LIQUIDITY MANAGEMENT IN FINANCIAL INSTITUTIONS IN NIGERIA

SIYANBOLA*

TRIMISIU TUNJI*

Abstract:

This study investigated prospects and problems of liquidity management in financial system in Nigeria. Time series data from 1991 to 2011 was used for data gathering and econometric tool of Ordinary Least Square Linear Regression method was adopted for data analysis. The study revealed that day to day conduct of monetary policy by CBN relies on a theoretical framework which links the operating target to the intermediate target (M2) and to the final objectives of price and output stability; uncertainty remains the major challenge for monetary policy not only in Nigeria, but the world over. The researcher however recommended that monetary authorities must revisit the guidelines on the operation of deposit money banks in Nigeria with a view to trashing out some disturbing elements and widening the scope of activities. Nigerian banks should focus on the development of decision models in treasury and funds management for policy makers and senior management so as to ensure desired goal achievement.

Keywords: liquidity, monetary policy, treasury, price, output, banking, funds management.

* PhD in Accounting student of Curtin University of Technology, Sarawak, Malaysia.

1.1 Introduction:

Cash is the most liquid assets and the main means of settling debts, especially at the retail level. Cash availability is no respect of any institutions, individual, whether rich or poor. Cash are barren, yielding zero return and when the balance sheet of a bank is reflecting increasing proportion, it becomes a source of worry to management especially when the source of generating cash is not cost free.

The first thing in liquidity management is managing the cash in home for emergency purpose. Liquidity is the ability to meet obligation when they become due without incurring unacceptable losses. Managing liquidity is a daily process requiring bankers to monitor and project cash flow to ensure that adequate liquidity is maintained. This involves the maintainance of a balance between short term asset and short term liabilities. Liquidity is the firm's ability to pay its short term debts and obligations, that is, if the firm has adequate liquidity it can pay its current liabilities, such as account payable as at when due, Siyanbola, T. Tunji and Adedeji, S.B (2012). Financial ratio analysis will help us to determine how liquid a firm is or how successful it will be in meeting its short term debts. To be precise, the ability to meet the short term debts can be assessed through the calculation of both liquidity and or acid test ratio, Van Horne, J.C.. and J. M. Wachowich (1998).

Cash management is the task of maximising interest and minimising fees on all funds kept available for saving and investment opportunities. Liquidity management is on the front line of banking business. As liquidity management is equally important as profitability in the bank, the issue of how it is optimally determined and how it adjusts to changes in the banking environment deserve closer study. The management of liquidity in any economy is the primary responsibility of the Central Bank of that country. In recent times, there has been a disturbing trend in cash assets built up in commercial banks, hence this problem became a focus of the regulatory authority, when it was realised that the average daily cash has increased tremendously. Coupled with the fact that it is non-income earning assets and the effect of carrying excessive cash in the economy. Ariyo (2006) opined that the measurement of excess liquidity was not based on the approaches that adequately captured the overall macroeconomic situation but largely limited to developments within the financial sector. He

stated further that the endless excess liquidity mop-up exercises suggest the inappropriateness and or inadequacy of the current policy measures and related guidelines as well as policy studies.

Identifying liquidity is the foundation from which the entire liquidity management process depends. It involves understanding the balances and positions of the institution on an enterprise-wide level. It requires the ability to access and gather information across the multiple systems. Identifying liquidity is primarily a function of data gathering and does not include the actual movement or usage of funds. Managing liquidity within a bank's corporate treasury involves using the identified liquidity to support the banks revenue generating activities, this may include consolidating funds, managing the release of funds to maximise their use, and tasks that free up lower-costing funds for lending or investment purposes to maximise their value to the institution. The biggest challenge in liquidity management process is the limited time and resources available to treasury. Attempts to solve the problem has revealed the complexity of the situation and the need for more than a cosmetic approach in solving the problem.

1.3 Literature Review

Bank liquidity is the ability of a bank to be in a position to meet the demand of depositors and borrowers, virtually all economic units need liquidity and banks are no exception. Bank liabilities constitutes nearly 80% of the nation's money supply. The integrity of money supply therefore, requires solvency and customers' acceptance of banking system. Every bank attempts to structure its assets and liabilities in such a manner as it yields the highest returns subject to some constraints. Certain principles guide banks in their day to day operations, those principles evolve from the objectives of shareholders which may be primary or secondary objectives of commercial banks. Although commercial banks in Nigeria are interested in growing their profits, they also attempt to strike a balance, through experience, between meeting liquidity and making profit, as it is necessary to remain liquid in order to meet customers' claim. Inability to meet immediate customers' demand may lead to a run on the banks' deposit which will eventually lead to the total collapse of the bank, or the industry.

Solvency and liquidity are synonymous in our everyday discussion of banking institution and banking system. Besides, solvency and liquidity is subject that currently engages the attention of the monetary authorities. During 1990/1991, inadequate liquidity was a major problem of many banks as well as the entire banking system following the withdrawal of government deposits from commercial banks and merchant banks. The situation later turned into a positive one as it then generates excess liquidity requring mopping up by Central Bank of Nigeria using the instrument of stabilization securities. Solvency and liquidity are two important concepts in banking, whilst one defines the ability of a bank to meet its day to day obligation, the other defines the ability of a bank to meet its day to day obligation to depositors and credit customers. Solvent and liquid firm is inheritably an unprofitable firm as it is not investing its cash into earning assets. It follows therefore that excess liquidity decreases a firm's solvency, hence regulatory authorities must be concerned on how to manage liquidity in the industry. Van Horne, J.C and J.M. Wachowicz (1998) stated that the liquidity, which refers to ability to fully finance the current liabilities, can be assessed through calculation of both liquidity and acid test ratios.

Bank assets are grouped into earning assets and non-earning assets. Earning assets are loans and investments while non-earning assets consist of fixed assets, vault cash, non-interest earning deposit with Central Bank. Profits are generated from earning assets, while liquidity is provided partly by some earning asset but majorly by non-earning assets especially the vault cash. Banks must be managed efficiently and make optimal mix of their assets to be able to satisfy the stake holders. Since banks must make profit to make adequate returns to the shareholders and also to provide for the future and at the same time they must be liquid to satisfy the immediate need of customers, therefore they must take adequate care in order to avert conflicts of interest between the depositors and the shareholders. The customer can deposit and withdraw funds at short notice or without notice depending on the type of account they operate with the bank. In addition banks also invest their surplus funds in short, medium and long term categories of earning assets in order to make profit. Some of these assets which are highly liquid and with low risk attract low interest rate, while those with higher interest yields are less liquid and more risky. What makes the risk of assets selection difficult is the need to balance profitability, liquidity and risk, Maltz (2000)

The assets of a bank must be kept at an acceptable level of liquidity so as to meet possible demands from depositors and maintain public confidence at all times, for this purpose, the central bank prescribes a maximum level of liquidity that a bank must maintain both as regard cash and other liquid assets which can be easily turned into cash. The requirement on liquidity prevents the funds kept aside to meet liquidity ratio from being loaned out for higher interest rate elsewhere. Pursuing the overall strategy especially in determining the type and amount of securities to hold as earning assets. Generally, the above goals are set to ensure a bank continues in its ability to meet the current and potential obligations as they fall due and continue to achieve the same improved level of profit margins while meeting the statutory liquidity requirement. To achieve these goals, the need to call for a proper analysis of all assets and liabilities and ensuring effective storage of liquidity on both sides of the balance sheet need not be over-emphasised.

Nwankwo, G.O (1980) and Fry, M.J., C.A.E. Goodhart and A.Almeida (1996) were of the opinion that four theories abound in ensuring the availability of sufficient liquidity at any point in time. These are:

- Commercial Loan theory: This ensures that bank should only make short term self liquidating loans, which would enable them to match loan maturity with deposit maturity. The theory focusses on the debit side of the balance sheet and offers a conservative approach to liquidity management. It states inter alia:
  - A commercial bank must provide short term liquidating loans to meet working capital requirement;
  - The bank should refrain from long term loans;
  - A new loan must not be granted unless the previous one is settled;

  The theory was faulted because the theory may not hold in case of economic depression when goods do not move fast through normal channels; the theory also failed to take cognisance of the fact that the bank can ensure liquidity of its assets only when they are readily convertible into cash without any loss, commercial loan theory was

therefore ignored for these reasons.

- Shift ability theory: This theory originated in the US in 1918 by H.G. Moulton. According to the theory, the problem of liquidity is not a problem but shifting of assets without any material loss. The theory is based on the premise that banks will hold large equanimity of liquid assets that can be sold, if necessary, before maturity, to provide liquidity. A bank can sell treasury bills in the market prior to maturity to meet liquidity needs. Moulton specified that to attain minimum reserves, relying on maturing bills is not needed but maintaining quantity of assets which can be shifted to other banks whenever necessary. He went further by stating that:
  - liquidity must fulfill the attributes of immediate transferability to others without loss;
  - in case of general liquidity crisis, bank should maintain liquidity by possessing assets which can be shifted to the Central Bank i.e elegibility of shifting assets.

  Thus as development took place the Commercial Loan theory lost ground to Shift ability theory as blue chip securities which possess high degree of shift ability were attractive to commercial banks as collateral security for lending purposes. Nevertheless, both Commercial Loan theory and Shift ability theory failed to distinguish liquidity of an individual bank and that of the entire banking industry, hence the development of the next theory.

- Anticipated income theory: This theory was developed in 1948 by Herbert V. Prochnov and suggests that liquidity requirement should be tied to a borrower's expected income. Although banks were still investing in marketable securities like treasury bills, loans are structural as the timing of principal and interest repayment will match the borrowers' ability to repay from income. In other words, it is tied to borrowers' cash flow rather than collateral security.
- Liability management theory: This is the latest theory developed in 1960. The fundamental contribution of the theory is to consider both sides of the bank's balance sheet. The theory is derived from the dynamic environment of today's financial market and the ready access to purchased funds. Banks can satisfy liquidity needs by borrowing

money from the money market. Adequate liquidity is a sine-qua-non of banking liquidity problem; it tends to surface in the short run when there is a large increase in the demand for currency. It becomes a crisis if the bank cannot meet its demand and assets cannot be sold quickly at prices that permit the banks to meet its commitments. The significance of liquidity lies in the fact that no bank can survive when in the short run it is without liquidity. Liquidity is what keeps the door of a bank open in the short run; it's after reasonable provision of liquidity that the bank can carry on with its normal business without the fear of being forced into liquidation. Adequate liquidity enables a bank to meet commitments when due and to undertake new transaction when desired. Maltz (2000) classified liquidity risks into internal and external. Adequate liquidity enables the bank to meet the following risk:

- funding risk: The ability to replace net outflow of funds either through withdrawal or retail deposits or non-renewal of wholesale funds;
- time risk: When a bank grants loan or facility repayable at a specific time, a time risk is incurred. Adequate liquidity is needed to compensate for non-receipt inflows of funds if the borrowers fail to meet their commitments;
- call risk: This arises from calls to customers maturing obligations or from request for funds to important customers.

The management of cash can be described as management of ultimate liquidity. This recognises that all forms of liquidity ultimately transform into cash except that the other forms are held to generate some returns while awaiting conversion. Cash assets management is a subset of liquidity management, and liquidity is the core of commercial banks' management of its fund since large portion of a bank's deposits are payable on demand, maintenance of adequate liquidity is a priority. The impact of short term random events is managed through the banks cash asset which include: vault cash, demand deposit, balances with central bank and other banks, reserve balances and cash items in the process of collection. Cash management involves the analysis of daily actual and projected cash positions. The average daily immediately anticipated needs due to random events must be determined if the cash position is to be minimised efficiently overtime. Cash position must therefore be monitored so as to keep it at minimum level, consistent

with daily operating cash need. Cash assets are without explicit provisions but are created with fund having both implicit and explicit costs. However there are explicit returns, provided cash assets, in terms of services necessary to banking operations, which can improve the volume of customers patronage and increase earnings through commission on turnover (COT) are in place. Other explicit returns include: liquidity, access to correspondent service and large reserves. Effective cash management requires that they are held to meet normal operating requirements. The cost of holding non-earning cash assets is their opportunity cost, which equals the income accruing from investing them in earning assets.

Unlike in the developed countries where cheques and credit cards are widely used as a means of settlement, cash remains the predominant means of settlement in African countries, though the Central Bank of Nigeria has just recently promoted the idea of cash-less economy, which has not yet been fully embibed for its logistic problems. Vault cash management is an expensive nature in commercial bank and is faced with myriad of problems which have been categorised into industry level and company level problems by Ezema (1994) in his book "Treasury Management" as follows:

- Industry level problems are mainly infrastructural problems that instigate against effective cash evacuation between the local branches of the commercial banks to the nearest main Central Bank of Nigeria office. Commonest ones are long distance; lack of communication facilities; insufficient facilities to receive cash at CBN office and late transfer of credit balances from CBN to the account of commercial banks;
- Company level problems: Cash evacuation at the bank level is cumbersome, stressful and difficult due to inadequate facilities like specie vehicle, police escort and overstretched vaults; lack of operational procedure for cash evacuation; numerous dishonest and irregularities in cash exchange transaction and reconciliation problems between the branch and head office of the bank.

The most important measure of liquity is the liquidity ratio, which attempts to measure a company's ability to pay off its short term debt obligation. This is done by comparing its most liquid asset (those that can be easily converted into cash) to its short term liabilities. In

general, the greater the coverage of liquid asset to short term liabilities the better, as it is a clear sign that a company can pay its debt that falls due in the near future and still funds its ongoing operations. Conversely, a company with a low coverage rate should raise a red flag for investors as it may be a sign that the company will have difficulty meeting its operations as well as meeting its obligations. Four ratios are notable here:

- Current ratio: This is normally in use in manufacturing companies. It is the proportion of current assets over current liabilities. It aims at ascertaining if a company's short term asset (cash, cash equivalents, marketable securities, receivables and inventories) are readily available to pay off its short term liabilities (note payable, current portion of term debts, account payable, accrued expenses and others). No matter the ratio arrived at, the most important thing is to try to understand the type of current asset the company has and how quickly they are convertible into cash to meet current liabilities.
- Quick ratio: This is also called the acid test ratio as a refinement of current ratio which measures the amount of most liquid current asset over current liabilities. It is more conservative than the current ratio as it excludes inventory, which is more difficult to turn into cash.
- Cash ratio: This is an indicator of a company's liquidity that further refines both the current ratio and quick ratio by measuring the amount of cash, cash equivalent and invested funds in current assets over current liabilities. The ratio is the most stringent and conservative of the three as it only looks at the liquid short term asset of the company, which are those that can be most easily used to pay off current obligations. It also ignores inventory and account receivables, as there are no assurances that these two assets can be converted into cash in a timely manner to meet current liabilities. It is seldomly used in a manufacturing company as it is often seen as poor asset utilization for a company to hold large amount of cash on its balance sheet, but banks prefer to give preference to liquidity against profitability, for obvious reasons.
- Cash conversion cycle (CCC): This matric expresses the length of time (in days) that a company uses to sell inventory, collect receivables and pay its account payable. CCC measures the number of days a company's cash is tied up in the production and sale process of its operation and the benefits it gets from payment terms from its creditors. The shorter this cycle, the more liquid the company's position is.

As earlier mentioned, bank must satisfy the stakeholders by growing its profits to satisfy the shareholders and also improve its liquidity by satisfying the customers at all time. To strike a balance between the two requirements pose problem for bank management, hence rivalry between liquidity and profitability remains headache to the management of banks. A non liquid bank is tending towards collapse while non profit making bank can also not survive talk less of growing. The bank will become non-liquid and central bank penalty will be imposed in form of further debit into its existing balance with central bank which further deapen its liquidity problem. To resolve the dilema posed by liquidity/profitability balancing banks adopt three approaches to resolve the problem. These are:

- Pool of fund approach (POFA): Funds available to the treasury of a bank are derived from the capital and reserves, deposits and liabilities. POFA regards all these funds as a pool from which allocations are made on the bank predetermined priorities, first for meeting liquidity needs and then for profitability objective. The bank management is required to identify the liquidity and profitability requirements fund and then allocate the assets categories that best satisfy the requirement. This requires bank management to establish priorities to guide the allocation in resolving the liquidity/profitability dilema. The priorities determine the proportion of each available naira that has to be allocated to primary reserves, secondary reserves, loans and advances and security investment, fixed assets having been financed from capital fund. Primary reserves are required for transaction requirement and serve as primary liquidity, while the amount being held as primary reserves may be legally prescribed, operationally, banks hold more than the required minimum, the actual amount held usually reflect the average ratio of each asset to deposit or to total asset for all banks of similar size. While providing for primary reserves, banks out of prudence, also provide for secondary reserves to back up, replenish and supplement the primary reserve. Usually, secondary reserves consist of highly liquid earning assets that can be converted into cash quickly with minimum delay and cost. Therefore secondary reserves asset must be of high quality and have short maturity and high marketability investment that qualify secondary reserves in Nigeria which include money at call, bill discounted, treasury bills/certificates, federal government development stocks, banker unit trust. In determining the size of secondary reserves, banks normally take into consideration the legally prescribed liquidity ratio, the variability of deposits and

loans and industry average. Having adequately provided for the primary and secondary reserves, attention is then turned to loans and advances as the major profit making activities of the banks. Apart from being the most profitable of bank asset, loan and advances are also the most non-liquid and usually most risky. The final priority of this approach is the investment portfolio after the legitimate credit needs of customers have been met. Usually, investment is better with secondary reserves, loan and advances increasing during the period of lack of loan demand and decrease in the period of high loan demand. In other words these investments are relatively income for the banks and addition to the secondary reserves as the investment approach maturity period.

- Allocation or conversion of fund approach: This is also known as Assets Allocation approach (AAA). Unlike POFA, which places too much emphasis on asset liquidity fund and their cost, the AAA developed to meet this important deficit in pool of fund approach. It recognised the asset liability linkage in that the liability needed by a bank in relation to the sources from which its funds are obtained. It is based on the fact that available funds should be allocated to asset of the same type and maturity approach to the velocity or turnover of fund. AAA in other words, means asset that should be matched with maturity of the liability. This approach also points to the fact that demand deposits, which usually have a higher velocity should be invested more in primary and secondary reserves and less in loans and advances and long term investment.
- Application of Management Science Technique: Linear Programming technique can be used to solve the problem by combining the asset management problems with the liability management problem and incorporate both profitability and liquidity constraints. Management science techniques have been applied successfully to several banking functions in Europe, America and Japan.

1.4 Model Building

The model that will be used in capturing the impact of Total Deposits, Cash Reserve Ratio, Capital Adequacy on Total Loan and Advances flow in Nigeria will have Total Loan and Advances (TLA) as the dependent variable, while Total Deposit (TDE), Cash Reserve Ratio (CRR) and Capital Adequacy (CA) as the explanatory or independent variables, is presented as: TLA = f(TDE, CRR, CA). This is however, explicitly given as:

$TLA = b_o + b_1TDE + b_2CRR - b_3CA + \mu$

where,

TLA	= Total Loans and Advances (dependent variable)
b_o	= slope of the model
b_1, b_2, b_3	= coefficient of parameters
TDE	= Total Deposit
CRR	= Cash Reserve Ratio
CA	= Capital Adequacy
CAR	= Capitalisation Shortfall
μ	= stochastic variable or error term

The theoretical relationship among the variables of interest as well as anticipated signs and significance of the parameter estimates of our model are explained by the following a priori reasoning

- $dTLA/dTDE = b_1 > 0$ implying that a_1 is expected to have a positive sign or there should be a positive relationship between total loan and advances and total deposits in the banking sector;
- $dTLA/dCRR = b_2 < 0$ implying that a_2 is expected to be negative or a negative relationship between total loans and advances and cash reserve ratio;
- $dTLA/dCAR = b_3 < 0$ implying negative relationship between total loan and advances and Capitalisation shortfall.

1.5 Sources of data

The variables considered in this work are the Total Loans and Advances, Deposits, Cash Reserve Ratio and Capital Adequacy. Data on these variables were collected from CBN statistical bulletin, CBN statement of accounts and annual return and the Federal Office of Statistics from 1991 to 2011.

1.6 Method of Data Analysis

Ordinary Least Square (OLS) technique of data analysis was employed to estimate the specified model equation. An econometric software, E-views, was used to regress the formulated model

which incorporated time series data on variables of interest from 1991 to 2011. (R-squared); T-statistic, F-ratio, Durbin Watson (D-W) statistic, Standard error of coefficients (SER) were carried out to assess the relative significance of variables under review. The evaluation were based on the statistical significance of the estimated coefficients using 5% level of significance.

1.7 Regression Result

Dependent Variable is Total Loan and Advances (TLA)

Variables	Coefficient	Standard Error	t-Statistic
Constant	154.5120	215.0800	0.718393
TDE	1.255262	0.032124	39.07531
CRR	22.72303	14.55436	-1.561252
CA	2.077123	3.751715	-0.553646

R-squared = 0.995255; Adjusted R-squared = 0.994418
D-W Statistics = 2.895210; F-ratio = 1188.669

1.8 Analysis of Regression Result

The detail obtained are appropriately presented below for the purpose of easy and vivid interpretation:

TLA = f (TDE, CRR and CA)

(i) **Standard error**: βo = 154.5120
TDE b_1 = 1.255262
CRR b_2 = 22.72303
CA b_3 = 2.077123
Note that $s(b_1, b_2, b_3) < \frac{1}{2} \beta o$

(ii) **T statistic**
Level of significance = 5% or 0.05
Degree of freedom V = n-k
where n = number of observation which is 21
k = number of variables which is 4
Therefore V = 21 – 4 which is 17
Degree of freedom (DF) = 17
For the two tail test, the critical value of T statistics at t tabulated
T = 0.025@17 DF = 2.05
From the estimated result:
T cal (TLA) = 7.078120 > Ttab 2.05
T cal (CRR) = 7.479721 > Ttab 2.05

T cal (TDE) = -0.264264 < Ttab 2.05
T cal (CA) = 0.263037 < Ttab 2.05

(iii) F statistic

From the regression result, F statistic calculated = 75.18379
Given the degree of freedom V1/V2
where V1 = k – 1 = 4-1 = 3
V2 = n – k = 21-4 =17
Level of significance = 0.05
T tabulated @ 5% significant level with 17 DF = 2.73

Hence, F cal which is 1188.669 > f tabulated 2.73

1.9 Interpretation of Model Estimation Result

It could be inferred from the earlier presented regression results that the three endogenous variables i.e. Total Deposits, Cash Reserve Ratio and Capital Adequacy were able to explain 99% of the systematic variations in Total Loans and Advances during the period under review i.e. 1991 to 2011. This is indicated by the high value of R squared of 0.995255.

Also the goodness fit of the overall model is indicated by the high value of the adjusted coefficient of determination R squared of 0.994418, which implies that the overall model is a good fit and that just about 0.558% of the systematic variation in the dependent variable (TLA) were left unexplained by the independent variables, which is attributable to other random factors represented by the error term µ.

Moreover, an examination of the standard error shows that b_1 is the most statistically significant of all the coefficient of independent variables (Total Deposits, Cash Reserve Ratio and Capital Adequacy). Similarly, the t statistics attests that the coefficient of total deposit is the highest of all the independent variables that is statistically significant in causing much variations in the value of dependent variable TLA during the reference period.

Furthermore, the result of the F statistics that gives the value of F cal to be 1188 is equally significant. This further justifies that the exogeneous variables (TDE, CRR, CA) contribute significantly to the variation in the dependent variable TLA.

However, the Durbin Watson statistic that assumes the value of 2.895210 indicates that there is

absence of positive auto correlation among the values in the residual model.

Summarily, at 5% level of significance, the calculated value of f-statistics is greater than the corresponding value from f-table. Thus the null hypothesis is rejected and the alternative validated, which implies that total deposits and other macroeconomic variables like Cash Reserve Ratio and Capital Adequacy, have significant impact on the flow of Total Loan and Advances in Nigeria.

2.0 Conclusions

The study revealed that out of all the independent variables Total Deposit (TDE) have the greatest impact on the flow of Total Loans and Advances of financial institutions in Nigeria. It is therefore concluded that monetary policy must be addressed to stimulate the growth of deposit into the system so as to grow the economy through credit extention to productive sector. Furthermore, monetary policy maker must identify the specific risks monetary management face within the context of the economy so as to deal with those risks correctly.

2.1 Recommendations

Based on the finding of this study, it is recommended that:

- Monetary authorities must revisit the guidelines on the operation of deposit money banks in Nigeria with a view to trashing out some disturbing elements and widening the scope of activities;
- Nigerian banks should focus on the development of decision models in treasury and funds management for policy makers and senior management so as to ensure desired goal achievement;
- The regulatory authority should search for practicable method of examining bank liquidity such that equilibrium can be foreseen and the cause, rather than symptom addressed;
- As a result of the fierce competition in the banking industry and also with new innovation and technologies coming up within short periods, banks should adopt more scientific techniques, to improve their quality and productivity, while at the same time, stay in time with new technologies in the industry;
- In order to achieve desired goals and objectives, while at the same time, remain profitable and strong, banks should be able to structure their assets and liabilities in such a manner

that their current obligation will be met, as at when due and at the same time, remain profitable;

- Adoption of a system of cash exchange between banks in which banks, with surplus cash, supply banks with deficit cash, in exchange for payment of reasonable amount of interest, so as to avert collapse of cash trapped banks.

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