had the potential to face all the liabilities at the maturity time.

Conclusion

Based on the indicators analyzed above, we may say that the banking sector in Kosovo continues to have a high level of sustainability and financial stability.

The main source of financing the activities of a commercial bank they predominantly have been deposits, at the very low-level Loans between commercial banks and the other part debt instruments. Moreover, due to this model of financing, exposure to liquidity risk even during the crisis period was minimal. Commercial banks in Kosovo from 2008 to 2018 have had liquidity reserves at a higher level than the level which has been required by CBK. Liquidity risk management is the responsibility of the bank, therefore, the bank should establish a robust liquidity risk management framework to maintain liquidity at sufficient levels, including the coverage of high quality liquid assets (BCBS, 2008). According to the (Korean Institute of Finance, 2010), the primary objective of liquidity risk management is to provide sufficient liquidity and reliability at any time and in all circumstances.

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