Full Length Research Paper

Zimbabwe commercial banks liquidity management in the hyperinflation environment

Chikoko Laurine[1]* and Pierre Le Roux[2]

[1]Department of Banking and Finance, Midlands State University, Zimbabwe, P Bag 9055, Senga, Gweru, Zimbabwe.
[2]Department of Economics Nelson Mandela Metropolitan University, P O Box 77000, Port Elizabeth 6031, South Africa.

The paper investigated liquidity management by commercial banks when there was hyperinflation. The main enquiry of this study was to understand how Zimbabwe commercial banks managed liquidity risk in a hyperinflationary environment. To achieve this, information was obtained from primary sources with data collected from decision makers of fifteen commercial banks which met the criteria of full scale operation from 2000 -2009. To compliment this, secondary data sources were used. Focal areas of the study were to analyse years of bank business; ownership; liquidity risk management responsibility; products offered by commercial banks; major sources of funds and applications; internal and external liquid instruments to manage liquidity risk, impact of inflation on liquidity risk management; and the effect the Reserve Bank of Zimbabwe instruments introduced to fight inflation. The findings show that liquidity risk management during the hyperinflation was a challenge. The Instruments used by the Reserve Bank of Zimbabwe to fight inflation had negative effect on commercial banks asset and liability management. In line with this, the monetary authorities were recommended to put in place measures which took into consideration the impact of their policies on bank liquidity risk management when there are problems of high inflation. The study also recommends commercial banks to take proactive management measures and long term views to operations, in other words beyond the current challenges posed by inflation. In the process banks would create new demand for the products.

Key words: Commercial banks, liquidity management, assets, liabilities, hyperinflation, Reserve Bank of Zimbabwe.

INTRODUCTION

From 2000 to 2008, Zimbabwe's economy was characterised by deteriorating macro-economic fundamentals. Chief among these were hyper-inflation, contracting national output as measured by real GDP, chronic foreign currency shortages, industrial capacity under-utilisation and high lending rates which stifled private sector investment (Reserve Bank of Zimbabwe (RBZ), 2009). In the same period, the money markets sub-section of the financial markets was characterised by negative real rates of return and a dwindling savings base. The environment made planning impossible. The "locking up" of bank funds for longer periods of time by the RBZ had the effect of lowering deposit rates, leading to a high degree of "disintermediation". Generally, banks experienced a considerable decline in interest margins and

limited lending opportunities. Thus, Zimbabwe's financial system was faced with a highly challenging operating environment which continued to deteriorate. Hyperinflation severely eroded consumer disposable incomes and subsequently the savings base. Low activity on the higher interest yield private paper market owing to very high borrowing costs saw banks left with no option but to invest in low yielding government paper.

In addition to this, there were poor lending opportunities which resulted in significant squeeze in interest margins and profitability. The RBZ took measures to tame inflation through hikes in statutory reserves and accommodation rate. The RBZ's efforts to curtail market surplus driven by inflation brought challenges to bank operations. Clearly, the main emphasis of banking operations was on the management of the money market and liquidity positions. Liquidity and liquidity risk management became the panacea to bank survival in a very harsh operating environment. Given this background, the research aimed

---

*Corresponding author. E-mail: chikokol@msu.ac.zw.

to investigate how commercial banks managed liquidity risk during the hyperinflation period. An understanding was sought on the effects of RBZ policies and measures to rein inflation on bank liquidity management. The ultimate objective of the research was to come up with recommendations to the banks and the central bank on liquidity risk management when faced with hyperinflation.

LITERATURE REVIEW

Bank for International Settlements (BIS) (2006) defines liquidity risk as the risk that the firm will not be able to efficiently meet both expected and unexpected current and future cash flows and collateral needs without affecting either daily operations or the financial condition of the firm. By assuring a bank's ability to meet its liabilities when due, bank liquidity risk management can reduce the probability of an adverse situation developing (Howells and Bain, 2002; Anas and Mounira, 2008; Bessis, 2009). Heffernan (2005) asserts that the core activity of banks is to offer liquidity to their customers. Depositors and borrowers have different liquidity pre-ferences and more importantly these liquidity preferences may change over time because of unexpected events. The importance of the process of liquidity risk management can thus not be underestimated both from an individual bank and for the entire system as there is a continuous need for a bank to be in line with these changes and perform the key role of deposit mobilisation; client withdrawals and lending efficiently even in a hyperinflationary environment.

Boyd et al. (2000) shows that bank lending activity, bank liability issues, stock market size and liquidity display strong negative correlations with inflation which entails that the liability issues in terms of pool and products are negatively affected by inflation. In addition, inflation lowers the real rates of return resulting in a smaller pool of savings because lower real rates of return reduce the attractiveness of savings from depositors` perspective. Hyperinflation also has the effect of reducing the sources of cheap funds which point Hawkins and Milhajek (1999) espouse as having the detrimental effect of reducing profit margins, thereby straining the bank's "margin of safety" that is generally slim within a hyper-inflationary environment. Makoni (2006) underscores the effect of statutory reserves which are usually hiked in high inflation periods. An increase in statutory reserves of banks in a hyperinflationary environment reduces the real return to banks which is passed on as lower returns on deposits. The literature reviewed highlights the need to understand how commercial banks in Zimbabwe managed liquidity risk during the hyperinflation period.

METHODOLOGY

A survey research design was used. The survey strategy allowed the collection of a large amount of data from a sizeable population in a highly economical way. Often obtained by using a question-naire, these data are standardized, allowing easy comparison (Saunders et al., 2007). In addition, the survey strategy was perceived authoritative in general. The limitation to the survey strategy was the fact that data collected was not as wide-ranging as those collected by other research strategies. There was a limit as to the number of questions that the questionnaire contains. To mitigate this weakness, personal interviews and observations were used to compliment questionnaires. Data was collected from 15 registered commercial banks in Zimbabwe. The key informants were head of credit risk division and head of treasury division for the 15 banks. The study was carried out in Harare mainly because that is where all commercial banks are headquartered. Data from the survey was analysed using STATA version 11. Tabulations were used to show percentages and frequencies of respondents in each response category, with cross-tabulation tables showing percentages and frequencies between two given categories. Cross-tabulations were computed together with correlation test between two variables by using Pearson chi-square. The dependency test formula is

$$\chi^2 = \sum \frac{(fo - fe)^2}{fe}$$

fo = frequency
fe = expected frequency

RESEARCH FINDINGS

A survey was done on 15 commercial banks in Zimbabwe that were in operation from 2000 up to the time the research was undertaken. Of these, 12 were locally owned commercial banks and three were internationally owned. Interviews were conducted at all 15 commercial banks primarily with the head of the treasury department and partly with the head of risk management.

Years in business for commercial banks

The years in business for commercial banks at the time the survey was conducted are provided in Table 2. On average the banks had been in business for 38 years, but the period varied from 12 to 118 years.

Liquidity risk management and responsibility

All the respondents stated that liquidity risk was managed daily by the treasury department and monthly by the Asset and Liability Committee. No guidelines on liquidity risk management were issued by the RBZ for the greater part of 2000 to 2008. Despite this, all banks had a liquidity risk management committee as part of their internal organisations during this period. This indicated that all banks had made internal efforts to manage liquidity risk.

Correlation analysis

A summary of various correlations are presented in Table 1.

Table 1. Correlation analysis between two variables.

Correlation between two variables	χ^2	P-value
Number of years; perceptions on liquidity position	1.02	0.378
Perceptions on liquidity position; ownership	16.73	0.01
Ownership; flight of deposits	25.14	0.01
Ownership; considering other banks setting	20.02	0.01
Do not do anything; relying on non-core banking activities	18.29	0.01

Table 2. Tabulated Zimbabwe commercial banks years in business.

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

Table 3. Zimbabwe commercial banks' products.

Market	Product
Money Market	Treasury bills, bankers acceptances, ZESA bonds, Grain Marketing Board bills, RBZ financial bills, promissory notes, lendings, commercial paper, certificate of deposit, PTC bonds,
Foreign Exchange Market	Foreign currency
Equity Market	Shares, bonds
Derivatives	Swaps, options, commodity trading, futures, forward contracts etc

Perceptions on liquidity position

Based on the survey, all the respondents were satisfied with the liquidity position of the banks from 2000 to 2002. Major problems were cited from 2003 to 2008 when the economic crisis in Zimbabwe deepened. This was mainly attributed to the operating environment where there was high demand for cash withdrawals for transactions by depositors. Generally, there were concerns of liquidity risk problems from the locally owned banks as compared to the internationally owned banks. The differences in the results of locally owned banks and internationally owned banks were real and statistically significant at 1% as shown by $X^2 = 16.73 \, (P < 0.01)$. The implication is that more respondents from the locally owned banks felt at risk than those from the internationally owned banks. This could be attributed to the flight of deposits that was experienced by the banks that failed to meet money or withdrawal demands. Clients moved from the locally owned "exposed" banks to the internationally owned, who were perceived as "safe havens". A χ^2 of 25.14 (P<0.01) shows that there was statistically significant difference between ownership and flight of deposits at a 1% level of significance.

Liability management

One of the important issues in liquidity risk management

is liability management. Enquiry was made about products that were being offered, the behaviour of banks in interest rate setting and how to safeguard unnoticed withdrawals on investments by clients (early redemption of investments).

Major sources of funding

From the survey, the major sources of funds were deposits from new clients, retention of existing clients, interbank borrowings, shareholders, offshore lines and the lender of last resort facility offered by the RBZ.

Products offered

The products that were being offered in the Zimbabwe dollar era are as shown in Table 3. To safeguard early redemption of investments by clients, all banks (100%) would charge a penalty. The respondents noted that some penalty rates would even cost the clients part of their principal amounts invested, which further discouraged them from doing so.

In the Zimbabwean dollar era, banks would consider the bank position, amount of money being invested, the tenor of investment and the money market position when quoting interest rates on investments. Few banks (2, 13.33%) would consider if the client was rolling over the

investment. In addition some banks (4, 26.66%) would consider client relationships whilst the rest (11, 73.33%) would not. From the interviews, 80% of the banks were sensitive to what other market players were doing in rate setting. In order to maintain competitiveness in liability management, these banks would then be cautious of what other banks were giving. Of the respondents, 20% were not considering what other banks were offering. There was significant difference in terms of ownership and considering other banks' rates as shown by the X^2 statistic of 20.02 ($P < 0.01$). This means that the internationally owned banks only considered their position, the money market and the Reserve Bank accommodation rates in rate setting. The trend then was that for the risk averse, regardless of the low rates offered by these banks, they would still place their investments. Only the risk loving would place their investments with the locally owned banks because of the high rates these banks were offering. The implication confirms the finding that the internationally owned banks were perceived by clients as a "safe haven".

The survey also sought to establish what banks would do to manage demand for liquidity from depositors. Initially banks relied on cash reserves to fulfill daily liquidity withdrawals, and regularly calculated and analysed patterns of liquidity withdrawals in order to anticipate future demand. But there were periods when the economy was faced with cash shortages, and then the banks relied on daily limits set by the RBZ.

Asset management

Asset management mainly focuses on the applications of funds by banks. The interviews then sought to establish how banks, after implementing efforts to manage liquidity on the liability side, would carry out managing the asset side. Overall, banks were considering the operating environment and depositors' behaviour (e.g. liquidity withdrawals for transaction needs). Because of the challenges posed in the Zimbabwean dollar era as explained in chapter one, Figure 1 reflects on the aggregate balance sheet position of the banks.

Figure 1 shows the trend where banks were lending less in advances but increasingly investing in government securities, a direct result of increased borrowing from the government and high open market operations (OMOs) in line with the RBZ move to maintain short positions on the money market. From the survey, it was noted that some borrowers were shunning borrowings due to the inconsistent interest rate policies pursued by the RBZ, which could expose them to high interest costs.

Source of funds for bank loans

Lending is a vital activity for commercial banks and a major revenue generating asset as well as a component of the balance sheet under stable conditions. For prudential reasons, banks themselves may utilise their own funds or facilitate concessional lending. Figure 2 presents the major sources of funding for bank loans from 2000 to 2008.

From 2000 to 2004, the sources of funds for lending were banks' own and off shore lines of credit. The major source of funds advanced in 2005 and 2006 was the Productive Sector Funds (PSF). From the survey, a small proportion of banks using their own funds made loans to high quality borrowers for short periods not exceeding one year. In 2007, as a result of the significant drop in the state supported facilities only a few banks, which were predominantly government controlled, were involved in significant lending to the agricultural and other sectors of the economy. The operating environment increased the riskiness of long term lending. Banks were not keen to put more of their funds at risk and hence limited their lending with own funds to high quality borrowers for shorter periods of time. In 2008, banks were no longer lending because of the extremely challenging operating environment.

The asset management side also captured Zimbabwean commercial banks' financing strategies and actions to protect funds from default and maximise profit. In the survey of rating of the set questions on lending from most preferable, to preferable, less preferable and not preferable, the following are revealed as shown in Table 4, and because of the operating environment, banks preferred to lend using their own money on the proposals of high net worth clients and based on financial statements for the corporate clients. Lending to clients of the bank and lending based on collateral were rated as preferable. Bank respondents rated lending on short term during the period as preferable whilst lending for long term and funding new project proposals were not preferable.

Banks' strategies when clients defaulted

Table 5 presents respondents' ratings of remedies when clients defaulted during the Zimbabwean dollar era.

Asset and liability management

The survey also enquired how banks managed assets and liabilities in the Zimbabwean dollar era. The interview asked respondents to rate the priorities of banks on ways to deal with a deficit position. The findings are summarized in Table 6.

Banks faced with a deficit position would prefer picking new funds from those with excess funds for investment. The next best strategy was to retain maturing investments. The third priority was to redeem

Table 4. Final ratings on lending preferences in the Zimbabwean dollar.

Preferences when lending	Final rating
Proposals of high net worth clients financed before	Most preferable
Lend based on financial statements	Most preferable
Lend to clients with account with the bank	Preferable
Lend based on collateral	Preferable
Lend short term	Preferable
Lend for long term	Not preferable
Welcome to new project proposals	Not preferable

Table 5. Final ratings on bank preferences.

Preferences when client defaulted	Final rating
Loan-workout	Most preferable
Foreclosure	Preferable
Liquidate	Less preferable

Table 6. Banks actions when the bank's position was down.

Options to deal with a deficit position	Final result
Pick new funds	1st priority
Retention of maturing investments	2nd priority
Redeem investments placed with other banks	3rd priority
Borrow from the interbank market	4th priority
Sell securities owned in the secondary market	5th priority
Use bank capital to cover liquidity needs	6th priority
Borrow from the RBZ on lender of last resort facility	7th priority
Request counterparties or depositors to wait for extra days	8th priority

Table 7. Trends in demand deposit tenors.

Response	Percentage (2005)	Percentage (2006)	Percentage (2007)	Percentage (2008)
< 14 Days	50	60	70	85
>14 < 30 Days	25	20	20	10
Over 30 Days	25	20	10	5

investments placed with other banks. The fourth priority was to borrow from the interbank market. The fifth priority was selling securities owned in the secondary market. Banks would borrow from the RBZ if all the above options fail to meet the liquidity needs. The last option was to request counterparties or depositors to wait for extra days. However the last option meant putting the bank at risk of facing bank runs as a result of reputational risk.

Effects of inflation on liquidity risk management

Demand deposit tenors

Demand deposits are the core of commercial banks`

the demand deposits determines the stability or volatility of the core deposit base. The goal of banks is to have a greater proportion of their deposit funding in stable accounts which are predictable and enhance their liquidity risk management. Table 7 presents the responses on the trends of demand deposit tenor in the Zimbabwean dollar era. Unfortunately on this question, the majority of the respondents could not provide information for 2000 to 2004; hence the reporting on 2005 to 2008.

Table 7 shows an increasing percentage of core demand deposits, exhibiting a trend towards the shorter end of the spectrum to a high of 85 % estimating the tenor to be withdrawn within a fortnight. The respondents
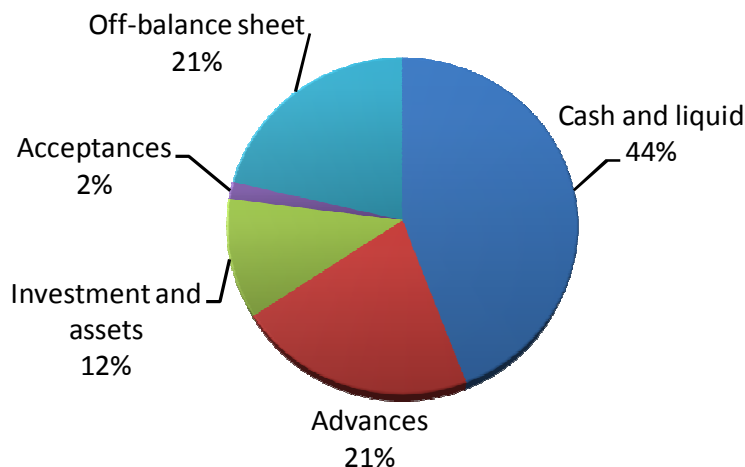
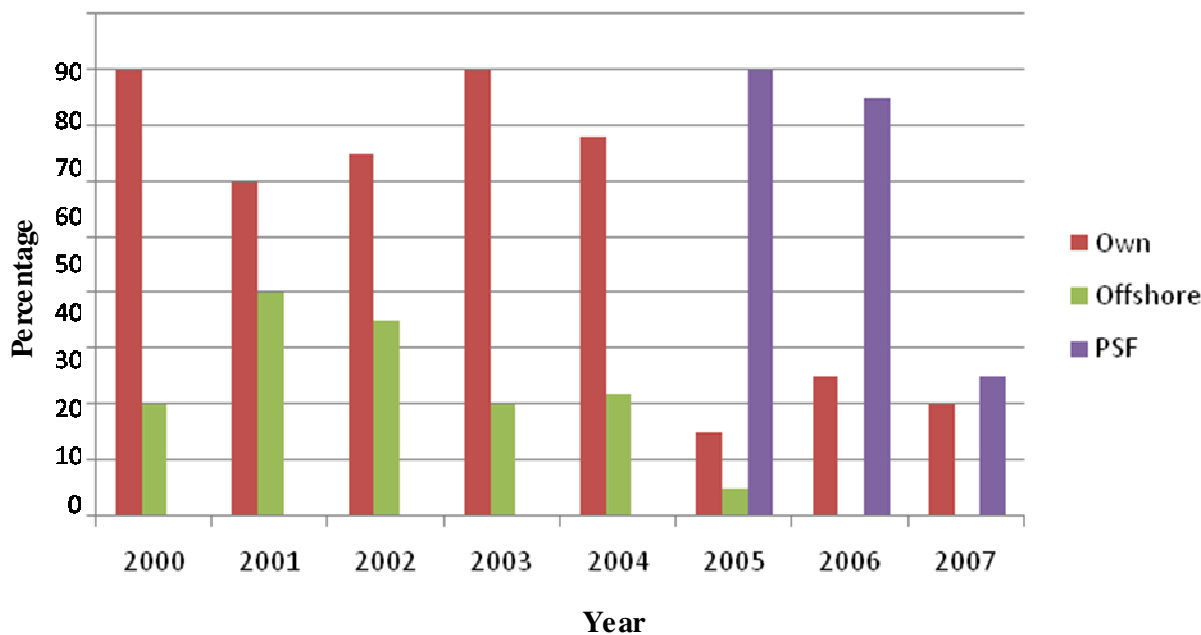**Figure 1.** Composition of the banks' balance sheets.

Figure 2. Major sources of funding for bank loans.

indicated that on the retail side of the demand deposit market, the number of active and new accounts had liabilities in the normal course of business. The tenor of dropped significantly, in line with a shrinking deposit market size. For the accounts that remained active, the consensus was that of a general shortening of tenor as volatility of these accounts increased, although the more elite banking institutions had relatively stable accounts. The main reason cited was the problem of hyperinflation. High inflation eroded customers' disposable incomes; their income failed to keep pace with the loss in purchasing power. The direct result was a significant drop in income which could be saved as most of it was

consumed on basic goods and other necessities. Bank accounts were reduced to conduits for people to receive their incomes and banks had to contend with the challenge of being awash with funds during very short periods of time, the bulk of which was withdrawn within a few days.

Fixed term products

Apart from the demand deposits, commercial banks offered investment accounts that were generally termed "fixed" or "term" deposits, which are customer deposits

with a contractual maturity date. These accounts typically earned more interest income for depositors than the demand and savings accounts. The ability of the yields paid on these accounts to be competitive in offering real returns and availability of alternative investments determined the level of these deposits.

Fixed term deposit products were popular with minimum impact when inflationary pressures subsided following a period of monetary tightening in 2005, when real interest rates were generally maintained during the first half of the year. Comparatively, the firm stance was reversed in the second half of 2007 and early 2008, when the fixed term products became unattractive due to highly negative returns. The respondents from the banks that indicated no impact attributed this to the high quality nature of their clientele, mainly deposits from counterpart financial institutions and high net worth individuals. The few who noted a positive impact attributed this rather unusual trend to customer relations management and superior returns on differentiated term products as possible reasons for their bucking the trend. The high inflation environment resulted in deposit rates paid by banking institutions being largely negative as a result of low investment rates on government securities, which banks were investing in as well as low lending opportunities. Furthermore, rampant parallel activities owing to shortages of basic commodities and foreign currency trading availed quick and very high returns and the bullish stock market had all but attracted the majority of investible funds as economic agents were seeking higher returns for their excess funds. Inflationary pressures on disposable incomes and earnings saw a reduction in available savings. Banks themselves, on the other hand, were reluctant to take more deposits for short periods demanded by investors when their investments were predominantly long term, which exposed them to very high levels of funding mismatches and ultimately liquidity risks.

Corporate sector deposit mobilisation

The corporate sector was a major player in the banking industry. The high value nature of the transactions and relationship management initiatives made their funds relatively stable as they were easily rolled over. Though relatively expensive, corporate sector funds allowed banks more flexibility in their fund management and higher utilisation of deposit products.

From the interviews conducted, inflation had significant negative effects on the banks` deposit mobilisation efforts from the corporate sector. Inflation posed tremendous challenges to both the revenues and costs side of clients` operations and in most cases resulted in shrinking bottom-line growth in real terms. The result were downsizings, closures; relocations by key multinational clients and the small- to medium-sized enterprises did not use

formal banking channels; hence a decline in the corporate clientele base. This development led to a reduction in the size of the corporate deposit market and hence increased intensity in competition for little viable business. Corporate clientele deposits` tenor also shortened, with increasing volatility as transactions moved more towards cash business on the back of shrinking investible income and hence funds had a high velocity, with banks increasingly becoming conduits for fund movements. However, for a few banks, the limited capital investments owing to inflation induced high borrowing costs and an unviable exchange rate which constrained export capacity leading to more funds being invested by corporate clients. A general decline in the diversity of investment and deposit products targeted at corporate clients also emerged across the board as most cash rich clients had turned to acquisitions and alternative investment markets to earn real returns.

Cost of funds

The cost of funds to banks is the interest it pays on deposits and other borrowings which is more a matter of market forces in the money market. Generally, retail deposits, especially demand deposits and to some extent savings, are regarded as cheap sources of funds as less interest is paid relative to wholesale funds in the interbank market or from large corporate depositors. Banks seek to minimise their cost of funds. Inflation increased the banks' cost of funds. The increase in the cost of funds was as a result of the negative correlation that existed between inflation and disposable income, which resulted in low cost retail deposits shrinking as a percentage of total deposits. The reduction in the number of feasible deposit accounts that banks could profitably offer in the hyperinflationary environment reduced the ability of the banks to lower their overall cost of funds through combining a diverse set of deposit rates applicable to a wide array of accounts. The increased volatility of retail demand deposits resulted in banks being forced to increasingly rely on the interbank and wholesale deposit markets for funding; sources which were relatively expensive. It was interesting that there were few banks that actually saw the overall cost of funds decreasing due to an increase in retail deposits on their balance sheets in 2006 and 2007, largely as a result of the "flight to quality" that resulted in the deposit flow being largely in favour of the big institutions at the expense of their weaker rivals. Higher deposit rates demanded by corporate clients in view of the high inflation had the effect of adding to the cost of funds.

Investment portfolio

The investment portfolio was affected by hyperinflation,

which had an impact on the desire by financial market users of funds, especially the private sector, to raise funds for their investment purposes. High inflation reduced attractive investment opportunities for corporates, which led to low business confidence. Government emerged as the single largest borrower depressed yields, to cushion its interest expense, thus yields which normally move in tandem with benchmark rates failed to move in line with inflation.

High inflation resulted in very low activity in the higher yielding corporate paper market as blue chip clients who were the major issuers had significantly curtailed borrowing in its various forms. The situation resulted in government being the single largest borrower from the local markets, with rates obtained being lower than market rates. This led to a lack of variety in tenor of the government assets, which negatively affected the flexibility of investment tenors to deposits which could be matched by the relevant investment assets. These banks indicated that their margins deteriorated as a result of the predominantly sub-inflationary yields.

Liquidity risk management and Reserve Bank of Zimbabwe policies

The regulatory environment was not favorable to the banking sector in particular the tools of special treasury bills and compulsory non-negotiable certificates of deposit issued on surpluses at end of day clearing procedures. High statutory reserve ratios were also too taxing on the sector and were responsible for the marked increase in the cost of funds for most players especially among the larger institutions who commanded the lion's share of retail deposits.

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. The drain of bank resources put banks in a vulnerable position in the face of the high possibility of demand for funds which typically called for highly liquid balance sheets. Moreover, the rates offered by this instrument are based on highly unrealistic inflation projections, which they dismissed as desperate measures to subsidise government's huge borrowing needs.

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. The reversal that was instituted from then until the end of the review period saw the RBZ, maintaining a one-for-one link between accommodation rates and inflation whilst at the same time delinking this relationship for Treasury bill yields'. Hence, the double standards alluded to.

Measures taken by banks

When asked what banks did in the face of the challenges posed to them, the respondents identified the following. In response to the challenging operating environment, banks took strategic moves to shape their stance towards the growth of the lending book. Figure 3 below shows the measures banks put in place with respect to the growth of their lending book.

The majority of respondents (approximately 75%) took the conservative stance of restricting the growth of the loan book in view of the high interest rate and credit risk, most of which fell outside their risk tolerance limits. Twenty percent of the respondents encouraged growth of the loan book as part of broader strategies to support the real sectors of the economy. Five percent did not change their stance; this was as a result of clients' proposals not meeting the minimum lending criteria.

When asked what stance the banks took when the economic crisis deepened, some respondents reported that the banks did not do anything (26.6%) whilst (73.4%) reported that they relied on non-core banking activities. There was a statistically significant difference as shown by the $X^2 = 18.29$ (P<0.01). The commercial banks that turned to non-core activities in invested in fixed assets (buildings, bricks and cars) to hedge against interest rate risk. Banks also invested on the stock market.

Potential liquidity problems

The potential liquidity problems can be summarised as:

(i)   Operating environment;
(ii)   Depositors' withdrawal behavior in terms of transaction motives;
(iii) Short term deposits;
(iv) Hyperinflation; and
(vi) RBZ policies in a bid to arrest inflation.

Conclusions

For the greater part of the time period, (2000 to 2006), there was no regulatory guideline on liquidity risk management. Banks were relying on internal efforts and guiding.

Based on the survey, there were general concerns of liquidity risk from locally owned banks compared to the internationally owned banks. The sources of funds for banks were deposits from new clients, retention of existing clients, interbank borrowing, shareholders, offshore lines of credit and the Reserve Bank of Zimbabwe's lender of the last resort function. The products offered ranged from money market, equity market, foreign exchange market and derivatives market.

In an endeavor to manage liquidity risk, banks would
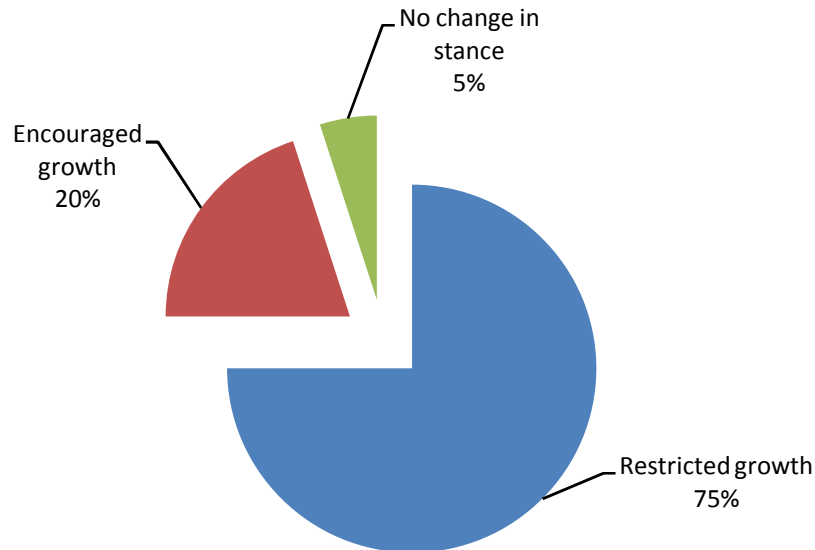
Figure 3. Bank measures to the growth of the lending book.

guard against unnoticed withdrawal of investment by clients. Banks achieved this by imposing penalty on early redemption of investments. In rate setting on sourcing of funds, banks would consider the bank position, money market position amounts being invested, tenor, the central bank accommodation rates and rate trends of other banks. In asset management, banks considered the operating environment and depositors' behaviour. On the onset, banks were lending but declined gradually with an increase towards investing in government securities. The various sources of funds for lending varied across the time period. From 2000 to 2004, the main source was banks own funds and offshore lines of credit. From 2005 to 2007, it was from the productive sector facility of the Reserve Bank of Zimbabwe. Banks used own funds to lend to high quality borrowers. No lending activities took place in 2008.

In asset and liability management, when banks were faced with a deficit position, would take various options. In terms of preferences, banks would meet the need by sourcing new funds from clients, retain maturing investments, redeem investment placed with other banks, and borrow from the interbank market. If still in need, banks would sell securities owned in the secondary market, use bank capital or finally borrow from the Reserve Bank of Zimbabwe. The last thing banks would do was to ask counterparties owed to or depositors to wait for extra days.

During the period, inflation had significant impact on liquidity risk management by banks. From the survey, the tenor of demand deposits was affected leading to volatility of the core deposits base. Only the elite banking institutions had relatively stable accounts. Hyperinflation eroded customer disposable incomes which led to reductions in savings. Bank accounts were reduced to

conduits for clients to receive incomes which were withdrawn within few days. High inflation had negative effect on the deposit mobilization efforts from the corporate sector. This was due to the cost side of these clients operations which resulted in downsizing, closures and relocations. The result was reduction in the size of the corporate clients' deposits market. Corporate clients' deposits tenors also shortened with increasing volatility as transactions were mainly cash business.

Hyperinflation increased the banks' cost of funds as a result of low cost retail deposits shrinking as a percenttage of total deposits. Inflation had major impact on the affordability of commercial loans and the tenor of loans. The high inflation did not only affect the banks' ability to lend but also affected the loan demand as a result of high interest costs which were not sustainable. The other challenge was the time periods it took for the clients to get the loan applications approved. Banks in turn took strategic moves to shape their stance towards the growth of the lending book and mainly it was restricted.

The government was the single largest borrower from the local market because of the low activity in the corporate paper market. The result was lack of variety in tenor of government assets which affected the flexibility of investment tenors to deposits which could be matched by the relevant investment assets. The analysis also indicated that the tools used by the central bank to fight inflation had negative impact on commercial bank liquidity management.

RECOMMENDATIONS

In view of the research findings and conclusions, the following recommendations can be made when commer-

cial banks are managing liquidity and there are high inflation rates:

(1) When there is increased flow of funds to alternative investment markets, banks may consider redirecting efforts to repackage and redesign their investment products especially the term products for both retail and wholesale clients. A possible strategy could be use of indexed return formulas which offer returns that move more in line with inflation as well as protect the bank should the inflation rate move in the opposite direction. The low risk status of the money market can be leveraged upon by such inflation matching returns which will help in attracting funds when matched with adequate promotional strategies.

(2) Banks may need to increasingly focus on the informal sector (SMEs) which may emerge as the predominant player in the economy with a view to develop both deposit and loan products which can cater for this segment. Appropriate promotional and marketing strategies to encourage these players to use banking services need to be put in place to raise the product utilization levels. Well managed companies with potential for growth and profitability can be identified and partnerships entered into whereby the banks` expertise is tapped into through transferring financial and management skills to the entrepreneurs and if well executed the strategy can enhance earnings to the bank through customised lending options taking into account specific circumstances of the companies.

(3) The central banks' need to structure more indexed bonds which though draining funds for longer periods reward banks with higher yields, which will be passed on to depositors as higher interest on deposits, thus encourage savings. If well supervised may entail that gains in productivity in real sectors accrue to the government as higher taxes and more efficient employment of resources which offset the high interest cost to the budget.

(4) It is essential for the central bank to use a consultative approach with the banking sector when formulating policy instruments such as statutory reserve levels and interest rate policy. The move would develop policies which encompass the concerns of the banking sector rather than implement policies which are then reversed immediately sending the wrong signals to the market. Clear signals and unity of purpose through mutually beneficial policies raise the level of support from the banking sector, a development which improves the effectiveness of the policies through achievement of the intended effects.

(5) The farming sector of the economy is one sector banks should never discount as the sector is a defensive kind of business whose prospects are marginally affected by hyperinflation if well managed. Success hinges on innovative, customized leasing products for the new farmer to ensure the sector performs its function of supporting real sectors of the economy and better and more efficiently allocate funds to earn higher yields.

REFERENCES

Anas E, Mounira BA (2008). Managing Risks and Liquidity in an Interest Free Banking Framework: The Case of the Islamic Banks. Int. J. Bus. Manag. pp.80-95.

Bank for International Settlements (BIS) (2006), Management of Liquidity Risk in Banking Organisations. Bank for International Settlement Paper, Basel Committee on Banking Supervision

Bessis J (2009). Risk Management in Banking, Chichester, John Wiley & Sons.

Boyd JH, Ross L, Smith BD (2000). The Impact of Inflation on Financial Sector Performance 47(2):221-248.

Hawkins J, Mihaljek D (1999) The Banking Industry In The Emerging Market Economies: Competition, Consolidation And Systemic Stability – An Overview.

RBZ (2009). Monetary Policy Statement. Reserve Bank of Zimbabwe.

Heffernan S (2005). Modern Banking, John Wiley and Sons Limited

Howells P, Bain K (2002). The Economics of Money, Banking and Finance-A European Text, Pearson Education (Second Edition). FT Prentice Hall .

Makoni TA (2006). Aetiology of Zimbabwe`s Banking Crisis (2003-4); Management Principles-Industry and Regulatory Perspectives (2007). Seminar sponsored by APRA, Australia, May 3-4.

Saunders M, Lewis P, Thornhill A (2007). Research Methods for Business Students. Essex: Pearson Education.