

## **Effect of end use of loan facility on repayments: Evidence from running finance loans portfolio of private commercial bank of Pakistan**

Muhammad Ashraf \*

Dr. Muhammad Ayub Siddiqui \*

\*Department of Management Sciences, Bahria University, Islamabad-  
Pakistan

### ***Abstract***

*The importance of mortgage loans and their repayments have wide range in literature. The usefulness of bank loan facilities for enhancement and growth of business is the acknowledged fact approved by the economists and business professionals. In Pakistan, State Bank of Pakistan (SBP) governs the banking sector and other financial institutions and issues certain regulations for the control and management of the loans and credit in the market. In the case of mortgage loans availed by the business community, SBP has directed the financial institutions and banks to monitor their usage by the business community for the desired purpose of loan acquisition mentioned in the loan applications. The purpose of this study is to check the repayment behavior of business individuals who have availed the mortgage loans running finance facilities to meet the financial requirements of their businesses. This study validates the rational of the SBP's regulation about the end use of loan facilities. This study argues that improper use of the loan has negative impact on the loan repayments. Business individuals who have used the loans for other than the intended purpose of its acquisition are more delinquent in repayments. Large loan size as well as the large firm size both has negative impact on repayments.*

**Key Words:** State Bank, SME, Repayments, Loan Size, Improper Utilization

## **Introduction**

Banks are instrumental in the provision of financial assistance for business individuals to meet the financial requirements. In the same way the banks in Pakistan helps business community to acquire loans to meet financial needs of their businesses. These loans are extended in the form of cash and sometimes in the form of assets and machinery according to the business requirements. Loans provided in the form of assets or machinery leave the businessmen with less flexibility to use the loan other than the purpose of its acquisition. Banks extends various kinds of loans, some of these loans are term loans and others running finance facilities. In case of running finance facilities, business community has the leverage in loan utilization and they may use it other than the purpose of its acquisition. Agarwal (2006) argues that the credit lines are more flexible as compare to the term loans.

Financial institutions and business community mutually earning profit by this activity of loans extension. Banks earn interest and business community earns by the extended investments in their businesses. Bank's profits are linked with the timely repayments by the borrowers of these loans as banks can reinvest this money to earn further profits/income. However, the borrowers of these loans sometime may experience difficulties in timely repayment. Before discussion on the reasons of the defaults it seems necessary how this term has been defined in the banking context. There is need to distinguish between the default and delinquency. Default is the situation when extreme position is reached; borrower declares the insolvency and file bankruptcy. Chinloy (1995) cited in (Diaz-Serrano, 2004) has divided the defaults in three stages i.e. initial

delinquency, non-payments for longer period of time and ultimate default. Diaz-Serrano (2004) argues that delinquency is the delays in the payments prior to default of the loan. There are number of factors which have been studied by the researchers that impact the repayment of the loans. The existing literature has discussed the different approaches towards the loan defaults. Quercia & Stegman (1992), Christopher (2009) has discussed the loan, borrower and property characteristics which lead to the loan defaults. The literature on the defaults of the loans is abundant. However, there is not much research available on the impact of repayment delinquencies on the business of banks. There are number of reasons for defaults which have been discussed in the previous literature like loss of job of a borrower, previous credit behavior of the borrower (Gardner & Mills, 1989). The focus of the current study is to check the impact of the utilization “end use” of the loans on the probability of their repayments in case of loans acquired by the SME sector of Pakistan.

“Improper” in the context of this study is utilization of the business loans other than the intended purpose of its acquisition. SME in the context of this study is small and medium enterprises as defined by the State Bank of Pakistan in the prudential regulation. Small and medium enterprises (SME) are defined according to the prudential regulations issued by the State bank of Pakistan in May 2013. As per the regulations issued for this sector for better handling, State bank has divided SME’s in to two subsectors i.e. Medium enterprises (M.E) and Small enterprises (S.E). The prudential regulations regarding the small medium enterprise (SME) sector defines the small enterprise SE as any business which employs up to 20 employees with the maximum annual sales turnover of Rs. 75

million and medium enterprise as any business which employs 21-50 people with a maximum annual sales turnover of Rs. 400 million. However manufacturing and service industries have the exception to employ the maximum 250 persons in their businesses.

The importance of the SME sector is obvious from the focus of state bank of Pakistan on this sector. SME sector is considered important in the growth of the country. Husain (2005), ex-governor of the State bank of Pakistan revealed in his welcome address at the conference on SME financing, that this sector is contributing 30 % of the total GDP of the country, contributes 90% jobs in the country along with the agricultural sector. SME sector plays a vital role in the development of the country as compared to the larger firms due to high labour intensity of the sector. Hence the loan requirements of this sector are also on higher side. The repayments against the acquired loans by the SME sector may have impact on the profits of the banks.

The State Bank of Pakistan has the great concern regarding the SME sector. To facilitate the banks for earning the maximum profit from the extension of these loans for the growth of the SME sector, State bank's small and medium enterprises department issues certain guidelines for the banks in this connection and encourages SME's to use the right product for their required business purpose. State Bank of Pakistan is the regulator for the financial institutions and banks, and these institutions follow the instructions that are issued by the state bank of Pakistan which are termed as "Prudential Regulations". In the context of the current study prudential regulation "R-9" instructs the Banks and financial institutions to monitor the "end use" of the loans and to make sure that the loans are used for the

very purpose of its acquisition by the borrowers. Banks and financial institutions are advised to devise the proper monitoring mechanism for the implementation of this regulation.

This study uniquely measures the impact of “end use” of loans on the repayments probability. As to the best of the researcher’s knowledge this variable has not been studied generally in the loan defaults studies and specifically in the context of SME sector of Pakistan. The study focuses on the loans sanctioned to the SME sector to check the impact of “end use” of the sanctioned loans, on their repayments probability. This may help the financial institutions and banks to re visit their loan policy in term of loan size (volume) and other related parameters. This study will help the financial institutions to minimize the chances of loss due to defaults or delayed repayments by adopting the proactive approach in sanctioning of loans to the SME sector in Pakistan.

### **Literature Review**

Proper use of the loans is necessary for the intended outcome of the investment and smooth repayments. Godquin (2004) in a study of microfinance repayment performance argues that the repayment is beneficial for both the financial institution and as well for the borrower. Timely repayments for the financial institution enables the cost reduction and availability of the credit to the wider range of customers and for the borrower it helps him to avoid the defaults of loans. The default of loans may lead the borrower to lose his mortgage property against the loan. In addition banks maintain the credit worthiness reports of the customers for the future monitoring. In the same way the state bank of Pakistan is maintaining the credit worthiness reports (ECIB) of the borrowers which are used by the

financial institutions to check the credit worthiness of the applicants before the extension of loans. Borrowers can be at the risk while obtaining new loans if they are not reported as good customers by the financial institutions. When loans are not paid in time and bank needs to sell out the property to recover the loan amount that is extended to the customers, this proposition is not suitable for the bank or financial institution because it is often difficult to sell the properties on the prevailing market rate (Gilberto & Houston, 1989; Nang et al., 2003; Riddiough & Wyatt, 1994) cited in (Tam, Hui & Zheng, 2010). Many additional costs are also associated with the property sale e.g. commission paid to property dealers, lawyer fees, property transfer fee and different taxes.

William & Derban (2005), Kirchler (2006) and Luis (2004) argued that defaults and delays in the loans occur due to financial institutions characteristics and personal characteristics of the borrowers. Any financial institution cannot sustain its existence in the long run with these losses. Financial institutions design the loan product according to the needs of the business community. Hulme & Mosley (1996) cited in (Dixon, Ritchie & Siwale, 2007) and Daghli (2009) argues that the design of the loan has impact on its repayment due to three main reasons, (i) accessibility, (ii) suitable customers (iii) rewards given to customers for the timely repayments of the loans. Accessibility of loans deals with the availability of loan in an hour of need. Secondly the suitable customers are for any loan product are those who are eligible for that loan which is based on the parameters' defined by the financial institution. Rewards for timely payments include the rebate in the markup rate on timely payments.

The most of the researchers are of the view that delayed repayments are generally consumer/borrower driven. Gathergood (2012) and Diann & Moorman (2008) established that financial literacy and self-control are important for repayment as due to lack of financial literacy. Consumers use the credit for different purposes without any consideration of the consequences of improper use of credit. Financial literacy in the context of repayments means the knowledge about markup rates of the loan, terms and conditions of repayment contracts with the financial institutions. Lack of financial literacy causes consumers over-indebtedness which leads to the delinquencies in repayments. Ravi (2012) argues that the income frequency of the household determines the frequency of the repayment of the loan obtained. If the family or individual is inclined towards more savings, repayments will not be frequent. Heilpern, Haslam & Anderson (2009), rightly pointed out credit crunch as the main reason of defaults. Sullivan, Warren & Westbrook (2000) cited in (Wang, 2010) proved in their study two main causes of defaults i.e. increased debt and unexpected incidents. Unexpected incidents might be of different ranging from the personal health problems to the natural disasters and accidents. These factors decrease the customer's ability to repay the debt in time. Based on the above it can be inferred that the income volatility of the borrower affects the repayments of the loan. In the same way the improper use of the loans may also lead to uncertain income flows for the SME sector .On the bases of above discussion, this can be inferred that proper utilization of the loan is important for the repayments of the loan. Moreover State bank's regulation for loan utilization and monitoring is supported by the literature as well.

Tam, Hui & Zheng (2010) identified the two main reasons for the loan defaults. The reduction in the prices of the security of property mortgaged with the bank and decrease in the business income. Reduction in the price of equity or security in comparison to the loan amount leads the business towards default. Reduction in income also plays the role in defaults due to inability to pay the installments of the loan. The use of loans other than the intended purpose of its acquisition may lead the business to the reduced income. This improper use of loan eventually may affect the repayments of the loan. Ability to pay the loan depends on the income of the borrower and installment amount of the loan. The decrease in income of the borrower leads the increase in the debt and income ratio of the borrower leading to increase the difficulties in repayments. Ruprah (2011) find that that the delinquencies in repayments are due to the inability of the borrower to pay. The factor being considered for this study is the end use of the loan on their repayments. This study intended to find out whether the improper end use of the loan has impact on loan delinquencies or not. Loans utilized other than the intended purpose may lead to business loss due to lack of experience of entrepreneurs in the new field of investment. Incomes of the borrowers are expected to drastically reduce in case of wrong investment decision. The responsibility of the financial institution is to monitor the end use as guided by the State Bank of Pakistan. On the other hand it is customer's obligation to abide by the terms of the loan utilization agreed at the time of sanction of the loan.

Previous studies have discussed the repayment issues in different contexts. However, the utilization of the loan is still un-noticed area by the researchers. Agarwal, Chomsisengphet, & Liu

(2011) studied the credit lines utilization in the context of the future flexibility of the firm. Business uses the maximum or minimum of the credit line based on these expectations. The proper utilization of the credit line or end use impact of the credit line has not been studied yet. This study will fill the gap by testing the hypothesis that improper end use of the loan has negative impact on its repayments. Businesses that use the credit line for the same purpose of its acquisitions are good in repayments.

### **Methodology**

The current study intends to measure the impact of “end use” of loans on their repayments. The end use of the loan has been categorized for this study as “proper” and “improper” against the purpose of acquisition of loans. For the purpose of measurement the variable of “end use” has been measured through the dummy variable. The loans utilized for their purpose of acquisition has been assigned value “1” otherwise “0”. Similarly the repayment status of the loans was also measured through the dummy variable. All customers who were making timely payments were assigned “1” and otherwise “0”. The repayments data were retrieved from the collection department of the bank.

The data for the current study was acquired from the private commercial bank with the ethical commitment of non-disclosure of the bank name. Bank portfolio contained 106 active SME customers in the north region. The utilization status of the loans was checked through the relationship managers and various limit renewal documents provided by the customers time to time. This might be termed as the limitation of the study with respect to data. The data used for the study is divided in three sections, i.e. Loan Utilization

status, Repayment Status and volume (size) of the loan. E-views software was used for the data analysis. Redundant variable test was applied and some variables were excluded from the model.

The impact of “end use” of various loan volumes has been analyzed in this study. Loan volumes/sizes have been divided in three categories. The loan volumes of 1-5 million have been designated as  $Ds_1$ , 5-10 million as  $Ds_2$  and loans above 10 million as  $Ds_3$ . The variable of loan volume/size has also been measured through the dummy variable. Borrower falling in specific category was assigned the value “1” otherwise “0”. The impact of various independent variables on dependent variables has been witnessed in literature through the dummy variable approach. Ruprah (2011) in a study of public mortgage delinquency rates used the logit and probit model to check the impact of qualitative variables of customer’s capacity to pay the loan. Response variables in the study were the qualitative. The current study is different as it has all independent and dependent variables in qualitative form. All variables of the current study are qualitative and have been measured through the dummy variables. This feature of the study makes this current study unique and different from the study of Ruprah (2011). The current study also uses the Logit Probit model, Binary logit (quadratic hill climbing) to analyze the impact of the “end use” of loans on their repayments. This analysis gives the probability of the happening of any event or otherwise unlike the beta values interpretation of regression analysis.

### **Results and Findings**

Proposed model for the all the variables is stated below.

$$\left[ \ln\left(\frac{p}{1-p}\right) = c + \beta_1 D_{int} + \beta_2 D_{res} + \beta_3 D_{s1} + \beta_4 D_{s2} + \beta_4 D_{no\_of\_emp} \right] \dots \text{Equation 1}$$

Table 1. *Variables of the model*

<b>Variables</b>	<b>Explanation</b>
<i>Dp1</i>	Dependent variable. Dependent variable represents the payment behavior of the customers. All the customers who are making the timely payments are assigned value 1. All the customers who are making late payments are assigned the 0 value.
<i>Dint</i>	Represents the loan utilization status. Proper utilization (used for the intended purpose of its acquisition) of the loan the variable was assigned the value “1” and for the improper (other than the intended purpose of acquisition) variable was assigned “0” value.
<i>Dres</i>	Represents the residential status of the borrower. Borrowers living in their own house assigned the “1” value and borrowers living with joint family or parents’ house are assigned “0” value.
<i>Ds<sub>1</sub></i>	Represents the loan size 1-5 million. Borrowers who are availing loan from 1-5 million were assigned “1” value otherwise “0”
<i>Ds<sub>2</sub></i>	Represents the loan size from 5.1-10 Million. Borrowers who are availing loan from 5.1 to 10 Million are assigned “1” value otherwise “0”
<i>Ds<sub>3</sub></i>	The loan size above 10 million represented by the intercept. Borrowers who are availing loan above 10 Million are assigned “1” value otherwise “0”
<i>Ds no of e<sub>1</sub></i>	Represents the number of employees in a firm. Firm where the number of employees is 5 or less are considered small firms and assigned value “1” Otherwise “0”.

Table 2. *Redundant Variable Test Results*

Specification	D <sub>P1</sub> C D No of Emp D Intended Utilization D <sub>RES</sub> D <sub>S1</sub> D <sub>S2</sub>		
	Value	Df	Probability
Likelihood Ratio	0.533372	1	0.4652
Restricted Log L	-68.29193	101	
Unrestricted Log L	68.02524	100	

Redundant variable test was applied to check the significance of the variables for the model. Binary logit (quadratic hill climbing) was used for the test. Convergence achieved after 3 iterations. Dres was declared as redundant as this has very low significance in the

model. Revised equation for the model is mentioned below after deleting the redundant variable.

$$\ln\left(\frac{P}{1-P}\right) = c + \beta_1 D_{int} + \beta_2 D_{s1} + \beta_3 D_{s2} + \beta_4 D_{no\_of\_emp} \dots \text{Equation 2}$$

Table 3. *Binary Logit Model*

	Coefficients	Z-Statistic	Probability
Intercept (Ds <sub>3</sub> Loan size above 10 M)	-1.129840	-2.33253	0.0197
Number of employees	0.28348	0.647384	0.5174
Intended Utilization	1.081667	2.456782	0.0140
Ds <sub>1</sub> ( Loan Size 1-5 Million)	1.065555	1.816761	0.0693
Ds <sub>2</sub> ( Loan Size 5.1- 10 Million)	0.069617	0.138680	0.8897
Education	-0.127909	-1.026742	0.3045
Education Intended Utilization	0.225126	1.390984	0.1642
LR Statistic of the model	10.02354 (P value 0.040033)		
Mean Dependent variable	0.471698		
S.E of Regression	0.487463		

Probability of the happening the payments can be calculated against the individual independent variables in the model. Equation of the model explains the loan size above 10 million in intercept term. Probability of loan repayment of this loan size can be calculated as follows.

$$P = \frac{e^{(Intercept)}}{1 + e^{(Intercept)}} = 0.2441906 = 24.4 \%$$

This can be inferred that customers who are availing loans above 10 million. There are 24.4 % chances that they will make timely payments.

Loan size of 1-5 million is denoted by Ds<sub>1</sub> in the equation 2. Probability of payments against this loan size can be calculated as follows.

$$P = \frac{e^{(Intercept + \beta_2)}}{1 + e^{(Intercept + \beta_2)}} = 0.48393 = 48.39\%$$

There are 48.39 % chances that customers who are availing the loan size from 1-5 million will make the timely payments.

Loan sizes of 5.1 -10 Million are denoted by  $Ds_2$  in the equation 2. Probability of payments against this loan size can be calculated as follows.

$$P = \frac{e^{(Intercept + \beta_3)}}{1 + e^{(Intercept + \beta_3)}} = 0.25726 = 25.72 \%$$

Results of the equation show that there are 25.72 % chances that customers will make the timely payments.

On the basis of the results mentioned above it seems that the customers with small loan amount are likely to make payments in time. Probability of timely payments decreases with the increase in the loan size.

Number of employees in the firm represents the firm size. Large firms have the more number of employees. Probability of payments against the firm size is 24.94 %. Increase in the number of employees is likely to affect the repayments by 24.94 %.

$$P = \frac{e^{(Intercept + \beta_4)}}{1 + e^{(Intercept + \beta_4)}} = 0.249460 = 24.94\%$$

Proper loan utilization for the intended purpose has the significant probability for repayments. Proper utilized loans are 48.79 % likely to make repayments in time. So on the basis of these results this can be inferred that loan utilization monitoring is very important. Banks and financial institutions can device the appropriate measure for the appropriate loan utilization to ensure to timely repayments.

$$P = \frac{e^{(Intercept + \beta_1)}}{1 + e^{(Intercept + \beta_1)}} = 0.487957 = 48.79\%$$

Education level of the customers has very interesting effect on the repayments. Results of the study show that more educated customers are like to make late payments. There is 22.13 % likely hood for repayments with the higher education. Though the results

are not much significant, the trend shows the negative relationship of education with repayments. The possible reason for this relationship might be due to awareness of the customers with the bank recovery systems and weak law and order in the country.

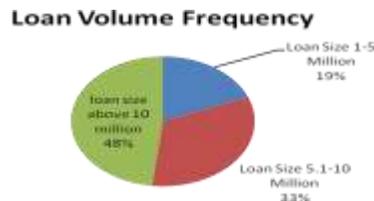
$$P = \frac{e^{(Intercept + \beta_5)}}{1 + e^{(Intercept + \beta_5)}} = 0.22136 = 22.13\%$$

Descriptive statistics of the data shows that the loan size from 1-5 million represents the 18.9 % of the total loan population. Loans size of 5.1-10 million is 33% of the total loan population. Rest 48.1 % of the loans is above 10 million. Table 4 and figure 1 represent the pictorial explanation of the data.

Table 4. *Loan Volume Frequencies Distribution*

	Frequency	Percent	Valid %	Cumulative %
Loan Size 1-5 Million	20	18.9	18.9	18.9
Loan Size 5.1-10 Million	35	33.0	33.0	51.9
loan size above 10 million	51	48.1	48.1	100.0
Total	106	100.0	100.0	

Figure 1. *Loan Volume Frequencies Distribution*



Total sample size for the study was 106 loan customers. Out of 106 customers 43 were using the loans other than the intended purpose of its acquisition. 29 out of these 43 are delinquent in the repayments which is 67% of this population rest 33 are making the timely payments. 63 customers were using the loans properly for the intended purpose of their acquisition. 55% of the population is making the timely payments however 45 % of the population is late

in repayments. Table 5 and Figure 2 explain the data regarding the repayments of loans.

Table 5. *Repayment history*

		Late payments	% Late Payment	Timely Payments	% Timely payment	Total
Loan utilization	used for other than intended purpose	29	67%	14	33%	43
	used for intended purpose	27	45%	36	55%	63
Total		56		50		106

Figure 2. Loan Repayment History



### Conclusion

The main purpose of the study was to check the effect of “end use” of credit facilities on the repayments of the loan. The results of the study show that the customers who use the credit facility in the intended purpose of its acquisition are good in repayments. Loan size has the negative effect on the repayments however borrowers of small loan are good at repayments. Firm size is correlated with the loan size; large firms have the large credit lines and their repayment behavior show the negative relationship. Findings of the study are supported by literature (Bac, 2009) in the article generalized wealth and trust argues that poor are more trustworthy. Findings of the study are supported by this research as the loan repayment of small loan size is prompt as compared to large loan size.

Based on the findings of the study that loans utilized for the intended purpose are good in repayments counseling of the people

regarding the loan utilization is necessary. Credit counseling is of two types i.e. pre purchase counseling and post purchase counseling. Turner O'Neal (1986); Mallach (2001) cited in Hartarska & Gonzalez-Vega (2006) are of the view that people can be guided about the tenure of the mortgage loan and conditions in which people want to own the house are related to pre purchase counseling, in the context of this loan borrowers might be guided regarding the choice of the loan required for the business, volume of loan required and tenure of the loan. They further argued that post purchase counseling should be provided when borrower suffer from the delinquencies in the repayments or any other repayments problems. Rescheduling of loans can be done to deal such situations. In the context of Pakistan banking sector relationship managers who are dealing with the borrowers may perform the function of counselor.

Diaz-Serrano (2004) argues that the volatility of the income leads to the delays in repayments which support the stance of this study that due to improper use of the credit facility repayments of the borrowers are not prompt. Based on the results of the study it is recommended for policy managers and product development teams to design the loan products which are between 1-5 million to meet the financial needs of the business. This will help the banks to book the clean and less risky portfolio. Monitoring of the extended loans is necessary. Appropriate measures need to be taken to make sure that loans are used for very purpose of their acquisition.

### **Limitations of the study**

Due to certain limitations of time and resources the data of only one private sector bank was collected. The data might not be the true representative of the total loan population of the country.

Collected data is not specific to any business category however population of the data is geographically falls in the twin cities (Islamabad & Rawalpindi) of Pakistan. For the future studies data collection is recommended from all the major cities of Pakistan for the further studies. Loan portfolio classifications suggested based on the type of financial institutions i.e. private sector banks and public sector banks. The model can be tested on the different categories on the business to establish the more risky and less risky businesses.

### **Implication of the study**

Results of the study indicate the importance of the proper loan utilization. Finding of the study might serve as the guideline for the central bank, product development teams of the financial institutions and the relationship managers who interact with the customers' directly. Financial institutions might take certain necessary steps for the monitoring of the loan portfolio of the bank. Loan products might be designed according to the actual needs of the business. Loan size of the firm also affects the repayments. Small size loans i.e. 1-5 million might be encouraged. Policy managers are advised on the basis of the study to draft the products which are not oversized with respect to the firms' loan requirements.

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