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THE IMPACT OF CORPORATE GOVERNANCE MECHANISMS ON RISK MANAGEMENT: EVIDENCE FROM COMMERCIAL BANKS IN ETHIOPIA

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ABSTRACT

The risk positions of Ethiopian banks have been under tension since 2007 (NBE, 2009). However, existing theory on the impact of corporate governance mechanisms on bank risk-taking still remains limited and the evidence is conflicting. Most studies concentrate on US and European, while empirical evidence has remained scarce for Ethiopian banks. Thus, the main contribution of this study is to shed some light on the impact of corporate governance mechanisms on bank risk-taking and analyze its relationship with credit and liquidity risks in Ethiopian commercial banks. A panel multiple regression model were employed. Ordinary least squares with random effects & pooled OLS estimation procedure are applied to a panel data set of 9 Ethiopian banks over the period 2005 through 2011. Central bank regulation negatively affects both measures of risks but management efficiency found to have positive impact on both risks. Depositors' influence has negative and significant impact on liquidity risk but positive and does not impact credit risk. Board meeting frequency has negative impact on both measures of risks. Regarding bank size and inflation both have significant impact on credit risk with a negative and positive coefficients respectively, but insignificant for liquidity risk. Based on independent samples T test results, the study revealed no evidence about the difference on risk management between government and private banks using liquidity risk.

Keywords: Bank risk management, corporate governance, Impact of corporate governance mechanism.

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INTRODUCTION

Risk is the fundamental element that drives financial behavior. Without risk, the financial system would be vastly simplified. However, risk is omnipresent in the real world. Financial Institutions, therefore, should manage the risk efficiently to survive in this highly uncertain world. The future of banking will undoubtedly rest on risk management dynamics. Only those banks that have efficient risk management system will survive in the market in the long run. The effective management of financial risk is a critical component of comprehensive risk management essential for long-term success of a banking institution.

In Ethiopia, it is expected that enhanced corporate governance and transparency in the share companies (particularly financial sector) will positively influence the sector's development and also plays a significant role in reducing the informal economy through better channeling of money circulation and other financial transactions. Good corporate governance regulates the relationships between bank shareholders and depositors, and bank boards and management, prevents abuses of power and self-serving conduct, as well as imprudent and high risk behavior of bank managers, and resolves conflicts between private interests and official duties. (Hussein A., 2012).

“The term ‘governance’ is derived from the Latin term *gubernare*, meaning ‘to steer’, usually applying to the steering of a ship, which implies that corporate governance involves the function of direction rather than control” (Solomon & Solomon, 2004). On the other hand, according to Becht, et al.,

(2002), the similarity between the government of cities, nations or states and the governance of corporation is the origin of the term “corporate governance”.

The definition of ‘corporate governance’ is not provided under the Ethiopian company law. For the purpose of this study, it is thus important to adopt a working definition for corporate governance as the set of relationships between a bank’s management, its board, its shareholders and other stakeholders Greunin and Bratanovic (2004).

The question of whether corporate governance has an impact on the management of bank risks has received different answers from researchers. For example, Jensen (1993) and Greunin and Bratanovic (2004) posit that stakeholders in the corporate governance of banks impact how banks manage risks, while Simpson and Gleason (1999), Joan Tsorhe, et al (2010), and Prowse S., (1997) argue that stakeholders in the corporate governance do not have significant impact on risk management. In the midst of these contrasting debates, this paper will seek to establish what the case is for Ethiopia.

Thus, the purpose of this study is to empirically investigate the impact of corporate governance mechanisms of Ethiopian banks on the management of bank credit risk and liquidity risk. The area that is of interest in this study is the financial health of a bank. Are stakeholders exerting any significant influence on the management of bank risks in Ethiopia? For example, Macey and O’hara (2003) have suggested that because banks have a typical contractual relationship, the corporate governance

systems of banks should be extended to include depositors and shareholders.

Although the research on the corporate control mechanism in nonfinancial firms is vast, there is surprisingly little research on the corporate control mechanism operating in banks. Yet, analysis of the corporate control mechanism in banks is important for a number of reasons. First, despite its supposed decline in recent years, banking remains an extremely important industry, that acts as the main interface between savers and investors (Prowse S., 1997). In addition only a few empirical studies (e.g., Greuning and Bratanovic (2004), Jensen (1993), Joan. Tsorhe, et al (2010); Simpson and Gleason (1999), and Prowse(1997) have attempted to posit that whether stakeholders in the corporate governance of banks impact how banks manage risks.

To the extent that the financial system is very central to the proper functioning of a market economy and also that the single most important threat to the financial sector is the improper management of risk, it becomes imperative to investigate the risk management activities of banks and the role played by the governance systems and processes put in place in an emerging economy like Ethiopia, where there is no well developed financial markets and investors are not well protected there is no prior studies that links corporate governance directly to the management of financial risks of banks in Ethiopia. This paper therefore seeks to contribute to closing this gap. The paper specifically studies the relationship between the corporate

governance and financial risk management of 9 banks in Ethiopia from 2005 to 2011.

The paper is organized as follows: the next section discusses pertinent literature on the subject matter. This is followed by need of the study, statement of the problem, objectives, hypothesis and discussion of the methods which were employed in conducting the study. Results are then presented and discussed. The paper ends by drawing conclusions.

EMPIRICAL LITERATURE REVIEW

Cheng et al. (2008) consider the importance of board of directors' size in the corporate governance process is well recognized. Empirical findings with respect to board influence are many and conflicting. Sumner and Webb (2005) argued that the board of directors has the responsibility of formulating bank loan policy and to monitor compliance. Therefore, the structure of the board (proportion of insiders and outsiders) must influence the portfolio of loans that the bank has outstanding. Yermack (1996) showed that board size had an inverse relationship with board effectiveness. According to Terry McNulty et al., (2012) in their test of the formal structures of boards, financial risk-taking was lower in boards that were smaller in size, that is, fewer than eight directors. Houssein R. & I.G. B.Ameur (2011) came up with a result that a small bank board is associated with more performance and with more bank risk-taking.

some authors come aside to larger boards tend to provide an increased pool of expertise, greater management oversight, and access to wider range of contracts and resources (Goodstein et al., 1994;

Pсарos, 2009; Williams et al., 2005) and are more effective in preventing corporate failure (Dallas, 2001). Adams and Mehran (2003), conclude that the banks who have a large board of directors will realize better performances associated with high risk levels. They also showed that when a board size is small, its members can easily be manipulated and influenced by managers. Blanchard and Dionne (2004) suggested that the higher the number of directors is, the higher the use of sophisticated instruments to hedge against the risk increases, which justifies managers excessive risk taking.

Frequency of board meetings has also brought mixed results. Conger et al (1998) believed that board meeting time is an important resource for improving the effectiveness of board. This implies that when boards of directors meet frequently they are likely to reduce or manage bank risk. Terry McNulty et al (2012) and Xie et al. (2003) found that more active boards, as proxied by the number of board meetings, are associated with a lower level of earnings management. According to Jian Zhou et al (2004), board meetings are negatively related to earnings management for low earnings management banks. On the contrary, Jensen (1993) argues that board meetings do not necessarily enhance firm performance which in turn means so does reduce bank risk and that board meeting frequency increases when there are problems.

Results concerning the ownership structure are quite puzzling and deserve further research. While, Sarkar, and Bhaumik (1998) provide empirical evidence that in the absence of well functioning capital markets, there may not be significant

differences in the performance of private-owned firms and public-owned firms. Added on this Altunbas, Evans and Molyneux (2001) also find that there is little evidence to suggest that private-owned banks are more efficient than their mutual and state-owned firm counterparts.

O'Hara (1981) and Nichols (1967) came with different evidence, suggesting that management of mutual banks is less efficient than management of private-owned banks. Iannotta et al, (2007) also supported the same idea and found that mutual banks and government-owned banks exhibit a lower profitability than privately-owned banks, in spite of their lower costs.

Operational problems at banks (higher cost-income ratio) go hand to hand with poor credit risk management and thus higher loan losses (Hess, Grimes and Holmes, 2009). They also found that product mix of bank might require high level of operational costs without these institutions necessarily being inefficient. Ali, Akhtar and Sadaqat (2011) also found a negative but insignificant relationship between operating efficiency and credit risk of Pakistan commercial banks. Inefficient managers will not cope successfully with the process of granting and monitoring loans that will lower the banks' credit quality and bring about a growth in problem loans (Salas and Saurina, 2002). As per Joan. Tsorhe et al (2010), the relationship between management efficiency and liquidity risk is positive but not significant. They suggested that a less efficient management may hold relatively more liquid assets.

Theory indicates that regulation provides a different incentive for risk-taking behavior among bank stakeholders. Mishkin (1999) argues that the moral hazard created by a government safety net can result in increased risk-taking that eventually leads to institutional losses as seen during the savings and loan crisis of the 1980s. Joan Tsorhe et al (2010) found negative coefficient of the Reserve Fund. Regulation of the industry, proxied by the Reserve Fund, impacts credit risk negatively and has negative and significant impact on liquidity risk. Konishi and Yasuda (2004) have suggested that regulatory and supervisory institutions had an influence on risk management.

Credit risk

Credit risk is defined as the probability that some of a bank's assets, especially its loans, will decline in value and possibly become worthless. It arises from non-performance by a borrower, either an inability or an unwillingness to perform in the pre-committed contracted manner Joan Tsorhe et al (2010). Or else as per (R.S. Raghavan, 2003) Credit Risk is the potential that a bank borrower/counter party fails to meet the obligations on agreed terms. There is always scope for the borrower to default from his commitments for one or the other reason resulting in crystallization of credit risk to the bank.

In the literature, non performing loan is defined differently by different authors with their own prescribed definition according to their respective country rules and regulations. The commonly used words by researchers are problem loans, impaired assets, credit losses and others. For the purpose of this study, the definition for non performing loan

and provision for loan loss is used according to the national bank of Ethiopia asset classification and provision directive No.SSB/43/2007.

Higher ratio signals potentially higher credit risk as banks need to make greater provisions against potentially greater non performing loans (Ahmad and Ariff, 2007). Flamini, and McDonald and Schumacher (2009) measured credit risk using the ratio of loan to deposit and short term funding. This study uses the ratio of loan loss provision to total loans as a proxy for credit risk as used by Joan Tsorhe et al (2010).

Liquidity risk

According to the definition of the Basel Committee on Banking Supervision (1997), liquidity risk arises from the inability of a bank to accommodate decreases in liabilities or to fund increases in assets. Liquidity in financial markets and intermediaries has several different meanings.

In the past, better practices for liquidity risk measures focused on the use of liquidity ratios. The ratios previous studies used include liquid assets to total assets ratio (e.g. Bourke, 1989; Molyneux and Thornton, 1992; Barth et al., 2003; Demirgüç-Kunt et al., 2003), liquid assets to deposits ratio (Shen et al., 2001) and liquid assets to customer and short term funding (Kosmidou et al., 2005). The higher value of liquidity ratio makes bank more liquid and less vulnerable to failure.

The Basel Committee defines liquidity in the Principles of Sound Liquidity Risk, issued in September 2009, as "the ability of a bank to fund increases in assets and meet obligations as they

come due, without incurring unacceptable losses."

For the purpose of this study liquidity risk can be defined and measured as the ratio of liquid funds (cash and near cash securities) to total deposits as used by (Shen et al, 2001).

It should be noted that commercial banks in Ethiopia are required to maintain with the National Bank of Ethiopia 15% of their deposit liabilities in the form of liquid assets such as cash, bank deposits, treasury bills and other short-term assets that can readily be liquidated or discounted.

NEED OF THE STUDY

Clearly, the governance mechanisms must have a bearing on bank risk management, for it is often said that banks are in the business of managing risks. For the purpose of Serving the public interests, particularly the interests of the customers of the banking services both endogenous and exogenous corporate governance mechanisms directly or indirectly take the accountability, monitoring, and control of a firm's management with respect to the use of resources and risk taking. Though, Joan Tsorhe, et al. (2010) and Tandelilin et al. (2007) applying board index tried to show the relevance of governance structure to bank risk. However, existing theory on the corporate governance mechanisms on bank risk-taking still remains limited to capital regulation, market discipline and ownership structure as risk controlling mechanisms and the evidence is conflicting. Furthermore, most studies concentrate on US and European banks, while empirical evidence has remained scarce for Ethiopian banks.

STATEMENT OF THE PROBLEM

This study assessed how corporate governance mechanisms impact bank risk management. Corporate governance, in the finance literature, is described as the set of rules, structures and procedures by which investors assure themselves of getting a return on their investment and ensure that managers do not misuse the investor's funds (e.g., Shleifer and Vishny, 1997).

When the governance systems put in place are not functioning properly, problems may result. In a study conducted for the World Bank, Kirkpatrick (2009) concluded that the recent global financial crises can, to an important extent, be attributed to the weaknesses and failures in the corporate governance structures. He added that corporate governance routines that were in place did not serve to safeguard excessive risk taking which resulted in huge sums of bad loans.

Meanwhile, risk management is one of the key aspects of corporate governance, particularly in the case of financial institutions. There is a growing realization that corporate governance has an impact on enterprise risk management. Several large financial institutions worldwide no longer exist or have been taken over precisely because they neglected the basic rules of risk management and control.

Ethiopia has established basic corporate governance rules (commercial code) for share companies in the early 1960. However, despite the presence of corporate governance in the country for greater than

50 years without revising, a study conducted by Fekadu, (2010) indicates that the rules are not adequate to safeguard minority shareholders from undue exploitation. If so, it may result in loss of confidence on the investors to make an investment. And failure to attract adequate level of capital threatens the very existence of individual firms and can have awful consequences for the entire economy.

The need for strong governance is evidenced by the various reforms and standards developed not only at the country level , but also at an international level (e.g. Sarbanes-Oxley Act in the US, CLERP 92 in Australia, combined code in the UK, and the organization for economic development (OECD) code) (jackling and johl, 2009). The Ethiopian business community, the state as well as the private sector are also well aware of the importance of corporate governance and are very positive towards any efforts to improve corporate governance in Ethiopia (Alemayehu, 2008).

According National Bank of Ethiopia's (2009) to the report credit, operational and liquidity risks were key bank risks over the last two years, and would continue to be so over the next five years and the first two risks are more severe than other types of risks that banks faces. Therefore, investigating the mechanisms that influence risks management of the banks is entirely open for future studies and identifying the stakeholders is very essential.

Therefore, this study extends and contributes to the body of research using data from Ethiopia banking industry to investigate the likely impact of some of the exogenous and endogenous corporate

governance mechanisms on commercial bank risk management.

OBJECTIVE OF THE STUDY

General objectives

The general objective of this study is to investigate the impact of corporate governance mechanisms of Ethiopian banks on the management of bank credit risk and liquidity risk.

Specific objectives

In light of the general objective the specific objectives are the following:

- ♣ To assess the trend of financial (credit & liquidity) risks of Ethiopian banks over time.
- ♣ To examine the efficiency in managing risks in between of government and private banks.
- ♣ To investigate the impact of bank corporate governance mechanisms on risk management (credit risk and liquidity risk).

HYPOTHESIS

Based on the literatures to achieve the stated objectives the study has developed and tested the following hypotheses.

H 0: There is no relationship of bank corporate governance mechanisms with credit risk and liquidity risk.

H 1: There is relationship of board size with credit risk and liquidity risk.

H 2: There is relationship of with board meeting frequency with credit risk and liquidity risk.

H 3: There is relationship of type of bank ownership with credit and liquidity risk.

H 4: There is relationship of management efficiency with credit risk and liquidity risk.

H 5: There is relationship of central bank regulation with credit risk liquidity risk.

RESEARCH METHODOLOGY

I examine the empirical hypothesis developed above using a longitudinal of data for banks obtained from audited financial statements (balance sheet and income statement) of each commercial bank and various journals and publications of National Bank of Ethiopia and Ministry of Finance and Economic Development for the macroeconomic data from 2005 to 2011. Research paradigm or world view or epistemology is described as a holistic approach underlying a research approach (Kassim 2001 and Creswell 2003). It reflects the philosophy of knowledge or how we reach the knowledge while approach/methodology focuses on the strategies of how we come to know (Trochim 1998). Therefore, according to Creswell (2003), there are three basic world views that are considered to be base for the quantitative, qualitative and mixed research approaches that are post-positivist, social constructivist and participative, and pragmatic respectively.

To investigate the relationship between corporate governance mechanisms and bank risk management in Ethiopian banking industry, this study employed methodologies that are adopted from prior research

works like Greuning and Bratanovic (2003), Tandelilin et al. (2007), Sumner and Webb (2005), and Joan Tsorhe et al (2010). Only secondary data were used for the study. Conducting appropriate data gathering instruments helped researchers to combine the strengths and amend some of the inadequacies of any source of data to minimize risk of irrelevant conclusion. Consistent and reliable research indicates that research conducted by using appropriate data collection instruments increase the credibility and value of research findings (Koul 2006).

Based on the availability of data, from the total population of 19 commercial banks as per the National Bank of Ethiopia's 2011/12 annual report, 9 of them (7 private and 2 governments owned) were selected. All in all, the choice of the period and the banks (within the banking industry) are in consideration of cost and data availability. The rationale behind selecting purposive sampling techniques than others is, it considered more appropriate when the universe happens to be small and a known characteristic of it is to be studied intensively. So, only banks that have seven years of experiences in the banking business were included. Such sampling technique can be said to be convenience, one of the non-probability sampling techniques.

The research model that will be used for this study is more or less similar with slight modification on the variables to Greuning and Bratanovic (2003), Tandelilin et al. (2007), Sumner and Webb (2005), and Joan Tsorhe et al (2010). This study models the relationship between three indicators of the financial

risks that a bank faces and a vector of explanatory variables. Since there is no corporate governance index in Ethiopia which was utilized by the above authors, I tried to compensate the missing variable with other corporate governance mechanisms that are supported by theoretical literature. The relationship is hypothesized as:

$$Y_{jit} = \beta_0 + A_{jit}X_{kit} + \epsilon_{jit} \quad (1)$$

Where, Y_{jit} is a financial risk measure j , where j runs through credit risk and liquidity risk for bank i at time t . X_{kit} is a matrix of explanatory variables (transposed) arranged as a panel of k variables, and A_{jit} is a vector of coefficients to be estimated, where β_0 is an intercept. Each residual ϵ_{jit} is posited to have bank-specific and time-specific components and an error term that is independently and identically distributed. The bank-specific and time-specific components may be fixed or random.

Thus, two equations are implied in equation (1), one each for credit and liquidity risk. The explanatory variables are repeated for each risk. Thus, two sets of coefficients will be estimated corresponding to each dependent variable.

Y_1 ..., credit risk, defined as the ratio of loan loss provision to total loans. This ratio is commonly used in the literature. A high ratio is considered an indicator of poor credit risk management.

Y_2 .., liquidity risk, defined as the ratio of liquid funds (cash and near cash securities) to total deposits. A higher ratio shows better liquidity risk management.

The explanatory variables are:

X_1 .., board size, the number of directors in the bank's board

X_2 .., frequency of board meeting, natural logarithm of number of board meeting held each year

X_3 .., bank ownership, dummy variable which equals one if the bank is publicly-owned, otherwise zero.

X_4 .., central bank regulation, proxied by the logarithm of the Reserve Fund.

X_5 .., depositors' influence, the loans to deposit ratio, is used. A higher value of this ratio indicates reduced depositor support for loans probably because of perceived higher risk.

X_6 ..., management efficiency. Management efficiency will be measured by the ratio of operating expenses to total income. Thus, smaller is better.

X_7 ..., total assets of a bank. It is argued that bank size must be controlled for as size has implication for the risks that a bank takes and how these risks are managed.

X_8 .., $CPI_t - CPI_{t-1} / CPI_{t-1}$, inflation rate at time t minus inflation rate at time $t-1$ divided by inflation rate at time $t-1$ for measuring annual inflation rate.

RESULTS AND DISCUSSIONS

The trend of credit risk of sample banks has slightly changed during the period 2005 to 2011. At the beginning of the year 2005, credit risk stands at 4.75% which is the maximum for the sample periods. From this point on it has uninterruptedly and smoothly fallen and reached 1.65% in the year 2011. This shows that Ethiopian banks surely managing their credit risks well. This might be a

reflection of good credit lending and supervision of banks over time. Given this, most banks were registered lesser amount of loan loss provision particularly from year 2009 onwards. However, in the year 2011 commercial bank Ethiopia and Dashen bank showed a bit increase in their loan loss provision from 0.87% & 0.23% to 1.18% & 0.28% respectively. The upsurge in loan loss Provision might come as a result of granting more loans than ever before, but relatively small as compared to the amount of loans granted during the periods.

However, Liquidity risk showed fluctuating trends over the sample periods. Here, liquidity is measured

using mean liquidity ratio for all banks over the sample period. Liquidity risk fluctuated within the range of 48.36% and 60.08% during the period. In general there were a decreasing trend in the year 2006 and 2007, then after started to step up to 60.08 which is the highest during the sample period in 2010, which finally turned down to 56.71. Liquidity risk is volatile than credit risk. This might be the fluctuating nature of total deposits and frequently changing reserve ratio directives for meeting liquidity requirement. Therefore, it indicates that banks were changing their liquid assets form through time.

Table 1: Independent samples T- test – financial risk (credit & liquidity) management & corporate governance mechanisms of public vs. private banks

Variables	Government Banks (mean)	Private Banks (mean)	T- value
Loan loss provision to total loans	10.6079	1.0516	11.210***
Liquid assets to total deposits	54.71	53.31	0.348
Board size	7.86	9.69	-3.134**
Frequency of board meetings	3.49	3.20	1.461
Operating expenses to total income	37.021	40.237	-2.302
Reserve fund	18.99	18.12	2.331**
Total loans to total deposits	63.07	71.03	-1.604**
Total assets	23.07	21.87	3.860***

Source : Author's own computation

*** And ** represents statistically significant at 1% and 5% respectively.

Ethiopian banking sector has grown rapidly. Especially private banks are enjoying faster growth than state-owned banks (Kiyota et al, 2007). Although sharing strong growth, there are of course notable variations among banks in terms of their aggregate size, relative profitability, revenue sources, customer focus, loan concentration, and operational efficiency (Access Capital, 2010). One aim of this study is to test whether there is a significant difference of bank financial risk (credit & liquidity) management and corporate governance mechanisms between government banks and private banks. To do this, the researcher has employed independent samples T- test in which to test the null hypothesis that two independent sub-groups have equal means.

This study would expect that state-owned banks manage risks better than privately-held banks. This is largely due to long operating experience with knowledgeable managers and boards that stayed a long on position enable him/her easily over come complex as well as routine problems. On the contrary, the test statistics analysis in table 1 has revealed that no evidence to support state banks in terms of credit risk management. With respect to liquidity risk both banks (government and private) maintain proportional amount of liquid assets to satisfy demand withdrawal of cash by their respective customers.

With regards to corporate governance mechanisms, Table 1, has exhibited that a statistically significant (at 5% level of significant) difference between

government banks and private banks in terms of board size, central bank regulation (log of reserve fund) and depositors' influence. The mean value of board size for private banks is around 10, while it is 8 for government banks. This suggests that boards of private banks might be in a better position to perform their various tasks. Because directors' competence might be improved when their numbers increase in the board

The rest governance mechanism variables (i.e. natural logarithm of frequency of board meetings and management efficiency) could not bring statistically significant difference between government and private banks. The independent samples T-test also shows that government banks are more endowed with large amount of assets than privately owned banks and statistically significant at 1%.

Regression output and discussions

This paper focuses on commercial banks as they constitute an important segment of the Ethiopian banking sector. I employed a balanced panel multiple regression model in which the relationships between credit & liquidity risk with corporate governance mechanism variables are modeled. Ordinary least squares with random effects & pooled OLS estimation procedure are applied to a panel data set of 9 Ethiopian banks over the period 2005 through 2011.

Table 2: corporate governance and other factors that explain bank risk management

Variables	Dependent Variables	
	Loan loss provision to total loans	Liquid assets to total deposits
Board size	-.0021932 (0.976)	.0046674 (0.479)
Frequency of board meetings	.3390195 (0.037)	-.0380225 (0.046)
Bank ownership	.0221825 (0.000)	.0630955 (0.062)
Operating expenses to total income	.0215333 (0.075)	1.361984 (0.000)
Reserve fund	-.1484692 (0.012)	-.0366324 (0.008)
Loans to deposit ratio	.0017372 (0.564)	-.3946326 (0.000)
Total assets	-.1887208 (0.013)	.0011279 (0.941)
Inflation	.0106811 (0.009)	-.051545 (0.164)
Adjusted R-squared (overall)		0.6191 (0.6952)
F (8, 54) (wald chi2 (8))		13.60 (98.76)
Probability > F	0.0000	0.0000

Source: Author's own computation

Credit risk

The board of directors is responsible for reviewing and approving a bank's credit risk strategy and policies. Results from regression have shown, board size does not have significant (p-value 0.976) impact on credit risk. There is however, the tendency for the credit risk of the bank to decrease as board size increases (negative coefficient). This negative relationship was expected. Given that the board has ultimately responsibility for loan policies, a reasonable assumption can be made that as the board gets increased in size the bank's loan policy will get tighter and result in reduced credit risk. This is for the reason that as size of directors' increases in the board, different ideas, opinions and stands may exist.

The other governance variable is frequency of board meeting, which is measured as the natural logarithm of number of board meetings held each year of the sampled periods. In table 4.6 the result of this study has a positive and significant (p-value 0.037) impact on credit risk. This is unexpected. The possible explanation for this is board meetings do not necessarily reduce credit risk and that board meeting frequency increases when there are problems. This is consistent with the results of Jensen (1993).

Bank ownership is also used as dummy independent variable to see if ownership difference has an impact on credit risk management. As can be seen in table 2, bank ownership has a positive coefficient

and significant (p-value 0.000). The coefficient 0.02218 implies that when the bank is owned by state its credit risk is higher by 2.218% as compared to privately owned banks

Management efficiency was measured using the ratio of total operating expense to total income. The impact of the management efficiency variable is significant (p-value 0.075) and positive. Thus, the higher the variable (lower efficiency), the higher the credit risk. This is expected. A less efficient manager could make higher provisions.

Regulation of the industry, proxied by the natural logarithm of Reserve Fund, impacts credit risk negatively with a p-value of 0.012. Theory does not suggest a direction of impact since bank regulation is not directed at credit risk management. However, the evidence is that as the Reserve Fund increases, credit risk decreases. National Bank of Ethiopian forwarded a guideline to all commercial banks in Ethiopia concerning credit and liquidity risk management particularly for board and senior management under its bank supervisory directorate May 2010.

The theory states that depositors will demand higher interest rate or withdraw their funds if the banks take higher risk. For Ethiopian banks depositors (loans-to-deposit ratio) does not have significant (p-value 0.564) impact on credit risk but positive. A possible reason for this might be absence of adequate information regarding the banks provision on doubtful debts or unsophisticated depositors without the necessary information to perform efficient monitoring.

Bank size (measured as natural logarithm of total assets) is negatively related to credit risk and has significant (p-value 0.013) impact on credit risk. This implies that as bank size increases (large size of assets) credit risk decreases. The coefficient of bank size proxied by log (total assets) is -0.1887. This means that a 1% increase in log (total assets) will result 18.87% decreases in credit risk.

Inflation impacts credit risk positively with a p-value of 0.09. That is, credit risk increases during inflationary times. The result is confirmed by Aboagye et al. (2008) who found that net interest margin of banks increase with inflation. Apparently, during inflationary times, more loans are likely to go bad (increasing the credit risk variable). The coefficient for inflation is 0.1068, which means that a 1 birr increase in level of debt will result a 10.68 cents to go uncollectible.

Liquidity risk

Model II also shows that board size is positive and does not have significant (p-value 0.479) impact on liquidity risk. This is however, there is a tendency for liquidity of the bank to increase as board size increases (positive coefficient).

Similar to the first model frequency of board meeting is significant (p-value 0.046) but negatively related to liquidity risk. This implies that as the number of board meetings held each year increases liquidity decreases. This is unexpected. The same explanation given for model I will held true.

Table 2 shows that bank ownership is positive and have significant (p-value 0.062) impact on liquidity risk. The coefficient of bank ownership is 0.063.

This tells us that government-owned bank has 6.3% higher liquid assets than maintained by privately-held banks relative to deposits.

Management efficiency variable indicates that as if Ethiopian banks are not efficient. The ratio of total operating expense to total income has a positive and significant (p-value) impact on liquidity. The suggestion here is that a less efficient management may hold relatively more liquid assets. This is consistent with the results of Joan Tsorhe et al (2010), found a positive relationship between management efficiency and liquidity risk but not significant.

The variable that proxies the impact of bank regulation has negative and significant impact on liquidity risk (p-value 0.008). Konishi and Yasuda (2004) have suggested that regulatory and supervisory institutions had an influence on risk management. However, the finding here is that as the Reserve Fund increases, liquidity decreases, which may be unexpected. It may be that as the Reserve Fund increases, bank management feels more confident and is inclined to take more risks. Their attention must however be drawn to the fact that liquidity is critical to the survival of banks.

The regression result of model II is totally different. As can be seen from table 2, the ratio of total loans to total deposits is negative and has a significant (p-value 0.000) impact on liquidity risk. This is expected. Thus an increase in this variable (relative increase in loans vis-à-vis deposits) decreases liquidity and vice versa. One would have expected liquidity to decrease, for loans are normally created as alternative use of deposits (which could have

been used to acquire liquid assets). This suggests that in Ethiopia depositors' give more emphasis to the liquidity of banks.

Bank size does not at all impact liquidity risk. There is however, the tendency for the liquidity of the bank to increase as bank size increases (positive coefficient). This positive relationship was expected. Similarly, inflation also does not have an impact but negative. The negative relationship indicates that as inflation increases liquidity to decrease. This is consistent with the results of Joan Tshorhe et al (2010), found positive relation between liquidity risk and bank size but negative with inflation. To sum up, the estimation result say that neither does changes in inflation nor bank size proxied by log (total assets) impact liquidity risk. Indeed, liquidity ratio guidelines are the same for all banks, irrespective of size, or the rate of inflation.

FINDINGS

Independent sample T- test has revealed that no evidence to support state banks in terms of credit risk management. With respect to liquidity risk both banks (government and private) maintain proportional amount of liquid assets to satisfy demand withdrawal of cash by their respective customers.

The regression result showed that, board size does not have significant (p-value 0.976) impact on credit risk. There is however, the tendency for the credit risk of the bank to decrease as board size increases (negative coefficient), also insignificant (p-value 0.479) but positive for liquidity risk. Frequency of board meetings has a positive and significant (p-

value 0.037) impact on credit risk, but negatively related to liquidity risk and significant (p-value 0.046). This is unexpected. The possible explanation for this is board meetings do not necessarily reduce credit risk and that board meeting frequency increases when there are problems. This is consistent with the results of Jensen (1993).

Bank ownership has a positive coefficient and significant for both measure of risks. The coefficient 0.02218 implies that when the bank is owned by state its credit risk is higher by 2.218% as compared to privately owned banks. It is different for liquidity risk that government owned bank has 6.3% higher liquid assets than maintained by privately-held banks relative to deposits.

The impact of the management efficiency variable is significant (p-value 0.075) and positive. Thus, the higher the variable (lower efficiency), the higher the credit risk. This is expected. According to (Hess,Grimes and Holmes, 2009), Operational problems at banks (higher cost-income ratio) go hand to hand with poor credit risk management and thus higher loan losses. A less efficient manager could make higher provisions. Management efficiency variable indicates that as if Ethiopian banks are not efficient. The ratio of total operating expense to total income has a positive and significant (p-value) impact on liquidity. The suggestion here is that a less efficient management may hold relatively more liquid assets. This is consistent with the results of Joan Tshorhe et al (2010).

Regulation of the industry, proxied by the natural logarithm of Reserve Fund, impacts credit risk negatively with a p-value of 0.012. Theory does not suggest a direction of impact since bank regulation is not directed at credit risk management. However, the evidence is that as the Reserve Fund increases, credit risk decreases. Similarly, bank regulation has negative and significant impact on liquidity risk (p-value 0.008). Konishi and Yasuda (2004) have suggested that regulatory and supervisory institutions had an influence on risk management. However, the finding here is that as the Reserve Fund increases, liquidity decreases, which may be unexpected.

For Ethiopian banks depositors' influence (loans-to-deposit ratio) does not have significant (p-value 0.564) impact on credit risk but positive. On the other hand, the ratio of total loans to total deposits (depif) is negative and has a significant (p-value 0.000) impact on liquidity risk. This is expected. Thus an increase in this variable (relative increase in loans vis-à-vis deposits) decreases liquidity and vice versa.

Bank size (measured as natural logarithm of total assets) is negatively related to credit risk and has significant (p-value 0.013) impact on credit risk. This implies that as bank size increases (large size of assets) credit risk decreases. Inflation also impacts credit risk positively with a p-value of 0.09. That is, credit risk increases during inflationary times. The result is confirmed by Aboagye et al. (2008) found that net interest margin of banks increase with inflation. Apparently, during

inflationary times, more loans are likely to go bad (increasing the credit risk variable).

The regression result indicated that neither does changes in inflation nor bank size proxied by log (total assets) impact liquidity risk. Indeed, liquidity ratio guidelines are the same for all banks, irrespective of size, or the rate of inflation.

RECOMMENDATIONS/SUGGESTIONS

The finding of this study can provide Ethiopian governing bodies (National Bank of Ethiopia for financial industry) with reference for strengthening corporate governance policies and for the investing public (business persons), the board and management of each commercial banks and shareholders during their decision making. Thus, in light of the above findings the following recommendations are given.

Board should be strong and adhere to rule and regulations set by National Bank of Ethiopia and sticking on credit approval procedures and policies and strict follow up of borrowers to minimize the problem of moral hazards after the provision of credit and rely on depositors for managing liquidity risks.

Ownership difference positively and significantly impact credit and liquidity risk. Results concerning the bank ownership are quite puzzling and deserve further research.

Management of commercial banks in Ethiopia should find way to reduce expenses. For example, minimizing adverse selection during the time of credit approval and strict follow up of borrowers to minimize the problem of moral hazards after the

provision of credit and reduce cost of rental incurred for buildings by improving technologies of delivering services. Similarly, optimal amount of liquid assets should be maintained to meet legitimate deposit withdrawal of customers. However, care should be taken that this is not done at the expense of earnings.

In the case of banks, an efficient allocation of control rights needs to take account of the fact that bank debt holders (depositors) are not in a position to monitor managers because they are small and uninformed. This justifies the need to regulate banks because of the corporate governance problems arising from the separation of ownership from management.

Banks' provision of liquidity services leaves them exposed to runs. Thus, commercial banks attention must however be drawn to the fact that liquidity is critical to the survival of banks and invest in riskless securities, such as short term government-securities. Another suggestion is that funding banks with equity rather than demand deposits.

CONCLUSIONS

The following conclusions may be drawn from this study.

There is no statistical difference between the means of liquid assets to deposit ratios of public vis-à-vis private banks. But significant difference between the means of loan loss provision to total loans of public and private banks with a better management of credit risk by the latter.

Board size does not have significant impact on credit risk nor liquidity risk. Though, the tendency

is for larger board size to impact these risks negatively and positively respectively. Frequency of board meetings is significant for both measures of risk, but impact positively credit risk and negatively liquidity risk. The possible explanation for this may be board meeting increase does not reduce the risks and held when there are problems.

Regulation, proxied by the amount of Reserve Fund appears to have negative and significant impact on all measures of risk. The finding seems that as the Reserve Fund increases, liquidity decreases, which may be unexpected. It may be that as the Reserve Fund increases, bank management feels more confident and is inclined to take more risks.

Depositor behavior appears to significantly impact only liquidity management, but not credit risk management. The other evidence is that credit risk increases as management efficiency variable decreases (more efficient). This is expected. A less efficient manager could make higher provisions. Management efficiency variable is also positive for liquidity risk. The suggestion here is that a less efficient management may hold relatively more liquid assets.

Bank size is negative and significant for credit risk. The possible explanation here is that banks with more assets can evaluate their risk and diversify their portfolio. It is positive and insignificant for liquidity risk. During inflationary times loan loss provisions relative to loans increase. Inflation appears positive and significant for credit risk but not positive nor significant for liquidity risk. The results, for liquidity risk suggests that neither does changes in inflation nor bank size proxied by log

(total assets) impact liquidity risk. Indeed, liquidity ratio guidelines are the same for all banks, irrespective of size, or the rate of inflation.

SCOPE FOR FURTHER RESEARCH

Like any other research, there are some inherent limitations with the findings of this study. First, there are other potentially effective corporate governance mechanisms that this study fails to

consider such as managerial compensation, CEO Chairman Duality and audit committee size. Secondly, the current study is delimited only to commercial banks in Ethiopia taking 9 banks as sample size from 2005 to 2011. Therefore, further researchers should incorporate and consider such important points in investigating the impact of corporate governance mechanisms on bank risk management.

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