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Credit Risk Management and Loan Performance: Empirical Investigation of Micro Finance Banks of Pakistan

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ABSTRACT

The main aim of the paper is to evaluate the influence of credit risk management practices on loan performance (LP) while taking the credit terms and policy (CTP), client appraisal, collection policy (CP) and credit risk control (CRC) as the dimensions of the credit risk management practices. For statistical evaluation, the primary data in cross sectional form has been taken into consideration. The data is collected from the managerial level credit risk management staff of microfinance banking sector. Multiple regression analysis has been used for empirical relationship evaluation of the credit risk management practices on the performance of loan. The results of the analysis are showing that the credit terms and client appraisal have positive and significant impact on the LP, while the CP and CRC have positive but insignificant impact on LP. The study is helpful for the management to enhance the LP by focusing on the dimension of the credit risk management practices used in the study. Future aspects of the research have also been taken into account and elaborated.

Keywords: Loan Performance, Credit Risk Management, Credit Terms, Credit Policy, Credit Risk Control, Loan Appraisal, Micro Finance
JEL Classifications: G20, G21, G30, G32

1. INTRODUCTION

Financial institutions are performing a key role in economic growth as they are mobilizing savings for productive investments through facilitating role in capital flows towards various sectors of the economy (Shanmugan & Bourde, 1990; Sufian & Parman, 2009). It is also worth to note that commercial banks in most of the world economies are dominant as a financial institution providing installment loans compared to any other financial institution (Greuning & Bratanovic, 2003). The significance of banks in an economy may not be eliminated as they are institutions, which provide liquidity for both lender and borrower (Kashyap et al., 1999). Because of this significance bank have to evaluate the risk, which it face daily while lending (Mohammad, 2014). Banks involves continuously in corporate governance to monitor, screen and recovery of loan for better performance of loan (Mohammad, 2014). Performance of commercial banks influences economic growth positively. Despite their role in growth of economy, well performing commercial banks helps in economic acceleration while those poorly performing hampers the economic growth and enhance poverty in the country (Barth et al., 2004). Hence performance is critical for commercial banks for achieving their objectives. Recently a study has been conducted in Sub-Saharan Africa (24 countries') regarding the determinant of bank lending and reported the linkage between bank credit and its strength by taking the secondary data from 264 banks (Mohammad, 2014). However, in this study the concept has been transferred to primary data through adopted questionnaires regarding the determinants of loan (lending amount) performance.

Credit provision requires due attention as credit risk management is one of the critical aspect and hot issue amongst the issues faced by banks. The risk management aspect is not only crucial for sustainability but growth of the banking sector as well. The sustainability and growth also brings stability to local currency as well as the economy as a whole (Greuning & Bratonovic, 2003). Poorly managed credit risk may cause liquidity risk resulted in insolvency of the commercial banks. Presence of risk in financial sector is also attached to products offered by them. Those include balance sheet products such as short term and long term loans, as well as off balance sheet such as letter of credits along with other guarantees. Inspite of all the risks, loans however, constitute a greater proportion of credit risk as they generally, account for 10-15 times the bank's equity (Kitua, 1996). Hence, banking business may likely to collapse if there is slight deterioration in loan quality.

In the recent years, credit risk gained focal importance because of huge financial losses faced by big international financial organizations (Nikolaidou & Vogiazas, 2014). Since the financial crisis, financial organizations particularly commercial banking sector have taken special measures to mitigate any forthcoming financial losses caused by mismanagement in loan allocations and credit recoveries. Credit risk management offers a viable solution to such challenges. Today, credit risk management constitutes a critical component of a comprehensive approach to risk management in banking sector (Arora & Kumar, 2014). A key necessity for viable credit risk management is the capacity to sagaciously and productively oversee client credit lines. To minimize the introduction to terrible obligation, over-saving and liquidations, banks must have more prominent understanding into client budgetary quality, financial assessment history and changing installment designs (Nkusu, 2011). Credit management for a loan deal does not stop until the full and last installment has been recovered (Moti et al., 2012). Hence, as financial conditions change, the credit approach of the bank may likewise change. Although several previous studies have been conducted regarding credit risk management, but this issue has rarely been covered by researchers from the perspective of Pakistani context. The current research aims to investigate the impact of credit risk management practices on loan performance (LP) in microfinance banking sector of Pakistan.

2. LITERATURE REVIEW

Nikolaidou & Vogiazas (2014) define credit risk management as the combination of coordinated tasks and activities for controlling and directing risks confronted by an organization through the incorporation of key risk management tactics and processes in relation to the organization's objectives. It is important to note that risk management practices are not developed and aimed to eliminate risks altogether but they aim at controlling opportunities and hazards that may result in risk (Frank et al., 2014). Moreover, Ross et al. (2008) contend that risk management practices also ensure that financial institutions must have strong and rational framework for decision making by which firm's objectives can be attained (Ross et al., 2008). García et al., (2013) on the other hand, note that effective credit risk management practices have never been successful to eliminate the human element in making decisions about controlling risk.

Credit risk is basically the risk faced by investor to lose money from borrower who fails to make payments. This may result in default or default risk. Investors may lose interest and principal that can result in increased cost of collection and decreased cash flows. Previous studies have noted that high credit risk controls (CRC) result in low chances of defaults (Ross et al., 2008). Therefore, credit risk could be alleviated by utilizing danger based evaluating, contracts, credit protection, tightening and broadening (Ross et al., 2008). Moti et al. (2012) argue that intelligent and effective management of credit lines is a key requirement for effective credit management. Furthermore, to minimize the risk of bad debt and over-reserving, banks ought to have greater insight into important factors like, customer financial strength, credit score history and changing payment patterns (Moti et al., 2012).

Credit risk variation indicates the change in health of loan portfolio managed by bank (Cooper et al., 2003) resultantly performance of financial institution would also varies accordingly. Miller & Noulas (1997) depicted that if financial institutions are exposed more too high risk loans, there would be accumulation of unpaid loans along with less profits. Credit risk is most critical and expensive risk associated with financial institutions. Its impact is quite significant compared to any other risk associated to the banking sector as it is direct threat to solvency of the institution (Chijoriga, 2011). Credit risk is not only directly associated to solvency but it's magnitude as well as level of loss is severe compared to other risks. It may results in loan losses of high level and even failure of financial institution (Richard et al., 2008; Chijoriga, 2011).

Loan portfolio is not only considered as a largest asset as well as pre-dominate source to generate revenue but one of the biggest risk source for the financial institution's soundness and safety as well (Richard et al., 2008). Hence credit risk management is considered to be one of the road maps for soundness and safety of the sector through prudent actions as well as monitoring and performance. Despite of the efforts made by the financial institutions number of problems increased significantly in both, emerging as well as matured economies of the world (Basel, 2004). Most important of all the risks associated to financial institutions is weak credit risk management, being a threat for the banking sector (Chijoriga, 1997). There should be systematic distribution of loans according to well established credit policies and procedures provided by (Schreiner, 2003). Well formulated loan policy is beneficial for institutional performance. Hence it helps organizations to follow the same for risk management as well as fulfilling regulatory requirements (Joana, 2000). Loan review is a part of policy and is crucial, helping management in problem identification on regular basis to check either loan officers are following the policy in true letter and spirit or not. The review policy is better implemented by commercial bank hence they were easily able to top up loans in no time through use of modern technology unlike institutions (Craig, 2006).

Loan appraisal is an application/request for funds, evaluated by financial institution. The aspects to be focused in appraisal includes: purpose of the client, need genuineness, repayment capacity of the borrower, quantum of loan and security. Loan appraisal plays important role to keep the loan losses to minimum level, hence if those officers appointed for loan appraisal are competent then there would be high chances of lending money to non-deserving customers (Boldizzoni, 2008). Collection procedure is a systematic way required to recover the past due amount from clients within the lawful jurisdiction. The collection aspects may vary from institution but those should be complaint to existing laws such as third party collection agencies may involve in a collection process. It does not just involve in collection procedure details provided by the institution but also the procedure in which the lawful collection takes place (Latifee, 2006). Well administered collection is needed for better performance of the loan. If financial institutions do not follow well administered collection procedures, this would results in loan defaults (Boldizzoni, 2008).

Previous studies indicate that microfinance institutions need to have strong and effective credit risk management policies for ensuring consistent recoveries from clients (Frank et al., 2014). For microfinance institutions, the main source of income is the credit, which is why they need to have strong policies for credit risk management. The advance reimbursements may be questionable and the accomplishment of giving out credit relies on the philosophy connected to assess and to grant the credit (Moti et al., 2012). Subsequently the credit choice ought to be focused around a careful assessment of the danger states of the loaning and the qualities of the borrower. Various approaches have been created in customer evaluation preparation by budgetary establishments which run from generally straightforward techniques, for example, the utilization of subjective or casual methodologies, to reasonably mind boggling ones, for example, the utilization of mechanized reproduction models (Horcher, 2005; Horne, 2007).

It is broadly recognized that lack in credit risk administration and management policies by monetary establishments have helped altogether to the financial downturn around the world (Fraser & Simkins, 2010; Bezzina & Grima, 2012). As fallout to this emergency, orders including credit risk administration are currently being given more imperativeness, particularly in monetary related areas (Horne, 2007) like banks. This is on account of counter contentions that compelling credit risk management and controls have given effective stories actually amid a time of worldwide financial turbulence. Such commitments stress that powerful hazard society and corporately incorporated components decipher into worth included execution and expand monetary points of interest. Basically, a few nations were less influenced by the emergency or kept on experiencing financial development in spite of recessional storms because of adopting effective risk management practices (Horne, 2007).

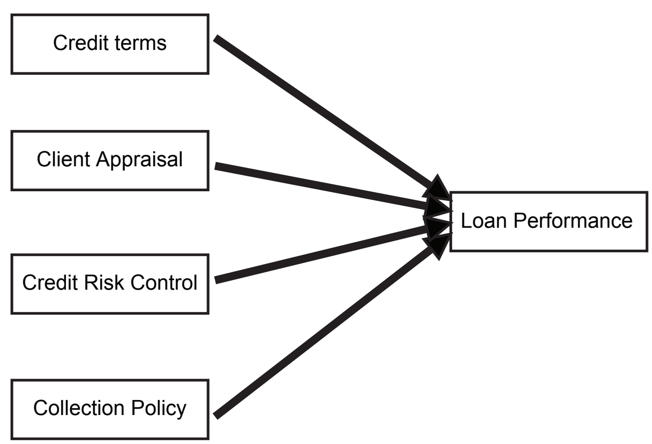
During a review of current literature on credit risk management, four credit management practices were found to be of great significance to LP in microfinance banking sector, namely credit term, client appraisal, CRC and CP. Credit terms constitute the conditions under which organizations deliver finance or credit to customers (Moti et al., 2012). According to Ross et al., (2008) credit terms may include specific time period, rate of interest and other conditions under which credit is advanced by financial institutions. Several previous studies have noted that the time period for which credit is advanced is affected by credit risk, collateral value, competition in the market and size of client's account (Ross et al., 2008). Abedi (2000) contends that in order to evaluate a customer as a potential borrower, microfinance institutions employ the 5Cs model due to its role in increasing LP once they get to know their customers better. These 5Cs include: character, capacity, collateral, capital and condition. As to the factors that influence a client, Ouma (1996) categorize them into personal, cultural, social and economic factors. Credit risk or default risk is basically the risk faced by investor to lose money from borrower who fails to make payments (Moti et al., 2012). Investors may lose interest and principal as a consequence of credit risk which further leads to increased cost of collection and decreased cash flows. Previous studies have noted that high CRCs result in low chances of defaults (Ross et al., 2008). Credit risk could be alleviated utilizing danger based evaluating, contracts, credit protection, tightening and broadening techniques (Ross et al., 2008). There can be multiple aspects and arrangements by which an organization can set specific policies for collecting money from borrowers (Moti et al., 2012) keeping into focus that a few clients are moderate payers while some are non-payers. The accumulation exertion ought to, subsequently go for quickening accumulations from moderate payers and lessening awful obligation misfortunes (Loona & Zhong, 2014).

2.1. Hypothesis of the Study

After reviewing the literature minutely the following hypotheses and research model have been developed;

H1: Credit terms influences positively the LP.
H2: Client appraisal influences positively the LP.
H3: Collection policy influences positively the LP.
H4: CRC influences positively the LP.

2.2. Research Model



3. METHODOLOGY

The aim of the study is to pinpoint the direction and strength of the effect of the credit management practices on the performance of loan. For this purpose the microfinance bank sector of Pakistan has been taken into account. The data has been gathered from 157 managers of credit departments of microfinance banks of Islamabad and Rawalpindi. The data has been collected from three level managers (top, middle and lower level managers). Credit terms, client appraisal, CP and CRC have been taken into account as the dimensions of the credit management. The five point Likert scale used in the adopted questionnaires from past studies. The questionnaires regarding the dimensions of the credit management have been adopted from the study of Gatimu and Frederick (2014), however, the questionnaire for LP adopted from the study of Jovantth (2010). Afterward the descriptive and inferential statistical techniques have been applied for analysis purpose. In descriptive statistics the average (mean) and standard deviation have been taken into account to feel the data. Whereas for inferential statistics; the correlation and multiple regression analysis have been used to achieve the objectives of the study. In the research the following statistical function and equation have been used.

$$LP = f(CTP, LCA, CP, CRC)$$

$$LP_i = \alpha + \alpha_1 CTP_i + \alpha_2 LCA_i + \alpha_3 CP_i + \alpha_4 CRC_i + \varepsilon_i$$

LP=Loan performance
CTP=Credit term
LCA=Client appraisal
CP=Collection policy
CRC=Credit risk control
α=Intercept (Constant term)
ϵi=Error term

The cross sectional data has been taken into account for analysis purpose and before applying regression analysis the reliability of each variable has been checked. The above regression equation is showing that there are four independent variables (credit term, client appraisal, CP and CRC) and dependent variable is LP.

4. DATA ANALYSIS AND DISCUSSION

The results in respect of the demographic features (Table 1) are depicting that total number of the respondents is 157, which are consisting upon 141 (89.8%) male and 16 (10.2%) female respondents. The respondents are lying in various age groups, however, the mostly respondents having ages from 31 to 40 years. Most of the respondents are at lower level mangers as the portion of these level managers is 61.8% and 97 out of 157 belongs to this level of management. Furthermore, there are 55 respondents who are at middle level management and 5 are at top level management. In nut shell, it is reported that mostly respondents are male, having age from 31 to 40 years and are at lower level management.

The demonstration of the descriptive statistical results (Table 2) showed that the average value of the credit term (CTP) is 4.4565, which means the average response of the respondents is in agreement to the credit terms. However, the responses are varying from respondent to respondent as the standard deviation is 0.55, which means the 55% variation is there in the series of the credit term. The average of the series of the loan/client appraisal (LCA) is also about 4 and the same average response of the respondents has been captured as is noted in the series of credit term. However, the response is varying from respondent to respondent as showing by the value of the standard deviation exists in the data of the credit appraisal, which is showing 56% variation. CP is showing the average response 4.5 and it also vary from one respondent to another as depicting by the value of the standard deviation i.e. 0.56770, which is explaining 57% dispersion in the data of the credit policy. CRC, has the average value 3.98, which shows that approximately average response of the respondent is 4, which means the respondents are agree with the CRC implemented in the banking sector. However, the variation in this series is 32% as demonstrated by the value of the standard deviation. Furthermore, the average response of the respondents for the LP is 4.3, which means the average performance of the loan is good according the respondents (managers of the banks); however, the respondents have contradiction by responding the questionnaires regarding the LP as showing by the value of the standard deviation i.e. 0.54873 (55%).

The results regarding the correlation between the variables (Table 3) demonstrated that all the variables have positive correlation to each other. Credit term (CTP) has the high degree of strength of the relationship with LCA, CP and LP, however this relationship is weak between credit terms (CTP) and CRC. Credit appraisal (LCA) has the high degree of strength of relationship with CP and LP, but the same relationship is weak between credit appraisal (LCA) and CRC. There is high correlation between CP and LP, but weak between CP and LP. Furthermore, there is high degree of strength of the relationship between CRC and LP.

The reliability of the variables (Table 4) demonstrated that all the variables have the reliability up to the acceptance level i.e. 0.7 (Nunnally, 1978) so selected questionnaire may be used for analysis of the series (data) of the variables for regression analysis.

The results for multiple regression analysis (Table 5) showed the significance value of the F-statistic depicting that the model used in

Table 1: Demographic features

	Frequency	Percent	Cumulative percent
Gender			
Male	141	89.8	89.8
Female	16	10.2	100.0
Age (years)			
26-30	28	17.8	17.8
31-35	57	36.3	54.1
36-40	43	27.4	81.5
41-45	22	14.0	95.5
Above 45	7	4.5	100.0
Grade			
Lower level managers	97	61.8	61.8
Middle level managers	55	35.0	96.8
Top level managers	5	3.2	100.0

Table 2: Descriptive statistics

	Minimum	Maximum	Mean	Standard deviation
CTP	1.17	5.00	4.4565	0.55507
LCA	1.00	5.00	4.4306	0.56440
CP	1.00	5.00	4.5812	0.56770
CRC	3.14	4.51	3.9895	0.32141
LP	1.45	5.00	4.3428	0.54873

CTP: Credit terms, LCA: Loan/client appraisal, CP: Collection policy, CRC: Credit risk control, LP: Loan performance

Table 3: Correlation matrix

	CTP	LCA	CP	CRC	LP
CTP	1.000	0.694***	0.792***	0.152*	0.683***
LCA	0.694***	1.000	0.816***	0.105	0.670***
CP	0.792***	0.816***	1.000	0.106	0.676***
CRC	0.152**	0.105	0.106	1.000	0.186**
LP	0.683***	0.670***	0.676***	0.186**	1.000

***,**,*Correlation is significant at the 0.01, 0.05 and 0.1 level (two-tailed).
CTP: Credit terms, LCA: Loan/client appraisal, CP: Collection policy, CRC: Credit risk control, LP: Loan performance

Table 4: Reliability

Variables	Items	Reliability
CTP	6	0.785
LCA	5	0.757
CP	4	0.783
CRC	12	0.708
LP	12	0.887

CTP: Credit terms, LCA: Loan/client appraisal, CP: Collection policy, CRC: Credit risk control, LP: Loan performance

Table 5: Multiple regression analysis

Dependent variable: LP			
Independent variables	Hypothesized direction	Coefficients (beta)	T-stat
Intercept			0.660
CTP	Positive	0.334***	3.725
LCA	Positive	0.326***	3.479
CP	Positive	0.145	1.311
CRC	Positive	0.080	1.484
R2	0.567		
Adj R2	0.556		
F-Stat	49.761***		

*Significant level 10%, **Significant level 5% and ***Significant level 1%, CTP: Credit terms, LCA: Loan/client appraisal, CP: Collection policy, CRC: Credit risk control, LP: Loan performance

the analysis is better specified. However, the explanatory capability of the model is 57% as explaining by the value of R-square i.e. 0.567. The value of the constant term is also insignificant, which showed no need to include more independent variables in the model. However, the Table 5 is also showing the hypothesized direction of the impact of independent variables on dependent variable (LP), which is positive direction for each independent variable. The inferential statistical analysis is depicting the acceptance of H1 and H2 constructed in the study whereas the last H3 and H4 were rejected due to insignificant relation. The regression investigation pin points the positive influence of credit term (CTP) and credit appraisal (LCA) on LP at significant level 1% and the significance of influence may also be checked by the values (3.725 and 3.479) of T-stat, which is >1.98. However, the outcome of the regression analysis is showing the positive and insignificant influence of CP and CRC on the LP. In nut shell, it is reported that the two of the variables credit term (CTP) and credit appraisal (LCA) are significantly explaining the variations in explanatory variable but the other two CP and CRC have no significance influence on the LP.

5. CONCLUSION AND RECOMMENDATIONS

The main purpose of the study is to investigate the determinants of the LP and after going through the literature the four explanatory variables; credit terms, CP, CRC and client appraisal; have been taken into account and the directions of their influence on the performance of loan have been hypothesized. The findings of the study concluded that the credit term has significant positive impact on LP, client appraisal has positive and significant impact on the LP, CP and CRC are showing their positive and insignificant influence on the performance of the loan. These results are in line with the earlier findings as have been discussed in the literature.

The results of the study are helpful for the management to focus on these explanatory variables used in the study so that the performance of the loan may be enhanced. Furthermore, the study is helpful to scrutinize the present credit practices of the banks situated in Pakistan. The study may be replicated by adding more dimensions of the credit management and by increasing the sample size and by taking more microfinance banks in to the investigation to further test the impact of studied variables on the performance of loan to add generalizability to the current findings. It is further suggested that the secondary data may also be incorporated in such studies to better explore the influence of credit management on LP from in that specific dimension.

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