LIQUIDITY MANAGEMENT BY SOUTH AFRICAN BANKS

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Abstract

The management of liquidity is of prime importance to banks. This management process should be carefully planned and continuously managed to master a global and/or national financial crisis. The objective of this research paper embodies the improvement of financial decision-making by banks regarding the management of their liquidity. To achieve this objective, a literature study was initially done.

An empirical survey followed thereafter, focusing on the 10 biggest banks in South Africa. They are the leaders of the South African banking industry, and as South Africa is a developing country with an emerging market economy, the conclusions of the study may also be valuable to banking industries of similar countries. The importance of the liquidity management factors, the problem areas surrounding this topic, as well as how often the requirements are adjusted to ensure proper and effective liquidity management are addressed.

Keywords: Banks, Basel Reports, King Reports, Liquidity, Management, Problem Areas, Ratios, Reserves Strategy

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1. Introduction and objective of research

Banks, which are officially called 'bank financial institutions', need to pay adequate attention to liquidity management to survive in the ever-changing and challenging business environment. This fact was emphasised once again after the 2007 recession. The liquidity of banks is an important financial aspect which should be carefully planned and continuously managed to master a global and/or national financial crisis. The term liquidity refers to the continuous capability of a firm to settle current and short-term obligations to be able to continue its normal business operations (Lambrechts, 1990:113). This description encompasses much more than just the available cash flow of a firm. The concept of liquidity can also be described as how easy and cost-effective liquid assets can be converted into cash flow.

The *objective* of this research paper evolves around the improvement of financial decision-making by banks regarding the management of their liquidity. The importance of the liquidity management factors, the problem areas surrounding this topic, as well as how often the requirements are adjusted to ensure proper and effective liquidity management are addressed. These related aspects will be described by means of the following literature study and empirical survey.

2. Liquidity of banks and liquidity risk

Banks primarily need liquidity for two reasons, namely to be able to meet the withdrawals of depositors and also to repay the loans and other obligations which the bank is liable for. The *net* cash inflow of banks as a source of liquidity is mainly generated from loans made to clients at a higher interest rate than what the depositors receive, as well as the various services rendered by the bank to its clients.

The liquidity of banks is often seen as the ability to meet the credit needs of the community at large and to assist depositors with withdrawals. Banks accept risk in order to generate a return, but taking on extreme liquidity risks can jeopardise the

financial position of a bank seriously (Crosse & Hempel, 1980:59). External risks, such as the business cycles, interest rate levels, as well as foreign exchange rates can also impact negatively on the operations, cash flow and profitability of banks.

It is clear that the liquidity of banks depends on the expected future net cash inflow which is generated by a bank. The relationship between the interest rate received by a bank from a lender and the credit risk which is involved, may impact positively or negatively on the net cash inflow of the particular financial institution. Mismatches may occur as the banks may have taken a wrong view on the future interest rate movements against the background of the associated credit risk and banks may not be able to absorb economic and financial disasters when they occur (Bank for International Settlements, 2011(a):1).

The structure of the balance sheet is financially unacceptable when an inadequate buffer is available to cover unexpected cash outflow of a bank. Banks should also pay special attention to the positive economic impact over the long run when they enhance their capital and liquidity requirements (Bank for International Settlements, 2010). Forecasts of future net cash inflows may be incorrect and a safety margin should be in place to assist a bank when unforeseen negative circumstances occur. Banks may easily experience detrimental situations as illiquid assets usually have higher returns than liquid assets. Banks should resist the temptation to employ a high proportion of illiquid assets. When unforeseen unfavourable conditions occur, a bank with a high percentage of illiquid assets may experience extreme liquidity risks.

A manner to measure a bank's liquidity risk and to manage it properly, is the utilisation of various liquidity ratios (Firer, *et al.*, 2004:57-61; Mittner, 2011). According to the Bank for International Settlements, banks should also pay attention to the following monitoring tools (2009:25-30):

- The cash inflows and cash outflows due to contracts should be monitored;
- The concentration of wholesale funding should receive attention to avoid that the withdrawal of funds may cause liquidity problems;
- The unencumbered assets of banks, which may serve as collateral for loans to obtain additional liquidity, should also be taken into account; and
- Banks should monitor market information as markets tend to react quickly to any new data.

Early warning signals may be present to caution banks about their level of liquidity risks. The internal signals may consist of a rapid asset growth rate which may lead to huge liquidity risks, as well as the exposure of the bank's financial position to off balance sheet financing (Brigham & Daves, 2004:15). External warning signals may be the deterioration of a bank's financial reputation due to harmful rumours, when the market price of a bank decline persistently while the banking sector in general experiences a prosperous period, or when a bank's credit rating is downgraded.

3. Liquidity management by banks

The liquidity risk of banks is here to stay. In order to reduce the possible detrimental impact of this particular risk, it should be effectively managed by the financial institutions. There are various manners which can be employed by banks to obtain proper liquidity management (Sybase, 2011), viz.:

- By employing *operational management* to provide the right amount of cash when it is needed by the bank and to limit future cash outflows to the lowest possible level.
- By obtaining *fund optimisation* when cash and fund managers determine liquidity excesses and shortfalls. Accurate and reliable information is needed to attain fund optimisation.
- By reducing the *operational cost* of liquidity management as a result of proper strategic planning, with a lower error probability and a reduction in penalty costs.

The Basel II report was followed by the *Basel III report* which addressed amongst others the management strategy towards credit and liquidity risks (Bank for International Settlements, 2011(a)). Minimum standards for liquidity funding were addressed, in order that adequate liquidity resources of an acceptable quality are employed by banks, and to ensure that banks are funding their operations with stable and continual sources (Bank for International Settlements, 2011(a):8-9). The indications are, however, that the Basel III report will be implemented over a number of years. Banks need time to investigate and find the best manner to manage and adhere to the new liquidity requirements (Mittner, 2011). According to Van Dyk (2011) it is clear that the South African banks are heading for a difficult period to adhere to the Basel III requirements, although it may be more difficult for many international banks to implement the various stipulations. The Basel Committee on Banking Supervision is however monitoring the implementation of the Basel III report by its members (Bank for International Settlements, 2011(b)).

Another report which has an influence on the liquidity management of banks in South Africa, is the *King III report*, which was released in 2009 (SAICA, 2009). This report addressed corporate governance in *all entities* and used the "apply or explain" framework (PWC, 2010). This report makes it therefore possible for banks to

differentiate from one another when their size and nature are different. According to this report, a director should be satisfied by applying the solvency and liquidity test, that the enterprise will be able to pay its obligations during the 12 months following a particular transaction (PWC, 2009). The liquidity position of banks is thus also addressed by the King III report.

It must be emphasised that the reports mentioned can only provide a framework for the management of liquidity in banks and cannot be a substitute for proper and effective management. The objective of these reports is obviously not to be a manual for liquidity management, but to set the requirements which should be met.

4. Research methodology

As mentioned in the introduction to this paper, the objective of this research embodies the improvement of financial decision-making by banks regarding the management of their liquidity. The view of the market leaders of the South African banking industry should therefore be obtained to provide a framework for the specific industry. South Africa is a developing country with an emerging market economy and recently became a member of the BRICS countries ((MSCI Barra, 2010; SouthAfrica.info, 2011). The framework may therefore also be valuable to the banking industries of other developing countries with emerging market economies.

All the banks in South Africa were ranked in a declining order according to their total assets by using their consolidated financial statements of 2010. The top 10 banks were selected as the sample of this study. It must be emphasised that the top 10 banks had more than 99% of the total assets of all the banks in South Africa. The top four banks represented just over 90% of the total assets of all the banks in South Africa and therefore dominate the particular market.

A questionnaire was constructed which was based on the literature study. The questionnaire was sent to the chief executive officers of the selected 10 banks together with a covering letter. After following up, executives who are employed in liquidity management of the 10 banks, completed the questionnaires.

A five point Likert interval scale was also used in the questionnaire and the answers of the respondents were summarised to provide an overall picture of each related aspect. It was possible to apply weights to the answers of the respondents as it was explicitly stated on the questionnaire that the five point Likert scale forms a continuum when it was a applied (Albright, Winston & Zappe, 2002:224-229 & 245). The following weights were assigned to the responses received from the respondents:

Assigned a weight of 5 for: Extremely important /Always

Assigned a weight of 4 for:Highly important /Very often

Assigned a weight of 3 for: Moderately important /Sometimes

Assigned a weight of 2 for:Little important /Seldom

Assigned a weight of 1 for:Not important / Never

5. Empirical results

The empirical results obtained from the survey focus on the importance of the liquidity management factors, the problem areas of liquidity management, as well as how often the requirements are adjusted to ensure proper and effective liquidity management. The following sections provide the detail thereof.

5.1 The importance of liquidity management factors

The perceptions of the respondents regarding the importance of the liquidity management factors when evaluating liquidity management are depicted in Table 1.

Table 1. The importance of the liquidity management factors when evaluating liquidity management, as perceived by the respondents

Liquidity management factors	Extremely important	Highly important	Moderate-ly impor-tant	Little important	Not important
Liquidity manage-ment as a compe-tetive advantage for the bank	4	2	4		
Having more li-quidity reserves as required by the South African Reserve Bank	4	3	1	2	
Using South African banking industry's trends for diversifying liquidity	3	3	1	3	
Applying inter-national standards regarding the li-quidity diversifi-cation.	4	2	3		1
Always have a proper strategy in place when mana-ging liquidity	10				
Forecasting liqui-dity requirements for more than one year ahead	3	6	1		
Ensure that mana-gement have re-gular training to keep up with trends in liquidity management	4	4	2		
Liquidity safety nets in the bank's strategy	9	1			
Risk averseness towards liquidity reserves	3	6	1		
Maintaining sta-ble liquidity ratios during global and/or national financial crises	5	4		1	

It is interesting to note that all respondents indicated that it is extremely important that a bank should always have a proper strategy for managing liquidity, while they all said that liquidity safety nets are at least highly important for a bank. The responses of the preceding table are weighted (as described in Section 4) and the total weighted scores calculated appear in the following table, in a declining order of importance.

Table 2. The weighted responses on the importance of liquidity management factors as perceived by the respondents, in a declining order of importance

Total weighted score calcu-lated	Declining order of importance	Liquidity management factors
50	1	Always have a proper strategy in place when managing liquidity
49	2	Liquidity safety nets in the bank's strategy
43	3	Maintaining stable liquidity ratios during global and/or national financial crises
42	4	Ensure that management have regular training to keep up with trends in liquidity management
42	4	Forecasting liquidity requirements for more than one year ahead
42	4	Risk averseness towards liquidity reserves
40	7	Liquidity management as a competitive advantage for the bank
39	8	Having more liquidity reserves as required by the South African Reserve Bank
38	9	Applying international standards regarding the liquidity diversification.
36	10	Using South African banking industry's trends for diversifying liquidity

It was already indicated that always having a proper strategy in place when managing liquidity received a *unanimous vote* of extremely important as a liquidity management factor, while liquidity safety nets in the bank's strategy takes the *second* most important place as a liquidity management factor. Maintaining stable liquidity ratios during global and/or national financial crises was regarded as the *third* most important liquidity management factor by the respondents. The *fourth* most important place were allocated to the following three liquidity management factors, viz.:

- Ensuring that management have regular training to keep up with trends in liquidity management;
- Forecasting liquidity requirements for more than one year ahead; and
- Risk averseness towards liquidity reserves.

Overall, it is clear from the preceding empirical results that a bank's liquidity strategy, liquidity safety nets and liquidity ratios should form the basis of liquidity management factors, while regular training concerning liquidity management, forecasting liquidity requirements for more than one year, and risk averseness towards liquidity reserves should also play an important role.

5.2 Problem areas in the management of liquidity

The respondents were requested to indicate three problem areas which they experience when managing liquidity. The responses of the respondents are shown in Table 3.

Table 3. Problems areas in the management of liquidity, as perceived by the respondents

Problem areas	**Number of respondents who mentioned the problem area**
Complying with the new regulations of the Basel III report	10
Planning for possible future occurrences and risks associated with liquidity management	9
Maintaining the required liquidity ratios throughout a financial year	4
Complying with the regulations and requirements of the South African Reserve Bank	2
Managing the daily liquidity in the bank	2
Allocation of liquidity in the asset portfolio of the bank	2
Regular training and development opportunities for liquidity managers	1

The problem area which was indicated by all the respondents, is to comply with the new regulations of the Basel III report. As banks will implement it over a number of years and need to investigate and find the best way to adhere to the new liquidity requirements, the Basel III report will remain a vital topic in the banking industry for a long time. The implementation of the Basel III report will require a large input from the banks.

It seems that the detrimental impact of financial crises remain in the memories of managers for many years, as nine of the respondents mentioned the planning for possible future occurrences and associated risks as a problem area when managing liquidity. The liquidity strategy, liquidity safety nets and the liquidity ratios which form the basis of liquidity management factors (according to the results of Table 2) should be applied by banks when planning for possible future events and related risks.

Although the remaining problem areas mentioned in Table 3 were indicated by a minority of respondents, they are all very vital topics in liquidity management. The maintenance of required liquidity ratios throughout a financial year, complying with the regulations and requirements of the South African Reserve Bank, managing the daily liquidity in the bank, and the allocation of liquidity in the asset portfolio of the bank, definitely pose problem areas to the liquidity managers.

5.3 How often the requirements of liquidity are adjusted to ensure proper and effective management

There are many requirements of liquidity to which banks must adhere. The answers of the respondents to the question on how often they adjust the requirements to ensure proper and effective liquidity management, are depicted in Table 4.

Table 4. How often the requirements are adjusted to ensure proper and effective liquidity management, as perceived by the respondents

Requirements for liquidity management	Always	Very often	Some-times	Seldom	Never
Requirements of the South African Reserve Bank	5	1	1	2	1
Industry trends concerning liquid-dity that change over and above the requirements of the South African Reserve Bank	3	4	3		
Basel reports regarding regulations and requirements for banks	4	2	1	2	1
King reports regarding regulations and requirements for banks	2	1	3	1	3
Adjusting liquidity ratios during global and/or national financial crises	3	4	1	2	
Strategic restructuring of liquidity in the bank	3	2	2	3	
Liquidity allocation requirements according to the bank size	4	2	3	1	

To obtain a clear picture of the information contained by the preceding table, the responses of Table 4 are weighted (as described in Section 4). The total weighted scores calculated appear in the following table, shown in a declining order of frequency.

Table 5. The weighted responses on how often the requirements are adjusted to ensure proper and effective liquidity management as perceived by the respondents, in a declining order of importance

Total weighted score calculated	Declining order of frequency	Requirements for liquidity management
40	1	Industry trends concerning liquidity that change over and above the requirements of the South African Reserve Bank
39	2	Liquidity allocation requirements according to the bank size
38	3	Adjusting liquidity ratios during global and/or national financial crises
37	4	Requirements of the South African Reserve Bank
36	5	Basel reports regarding regulations and requirements for banks
35	6	Strategic restructuring of liquidity in the bank
28	7	King reports regarding regulations and requirements for banks

Based on the information of the preceding table, it can be concluded that the requirements of liquidity, based on the industry trends that change over and above the requirements of the South African Reserve Bank, are *most* often adjusted. The industry trends therefore play a vital role in setting the requirements of liquidity for every bank individually. It is further clear that the regulatory liquidity requirements of the South African Reserve Bank obtained only the *fourth* place in the declining order of frequency (according to Table 5). The requirements of liquidity based on the industry trends are *over and above* the regulatory requirements of the South African Reserve Bank.

The liquidity allocation requirements according to the bank size are *second* most often adjusted by the respondents, while the adjustment of liquidity ratios during global and/or national financial crises takes the *third* place in the declining order of frequency according to Table 5.

The requirements of liquidity due to the Basel reports, strategic restructuring of liquidity in the bank, and the King reports are not as often adjusted as the other aspects mentioned in Table 5. This conclusion must be seen in the correct perspective. The *Basel II* report was already implemented, while the *Basel III report* will take a number of years before banks have investigated and found the best manner to manage and adhere to the new liquidity requirements. That is the reason why complying with the new regulations of the Basel III report, was a problem area which was mentioned by all respondents according to Table 3. Concerning the *strategic restructuring* of liquidity in the bank, it is common knowledge that strategies are not adjusted often, but are only reformulated and implemented when needed. The *King III report* applies to all entities and banks are only one type of the entities where corporate governance plays a role. Although the King III report is not a guideline for liquidity management as such, it also focused, amongst others, on the liquidity position of enterprises.

6. Conclusions

The objective of this research paper embodies on the improvement of financial decision-making by banks concerning the management of their liquidity. The findings of this research paper emphasise the following important conclusions, which may also be valuable to the banking

industries of other developing countries with emerging market economies:

(1) It was concluded that always having a proper strategy in place when managing liquidity received a *unanimous vote* of extremely important as a liquidity management factor. Liquidity safety nets in the bank's strategy take the *second* most important place as a liquidity management factor. The *third* most important liquidity management factor according to the respondents consists of the maintenance of stable liquidity ratios during global and/or national financial crises. Overall, it is clear a bank's liquidity strategy, liquidity safety nets and liquidity ratios should form the basis of liquidity management factors.

(2) The problem area which was indicated by all the respondents, is to comply with the new regulations of the Basel III report. As banks will implement it over a number of years and need to investigate and find the best way to adhere to the new liquidity requirements, the Basel III report will remain a vital topic in the banking industry for a long time. It seems that the detrimental impact of financial crises remain in the memories of managers for many years, Nine of the 10 respondents mentioned the planning for possible future occurrences and associated risks as a problem area when managing liquidity, which emphasised that the detrimental impact of financial crises are carved into the memories of managers.

(3) It was concluded that the requirements of liquidity, based on the industry trends that change over and above the requirements of the South African Reserve Bank, are *most* often adjusted by banks. The empirical survey further indicated that the liquidity allocation requirements according to the bank size are *second* most often adjusted by banks. The study also concluded that the adjustment of liquidity ratios during global and/or national financial crises are *third* most often adjusted by banks. The regulatory liquidity requirements of the South African Reserve Bank obtained only the fourth place in the declining order of frequency.

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