POTENTIAL SOURCES OF ZIMBABWE COMMERCIAL BANKS ILLIQUIDITY AFTER DOLLARISATION[*]

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ABSTRACT

This research presents a comprehensive analysis of Zimbabwean commercial banks potential sources of liquidity risk after the country adopted the multiple currency exchange rate regime (March 2009 to December 2012). A survey research design and documentary analysis were used. Based on the results, commercial banks had problems in sourcing funds. Sources of funds were mainly transitory deposits with little coming from treasury activities, interbank activities and offshore lines of credit. There was no lender of the last resort function by the Reserve Bank of Zimbabwe. Some banks struggled to raise the minimum capital requirements. After the dollarisation of the economy, progressively commercial banks took up the lending activity. Locally owned banks were aggressive while foreign owned banks took a passive stance. The banks that were aggressive in lending had problems of non-performing loans especially from the corporate clients, which exposed the banks to liquidity risk. The other potential source of liquidity risk emanated from liquidity risk management by the commercial banks. As much as all commercial banks had comprehensive policies and procedure manuals, some banks were not adhering to them. In addition some banks violated set risk limits. All these were threats to liquidity management by commercial banks in Zimbabwe. The main recommendation of this study is that banks may need to come up with products and devices that encourage clients to have a savings culture. The central bank may not need to be too strict or too relaxed but to be moderate and ensure an enabling regulatory environment. This would facilitate banks to manage liquidity risk and at the same time protect depositors in any challenging operating environment.

Keywords: Zimbabwe; Commercial Banks; Illiquidity; Multiple Currency; Exchange rate.

INTRODUCTION

The government of Zimbabwe adopted the use of a multiple currency system, which was adopted on the 30th of January 2009 (Ministry of Finance [MOF], 2009). The system allowed trade to be conducted using major trading currencies, while settlement in payment systems however took place in the US Dollar (MOF, 2009; Reserve Bank of Zimbabwe [RBZ], 2009). The new regime helped restore price stability and restart financial

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intermediation (MOF, 2010; RBZ, 2010). A research conducted by the International Monetary Fund (IMF) (2010) indicates that banks had improved profitability following more favourable economic environments during the new regime. In addition, with the adoption of the multiple currency system, banking deposits increased remarkably between March 2009 and December 2012, (RBZ, 2012). Despite the benefits, the multiple currency posed challenges to commercial banks illiquidity. The Reserve Bank of Zimbabwe enhanced supervisory processes by issuing liquidity risk management guidelines in line with international banking standards which banks were to adhere to. Notwithstanding this, vulnerabilities existed and still exist in the financial sector with most banks still liquidity constrained. It is against this background that this research intends to unveil the potential sources of Zimbabwe commercial banks liquidity risk when there was use of multiple currency exchange rate system.

LITERATURE REVIEW

Liquidity risk is the inability of a bank to accommodate decreases in liabilities or to fund increases in assets. Liquidity risk arises from the primary role of banks in the maturity transformation of short-term deposits into long-term loans (Baltensperger, 1980; Crosse and Hempel, 1980; Diamond and Dybvig, 1983; Prisman, Slovin and Sushka, 1986; Dewatripont and Tirole, 1994; Myers and Rajan, 1998; Swank, 1996; Strivasta, 2003; Strahan, 2006; Rochet, 2008; Moore, 2010)

Liquidity risk management is part of the larger risk management framework of the financial services industry which concerns all financial institutions. Failure to address the issue may lead to dire consequences, including the collapse of the banking sector. By extension, liquidity risk leads to the instability of the financial system. Notwithstanding this, when looking at studies that have been done on risk management, there are fewer studies to discuss liquidity risk. For a long time, considerable effort has been put in designing bank capital regulation. The Basel I Accord (BIS 1988) set out the regulatory standards on market risk and credit risk. The Basel II Accord (BIS 2004) in addition took into account operational risk and not liquidity risk. However, liquidity risk is one of the major reasons banks have failed. Whilst liquidity management is an ingredient that makes banks safer institutions, little attention has been given to it. The study on commercial banks liquidity risk in Zimbabwe adds to the body of knowledge and closes this gap.

The Basel Committee on Banking Supervision in February 2008 published Liquidity Risk Management and Supervisory Challenges. The study highlighted that many banks had failed to take account of a number of basic principles of liquidity risk management when liquidity was plentiful. According to that paper, many of the most exposed banks did not have adequate frameworks that satisfactorily accounted for the liquidity risks posed by individual products and business lines. Therefore incentives at the business level were misaligned with the overall risk tolerance of the bank. Furthermore, many banks had not considered the amount of liquidity needed to satisfy contingent obligations, either contractual or non-contractual, as they viewed funding of these obligations to be highly unlikely. Many firms viewed severe and prolonged liquidity disruptions as implausible and did not conduct stress tests that factored in the possibility of market wide strain, the severity or duration of the disruptions. Contingency funding plans (CFPs) were not always appropriately linked to stress test results and sometimes failed to take cognizance of the potential closure of some funding sources. However, these findings were based on data from other countries and may not be applicable to the Zimbabwean experiences. The study on liquidity risk management by Zimbabwe commercial banks closes this gap.

Notwithstanding this, to the researcher's knowledge, no studies have been done on identifying potential sources of liquidity risk by Zimbabwean commercial banks when the

country had adopted a multiple currency exchange rate regime. This study then closes the fissure of knowledge within the current existing literature.

RESEARCH METHODOLOGY

The research sought to establish the potential sources of Zimbabwean commercial banks liquidity risk in the multiple currency exchange rate system. A survey research design and documentary analysis were used. The survey approach is an inductive approach which allows the researcher to be part of the research process. The survey strategy also allows the collection of a large amount of data from a sizeable population in a highly economical way. Often obtained by using a questionnaire, these data are standardized, allowing easy comparison (Saunders, Lewis and Thornhill, 2007). Documentary analysis complimented the survey research design.

Sampling Technique and Sample Size

The target population consisted of all commercial banking institutions that operated in Zimbabwe since 2000 to 2012. The respondents included personnel involved in liquidity management and were drawn from treasury management and risk divisions. Some of the staff members in the respective departments had limited knowledge (depending on their levels and grades) making it unnecessary for them to participate. Because of this, a non-probability sampling technique was used for the study. More specifically, a judgmental sampling technique was chosen. This technique made it possible to use judgment to select respondents that best answer the research questions and meeting of objectives, (Creswell, 2003). Only the heads of the treasury and risk management departments were considered to respond to the questionnaires or interviews. For the fifteen commercial banks and the relevant departments, the sample size was thirty. Questionnaires were used on the heads of treasury only and interviews were done with heads of risk management. To compliment the primary data, secondary data collection method, was also employed.

FINDINGS

A summary of the correlation analysis between the variables are given in Table 1. These would be referred to in different sections of the findings.

TABLE 1
Correlation Analysis between Two Variables

Correlation Between Two Variables	χ^2	P-value
Ownership of the bank; number of branches	1.5	0.378
Number of branches; liquidity position	5.85	0.210
Liquidity position; ownership	36.21	0.001
Years in business; liquidity position	40.2	0.001
Ownership; management of liquidity	4.88	0.181
Charge of penalty and ownership	2.679	0.605
Ownership; considering rates offered by other banks	38.25	0.001
Following policies and procedures; ownership	35.01	0.001
Adherence to set limits; ownership	17.26	0.001

Years in Business

Years in business at the time the survey was done are given in Table 2. On average, the banks were in business for thirty seven years but varied from twelve and one hundred and eighteen years.

TABLE 2
Tabulated Zimbabwean Commercial Banks Years in Business

Variable	Observation	Mean	Std Dev	Min	Max
Years in business	15	37.5333	40.2347	12	118

Branch Networks

From the survey done, the banks averagely had seventeen branches although the number of branches varied from one up to sixty.

Liquidity Risk Management and Responsibility

Based on the survey, banks liquidity was managed daily with the responsibility being treasury and risk division for all commercial banks. Liquidity decisions were centralized with the head office for all banks.

Perception on Liquidity Risk

In the multiple currency regime, many banks' respondents were not satisfied with the bank liquidity management. Of the respondents, 73.3 % were not satisfied, 6.7 % were satisfied and 20% were very satisfied with their liquidity positions. There was a statistically significant difference between ownership and level of satisfaction as shown by the χ^2 statistic of 36.21 (P<0.001). This means that the difference in respondents' level of satisfaction with liquidity position between locally owned banks and foreign owned banks was statistically different from zero at 1% level of significance. The locally owned banks had challenges with liquidity management as compared to the respondents from foreign owned banks.

Liability Management

Sources of funding. The multiple currency environment posed challenges in commercial banks sourcing of funds. Figure 1 presents the various sources of funds. Banking institutions in Zimbabwe were funded mainly by current accounts which constituted 67% of the total deposit base. Treasury activities constituted 14%, offshore lines of credit 10%, savings deposits 7% and interbank market activities 2% percent. Banks mainly relied on current accounts which were transitory in nature and not much came from the savings accounts making liquidity risk difficult to manage. From the above presentation, it is evident that more reliance was on current accounts than the interbank market, capital market or global financial markets. Savings were very low. Banks may need to come up with products and devices that encourage clients to have a savings culture.

FIGURE 1
Funding Structure of Banks as at 30 June 2011
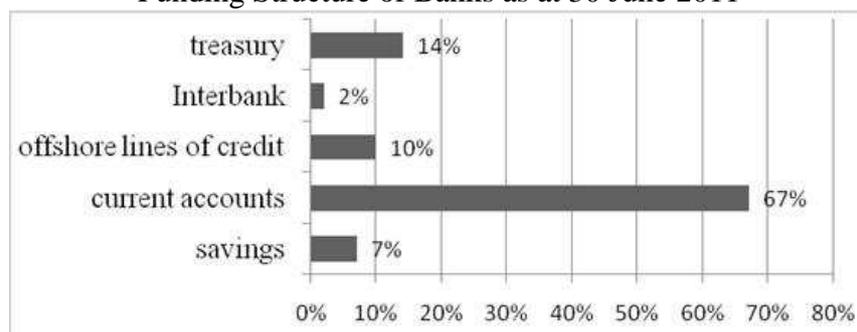
Products offered by Zimbabwean commercial banks. During the period of study, commercial banks in Zimbabwe offered narrow product range to clients. The products that were being offered were fixed deposits accounts, savings accounts, current accounts, banker's acceptances and negotiable certificate of deposits. In the foreign exchange market, banks were only involved in currency switches. There was nothing being offered in the capital market and derivatives markets. Further to the primary data, secondary data was used to do a comparison between Zimbabwean banks and other banks on product ranges. Table 3 presents a comparison of Zimbabwe banks with world banks.

TABLE 3
Zimbabwe Commercial Banks versus Foreign Banks

Product	Zimbabwean Banks	Other Banks
Money Market Products	Bankers acceptances, promissory notes, lending	Bankers acceptances, promissory notes, lending, commercial paper, certificate of deposit, bonds, notes
Foreign Currency	Plain vanilla switches	Switches, proprietary trading, client trading, hedging structures etc
Derivatives Market Products	None	Swaps, options, commodity trading, futures, forward contracts etc
Capital Management	None	Capital modeling and allocation etc

There is need to offer more tailor made products for depositors. The primary reason for the limited progression in product offering by local treasuries was the unavailability of the products and the challenging operating environment. Lack of skills was also a cause but some proactive banks had already begun to train their employees to be able to develop and trade in much wider range of products. The limited product range adversely affects clients. Some respondents presented that a number of gold mining clients were exploring relationships with South African banks for their hedging needs. Commercial banks treasuries usually invested in treasury bills to earn a return and still comply with liquid ratios. However during the period of study, there were no treasury bills issued yet in Zimbabwe. To manage liquidity risk, some commercial banks treasuries therefore had to hold cash as liquid assets. The problem with this strategy is of reduced income.

Charging of penalty. During the study period, 80% of the banks charged penalty on early termination of investments. The remaining 20% were not charging penalty as a marketing tool to lure clients to place funds with them. Generally internationally owned banks largely charged penalties but from the survey, the differences in ownership and charging of penalty rate is statistically insignificant, since χ^2 =2.69 (P=0.605), meaning that the difference between locally owned banks and internationally owned banks and charging of penalty was not different from zero.

Asset Management

Application of funds. When banks source funds, there is need for strategic application with considerations of profitability and liquidity. Figure 2 presents allocation of assets by commercial banks in Zimbabwe during the multiple currency environments.

Commercial banks on average had 65% on claims on private sector, 16% on fixed assets, four percent notes and coins, three percent balances with the Reserve bank of Zimbabwe, one percent balances with other banks and one percent claims on local authorities. From the survey carried out, the majority of banks had a bad corporate loan book.

Corporate clients were failing to service their loan accounts ultimately becoming hard-cores. The result was banks lending more to individuals on personal loans which were serviced by salaries on monthly basis. Other banks stopped lending especially the internationally owned banks while locally owned banks were aggressive in the lending activities. Despite these, as a percentage of total assets, claims on the private sector had the greatest share. The small percent of balances with other banks clearly indicated that there were limited activities in interbank activities. From the above presentation, banks were not very keen to lend to the public sector. As a strategic position banks were lending for short tenures for them to deal and manage credit risk which feedbacks to liquidity risk.

FIGURE 2
Allocation of Assets by Zimbabwe Commercial Banks
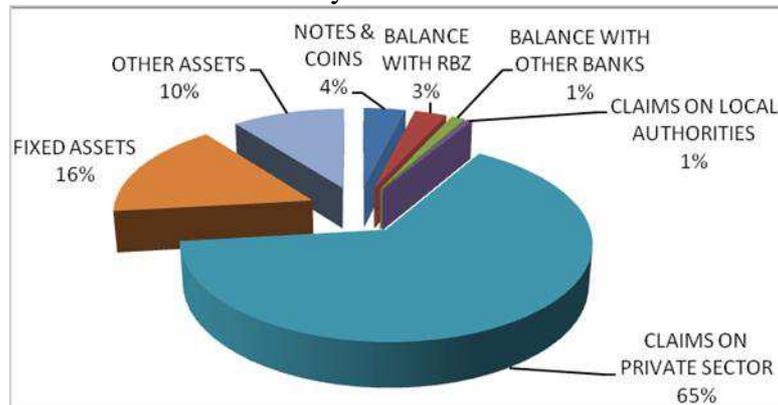
Lending activity. From the respondents 20% of banks most preferred to lend to high net worth clients financed before, 13.3 % preferred this option and 66.7% was not concerned with this and lend based on other factors. Of the respondents, 80% of the banks preferred lending based on financial statements while 20% did not prefer the financial statements. All banks would prefer lending when there was security. 53.4% would most prefer lending to customers who were of the bank whilst 33.3 % preferred and 13.3 % did not prefer that. The banks that did not prefer bank customers only were the banks that were aggressive in lending and had a market share driven or current-profit driven credit culture. All banks preferred to lend for a short time. No banks were keen to lend for a long time given the transitory nature of deposits. The final ratings are presented in Table 4.

TABLE 4
Final Ratings on Preferences when Lending

Preferences When Lending	Final Rating
Lend short term	Most Preferable
Lend to clients with account with the bank	Most Preferable
Lend based on collateral	Preferable
Lend based on financial statements	Preferable
Proposals of high net worth clients	Preferable
Lend for long term	Not preferable

Causes of Non-Performing Loans

In the multiple currency regime, one of the major causes of liquidity risk was as a result of non-performing loans. From the survey, they were various reasons why banks had non performing loans and these are summarized below:

Poor credit appraisal; wrong products offered to clients; banks in pursuit of business adjusted the clients' requirements; lending based on balance sheet strength instead of

cash flows; information asymmetry as a result of the absence of a credit bureau in Zimbabwe; economic environment mainly characterized by low levels of aggregate demand; inadequate supervision by the Reserve Bank of Zimbabwe leading to gross violation of prudential guidelines.

Asset and Liability Management

When a bank position was down, banks would do as shown on the final ratings given in Table 5.

TABLE 5
Bank Actions When the Bank Position was down

Options to deal with a deficit position	Final Result
New investments	1st priority
Retention of maturing investments	2nd priority
Redeem investments placed with other banks	3rd priority
Borrow from the interbank market	4th priority
Borrow from the holding company	5th priority
Use bank capital to cover liquidity needs	6th priority
Request counterparties or depositors to wait for extra days	7th priority

Of the banks 73.3% had access to offshore lines of credit and 26.7 % could not access. The reasons why some banks failed to access off shore lines of credit because of failure to meet the preconditions to get these funds. These conditions included the shareholding structure, quality of the loan book, size of the bank and the ability to offer security to the providers of foreign sources of funds.

Bank capitalization. Banks need to be capitally adequate. Capital is the cushion that protects banks, customers and shareholders against loss resulting from the assumption of risk. Adequate capital supports future growth, fosters public confidence in the bank's condition, provides the capacity under the bank's legal lending limit to serve customers' needs, and protects the bank from unexpected losses. Figure 3 shows the position of commercial banks capitalization in Zimbabwe as of June 2011.

FIGURE 3
Banking Sector Capitalization as at June 2012
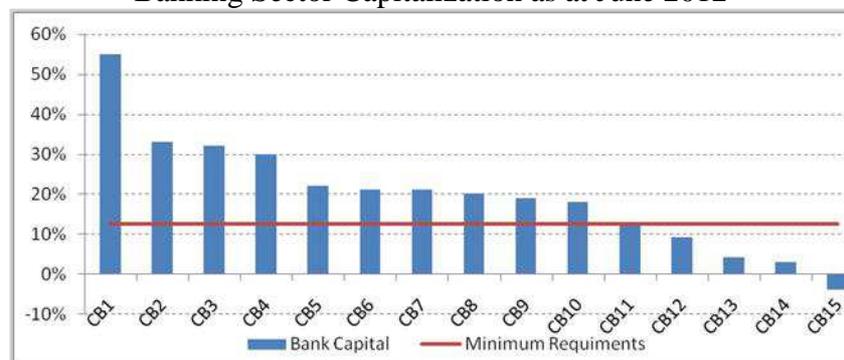
From figure 3, noticeably some banking institutions in Zimbabwe were struggling to raise the minimum capital requirements required as cushion to perceived shocks in the economy which include liquidity risk. As at June 2012, four banking institutions where undercapitalized which defeated the primary objectives of capital adequacy requirements which is to limit risk-taking by banking institutions. Given that banking business is fraught

with uncertainties, the banking institutions that were not adequately capitalized could not protect small and uniformed depositors. Significantly this was one of the important reasons why there was still no confidence by the public depositors, killing the savings culture and making liquidity management a problem.

Reserve Bank of Zimbabwe and Liquidity Risk

The Reserve Bank of Zimbabwe (RBZ) sets the capital and statutory reserves thresholds. Over the multiple currency period, statutory and liquidity ratios were changed by the RBZ as detailed in Table 6:

TABLE 6

Zimbabwe Statutory Reserve Ratios and Liquidity Ratios

	Zimbabwe Statutory Reserves	Zimbabwe Liquidity Ratio	International Statutory Reserves
Feb 2009-Dec 2009	10%	10%	Risk and Asset based
Jan 2010-June 2010	5%	10%	Risk and Asset based
July 2010-Dec 2010	0%	20%	Risk and Asset based
Jan 2011-June 2011	0%	25%	Risk and Asset based

Statutory reserves ratio shows the percent of deposits that are kept at the central bank. The ratio was pegged at ten percent in 2009 and was reduced to five percent from January to June 2010. From July to December 2010 were scrapped to zero percent as a result of the liquidity challenges the banks were facing. Statutory reserves remained at zero percent in January to June 2011. The lowering and scrapping off of statutory reserves meant that the banks had more funds directly available for use to settle withdrawals. The prudential liquidity ratio was pegged at ten percent in 2009, increased to twenty percent in 2010 and was increased to twenty five percent in 2011. This was as a result of challenges of liquidity that was posed by the new regime which meant that banks as a regulatory activity were meant to increase their holding in liquid assets to avoid liquidity risk.

Reserve Bank of Zimbabwe Risk Management Guidelines versus Commercial Banks Liquidity Risk Management

A benchmark analysis was conducted on how commercial banks were managing liquidity risk with respect to the RBZ liquidity risk management guidelines. Liquidity management in Zimbabwe was guided by the Risk Management Guideline (BSD-04 2007) issued by the RBZ in 2007. The Guideline was formulated to strengthen liquidity risk management of commercial banks and safeguard the safe and sound operation of commercial banks in accordance with the Zimbabwean Banking Act 24: 20 and Banking Regulations. The whole process of liquidity risk management that includes identification, measurement, monitoring and control of liquidity risks is detailed in the published guideline and this research study considers them sufficient even in the multiple currency regime. All commercial banks were required to follow the principle of prudentiality and fully recognize, effectively measure, constantly monitor and properly control liquidity risks of the whole bank, and various products, business lines, business links and multilevel organizations, to ensure that commercial banks had sufficient funds to cope with asset increases and the payment of matured debts, whether under normal business conditions or under stress.

Board and senior management oversight. Commercial banks were required to put an effective governance structure of liquidity risk management in place. The survey revealed that all the banks had board and senior management oversight in place which was in line with

the RBZ liquidity risk guidelines and also in line with international banking standards. The Board of Directors and senior management, special committees and relevant banking departments are responsible for the management of liquidity risk and formulate a proper assessment and accountability mechanism so as to improve the effectiveness of liquidity risk management.

Policies and procedures. Based on the survey, all banks had liquidity risk management policy and procedure manuals. According to the RBZ liquidity risk guidelines, banks are supposed to have comprehensive policy and procedure manuals which covered various aspects of liquidity and funds management in detail. Commercial banks would measure and determine their own liquidity risk tolerance in the light of the bank's business strategy, business characteristics and risk appetite, and formulated management strategy, policy and procedures of liquidity risk. Risk tolerance would be expressed in quantitative terms, such as the unmitigated liquidity risk level that the banks could bear under normal conditions and stress.

The strategy, policy and procedures of liquidity risk management covered various on- and off-balance-sheet business of the bank, business agencies, branches and affiliates that may exert a significant effect on its liquidity risk both home and abroad, including liquidity risk management in normal conditions and under stress. Organizational structure, main business line, breadth and diversity of product and market, the regulatory requirements of home and host country, were taken into consideration when formulating commercial banks' liquidity risk management strategy. In terms of documentation, the research revealed that this was comprehensive. The main flaw was that the majority (80%) of the banks was not adhering to the set policies and procedures, which exposed them to liquidity risk. Only 20% indicated that they were strictly following the policies and procedures. There was a statistically significant difference in ownership and adherence to policies and procedures as shown by the χ^2 =35.01 (P<0.001), thus underscoring that a larger proportion of locally owned banks were not adhering, while respondents from internationally owned banks were strict in their adherence.

Liquidity risk limits. The research revealed that all commercial banks had set liquidity risk limits in accordance with regulatory requirements and internal liquidity risk management policy, and determined corresponding monitoring frequency in accordance with the nature of limits. The limits were designed to take into consideration the asset-liability structure, the business development situation, asset quality, financing strategy, management experience and market liquidity. Eighty percent of the banking institutions had established internal static liquidity benchmarks to manage exposure to liquidity risk. These benchmarks acted as early warning signals or triggers for any liquidity crisis. Despite the fact that these were in place, at one point or another, 73.3% of the commercial banking institutions were violating the set liquidity benchmarks whilst 26.7% of the respondents were not. Violation of set limits contributes to banks' experiencing problems in liquidity risk management. There was a statistically significant difference in ownership and violation of set limits as shown by the χ^2 =17.26 (P<0.001). Internationally owned banks were strict in following limits, whilst locally owned banks violated the set limits.

Internal controls. According to the RBZ guidelines, commercial banks were required to formulate proper internal control systems to ensure the integrity and effectiveness of liquidity risk management procedures. Commercial banks were expected to incorporate liquidity risk management into the scope of internal audit, and review and evaluate the

sufficiency and effectiveness of liquidity risk management on a regular basis. All banks had documented internal control systems and internal audit departments. This was in line with the RBZ liquidity risk guidelines.

Stress testing of liquidity positions. All commercial banking institutions were required to regularly conduct stress tests as part of their liquidity risk management. This was in order to help them assess their capability to withstand stress incidents and to consider and prevent future possible liquidity crises, so as to promote their ability to perform repayment responsibilities under the circumstances of liquidity stress. The survey revealed that 40% of the banks were regularly undertaking stress tests whilst 60% were not undertaking regular stress tests on their liquidity positions to assess whether they would be able to withstand stressed conditions. The banks only prepared profiles of their cash-flows under normal business conditions. The research study viewed this as inadequate with the implication that banks would not be able to plan for crises and may be unable to withstand stressed conditions should they occur.

Contingency liquidity plan. All banking institutions had comprehensive Liquidity Contingency Plans in place which outlined trigger points or conditions required to activate the plan, key contact personnel and their contact details, action points in the event of a crisis or an impending crisis, procedures for making out cash flows shortfalls in crisis situations and sources of funds and the priority in which these funds would be accessed. In most institutions surveyed, the contingency plans only covered a name specific crisis but did not specify steps to be taken in the event of a market-wide crisis. Again, no player had created a fictitious crisis to try and test if their plans would work.

Management information systems. Most commercial banks in Zimbabwe made use of the Deal Manager system for treasury functions which was not interfaced with the core banking system, and consequently liquidity risk management reports were being produced manually. This seriously undermined the timely production of reports and also exposed the banks to high operational risk through human errors, leading to liquidity risk.

CONCLUSION

The macroeconomic and financial market development in Zimbabwe after the adoption of the multiple currency exchange rate regime have led to an increase in many banks exposure to liquidity risk. The challenges that were posed by the multiple currency regime were cited to be the transitory nature of deposits, limited money market instruments, capital inadequacy, limited access to offshore lines of credit, non-performing loans and no lender of the last resort function by the Reserve Bank of Zimbabwe. In addition, some banks were not adhering to policies and procedures, risk limits and stress tests. Sources of bank illiquidity were thus from the depositors' behavior, borrowers' behavior, banks' behavior and the Reserve Bank of Zimbabwe.

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