Financial Institutions and Services

An Analysis of the Factors Leading to Rising Credit Risk in the **Zimbabwe Banking Sector**

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Abstract: The study sought to analyse the factors that lead to rising credit risk in the Zimbabwean banking sector. The objective was to ascertain the impact of macroeconomic, industry and bank specific factors on rising credit risk in in Zimbabwe. The study aimed at contributing to credit risk management literature by providing evidence Sub Saharan context. Being anchored on the positivist quantitative research approach, a survey was carried out gather the data that were analysed using descriptive, correlation and regression analyses. The results revealed that the most significant factors leading to credit risk in the Zimbabwean banking sector were macroeconomic and bank specific factors. The industry factors did not show a significant influence on the rising credit risk. The research findings of this study will a valuable addition to the existing knowledge and provide a platform for further research on how the credit risk problems can be dealt with. While credit risk is known as one of the risks inherent to any banking institutions, the alarming levels of credit risk in the Zimbabwe banking sector has motivated this current study to critically analyse the factors that have led to the high credit risk levels.

Keywords: credit risk; dollarization; macroeconomic factors; industry factors; bank specific factors

JEL Classification: M10

1. Introduction

Since the dollarization of the economy in 2009, most businesses in Zimbabwe continue to face serious liquidity problems. For them to operate, businesses require funding from banking institutions. Similarly, individuals also required supplementary funding through bank loans for various personal reasons. The key challenge that banks face is that of having their customers pay back the borrowed funds in accordance with the terms and conditions of the loan agreement. The banks generally rely on the goodwill of their customers to service their loans which in turn aid the required circulation of funds in the economy. Many customers are failing to honour their loan obligations and this behaviour is resulting in increasing

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credit risk for banks. Increasing credit risk stifles the lending and borrowing cycle thereby bringing distress to both the banking institutions, the customers and overall to the economy as a whole, at large. Credit risk has threatened the survival and profitability of the banking sector. The problem has also contributed to decline in economic growth for Zimbabwe as businesses have faced difficulties in accessing affordable financing that is appropriately tenured to fund their operations.

Garcia-Herrero (2006) and Ramlall (2009) identify poor asset quality, as indicated by the high levels of non-performing loans to be responsible for low profitability for banking institutions. The negative effect of non-performing loans on bank profitability has been collaborated by Sarpong, Winful and Ntiamoah, (2011) in their research on Ghana. Bashir (2000) also confirmed that high loans to asset ratios lead to higher profitability provided the quality of the loan portfolio is good, stressing the importance of a good quality credit portfolio.

The problem therefore is that of rising credit risk in Zimbabwe banking sector and the negative effects being suffered as a result of the credit risk. Credit risk has threatened the survival and profitability of the banking sector. The rising credit risk has contributed to decline in economic growth for Zimbabwe as businesses have faced difficulties in accessing affordable financing that is appropriately tenured to fund their operations.

While credit risk is known as one of the risks inherent to any banking institutions, the alarming levels of credit risk in the Zimbabwe banking sector has motivated this current study to critically analyse the factors that have led to the high credit risk levels.

Most of the studies on factors explaining credit risk in banks have been carried out in the advanced economies. This include, Aver (2008), on his study of credit risk factor on Slovenian banking system; Das and Ghosh (2007), in their study on determinants of credit risk in state-owned banks in India. These studies have been conducted under unique regulatory and economic environments where the level of market efficiency is advanced compared to those of emerging and developing countries like Zimbabwe. This study therefore allows focus on the Zimbabwe banking sector that is currently facing high credit risk. The economic cycle that Zimbabwe has gone through has exposed it to issues that may not be common in other countries.

The research findings of this study will a valuable addition to the existing knowledge and provide a platform for further research on how the credit risk problems can be dealt with. An understanding of the effects of the external and internal factors on credit risk in the Zimbabwean banking system is important to the senior management and investors of financial institutions in Zimbabwe.

2. Literature Review

2.1. Agency Theory

Agency theory sometimes referred to as principal-agent theory explains the conflict of interest between the shareholders who are referred to as the principals and the managers who are referred to as the agents (Jensen and Mecling, 1976). The theory defines agency relationship as a contract where the principal engages the agent to perform some duties on their behalf. The agency theory mirrors the issue of poor quality insider lending that have been the major reason for demise of some of the financial institutions in the Zimbabwe banking sector. The liquidity preference theory and its emphasis on compensation for holding less liquid assets, in the form of interest rates, and how the interest rates increase where high risk is perceived reflects lending patterns and practices in the Zimbabwe banking sector.

2.2. Factors affecting credit risk

Literature recognises that factors influencing credit risk can be distinguished into external factors and internal factors. The external factors relate to the macroeconomic factors while internal factors are the microeconomic factors. Empirical literature identifies macroeconomic, bank-specific and industry-specific variables as factors affecting credit risk. Garr (2013) establish in a study, that bank ownership (whether locally-owned or foreign) and management efficiency as the bank specific factors, while industry specific factors are financial sector development and competition. The macroeconomic variables considered are interest rates, inflation, government borrowing and the gross domestic product per capita.

2.2.1. Macro Economic Factors

Macroeconomics is a branch of economics that studies the economy of a nation from a broad point of view through the application of macroeconomic factors. Macroeconomic factors are those factors that have impact at a national level and include variables such as inflation rate, unemployment levels, interest rates, rate of consumer consumption, gross domestic product, national income and price levels. Literature submits that macroeconomic factors influence the level of credit risk in the banking sector.

Gross domestic product growth rate is considered a key macro determinant of banks performance. During economic booms, income levels are high and portfolio at risk is minimal. During recessions, income levels are constrained and borrowers face challenges in settling their credit obligations. Vazquez, Tabak and Sauto, (2012) contends that there is an inverse relationship between gross domestic product and non-performing loans. On the other hand, research shows a positive relationship of inflation, unemployment and interest rate on non-performing loans. High tendencies of credit risk are said to go along with high inflation, high unemployment and high interest rates. These variables limit the borrower's ability to borrow and at the same time increase the cost of borrowing (Derbali, 2011).

Aver (2008) conducted an empirical analysis of credit risk factors affecting Slovenian banking system. The research results established that certain macroeconomic factors exert notable influence on credit risk. Results of the study confirm that unemployment rate, interest rates and stock market index were critical in influencing credit risk in Slovenian banking system. No sufficient linkage of inflation rate, gross domestic product growth rate, exchange rate or growth of import-export trade was noted to affect credit risk.

Empirical studies suggest that for every banks crisis, there are some macroeconomic variables relating bank crisis to the economic performance. A banking crisis is a financial crisis that affects banking activity. Banking crises include bank runs, which affect single banks; banking panics, which affect many banks; and systemic banking crises, in which a country experiences a large number of defaults and financial institutions and corporations face great difficulties repaying contracts.

Ramlall (2009) considers interest rate, cyclical output, the level of economic development and stock market capitalisation as determinants of credit risk.

2.2.2 Micro Economic Factors

The main source of micro economic factors that leads to credit risk include limited institutional capacity, inappropriate credit policies, volatile interest rates, poor management, inappropriate laws, low capital and liquidity levels, direct lending, massive licensing of banks, poor loan underwriting, laxity in credit assessment, poor lending practices, government interference and inadequate supervision by the central bank (Kithinji, 2010).

Musyoki (2011) investigates the impact of credit risk management on financial performance of banks in Kenya between years 2000 to 2006. The study finds that default rate (credit risk) was a major predictor of banks success carrying a strong inverse relationship to banks financial performance. The study highlights that micro economic factors play a role in level of credit risk.

Literature also spells out principal-agent relationship as a primary factor influencing the risk appetite of a financial institution. Moral hazard, ownership structure, regulatory framework and governance mechanism form the theoretical micro determinants of credit risk.

Das and Ghosh (2007) analysed the determinants of credit risk in Indian stateowned banks. The paper sought to analyse the loans problems of state owned banks in India for the period 1995-2005. The study concluded that, although credit risk was influenced by macro-economic variables, the quality of loans was significantly determined by the single bank individual variables. This was concluded after realizing that despite controlling the macroeconomic factors, credit risk was still highly affected by micro factors. Evidence from the study indicates that excessive growth of loan book outstrips banks capacity to monitor the portfolio. Also bigger banks proved to have problems with managing loans than smaller banks. The study concluded that excessive loan growth and institution expansion capacity need to grow along with impeccable managerial skill relevant to strategise and manage institutions risk appetite to avert unforeseen risk.

2.2.3. Bank Specific Factors

A study by Garr (2013) identifies the following as some of the bank-specific factors that impact credit risk: bank ownership structure, operating expenses, efficiency of management, deposit composition and quality, asset quality, capital and size and bank reserve requirement.

Bank ownership structure is considered a factor that can influence credit risk. It is hypothesised that foreign owned banks perform better on credit risk matrix than local banks. Demirguc-Kunt and Huizinga (1998), find in their research study that foreign banks have higher margins and profits compared to domestic banks in developing countries, while the opposite holds in developed countries. Garcia-Herrero (2006), also observes that foreign banks generally count with a better production technology, which allows them to be more efficient and better in credit risk management, thereby, more profitable. Bashir (2000) also maintains that foreign-owned banks are more profitable than their domestic counterparts among Islamic banks. Dietrich and Wanzenried (2009) however contradict the above and indicate that foreign banks in Switzerland are less profitable than Swiss owned banks.

In a study by Mwaurah (2013), the focus of literature review zeroed to managerial efficiency as a microeconomic determinant of credit risk. Mwaurah (2013) pointed that commercial banks crisis arises mostly due to inadequate management capabilities and that competency and management responsibility play a crucial role in deciding the risk appetite of a financial institution. The study further assert that poor credit management practices lead to bad lending which give rise to a bloated portfolio of unpaid loans.

The Central Bank of Kenya Risk Management Guideline (2013), corroborate that sound bank management need to establish an elaborate system to monitor quality of loans on a day to day basis. It further states that credit policy on lending should explicitly outline procedures on credit appraisal, approval, monitoring and recovery and that the quality of management in a financial institution bears an inverse relationship to credit risk with inadequate governance structures being blamed for increased risk on loan quality. Al-Smadi and Ahmad (2009), conclude that at the 84

micro level, precautionary credit policies adopted by the banks during periods of high demand on loans lead to reduce the banks' credit risk exposure. Also according to Ramlall (2009) the higher the efficiency level of the bank, the higher its profit level, hence a positive relationship is posited between efficiency and profitability of banks. Maudos and de Guevara (2004) maintain that a good management means picking up high quality assets (low risk and high return assets) and low cost liabilities.

During economic expansion, banks are often engaged in fierce competition for market share in loans, resulting in rapid credit growth. It is purported that the easy way to garner market share could be to lend to borrowers of inferior credit quality. Kithinji, (2010) analyses this phenomenon in a study to investigate the relationship between credit risk management and profitability of commercial banks in Kenya. The study sought to find out how banks profitability was affected by the non-performing loans and growth of credit portfolio in a study conducted between 2004- 2008. The study reveals a decline in credit level and improvement in the quality of loans. This improvement was attributed to the compliance by commercial banks to Basle II provisions. However, the regression analysis did not reveal any relationship between profits, credit level and non-performing loans suggesting that other variables apart from credit level and non-performing loans affects profits.

Other studies have found credit growth rate as a significant variable explaining credit risk. Castro, (2013), analyses the link between the macroeconomic developments and the banking credit risk in a particular group of countries – Greece, Ireland, Portugal, Spain and Italy (GIPSI), using dynamic panel data approaches to these five countries over the period1997-2011 and finds that there is a significant relationship between credit growth and credit risk. The study purports that when credit expands or grows faster, the risk of more defaults in the future may increase because that expansion might be achieved at the cost of more risky loans, the effect of which may not be felt immediately. This confirms the previous studies of Igan and Pinheiro, (2011), Mendoza and Terrones, (2008) and Tamirisa and Igan, (2007) who found that a positive relationship between credit growth and credit risk.

On the contrary studies conducted by Dash and Ghosh (2007) shows a negative relationship between credit growth rate and non- performing loans in both the contempreous and lagged values in their study of determinants of credit risk in Indian State-owned Banks.

Salas and Saurina (2002) find a negative relation between bank size and nonperforming loans and argue that bigger size allows for more diversification opportunities and spreading of risk. Louzis, Vouldis and Metaxas, (2011) are howver of a different opinion and argue that the moral hazard of too-big-to-fail banks represents another channel relating bank-specific features with nonperforming loans. Stern and Feldman, (2004) agrees to this and state that a policy concern is that too-big-to-fail banks may resort to excessive risk taking since market discipline is not imposed by its creditors as they expect government protection in case of a bank's failure. Consequently, large banks may increase their leverage too much and extend loans to lower quality borrowers precipitating credit risk (Louzis et al, 2011).

Garr (2013) considered two industry-specific factors in the study of determinants of credit risk in the banking industry of Ghana. These two industry specific factors are competition and the financial sector development. Other banking industry specific factors that are considered to influence credit risk are the existence of a credit reference bureau and the effectiveness of the supervision and monitoring role of the central banks. The Central banks are the regulators of banking institutions in an economy.

Aginer, Demirguc-Kunt and Zhu, (2012) and Rose and Hudgins (2008) both agree that competition is good for the banking sector as greater competition encourages banks to take more diversified risks, making the banking system less fragile to shocks. They both argue that competition tends to squeeze the difference between average asset yields and average liability costs. Jimenez and Saurina (2006) also contend that strong competition among banks or between banks and other financial intermediaries erodes margins as both loan and deposit interest rates get closer to the interbank rate and this has an impact of reducing credit risk through affordable lending rates.

Two major indicators are used to represent financial sector development in literature and there are the ratio of M2+ to gross domestic product and ratio of bank total asset to gross domestic product. M2+ is money in the form of saving deposits, time deposit which are assets that are near cash. These ratios, according to Tennant and Folawewo (2009) reflect the overall level of development of the banking sector and the level of competition in well-developed banking sectors. An increase in any of these ratios is an indication of improvement in the development of the financial sector development is submitted to have an inverse relationship with credit risk. According to Ngugi (2001), inefficiency in the intermediation process is a characteristic of a supressed financial system. This is because in a control policy regime, selective credit policies involve substantial administrative costs, and interest rates with set ceilings fail to reflect the true cost of capital.

Literature suggests that credit information sharing has positive effect on credit risk. In their study, Jappelli and Pagano (2000) use survey data in cross-country analysis of Europe and show that credit information sharing leads to a reduction in credit risk. Auronen, (2003) suggest that the theory of asymmetric information indicate that it may be difficult to distinguish good from bad borrowers which may result in adverse selection and moral hazards problems. The theory explains that in the market, the party that possesses more information on a specific item to be transacted (in this case the borrower) is in a position to negotiate optimal terms for the transaction than the other party (in this case, the lender) (Auronen, 2003) and Richard (2011). The party that knows less about the same specific item to be transacted is therefore in a position of making either right or wrong decision concerning the transaction. Adverse selection and moral hazards is purported to have led to significant accumulation of non-performing loans in banks (Bofondi and Gobbi, 2003).

Information sharing is largely enhanced by the presence of a credit reference bureau in a country. The Kenyan Banking (Credit Reference Bureau) Regulations, 2008 states that the main role of Credit Reference Bureau is to provide credit histories to financial institutions as to be able to make lending decisions in order to prevent credit risks. Credit bureaus assist in making credit accessible to more people, and enable lenders and businesses reduce financial risks. They add that credit bureaus allow borrowers to take their credit histories from one financial institution to another, thereby making lending markets more competitive and in the end, mitigate credit risks and make credit more affordable.

Jappelli and Pagano, (1999), further assert that sharing of information between financial institutions in respect of customer borrowing behaviour has a positive economic impact. The introduction of Credit Reference Bureaus in financial landscape is an effort to encourage sharing of information by institutions so as to reduce the incidences of serial defaults by bank customers as well as minimize the incidences of non-performing loans. Credit information sharing will allow banks to distinguish between good and bad borrowers. Information sharing will also present customers with the opportunity to negotiate a for good credit terms when one has a good credit record. This means that the introduction of Credit Reference Bureaus will inculcate a culture of observing credit terms thereby reducing the level of non-performing loans. This is indicative that sharing of information between financial institutions through Credit Reference Bureau is very essential in the management of credit risks (Jappelli and Pagano, 1999)

Petersen and Raghuram, (1994), also agree on the need for credit information sharing and state that the unavailability to banks of data needed to screen credit applications and to monitor borrowers has an impact of increasing credit risk in the banking sector. They claim that when a bank does not have such information, it faces "adverse selection" or "moral hazard" problems in its lending activity. Adverse selection arises when some information about the borrowers' characteristics remain hidden to the lender (hidden information), and can lead to an inefficient allocation of credit. Moral hazard arises from the lender's inability to observe borrower's actions that affect the probability of repayment. This creates the danger of opportunistic behaviour or moral hazard by the borrower and informational disadvantage by the bank leading to inefficient allocation of credit and then high credit risk.

Central Banks are responsible for supervising the banking institution of their countries. They provide regulatory frameworks which govern operations of banking institutions. In Zimbabwe this is done through the Banking Act. There is not yet a lot of literature on how supervisory role of central banks impacts credit risk in a banking sector. However an analysis of the global financial crisis has pointed that inadequate regulation contributed to the crisis. Merrouche and Nier (2010) in the IMF Working Paper on "What caused the Global financial Crisis-Evidence on the drivers of financial imbalances 1999-2007" highlights that supervision and regulation of the financial system is a key means to prevent crises. Merrouche and Nier (2010) further mention that supervision and regulation of financial institutions. They attributed the inadequate supervision and regulation as prime candidates to have caused the global financial crisis.

3. Methodology

The positivist, quantitative research paradigm was chosen because the study sought to establish the relationship between credit risk performance and bank specific, industry specific and macro-economic factors (Saunders et al., 2009).

The population for this study were the banking institutions in the Zimbabwe banking sector (13 commercial banks, 3 building societies and 1savings bank). The sample frame was register of licensed banks from Reserve Bank of Zimbabwe. The units of analysis were 130 lending managers, Heads of Credit Division, credit analysts, senior and junior bank managers and managing directors.

3.1 Data Analysis

The Statistical Package for Social Sciences (SPSS) Windows Version 21 was used to analyze data. The data were first examined using descriptive statistics to identify the frequency distributions. Correlation analysis was used to establish the association among the factors and then regression analysis was used to identify the causal relationship between the variables under study effect of the factors.

4. Results

The response rate from a sample of 130 targeted respondents was satisfactory. Out of the 130 questionnaires that were distributed, 91 questionnaires were successfully completed and returned for analysis. This represents a response rate of 70% which is adequate enough to warrant validity of the study finding

4.1. Reliability and Validity

A reliability test was conducted to find establish the internal consistency of the scale. SPSS tests were carried out to calculate Cronbach's Alpha values in order to estimate reliability of each of the research variables. As advised by Nunally (1978), all the variables yielded an alpha value greater than 0.7 with macroeconomic factors (0.817), bank specific factors (0,825), industry factors (0.866), and credit risk (0.850) implying that all the scales in the study are reliable and valid to the instrument. The table below shows the overall Cronbach's alpha coefficients for the variables that were used in the study.

Variables	Number of Items	Cronbach's Alpha value
Macro-economic		
factors	9	0.817
Bank Specific factors	8	0.825
Industry factors	5	0.866
Credit risk	13	0.850
Overall Cronbach's		
Alpha	35	0.774

Table 1. Reliability Statistics of the variables

The validity of the instrument was further checked using content analysis. Face validity was mostly used as the use of subject experts was conducted to come up with a valid instrument (Grays, 2009). A pilot study was done prior to the distribution of the questionnaires with selected sample of respondents with experience in credit risk issues to check for adequacy and validity of the instrument. The results of the pilot study were then used to validate the instrument while making adjustments to other variables until the acceptable reliability was achieved.

4.2 Correlation Analysis

A non-parametric rank-based statistical test for unevenly distributed data caled the Spearman Rank correlation "rho" was conducted to determine how the variables were correlating with each other (Zammit, 2010). The table below shows the results of the correlation coeffeciets of the variables that were under study.

Factors	1	2	3	4	
Macro-economic factors1	1				
Industry factors 2	.490**	1			
Bank specific factors 3	.479**	.628**	1		
Credit risk 4	.881**	.601**	.650**	1	

Table 2. Correlation analysis

The correlation takes a range from -1.0 for a perfect negative relationship to +1.0 for a positive relationship (Kanbur, 2009). According to the results in table 4.8 it was observed that there is a statistiaclly significant and strong positive relationship between the macro economic factors and credit risk ($r=0.881^{**}$, p<0.01), between the bank specific factors and credit risk ($r=0.650^{**}$; p<0.01), between the industry factors and credit risk ($r=0.601^{**}$; p<0.01). The coefficients between the industry for 0.479 to 0.628 showing that there was no problem on collinearity.

4.3 Regression Analysis

Additional tests to determine the causal-effect relationship was carried out using regression analysis. Table 3 below depicts the regression model.

Table 3. 1	Regression	Coefficients
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	Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients			
Mo	del	В	Std. Error	Beta	t	Sig.	
1	(Constant)	.450	.165		2.737	.008	
	MACRO_E	.748	.041	.819	18.344	.000	
	BANK_SPEC	.161	.035	.202	4.554	.000	
	INDUSTRY	.030	.030	.046	.999	.321	

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a. Dependent Variable: CREDIT_RISK

b. R-squared = 0.862; Adjusted R-squared= 0.857

c. F=180.95, p<0.01

Results shown in table 3 above showed that 86.2% of credit risk in the Zimbabwe banking sector is influenced by the independent variables of macroeconomic factors, bank specific factors and industry factors. The model was consdired a fit or significant in predicting credit risk as evidenced by value F (180.95) and p-value of 0.0000. The beta coefficients revealed that the macro economic factors have more power and high significance in explaining the contribution of the factors to credit risk in the Zimbabwe banking sector ($\beta = 0.891$; p<0.01). The bank specific factors also have power in explaining the contribution of the factors to credit risk in the Zimbabwe banking sector ($\beta = 0.202$; p<0.01). Industry factors on the other hand had low expanatory power of credit risk in the Zimbabwe banking sector with $\beta = 0.046$ and low significance level.

Confirming similar results, Aver (2008) established that certain macro-economic factors exert notable influence on credit risk. Results of the study confirm that unemployment rate, interest rates and stock market index were critical in influencing credit risk in Slovenian banking system. On the internal factors Kithinji, (2010) pointed out that the main source of micro economic factors that leads to credit risk include limited institutional capacity, inappropriate credit policies, volatile interest rates and poor management. According to the survey which was conducted by Das and Ghosh (2007) it was interesting to note that in his study of the Indian banks he concluded that, although credit risk was influenced by macro-economic variables, the quality of loans was significantly determined by the single bank individual variables. This was concluded after realizing that despite controlling the macroeconomic factors, credit risk was still highly affected by micro factors.

This study therefore concludes that macro economic and bank specific factors have a significant effect on credit risk in Zimbabwe banking sector while the bank indusrty factors exert less influence on credit risk in the Zimbabwe banking sector.

5. Managerial Recommendations

The study has shown that the external factors/ macroeconomic variables exert significance influence on credit risk in the Zimbabwe banking sector. In making efforts to manage credit risk in the banking sector, it must be observed that the banking industry is part of the larger economy and as such, issues of credit risk cannot be tackled in isolation of the greater issues of the economy. The interrelatedness of the economy performance and credit risk points that it is important for the policy makers to address the fundamentals of the economy so as to create an environment that is conducive for business prosperity.

The significance of bank specific factors also highlights the need for banking institution to take staff training on the various aspects of banking operations seriously. Due to the difficulties in the operating environment, institutions have been forced to implement drastic cost cutting measures and in this light, there has been a general tendency to cut on staff cost which include staff training. There is need for a mind-set shift in considering training as a cost. Instead, training must be considered as an investment in human capital that is essential in contributing to the success of the organisation. It is therefore recommended that focused training be done for bank employees to enhance their management capabilities.

6. Limitations of the Study and Avenues for Future Research

The study population was limited to the Harare metropolitan province only. Respondents from other cities were not included in the sample. While it is acknowledged that Harare in the business hub for the Zimbabwe economy, there is a possibility there could be salient features in other provinces that could have enriched the date of this study. This study was restricted to banking institutions only. Credit risk is a phenomenon that affects all credit granting organisations and this includes non-banking financial institutions such as retails chain stores who sell their products of credit, manufacturing companies among others. It is this researcher's view that the study should be extended to these other credit granting organisations. In addition, the study was based on a snap survey therefore it is recommended that a longitudinal study be undertaken to ascertain if the pattern remains the same.

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