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The Impact of Liquidity Management on Bank Financial Performance in a Subdued Economic Environment: A Case of the Zimbabwean Banking Industry

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ABSTRACT

Liquidity is generally referred to as the ability to generate adequate cash to pay off financial obligations but in banking it mainly refers to the ability to honour maturing deposits. Banks indeed require liquidity since such a large proportion of their liabilities are payable on demand (deposits) but typically the more liquid an asset is, the less it yields. Hence, the decision to choose a particular combination of assets over another, taking into consideration the liability size of a bank, would have a massive effect on bank liquidity management, profitability and risk. This paper sought to establish the impact that proper liquidity management has on the financial performance of banks on the backdrop of a poorly performing economy. Factors that include asset liability mix, regulatory and market changes and liquidity management strategies are closely scrutinised in line with the ever changing Zimbabwean economic environment. A mixed research methodology was adopted, where research methodology is based on the multiple viewpoints or perspectives which are brought forward by both qualitative and quantitative research methodologies. The study focused on the population of banking financial institutions in Zimbabwe and drew a sample of five (5) leading banks that comprised of Commercial Bank of Zimbabwe (CBZ), Standard Chartered Bank of Zimbabwe, First Capital Bank, FBC Bank and ZB Bank. The major findings of the study were that there is a strong positive relationship between liquidity management and bank financial performance. Trade-off between liquidity and profitability in Zimbabwean banking institutions has seen a decline in profit margins over the period under study, but has fostered greater stability that has guaranteed better performance and sustainability. However, there is need for a holistic approach to liquidity management by all stakeholders involved in the exercise and as such, recommendations have been forwarded for their consumption.

Keywords: *Liquidity management, Asset-Liability exposure, Liquidity contingency plan, Gap analysis, Volatility analysis, Current ratio, Return on Equity*

INTRODUCTION

The recent trends on the global financial scene have had significant impact on the banking industry worldwide with one major need being that for effective liquidity management in banking institutions. Liquidity is generally referred to as the ability to generate adequate cash to pay off financial obligations but in banking it mainly refers to the ability to honour maturing deposits (Adalsteinsson, 2014). According to Choudhry (2011) liquidity management refers to the funding of deficits and investment of surpluses, managing and growing the balance sheet, as well as ensuring that the bank operates within regulatory and stipulated limits. Ideal bank-management is an uninterrupted endeavour of assuring that a balance exists between liquidity, profitability and risk (Banks, 2014). Banks indeed require liquidity since such a large proportion of their liabilities are payable on demand (deposits) but typically the more liquid an asset is, the less it yields. Hence, the decision to choose a particular combination of assets over another, taking into consideration the liability size of a bank, would have a massive effect on bank liquidity management, profitability and risk (Choudhry, 2012). In managing its assets and liabilities in the wake of uncertainties in cash flows, cost of funds and return on investments, a bank must ascertain its trade-off between risk, return and liquidity (Landskroner and Paroush, 2011). Indeed, studies in other countries across the globe have attributed bank failures to poor liquidity management. This is so because scholars argue that one of the major contributors of the Global Financial crisis of 2007-2008 was

poor liquidity management (Adalsteinsson, 2014). This was largely as a result of the collapse of Lehman Brothers, a leading Investment Bank which ended up spreading across the globe through the "contagion effect".

Furthermore, in Nigeria, the challenges of inefficient liquidity management approaches in banks were exposed during the "liquidation and distress" era of 1980s and 1990s. This is so because the negative cumulative effects of this liquidity crisis stayed up to the re-capitalization era in 2005 in which banks were required to raise their capital base from N2 billion all the way to N25 billion (Agbada & Osuji, 2013). Thus, this is the reason why the Basel Committee continually advocates for sound and prudent liquidity management in all Banks across the globe since it is of paramount importance. This is so because Basel Committee on Banking Supervision (2008:1) subscribes to the view that, "Virtually every financial transaction or commitment has implications for a bank's liquidity. Effective liquidity risk management helps ensure a bank's ability to meet cash flow obligations, which are uncertain as they are affected by external events and other agents' behaviour. Liquidity risk management is of paramount importance because a liquidity shortfall at a single institution can have system-wide repercussions."

In the early 2000s, the Zimbabwean financial system was characterized by incoherent regulatory and market changes that led to a redefinition of some bank operations and policies. This change in banking operations triggered various forms of financial risks which posed an uphill task to traditional liquidity management (Chikoko and Le Roux, 2012). In an attempt to move towards consolidated supervision and risk based financial regulation, a number of policy initiatives and monetary controls were taken by the Reserve Bank of Zimbabwe (RBZ). Enhanced steps were also seen to ensure prudent supervision and market stability. During the last quarter of 2003 and the first quarter of 2004, quite a number of banking institutions suffered from serious challenges that ranged from chronic liquidity problems, liquidity management deficiencies and poor corporate governance (Nhavira, Mugocha and Mudzonga,2013). The RBZ noted that some banking institutions did not have inclusive liquidity management strategies and policies, arguing that in some cases long- term non-performing assets were recklessly funded through short term liabilities in an environment characterized by rising interest rates. Examples were Century Discount House which was closed in 2004 due to severe liquidity challenges, Royal bank, Barbican bank and Trust bank all due to poor liquidity management (Nhavira, Mugocha and Mudzonga, 2013).

Objectives of the Study

The key objective is to measure the impact of effective liquidity management on bank financial performance

Evaluate the approaches to Asset and Liability management in Commercial Banks

Ascertain the effect of regulatory and market changes on profitability and liquidity management in Commercial Banks

Determine how best banking institutions could tailor their liquidity management strategies in line with a changing market in Zimbabwe

Literature Review

Bank Liquidity Management

Indeed, it can be noted on a global scale that the adequacy of liquidity contributes to the effective operation of all businesses. However, in as much as liquidity is indeed important to all businesses alike, it is most vital to banking institutions, which explains why banks reflect cash and other liquid securities in their balance sheet statement annually (Osuji and Agbada, 2013). This mainly because nearly each financial transaction or commitment has implications on a bank's liquidity (Basel Committee on Banking Supervision, 2008).

The uniqueness of the banking sector arises from the fact that it is a highly sophisticated industry which contributes largely to economic growth through its financial intermediation function. "A strong and resilient banking system is the foundation for sustainable economic growth, as banks are at the centre of the credit intermediation process between savers and investors" (Basel Committee on Banking Supervision, 2010:1). One of the key components that make up a strong and resilient banking system is that of liquidity as well as its effective management.

According to Choudhry (2012) the main objective of liquidity management is that of ensuring that a balance exists between a bank's cash inflows and cash outflows i.e. assets and liabilities. This balance if maintained across all

banks, promotes the establishment of a sound and stable banking sector which is efficient in the execution of the intermediation function. The Bank of Jamaica (2005) states the following objectives of bank liquidity management:

- Constantly meeting all cash outflow commitments (both on- and off-balance sheet) on a daily basis;
- Evading the obtaining of funds at market premiums or via the involuntary sale of assets;
- Adhering to stipulated liquidity and statutory reserve requirements.

The need for Bank Liquidity Management

The experiences of many countries have shown that effective bank liquidity management is vital for the establishment of sound financial systems. The need for effective bank liquidity management was particularly highlighted and stressed in the aftermath of the 2007-2009 Global Financial Crisis since the crisis was largely attributed to poor bank liquidity management strategies. Hence, the susceptibility of the banking sector to liquidity risk is one of the chief reasons behind the tight regulatory frameworks which banks ought to adhere to.

The Role of the Basel Committee in Bank Liquidity Management

The Basel Committee on Banking Supervision was established in 1974 by Central Bank governors of "G10 countries" namely Canada, France, Belgium, Italy, Japan, Netherlands, Luxemburg, Germany, United Kingdom and United States of America (Tarullo, 2008). One of the core objectives of the Basel Committee on Banking Supervision was to improve the understanding of major regulatory issues and enhance the quality of banking supervision across the globe (Tarullo, 2008). More so, through supervision, the Basel Committee on Banking Supervision ensures that banks operate in a regulatory "safe and sound" environment. It is important to note that the Basel Committee on Banking Supervision does not formally supervise nations nor does it have any legal force which it can impose on countries, thus it can be said that they make use of the moral suasion function.

With regards to effective bank liquidity management, the Basel Committee plays a very crucial role as it advocates for all banks across the globe to maintain adequate liquidity levels as well as to hold sufficient liquidity buffers. Notably, in the aftermath of the 2007-2009 global financial crisis the Basel Committee strongly advocated for effective bank liquidity management across the globe. This was so because, "During the most severe episode of the crisis, the market lost confidence in the solvency and liquidity of many banking institutions. The weaknesses in the banking sector were rapidly transmitted to the rest of the financial system and the real economy, resulting in a massive contraction of liquidity and credit availability" (Basel Committee on Banking Supervision,2010:1). As a result, the public sector had to help bail out the banking sector through capital support, unprecedented injections of liquidity and this ultimately left tax payers exposed to huge losses.

Asset Liability Exposure/Liquidity Risk

The ability of a bank to meet demand for deposit withdrawals and other cash outflows is a visible indicator of its viability. Liquidity risk is undoubtedly amongst the major risks which are faced by financial intermediaries, especially banks. This is so because, "…the fundamental role of banks in the maturity transformation of short-term deposits into long-term loans makes banks inherently vulnerable to liquidity risk, both of an institution-specific nature and that which affects markets as a whole." (Basel Committee on Banking Supervision, 2008:1). Hence, the effective management of liquidity risk plays a crucial role in guaranteeing the viability of all banking institutions across the globe.

According to Landskroner and Paroush (2011) liquidity risk refers to the failure of a bank to honour its liquidity requirements due to bank related problems or due to market liquidity constraints in times of a financial crisis. Liquidity risk is generally comprised of two risks namely funding liquidity risk and market liquidity risk. According to Adalsteinsson (2014) funding liquidity risk is the failure to meet obligations with immediacy which can trigger default, whilst market liquidity risk refers to the inability to realise assets as a result of insufficient market depth, or market disruption e.g. Financial Crisis. In addition to funding liquidity risk and market liquidity risk, two more categories i.e. call liquidity risk and term liquidity risk can also be added. Call liquidity risk refers to a situation where the withdrawal of deposits is at the earliest possible

date instead of being extended whilst term liquidity risk refers to the deviation of payments from contractual conditions (Duttweiler, 2009).

Liquidity risk can be described as a "consequential risk" i.e. since it results from the impact of other risks such as operational risk, country risk, market price risk and credit risk (Duttweiler, 2009). It is therefore of paramount importance for a bank to particularly take into account the relationship that exists between liquidity risk and credit risk, since the latter triggers liquidity risk in both direct and indirect ways. "During the recent financial crisis that erupted in mid-2007, credit default swap spreads increased by several hundred basis points, accompanied by a liquidity shortage in the U.S. financial sector" (Hertrich,2015:1). Hence, the 2007-2009 period has not only proved the significance of liquidity to investors but it has also emphasised the need to understand the relationship that exists between credit markets and liquidity.

Approaches to Sound Asset and Liability Management (ALM)

Asset-Liability Management (ALM) is a common term that is interpreted differently by various market players. According to Choudhry and Landuyt (2010:124) ALM refers to "…the high-level management of a bank's assets and liabilities; as such it is a strategy -level discipline and not a tactical one. It may be set within a bank's treasury division or by its asset-liability committee (ALCO). The principal objective of the ALM function is to manage interest-rate risk and liquidity risk."

Apart from achieving the following goals: revenue maximisation, profit maximisation, retention of market share and increasing the volume of deposits as well as loans, bank management mainly aims to minimize the risks involved in the allocation of the bank's capital (Adalsteinsson, 2014). This is so because the attainment of the above goals is largely dependent on the bank's liquidity position. Hence, sound ALM is of paramount importance for a bank since it overally contributes to bank success and the achievement of the aforementioned goals.

Due to the nature of banking operations and how they are hinged upon liquidity, this makes liquidity risk inevitable. Thus, banks can not eliminate liquidity risk, but they can rather find ways to manage this risk in order to reduce its impact (Adalsteinsson, 2014). The Asian Development Bank (2008) in its technical assistance report outlined the major principles to be incorporated in the complete ALM process. It stressed the need for bank boards to clearly bring out the risk tolerance of the bank and subject the balance sheet to constant analysis. Hence, the following principles were stated:

- Diversity of liquidity sources, term of funding concentration as well as contagion are the major weaknesses of traditional ALM.
- Detect measure, monitor and regulate exposure.
- Comprehend the interaction that exists between liquidity and other risks.
- Establish both tactical and strategic liquidity management platforms.
- Establish comprehensive contingency plans and stress test under multiple scenarios constantly.

The main thrust of bank liquidity management focuses on the identification and management of maturity mismatches between assets and liabilities. According to Duttweiler (2009) the disparity of assets over liabilities or vice versa, over given time periods facilitates a net asset or liability position. This net asset or liability position can be countered through writing new assets or liabilities with a comparable maturity or repricing profile. Furthermore, these disparities resulting from a bank's combination of trading activities can be countered by transactions carried out in derivatives markets (Choudhry, 2012). This is so because any losses incurred on the balance sheet from interest rate changes would be countered by gains from positions in those other markets (Adalsteinsson, 2014). Thus, parity is restored overally since the gains from the derivatives markets can counter losses incurred as a rate of interest rate changes.

Impact of Regulatory and Market Shifts on Effective ALM in Zimbabwe

The banking industry is an integral part of any country's financial system due its significance and contribution towards economic growth, thus it is of paramount importance for this sector to be highly regulated. These regulations ultimately influence a bank's ALM strategies as they seek to monitor the amount of risk assumed by banks so as to protect the sector as well as the economy from systemic risk and ultimately bank failure (Basel Committee on Banking Supervision, 2010). Furthermore, bank

regulations are also in place to control changes in market components such as interest rates and inflation since they significantly impact bank ALM (Van der Merwe, 2015).

In Zimbabwe, between 2006 and 2009 the banking sector was severely affected by the hyperinflationary period which later saw the Zimbabwe dollar being replaced by the multicurrency regime in 2009 (Sloman and Wride,2009). This hyperinflationary period also affected banks since the regulatory environment was seen as not being conducive. This is so because, statutory reserves became higher, prompting banks to increase the cost of funds, especially those ones which commanded a larger proportion of retail deposits (Chikoko and Le Roux, 2012). Lending strategies were thus affected due the increase in the cost of funds, which negatively impacted the bank intermediation function and ultimately liquidity creation. Hence, as a result this had an adverse effect on how banks profiled their liabilities in a declining market for loanable funds.

Furthermore, financial instruments advocated for by the RBZ during the hyperinflationary period, specifically the financial sector stabilization bond, did more harm than good to the ALM function. According to Chikoko and Le Roux (2012:11794), "The financial sector stabilization bonds had a negative impact on bank balance sheets through locking away a significant proportion of bank funds for longer periods of time, a factor contrary to the short term nature of assets which investors would want to acquire given the hyperinflationary scenario." This "locking away" of funds for longer period negatively affected banks during the hyperinflationary period as it was characterised by high levels of withdrawals. Thus, banks were left in a vulnerable position given how the high demand for funds by the public required highly liquid balance sheets (Chikoko and Le Roux, 2012).. In as much as the financial sector stabilization bond was aimed at restoring stability in a hyperinflationary period, it drained banks' of their liquid resources which were required to meet the high levels of demand.

According to Njanike (2008), the interest rate policy maintained by the Reserve Bank of Zimbabwe (RBZ), promoted distortions in the financial market and thereby discouraged potential savers (depositors/surplus units). "The interest rate policy inconsistency was a factor that made financial planning very difficult due to the sudden policy reversals and lack of continuity in policy from one monetary policy cycle to the next" (Chikoko and Le Roux, 2012:11). This largely affected the interest rate regime, resulting in interest rates on loans from private sector banks being very punitive and in turn led to the prevalence of financial disintermediation in Zimbabwe (Njanike, 2008). This is so because it facilitated direct interaction between economic units i.e. lenders (Surplus units) and borrowers (Deficit units), which is known as direct financing (Ball, 2012). More so, the frequent interest rate adjustments affected banks' earnings mainly through altering interest rate sensitive expenses and income. This is so because interest rate changes affect the intrinsic value of an institutions assets and liabilities since the present value of future cash flows is altered (Arnorld, 2010). Therefore, interest rate distortions not only affected the bank intermediation function, but also affected banks' balance sheet management practices which ultimately affected earnings.

Liquidity Management Strategies which Could be Adopted By Zimbabwean Banks

The rapid rate of globalisation in financial markets, combined with the growing competition in banking markets and the development of complex financial products have increased volatility and risks (Adalsteinsson, 2014). This growing nature of complexity in banking products has in turn made risk measurement and management more complex. Thus, given the above concerns of increased risk in the banking industry, banks ought to allocate significant resources to this area of exposure management (Duttweiler, 2009).

In as much as financial risk has the potential to yield profits, Bloom (2009) urges banks to employ effective ALM strategies in order to determine and manage the level of risk that can be borne by the institution. Therefore, as the financial activity of institutions becomes more complex, coupled with increased funding from commercial sources, risk can be identified and measured through carefully examining the balance sheet (Bloom, 2009). In this case, risk emanates from the existence of a mismatch between assets and liabilities. In as much as there is a distinction between liquidity, interest rate and exchange rate risk, the main ALM strategies for the aforementioned risks are gap analysis and volatility analysis. The former

matches assets and liabilities over time, whereas the latter determines the anticipated fluctuations in the discrepancy between assets and liabilities (Choudhry, 2012).The complex approach to ALM proposed by Bloom (2009) comprises of an official risk-management strategy which is composed by the banking institution basing on its objectives, matching tables for assets and liabilities, as well as the views of the Asset and Liability Committee (ALCO).

Bank ALM should lean towards countering any divergences (discrepancies) that exist between assets and liabilities rather than intentionally creating them. According to Bloom (2009) it is not prudent for banks to always aim to profit from financial risk, but if risk is to be assumed, it should be limited to credit risk, than assuming either interest rate or exchange rate risk. Furthermore, Bloom (2009) argues that it is difficult for banks to effectively match assets and liabilities. However, if the bank can calculate the impact of the mismatch on its profits, this raises awareness of the resulting exposure and in turn the risk that can be borne by the bank at a given time period can be determined. This level of risk can be limited to ensure that it does not adversely affect the bank's liquidity and ultimately its profitability position. Hence, through calculating the impact of a mismatch on profits, a bank can determine the level of risk which it can bear at any given period, without negatively affecting its liquidity and profitability position.

Due to the nature of the banking sector, stresses are inevitable, be it firm-specific or market wide stresses, (Van der Merwe, 2015). Hence, it is prudent for banks to hold or maintain liquidity buffers in the event of either firm-specific or market wide stresses, they are able to cope. In the United Kingdom's banking system, it is a requirement that banks ought to hold liquidity buffers as stipulated in the Policy Statement 09/16 which was published in October 2009 (Choudhry and Landuyt, 2010). In the 20th Century, banks held part of their capital in the form of risk free securities such as government bonds or bills and banks always had a portion of their balance sheet in risk free securities (sovereign securities), without being advocated to do so by any regulatory authorities (Choudhry, 2011). This was mainly so because, "In periods of stress or illiquidity, government bonds are the only assets that remain liquid. As such, if need be they can be sold to release liquidity" (Choudhry and Landuyt, 2010: 143). However, as time passed, it was noted that banks disregarded this practice of holding part of their capital in risk free securities in order to invest more capital in higher paying risky assets. Lehman Brothers despite holding part of its capital in highly liquid assets such as high rated bank certificates of deposits (CDs) and medium term notes (MTNs), still crumbled in 2008 since these assets became illiquid virtually overnight, immediately after the bank's collapse (Choudhry, et al, 2010). Thus, it can be noted that holding a liquidity buffer is undisputable for a bank and this buffer should comprise of risk free securities only.

Adding to the above, a key strategy in managing liquidity is that of establishing a liquidity contingency plan. This liquidity contingency plan is more than essential because, "A well-managed liquidity operation recognizes that bank funding should be sourced from multiple origins, and that concentration risk should be avoided both in any specific sector and to any one lender" (Choudhry and Landuyt, 2010: 144). Thus, it can be noted that diversifying bank liquidity sources reduces concentration risk. Furthermore, even when a bank is not excessively concentrated on specific sectors or lenders, they may become unavailable at any given point in time due to endogenous or exogenous reasons (Choudhry, 2011). Therefore given the above risk, it is of paramount importance for banks to have contingencies to turn to, in the event of particular sources of funding drying up. In coming up with funding sources, banks might establish strategic alliances with particular sectors or apply for or set up facilities at the central bank (Choudhry and Landuyt, 2010). It is also important for the contingency plan to be tested regularly and always updated. Hence, through liquidity contingency plans, the banks reduce concentration risk and through multiple source funding, the failure of a particular sector or lender will not significantly impact the bank's liquidity position.

One of the chief objectives of liquidity management is that of managing the bank's liquidity position and reducing the level of exposure (Mazzi, 2013). With relation to the Zimbabwean market, a strategy that can be employed by banks in order to effectively manage liquidity is that of assessing domestic and foreign positions and in turn transferring excess funds from a position in surplus to fund one in deficit. This mainly involves assessing

balances in domestic accounts as well as foreign accounts which are also known as Nostro accounts. "A bank's payment account with another bank is called a Nostro account, from the Latin word for 'our' " (Chisholm, 2009: 49). This payment account is usually resident in a foreign bank and thus the use of the funds in that account is facilitated by an exchange rate. Thus, any deficit, on the domestic front can be matched using funds in a bank's Nostro accounts. For example, if a bank's cash reserves have declined, it can trade the funds in its Nostro account, in exchange for cash. On the other hand, if the bank's Nostro account is in deficit yet the cash and Real Time Gross Settlement (RTGS) account are in surplus, the bank can trade either its cash or fund another bank's RTGS account, in exchange for Nostro funding. Hence, in turn banks can adequately manage their liquidity positions since an excess of funding in another account can be used to match a deficit in another account.

Furthermore, another strategy of managing liquidity which could be adopted by banks is that of having an official plan for a liquidity crisis. This is so because it is of paramount importance for the bank to have an official plan for a liquidity crisis so that operations will not be severely impacted in the event of a crisis occurring (Banks, 2014). Liquidity crises usually occur without being anticipated; hence having an official plan for a liquidity crisis safeguards a bank from the damaging impact of a liquidity crisis and ultimately bank failure. Despite the severity of the 2007-2008 crisis, Investment Banks such as JP Morgan, Citigroup and Goldman Sachs were able to withstand the crisis partly due to having well structured liquidity crisis plans (Choudhry et al, 2010). Hence, it is prudent for banks to adopt such a stance so that in the event of a liquidity crisis, banks will not crumble.

Moreover, in managing liquidity, banks ought to calculate liquidity ratios which in turn help to determine the liquidity status of the bank. One of the commonly used liquidity ratios is known as the "current ratio", which divides current assets by current liabilities (Banks, 2014). According to this ratio, a ratio above 1.0 shows that the bank has adequate current assets necessary to meet current liabilities, whilst a ratio below 1.0 reflects possible pressure, or even problems for the institution (Banks, 2014). After determining the bank's liquidity status through the ratio, limits can be set so as to ensure that a bank operates within a level of risk based on its liquidity status. Hence, through the above strategy, banks are proactive in their management of the liquidity since risk limits are put in place in accordance to the liquidity status, so as to regulate the level of exposure.

Lastly, a liquidity management strategy that can be employed by banks is that of asset liability matching. This strategy of asset liability matching is particularly useful when banks are immunising their balance sheets from repricing risk resulting from timing and volume mismatches in assets and liabilities (Banks, 2014). Repricing risk is a major type of interest rate risk that can also result from unforeseen changes in the level of interest rates (Adalsteinsson, 2014). Hence, banks can measure the difference between Rate Sensitive Assets (RSA) and Rate Sensitive Liabilities (RSL) which is known as the Rate Sensitive Gap not only for interest rate risk purposes but to take into account how this difference influences liquidity (Banks, 2014). This asset liability matching can be enhanced through duration analysis which refers to the average maturity of anticipated future cash flows (Kidwell et al, 2012). This is so because a higher duration implies that the value of anticipated cash flows is more prone to interest rate changes and hence becomes more risky (Kidwell et al, 2012). Thus, through asset and liability matching coupled with duration analysis, the impact of interest rate changes on liquidity can be identified and managed accordingly.

Therefore, it can be noted that the above strategies can be employed by Zimbabwean banks so as to manage liquidity effectively in a declining macroeconomic environment which is characterised by liquidity shortages. However, in as much as effective ALM strategies help improve the resilience and performance of banks, assets and liabilities cannot always be perfectly managed since mismatches are inevitable, but this is no excuse not to try.

Research Methodology

The major objective of the research philosophy is to widen the scope of understanding as well as clearly depicting the work that was done by other researchers on that specific topic in question (Saunders, Lewis and Thornhill, 2009). With regards to this particular study, the researcher employed the positivism type of research philosophy as it is assessed empirically

using quantitative methods particularly, statistical analysis. This was necessary because, in order to determine the impact of bank liquidity management on financial performance in the Zimbabwean Banking sector, the researcher had to investigate the facts beyond his own opinion. This is mainly due to the fact that the impact of bank liquidity management on financial performance could not be assessed on a subjective approach (in the mind) but had to be tried and tested empirically. The researcher went on to choose the mixed research methodology, where research methodology is based on the multiple viewpoints or perspectives which are brought forward by both qualitative and quantitative research methodologies. Mixed methods research uses quantitative and qualitative data collection techniques and analysis procedures either at the same time (parallel) or one after the other i.e. sequentially but does not combine them (Saunders, Lewis and Thornhill, 2009). Through assessing the qualitative and quantitative aspects of the study, this clearly brought out the researcher's main aim of accurately determining the relationship that existed between bank liquidity management and financial performance in the Zimbabwean Banking Sector.

Research Population and Sample

The study focused on the Zimbabwean financial sector, with special emphasis on the banking sector, where five of the leading institutions in terms of volume of clientele base and asset base were drawn to represent the banking sector. These institutions included Commercial Bank of Zimbabwe (CBZ), Standard Chartered Bank, First Capital Bank, FBC Bank and ZB Bank. The sample was drawn using the purposive sampling technique to suit the study; this was mainly because the financial institutions chosen had so much influence on the Zimbabwean financial sector and hence is representative of the total population of financial institutions.

Data Collection Instruments and Procedures

The study used both primary and secondary data sources for gathering data for analysis. The primary data was gathered using questionnaires comprising of both open-ended and close-ended questions. Primary data collection involved self-administration of questionnaires and the researcher dropped the questionnaires at the physical workplaces of the respondents and others we sent via electronic mail. The secondary data was gathered from the published audited financial statements of these institutions where the researcher picked on the current assets to current liabilities values, thus the current ratio, as a measure of liquidity.

Method of Data Analysis

Linear regression was employed to establish the strength of the relationship between liquidity position of a firm and its financial performance. The general regression equation takes the form $\gamma = \alpha + \beta Xi + \varepsilon i$ where y is the dependent variable, a is the autonomous component, b is the rate of change of y with respect to x, Xi is the independent variable and ei is the error term, thus the term that captures all other inputs (independent variables) other than x that influence y, which are not currently under investigation.

Bank financial performance as measured by Return on Equity (ROE) was regressed against the financial institutions' liquidity position which was represented by their respective current ratios. However, even though regression dealt with the dependence of bank financial performance on the bank's liquidity position, it did not necessarily imply causation. Panel data analysis was done using an appropriate statistical package after confirming that the data strictly met the requirements for panel data analysis.

Findings of the Study

The study established that there is low threat of liquidity risk on asset and liability mix of the financial institutions that undertake proper liquidity risk management practices. These practices help maintain a healthy asset liability mix that guarantees sound net working capital positions. With enough working capital, the financial institutions can undertake profitable business projects that help boost the firm's financial position and hence shareholder wealth maximisation. The bank's liquidity position heavily influence the achievement of the following goals: revenue maximisation, profit maximisation, retention of market share and increasing the volume of deposits as well as loans, which define the success of a financial institution.

Financial institutions with stable liquidity positions also tend to attract high levels of deposit inflows and have a traceable stability trend. Clients are more comfortable in depositing their funds with financial institutions that show tendencies of stable cash flows and

sound liquidity positions. Banking is a confidence based business and as such it is no surprise that bank clients, both existing and prospective prefer to conduct business with well established financial institutions that have a traceable sound liquidity record in place. The ability of a bank to meet demand for deposit withdrawals and other cash outflows is a visible indicator of its viability. Hence, the effective management of liquidity risk plays a crucial role in guaranteeing the viability of all banking institutions across the globe.

Banks with properly instituted liquidity risk management structures have accomplished stable and effective financial intermediation role under current market conditions. The prevalent economic conditions are tough such that more business is now being done directly between transacting parties rather than through an intermediary. However, since banking is a confidence based business, most clients trust doing business with well established banks that have sound liquidity positions. A strong and resilient banking system is the foundation for sustainable economic growth, as banks are at the centre of the credit intermediation process between savers and investors (Basel Committee on Banking Supervision, 2010:1). One of the key components that make up a strong and resilient banking system is that of liquidity as well as its effective management. Thus, despite the subdued Zimbabwean economic environment we are currently experiencing, banks are helping sustain economic activity by maintaining sound liquidity, without which the system would have by now totally collapsed as was the case in 2008.

Proper liquidity management fosters great ability to maintain a healthy liquidity/profitability trade-off. Ideal bank-management is an uninterrupted endeavour of assuring that a balance exists between liquidity, profitability and risk (Banks, 2014). Banks indeed require liquidity since such a large proportion of their liabilities are payable on demand (deposits) but typically the more liquid an asset is, the less it yields. Hence, the decision to choose a particular combination of assets over another, taking into consideration the liability size of a bank, would have a massive effect on bank liquidity management, profitability and risk (Choudhry, 2012). In managing its assets and liabilities in the wake of uncertainties in cash flows, cost of funds and return on investments, a bank must ascertain its trade-off between risk, return and liquidity (Landskroner and Paroush, 2011).

Statistical Analysis of the Data

	CR	ROE
Mean	1.087200	13.44000
Median	1.090000	12.10000
Maximum	1.098000	23.10000
Minimum	1.070000	8.700000
Std. Dev.	0.009967	5.362524
Skewness	0.757102	0.972959
Kurtosis	2.274819	2.520620
Jarque-Bera	2.936149	4.183755
Probability	0.230369	0.123455
Sum	27.18000	336.0000
Sum Sq. Dev.	0.002384	690.1600
Observations	25	25

Key statistics, where the means and medians and standard deviations of both the dependant and independent variable were calculated, show that the data was evenly balanced and met the requirements of panel data analysis. The twenty five (25) observations represent the five (5) banks chosen as the sample over a period of five (5) years.

Unit root (individual unit root process)		
Series: CR		
Sample: 2014 2018		
Exogenous variables: Individual effects		
Newey-West automatic bandwidth selection and Bartlett kernel		
Total (balanced) observations: 20		
Cross-sections included: 5		

Method	Statistic	Prob.**
PP - Fisher Chi-square	35.9566	0.0001
PP - Choi Z-stat	-4.29277	0.0000
Unit root (individual unit root process)		
Series: ROE		
Sample: 2014 2018		
Exogenous variables: Individual effects		
Newey-West automatic bandwidth selection and Bartlett kernel		
Total (balanced) observations: 20		
Cross-sections included: 5		
Method	Statistic	Prob.**
PP - Fisher Chi-square	38.1743	0.0000
PP - Choi Z-stat	-4.50431	0.0000

Unit root tests conducted for both variables proved that the data was stationery and the probabilities of both the dependant and independent variables under the Chi-square test are significant and hence the fits the panel data analysis requirement.

Dependent Variable: ROE				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2014 2018				
Periods included: 5				
Cross-sections included: 5				
Total panel (balanced) observations: 25				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.4171	61.47988	8.676287	0.0000
CR	16.2718	56.54654	8.458020	0.0000
	Effects Specification			
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			2.760954	1.0000
	Weighted Statistics			
R-squared	0.790144	Mean dependent var		13.44000
Adjusted R-squared	0.781019	S.D. dependent var		5.362524
S.E. of regression	2.509413	Sum squared resid		144.8345
F-statistic	86.59876	Durbin-Watson stat		1.678481
Prob(F-statistic)	0.000000			
	Un weighted Statistics			
R-squared	0.790144	Mean dependent var		13.44000
Sum squared resid	144.8345	Durbin-Watson stat		1.678481

The regression equation of y = 5.4171 + 16.2718x, estimates the value of Return on Equity (ROE) at a given level of Current Ratio (CR). The constant from the equation, of 5.4171 shows that without any proper liquidity management, investors are guaranteed of a 5.4% return on the equity they have invested in the bank. However, with liquidity management, investors can amplify their return by more than 16% which is represented by the beta co-efficient of the Current Ratio.

Current ratio explains 79% of the change in Return on Equity as measured by the co-efficient of determination, R-squared of 0.790144. This is a significant contribution and the remaining 21% is attributable to other exogenous factors not covered in this study.

CONCLUSION

With reference to the results obtained from the study, there is a clear indication that liquidity management contributed to the selected Zimbabwean Banks' financial performance. Furthermore, based on the research that was carried out, a positive and significant relationship existed between liquidity management and bank financial performance. This also concurred with other researches that were done globally and regionally which also indicated that a positive and significant relationship does exist between liquidity management and financial performance.

The study established that:

- Liquidity management is relevant in improving bank financial performance in a declining macroeconomic environment. Financial institutions with proper liquidity management structures in place enjoy improved performance.
- Regulatory and market changes affected bank liquidity management in the Zimbabwean financial sector. This however did not adversely affect institutions with proper liquidity risk management structures in place and sound liquidity positions, as it did to other emerging institutions that did not match those conditions.
- Trade-off between liquidity and profitability in Zimbabwean Banking institutions has seen a decline in profit margins over the period under study, but has fostered greater stability that has guaranteed better performance and sustainability overally. The sampled financial institutions have satisfied and met the dictates of the Basel III accord with regards to liquidity risk management, by holding portfolios of very liquid assets that serve as a buffer to cater for operational challenges in this hostile economic environment.
- Zimbabwean banks have employed various liquidity management strategies in the face of a declining macroeconomic environment, and these have helped improve the banks' performance and overall profitability. A vibrant inter-bank market has ensured these firms cover-up for each other, by trading off net positions, be it surplus or deficit units.

The primary objective of the study was to measure the impact of effective liquidity management on bank financial performance in a subdued macroeconomic environment. Thus, from the research, there was a clear indication that liquidity management indeed contributed towards financial performance in the Zimbabwean banking sector.

RECOMMENDATIONS

To improve the impact of liquidity management on bank financial performance in Zimbabwe, the Ministry of Finance and Economic Development, the Reserve Bank of Zimbabwe, Bank Managers, Treasury and Risk Management officials in banks and all stakeholders who are directly affected by liquidity management should team up and reflect on the proposed strategies by this paper which the researcher felt would promote effective liquidity management in the Zimbabwean Banking sector. Specific strategies that could be adopted in order to attain high bank financial performance through liquidity management include:

- Maintenance of buffer reserves in the form of risk free securities e.g. Treasury Bills
- Assessing and managing the bank's liquidity position (transferring funds from a surplus position, in order to counter a deficit position.)
- Using Gap and volatility analysis to ascertain the level of risk that can be borne by the bank
- Establishment of a liquidity contingency plan
- Employing duration analysis in order to maintain a balance between rate sensitive assets (RSA) and rate sensitive liabilities (RSL).

The implementation of the above strategies in the Zimbabwean Banking sector was viewed by the researcher as key to increasing the impact of liquidity management on bank financial performance.

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