

Determinants of liquidity risk management in Microfinance Institutions

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Abstract: Liquidity is the bank capacity to increase in both expected and unexpected cash as collateral obligations at a reasonable cost without incurring an acceptable and unacceptable loss. A Good liquidity system reduces the problems and helpful for healthy financial conditions in Micro finance institutions. The study has been conducted to determine the factors affecting on liquidity risk management practices. Four variables are used to measure the liquidity risk management which include internal control, institution policies, institution board management and risk monitoring strategies. The Survey (Questionnaire) is designed to collect data from managers and staff of Micro finance institutions, District Bahawalnagar. The quantitative tools are employed to analyze data are correlation and regression analysis by using SPSS. The hypothesis was tested and study results revealed that the internal control, institution policies, institution board management; risk monitoring strategies significantly affect the liquidity risk management in MFIs. The MFIs have a good internal control system and great strategies from the board should be delivered to the management. There is an adequacy in analyzing, controlling and monitoring the liquidity risk in MFIs. This study is beneficial for further improvements of liquidity risks in micro finance institutions.

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1. Introduction

Liquidity is basic to the prosperity of financial institutions, particularly in banking. It ensures us the progress of banks financial condition. Negligence of liquidity may affect the market value of the asset. Liquidity is very important for bank stability. The stability, age, and development of banks depend on liquidity.

Liquidity can be defined as a bank firm's capacity to meet the cash demand of its strategy and contract that it holds with least or no loss. In another way, we can say that the liquidity of banks, firm's is the purpose of assets and liability (Chorafaa,2007). For managing different assets and liabilities banks face different kinds of risk i.e credit risk, debit risk, liquidity risk, and a host of other infrequent operations (Greuning & Bratanovic, 2003). Liquidity can also be defined as the fund increase in assets to meet both

expected and unexpected cash collateral obligations at a reasonable cost and without gaining not acceptable losses (Robert Mugo)

Risk in financial terms can be defined as the ratio of actual return that may differ from the expected return, (Howells& Brain1999). Microfinance institutions generally take risks as they perform their role in economic-financial conditions. Thus they bear many types of risk i.e interest risk, liquidity risk, and operational risk. Controlling these risks is important for their growth. As for minimizing the risk organizations focus on the future risk for the wellbeing of their institution or the long-term progress of financial institutions. (NBE, 2010)

Microfinance can be defined as "to provide a different kind of financial services to the poor based on market-driven profitable tactics" (Christen, 1997).Active liquidity risk management helps to confirm banks meet their requirements without affecting their profitability.

Microfinance institutions have to keep eye on liquidity happens in different aspects of assets liability management. The objective of liquidity management is to confirm that microfinance institution can fully achieve their promises. The shortfall in liquidity of a single MFI has been highly effective on the whole system. (NBE, September 2010). BIS (2008) suggest banks/ MFIs establish the procedure of liquidity management by analyzing, measuring, monitoring, and controlling liquidity risk. The process consists of four elements, the policies made by (BOD), (ALCO) contribution, internal control & active information system.

The purpose of this research is to explore the practices through which liquidity risk can be minimized from MFIs. This research has shown the relationship of different variables i.e. internal control, institution policies, Institution board management, institution risk monitoring strategies with liquidity risk management of MFIs in Bahawalnagar. For this purpose, we gather primary data through a questionnaire. We also have seen that what would be the impact of liquidity risk on MFIs by seeing the relationship between these variables.

The significance of the study is to explore the relationship between variables that affect the liquidity of MFIs. Understanding of variables such as internal control, institution policies, Institution board management, institution risk monitoring strategies will be able to help further understanding liquidity risk management. This study presents managers of microfinance institutions to better understand liquidity risk and how to minimize liquidity risk in MFIs. This study describe that most of MFIs failed in taking account of many of the basic rules of liquidity risk management. An adequate framework is necessary for MFIs and most banks do have not a good framework.

The objective of this research is to identify and analyze the factors that affect liquidity risk in MFIs. To measures the impact of each element on liquidity. Theoretical reviews of the elements of liquidity risk management. To draws out the managerial implications of the findings of the study.

2. Literature Review

This study is about two theories one is stakeholder theory and the other is liquidity preference theory. The first theory is a stakeholder theory which is about organization management and business principles for controlling and managing the organization (Edward Freeman 1984). This theory describes that stakeholders make the decision and recommends techniques by which management can give respect to the interests of those groups. The firm has the responsibility to put the needs of stakeholders first because the stakeholder, shareholders, and stockholders are the owners of the company. The main gap is to study about the reason behind liquidity risk in microfinance institution.

Owners of the firm care about the firm cash balance. The cash-rich firm is a sign that the firm is in good health that's why suppliers and customers give importance to doing

business with these firms. Simply the employees of a cash-rich firm are relaxed because they know they will get paid. On another side in banks especially in microfinance institutions, the management must therefore confirm that the interests of all shareholders are taken into account in performing their role. They have to manage liquidity risk and they make strategies to ensure that the going concern of the bank is not threatened.

The second theory is liquidity preference theory which states that short term bond is more favorable than long term bond and investors generally prefer short term bond to long term bond because these securities are less liquid and easily be converted into cash as the clients react in the opposite way they prefer long term debt because short term leads them to risk to pay back cash in their unfavorable condition.

Literature here focuses much attention on the definitions and specificity of the concepts of Liquidity Risk management & practices. Some of the famous works in the literature try to define the term "liquidity risk management and practices". Liquidity risk management starts with the principles of liquidity management by the board of directors in organizations. There are three basic requirements for BOD; (a) the BOD has to identify liquidity risk in the organization; (b) BOD has to make strategies and practices to control liquidity risk management; (c) BOD has to give direction to managers in an organization take over liquidity risk (BIS,2008).

The practices may include specific strategies and implementations to control liquidity i.e short term and long-term strategies of controlling liquidity. These practices defined the role of a single body includes in managing liquidity practices, which includes asset-liability management and relationship with other financial institutions. Individually any input from a single body should be taken into account in the policies. The board should have full knowledge about the reality of the internal and external business situation for applying liquidity risk management strategies (BIS, 2008)

For maintaining liquidity, the banks should have strong internal control conducted by decision followers. This internal control is consigned to ALCO as a representative of BOD (BIS, 2008).

The liquidity risk management practice was a function of internal controls put in place. These ensured the proper establishment and operation of internal systems that enhance the minimization of liquidity-related risks. Effective internal control processes should be introduced through the implementation of computerized financial management systems.

Internal control of an institutional structure is the work and power flows, people, and management of information systems which is aimed to help the institution to attain its goals and objectives. The main purpose of internal control is to maintain the financial report's reliability and give feedback in time which shows the accomplishment of strategic goals (Kieso, Weygandt, & Warfield, 2010). Management has three main objectives that tell us how to design an effective internal control system, (McPeak, Pincus, & Sundem,2012).

The first objective is to make financial reports for investors, creditors, and other users. The 2nd objective is to make an effective and efficient internal control system. The last one is that internal control encourages compliance with laws and regulations.

Internal control means helping the organization to accomplish its visions and goals (Nuryanto & Afiah, 2013). The internal control system of the organization may affect very much in promoting orderly, economically, effectively, and inefficient ways to produce quality products and services that are reliable with the institute's mission. Internal control of any institute help in maintaining its financial and management data which gives efficient and effective reports (Blanchard & Galloway, 1994).

Internal control is explained as a framework in different researches that is limited to control environment, risk assessment, control activities, and monitoring. If any institute

has all these factors then it ensures that it has a great efficient and effective internal control system. (Gjerdrum & Peter, 2011).

Basel Committee (2008) requires firms to relate their liquidity risk management to institutional policies. Policies are written statements that show an organization's promises to ensure goals and objectives, by setting standards and course of action. They are planned to ensure organizations mission, values, and principles and how daily work is going on (Kimathi et al./ 2015)

Microfinance institution policies are those policies for which liquidity can be managed which determine the structure of identifying, reporting, monitoring, and checking banks liquidity conditions. The policies make the sense of managing the liquidity risk. These policies determine the responsibility of every single person to manage and minimize liquidity risk which includes assets liability committees, and links with other finance institutes and regulators (Holmstrom and Triole, 1998).

These policies are made by the owner of the company and distributed by ranks. These policies minimize the risk in the institutions. (Ghamp, 2006) intimates that for the formulation, implementation, and review of regulatory and supervisory policies and procedures to ensure consistency and cost-effective strategy across different types of MFIS.

A bank's board of directors should review and approve the strategy; policies and practices related to the management of liquidity at least annually and ensure that senior management manages liquidity risk effectively. The board provides strategic direction on critical matters of the organization, therefore regarding liquidity risk management, the board would provide direction to inform actions on liquidity risk management. In this section, the study sought to establish the practices by the MFI boards which affect the risk management practice. The objective of the study was to find strategies that are used to monitor the risk in microfinance institutions. Monitoring strategies include in time generation of reports on liquidity risk monitoring it is the most followed strategy for looking after adequate information system for measuring, monitoring, controlling, and reporting on liquidity risks. The process for risk monitoring includes setting a structure for how often you review your risk, what to monitor, how to report changes, and how to redefine your risk strategies.

Lead risk management process from the top. Incorporate risk management into process and systems design. Keep simple and easy to understand. Involve all levels of staff. Align risk management goals with the goals of individuals. Address the most important risks first. Assign responsibilities and set a monitoring schedule. Design informative management reporting to the board. Develop effective mechanisms to evaluate internal controls. Manage risk continuously using a risk management loop (Steinwand, 2000).

3. Methodology

This section covers all of the procedures required in completing research, from study design to the final paper, including data collecting, sample size, and hypothesis formulation. Data is collected through convenient sampling from one hundred employees including manager and staff microfinance institutions in district Bahawalnagar i.e. (khushali Bank limited, Finca microfinance bank, NRSP microfinance bank limited, APNA bank. The reason behind taking hundred sample is that there are three methods for determining sample one is formula, second is through table and third is soft calculator so because of availability of short time hundred sample is selected for this research. The sampling technique used is convenient sampling. The method for the analysis of data that is used Descriptive analysis frequency table, descriptive statistics, and inferential analysis correlation, and regression analysis.

The nature of the research, the sort of inquiry, and other factors are all considered in the research design. Both descriptive and quantitative research was employed in this study. To quantify the variables of liquidity risk management, this study uses a combination of descriptive and quantitative research. Descriptive research is used to gather basic information and literature for a study, as well as to obtain a better grasp of the research issue. The answer of the respondent to the factors of this study is determined using quantitative research. The descriptive research aims to quantify the variables that influence liquidity risk management. The preparatory literature on the research subject is gathered for the study through various articles, academic journals, books, and other sources to better define the research topic, create a strategy for the research topic, and analyze the primary data. Quantitative research is also used in the research. The different sites are used for data collection. The source of the data collection is reliable and valid. After the collection of the data, the effect of the independent variable on the dependent is checked in the next section. This research is Causal Research as this research attempt to examine the influence of the independent variables on the dependent variable Liquidity Risk Management Practices. Four variables are used to measure the liquidity risk management which include internal control, institution policies, institution board management and risk monitoring strategies.

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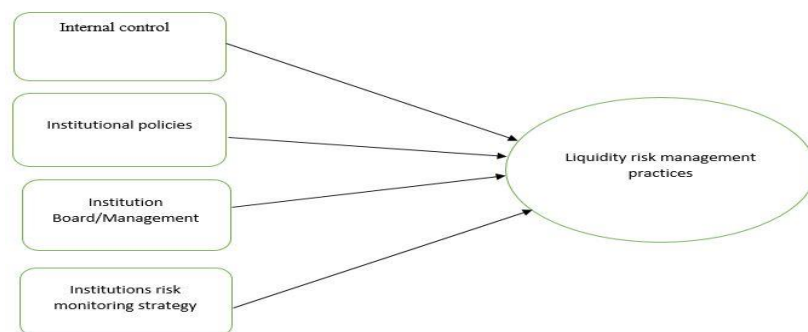


Figure 1.Conceptual Model

Followings are the Hypothesis:

H1: Micro Finance Institutions' internal controls system significantly affects its liquidity risk management practices.

H2: Micro Finance Institutions policies significantly affect its liquidity risk management practices.

H3: Micro Finance Institutions Board/ management oversight role significantly affects its liquidity risk management practices.

H4: Micro Finance Institutions risk monitoring strategies significantly affects its liquidity risk management practices.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + E \dots\dots\dots (1)$$

Y = Liquidity Risk Management Practices

β_0 = Constant

X1 = Internal control

X2 = Institution policies

X3 = institution board management

X4 = risk monitoring strategies

E = Standard Error

4. Results

Descriptive analysis frequency table, descriptive statistics, and inferential analysis correlation, and regression analysis employed

Table 1.Correlation

	Liquidity_risk	Internal_control	Institution_policies	Institutions_board	Institution_Risk_Monitoring
Liquidity_risk	Pearson Correlation 1 Sig. (2-tailed)				
Internal_control	Pearson Correlation .970** Sig. (2-tailed) .000	1			
Institution_policies	Pearson Correlation .970** Sig. (2-tailed) .000	.981**	1		
Institutions_board	Pearson Correlation .886** Sig. (2-tailed) .000	.928**	.922**	1	
Institution_Risk_Monitoring	Pearson Correlation .911** Sig. (2-tailed) .000	.928**	.929**	.938**	1

** . Correlation is significant at the 0.01 level (2-tailed).

In the above Table 1 extreme left, we see the variables liquidity risk, internal controls, institutional policies, institutions board, institution risk monitoring and we see the same variables on top of the table of correlation. In between these variables diagonally we see 1. Every variable has a relationship 1 with itself. Correlation analysis explains the relationship between the variables either weak or strong, positive or negative. The values as much as higher more than 0.5, strengthen the relationship between the variables. The values upside and downside of 1 are mirror effects. The relation between liquidity risk and internal control of Pearson correlation is positive 0.970 and is significant. The relation between liquidity risk and institution policies in Pearson correlation is positive 0.970 and is significant. The relation between liquidity risk and institution board in Pearson correlation is positive 0.886 and it is significant. The relation between liquidity risk and risk monitoring strategy is Pearson correlation positive 0.911 and is significant at 0.01 (99%) confidence level. The information related to respondents from which we collect the response data is given below. 75 % of respondents were male and 25% are female participants. The age of the respondents from 15-25 were 39%, 25-40 were 38%, 40 and above are 23%.

Table 2.Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1 (Constant)	.293	.108		2.710	.008
Internal_control	.530	.112	.569	4.720	.000
Institution_policies	.418	.101	.488	4.131	.000
Institutions_board	-.169	.056	-.215	-3.041	.003
Institution_Risk_Monitoring	.109	.060	.131	1.813	.073

a. Dependent Variable: Liquidity risk management

Following is the regression equation;

$$\text{Liquidity Risk Management} = 0.293 + (0.530 \cdot \text{IC}) + (0.418 \cdot \text{IP}) + (-0.169 \cdot \text{IB}) + (0.109 \cdot \text{IRM}) \dots (2)$$

In table 2, we discuss the relationship between the hypothesis we developed and tested them through our questionnaire on SPSS. As it is also shown in the table that the H1 is proposed and has a moderate relationship towards liquidity risk as the significance is .000 thus H1 is supported. H2 is proposed and has a great and moderate relationship towards liquidity risk as the value of significance is .000 thus H2 is supported. H3 is proposed and has a negative relationship towards liquidity risk and significance is .003. H3 is supported. H4 is not significant.

5. Conclusions

Liquidity risk management was the main problem in MFIs. The internal control put in place is the main part of liquidity risk management. The internal control in an organization ensures us to establish a proper internal control system that minimizes the liquidity risk on the other hand institute policies have a direct impact on liquidity risk i.e policies made by the organization are from top management and well monitored in MFIs. Continuous risk monitoring and real-time transmission of liquidity information is an appropriate strategy that enables staff in all operational areas to make informed decisions geared to the overall MFI goals on liquidity. The monitoring strategies adopted significantly affect the liquidity risk management practices. The Board should come up with initiatives to facilitate review of liquidity management framework and also provide strategic direction to the liquidity risk management function. The Board should ensure clarity in the delegation of authority in liquidity management function and effectively disseminate new strategies and policies for managing liquidity risk. The MFIs should maintain adequate information systems for measuring, monitoring, controlling, and reporting liquidity risks. They should ensure timely generation of reports on liquidity risk monitoring to guide the actions and strategies that are to be adopted in managing the risks.

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References

1. Aggarwal, R. K., and Yousef, T. (2000). Islamic Banks and Investment Financing. *Journal of Money, Credit and Banking* 32(1): pp.93-120
2. Agnes DeFranco. (2005) financial management in developing countries; 1st Edition; Pearson Publishers Allen, F. and Santomero, A. M., (1998), the Theory of Financial Intermediation *Journal Of finance and Banking* 36 (3), pp. 454-480.
3. Anita Campion, 2000, Improving Internal Control, a Practical Guide for Microfinance Institutions. Arun, T.G and Turner, J. D. (2002b), "Financial Sector Reform in Developing Countries: The Indian Experience", the World Economy, Vol.25
4. Baker, Malcolm P Wurgler, Jeffrey. (2002). "Market Timing and Capital Structure". *Journal of Finance* 57 (1): 1- 32. *Banking & Finance*. 21 1461-1485.
5. BCBS, (2008), Principles for Sound Liquidity management and Supervision. Basel, Switzerland: Bank for International Settlement.
6. Diamond, D.W., R.G. Rajan, (2001), "Liquidity Risk, Liquidity Creation, and Financial Fragility: A Theory of Banking," *Journal of Political Economy*.
7. Freeman, R. Edward (1984). Strategic Management: A stakeholder approach. Boston: Pitman.
8. Ismal, Rifki (2010) the management of liquidity risk in Islamic banks; the case study of Indonesia, Durham theses, Durham University *Journal of Political Economy*, 91(3), pp. 401-19.
9. Khan, Jain. (2007) financial management; Fifth Edition; Mc Graw-hill companies, India Miles, Samantha (2011). "Stakeholder Definitions: Profusion and Confusion". IESE EIASM 1st Interdisciplinary conference on stakeholder, resources and Value creation, Business School, University of Navarra, Barcelona.

10. Mugenda and Mugenda. (1999) *Research Methods*. First Edition; Acts Press, Kenya Nimal A. Fernando, July 2008, Managing finance Risks, Some observations and Suggestions, Asian Development Bank.
11. Obwocha.G. (2003) *financial management practices*; First Edition; Macmillan Publishers, Kenya Simplice A. Asongu, (2013) "Post-crisis bank liquidity risk management disclosure", *Qualitative Research in Financial Markets*, Vol. 5 Iss: 1, pp.65 – 84 to
12. Van Greening, H., (2009). *Risks Associated with Liquidity in the Islamic Financial Services Paris, Industry (IIFS)*; third Islamic Financial Forum: The European Challenge, France.
13. Delfiner, M., Lippi, C., & Pailhé, C. (2006). *Liquidity risk management in banks: international best practices and cases* (In Spanish).
14. R.S. Raghavan(2003), "Risk Management in Banks" Chartered Accountant
15. Gaus, J. (2008). *The Risks of Financial Risk Management* (Doctoral dissertation, Zeppelin Universität).
16. Veerabhadra Rao, T. (2011). *Risk management architecture: a cross comparison between select Indian and foreign banks-impact of risk based supervision*.
17. "Risk Management Systems in Banks", a PDF document taken from Google. https://apps.aima.in/ejournal_new/articlesPDF/Manish-Kumar.pdf
18. Aghjelou, N. G. (2007). *The investigation of risk analysis and risk management in selected branches of cooperative banks in Pune*.
19. Ismal, R. (2010). *The management of liquidity risk in Islamic Banks: the case of indonesia* (Doctoral dissertation, Durham University).
20. *Implementation of Liquidity Risk Management and Basel III Framework on Liquidity Standards*. (2012). Monetary Policy Statement 2012–13 announced on April 17, 2012.
21. Keri, S. S., & Somme, N. E K., 2007 "*Balancing Risk and Efficiency at a Major Commercial Bank*". Working Paper–E60. Pittsburgh: Tipper School of Business, Carnegie Mellon University.
22. *Principles for Sound Liquidity Risk Management and Supervision* (No. 83–87.). (2007). Available at.Bhatt O.P, "Banking In India"; Yolanda, August.
23. Brown, C. O., & Dinc, I. S. (2005). *The politics of bank failures: Evidence from emerging markets*. *The Quarterly Journal of Economics*, 120(4), 1413-1444.
24. Chakrabarti, R., Chawla, G., Rakshit, M., & Bose, S. (2005). *Bank efficiency in India since the reforms: An assessment*. *Money and Finance*, 2(22), 31-48.
25. Gupta, V., & Jain, P. K. (2004). *Liability management in commercial banks in India: A comparative study of bank groups in liberalized-era*. *Global Journal of Flexible Systems Management*, 5(4), 53.
26. Chapter 1: *Risk Management – A Helicopter view*. (2006). In *Essentials of Risk Management* (pp. 387–397). McGraw Hill.
27. Reserve Bank of India, Mumbai. (2001). *Report on the Advisory Group on Banking Supervision*. Verma Committee.
28. Arunkumar, R., & Kotreshwar, G. (2006). *Risk management in commercial banks (A case study of public and private sector banks)*. In *Indian Institute of Capital Markets 9th Capital Markets Conference Paper*.
29. L Ratnovski, L. (2007). *Liquidity and transparency in bank risk management*. *Bank of England*.
30. Ariffin, N. M. (2012). *Liquidity risk management and financial performance in Malaysia: empirical evidence from Islamic banks*. *Aceh International Journal of Social Science*, 1(2).