

Economic Determinants of Non-Performing Loans: Perception of Pakistani Bankers

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Abstract

This study provides the perception of Pakistani bankers regarding the economic factors causing non-performing loans in the Pakistani banking sector since 2006. This is the first time that any study is conducted in Pakistan to highlight the economic factors of NPLs via primary data collection from loan providing and approving authorities of Pakistani banking industry. This study was conducted via a well structured questionnaire and data was collected from 201 bankers who are involved in the lending decisions or analyze the credit risk or handling non-performing loans portfolio. Correlation and regression analysis was carried out to analyze the impact of selected independent variables (*Interest Rate, Energy Crisis, Unemployment, Inflation, GDP Growth, and Exchange Rate*) on the non-performing loans of Pakistani banking sector. Top 10 Pakistani banks were selected as a sample. According to the results Pakistani bankers perceive that *Interest Rate, Energy Crisis, Unemployment, Inflation, and Exchange Rate* has a significant positive relationship with the non-performing loans of Pakistani banking sector while GDP growth has significant negative relationship with the non-performing loans of Pakistani banking sector. This study also discusses how good loans are turning into bad loans due to disaster in energy sector of Pakistan and how these energy crisis are badly affecting the banking sector of Pakistan. In future social determinants of non-performing loans should be studied. This study is first of its kind opening door for further primary research on NPLS of Pakistani banking sector.

Key words: Non-performing loan; perception of Pakistani bankers; energy crisis; Economic determinants of Non-performing loans

1. Introduction

No one can deny the importance of financial institutions in any developed or developing economy these financial institutions not only ease the credit flow in the economy but also enhance the productivity by revitalizing the investment (Richard, 2011). Economic growth in any country is not possible without a sound financial sector (Rajaraman and Visishtha, 2002). Good performance of these financial institutions is the symbol of prosperity and economic growth in any country or region and poor performance of these institutions not only hamper the economic growth and structure of the particular region but also affects the whole world (Khan and Senhadji, 2001).

In the last few decades we can see many banking failures in all over the world (Brownbridge and Harvey, 1998), and due to these banking failures many banks have been closed by regulatory authorities (Brownbridge, 1998). These banking failures negatively affect the economy in many ways, firstly these banking failures causes banking crisis by harming the banking sector, secondly it also reduces the credit flow in the country which ultimately affects the efficiency and productivity of the business units (Chijoriga, 1997; Brownbridge and Harvey, 1998). According to Brownbridge, (1998) many empirical researches have shown that most of the time banking failures or banking crisis are caused by non-performing loans.

Non-performing Loans (NPLs) have gained world's attention in the last three to four decades as these increasing non-performing loans are causing banking crisis which are turning into banking failures (Barr and Siems, 1994). Non-performing loans are one of the main reasons that cause insolvency of the financial institutions and ultimately hurt the whole economy (Hou, 2007). By considering these facts it is necessary to control non-performing loans for the economic growth in the country, otherwise the resources can be jammed in unprofitable projects and sectors which not only damages the financial stability but also the economic growth. In order to control the non-performing loans it is necessary to understand the root causes of these non-performing loans in the particular financial sector

(Rajaraman and Visishtha, 2002).

It is important to understand the phenomena and nature of non-performing loans; it has many implications, as fewer loan losses is indicator of comparatively more firm financial system, on the other hand high level of non-performing loans is an indicator of unsecure financial system and a worrying signal for bank management and regulatory authorities, if we look into the causes of great recession 2007-2009 which damaged not only economy of USA but also economies of many countries of the world we find that non-performing loans were one of the main causes of great recession (Adebola, Wan Yusoff, & Dahalan, 2011). As High risk loans were granted to the unqualified borrowers and these loans were secured against overestimated resources or against nothing, and when this economic boom “went bust” those high risk loans turned into non-performing loans and as loans were given to unqualified borrowers those turned into non-performing loans, as a whole this collection of non-performing loans irrespective of its causes was one of the main factor of great recession which not only hampered the American financial sector but also economy of the whole world (Clugston, 2009)

As far as the banking system of Pakistan is concerned it is facing a lot of problem like the banking sectors of other underdeveloped economies and the most destructive problem faced by the Pakistani banking sector is the enormous amount of non-performing loans which not only harming the Pakistani banking sector but also hampering the Pakistani economy (Masood, 2009). The volume of non-performing loan is rising every year as we can see that non-performing loans of Pakistani banking sector were Rs. 176.77 billion and having infection ratio of 7.28 percent and these have risen to Rs. 608.748 billion in march 2012 having infection ratio of 17.75percent (State Bank of Pakistan, 2012). In order to reduce non-performing loans it is necessary to find the root causes of these loans.

In this paper we will highlight the economic determinants of non-performing loans in the Pakistani banking sector which are causing bad loans by considering the opinion/perception of the Pakistani bankers. Survey methodology is used to get the data from those bankers, who are involved in the lending decisions or managing credit risk, regression and correlation analysis is applied to access the empirical results.

Remaining paper is structured as follow: 2nd section contains literature review. Research methodology is discussed in 3rd section followed by data analysis in 4th section and conclusion in the last section.

2. Literature Review

2.1 Review of previous studies

First of all we focus on the previous literature on the determinants of non-performing loans and specifically on the studies conducted on the non-performing loans of Pakistani banking sector. We attempt to highlight the determinants of non-performing loans in general and those that can be functional in case of Pakistan.

Non-performing loans are dangerous not only for the economy of one country but also for the whole world as we have seen the financial crisis created by these loans in East Asian countries, America and Sub-Saharan Africa, so this is the need of the era to identify the factors responsible for non-performing loans; as researchers believe that once we identify these factors then we can make policies to prevent any future happenings of these loans (Adebola, Wan Yusoff, & Dahalan, 2011). In this section we focus on some existing literature.

The first stand of literature explains the determinants of non-performing loans while the other stand of literature highlights the role on non-performing loans in creating the financial crisis a positive relationship between the non-performing loans and the financial crisis (Nkusu, 2011). Kaminsky and Reinhart (1999) explain that an increasing trend of non-performing loans in any country is an indication of financial crisis in that country. Although the literature does not explain non-performing loans directly responsible for any financial crisis yet it explains the adverse impact of non-performing loans on the economy of the country (Caprio and Klingebiel, 1996; Drees and Pazarbasioglu, 1998; Kaminsky and Reinhart, 1999).

The key economic determinants of non-performing loans can be chosen from the existing theoretical literature of life-cycle consumption models (Louzis, Vouldis, & Metaxas, 2011). Lawrence (1995) studied life-cycle consumption model and presented the probability of default, according to this model low income borrowers have higher defaulting rates this is due to increased risk of unemployment and being unable to pay their loan obligations, furthermore bank charges higher interest rates to riskier clients, if a high interest rate is charged to those borrowers who have already

substandard record to repay the loans is also a factor causing non-performing loans. Rinaldi and Sanchis-Arellano (2006) extends Lawrence's model according to them the probability of default actually depends on the current income and unemployment rate, which is actually associated with the insecurity of the future income and lending rates.

As far as non-performing loans are concerned every country has different causes/ factors which are responsible for loan losses in the country, so literature divides these factors into two parts. The first part of literature focuses on the variables which are called bank specific variables i.e. strategy choices, management excellence, income margins, risk profile of banks etc. while the second part of literature focuses on quantitative variables i.e. unemployment, interest rate, gross domestic product, inflation etc. and many other social variables (Keeton and Morris, 1987; Louzis, Vouldis and Metaxas, 2010; Kalirai and Scheicher, 2002; Dash and Kabra, 2010; Bercoff, Giovanniz and Grimardx, 2002, Masood 2009).

Keeton and Morris (1987) conducted a research in America to identify the factors which are causing non-performing loans in the banking sector of this country by taking the data from 1979-85 and according to them bad performance of agriculture and energy sectors along with poor economic settings/conditions are the main factors causing non-performing loans. Sinkey and Greenwalt (1991) conducted an other research in the same country between the period of 1984-87 to identify the causes of non-performing loans according to them high level of interest rate, unnecessary lending along with unpredictable funds are the factors which have positive relationship with the non-performing loans in the banking sector of America, furthermore according to the writers poor economic conditions are also a cause of loan losses in American banking sector. Gambera (2000) also conducted a research in America having quarterly data from 1987-99 to highlight the effect of macro-economic variables on loan losses; his finding indicates that income along with unemployment rates are macro-economic factors causing loan losses in America.

Non-performing loans are not only the problem of America but also the problem of whole world so we focus on the studies conducted in the countries other than America. Salas and Saurina (2006) conducted a research in Spain to identify the factors which explains the variation in non-performing loans from 1984-2003 according to the authors high interest rates, GDP growth and soft credit conditions determine the non-performing loans. Another study conducted in UK by Hoggarth, Sorensen and Zicchino (2005) considering time period between 1988-2004 according to the authors inflation and interest rates have positive relationship with the non-performing loans.

Vogiazas & Nikolaidou (2011) investigated determinants of non-performing loans in the Romanian banking sector during the Greek crisis by taking the data from december 2001 to november 2010 according to them construction and investment expenditure, unemployment and inflation rate and Romania's external debt to GDP and M2 (Narrow money and Intermediate money) influence the credit risk of country's banking system.

Kalirai and Scheicher (2002) found lending rate, production of industry, stock market return and business confidence index are the factors which determine the level of loan quality in Australia while conducting a research taking data from 1990-2001. Bofondi and Ropele (2011) found that non-performing loans are positively associated with the unemployment rates, lending rates and negatively associated with the growth domestic product rate; they conducted their study in Italy by taking the quarterly data over the period of 1990-2010.

Louzis, Vouldis and Metaxas (2011) used dynamic panel data to highlight the factors causing non-performing loans in the Greek banking sector from 2003 to 2009 considering each loan category (corporate loans, consumer loans and mortgage loans) according to them economic growth (GDP), unemployment, lending rates, public debt and management quality are the determinants of non-performing loans in the banking sector of Greece. Rinaldi and Sanchis-Arellano (2006) investigated household non-performing loans for a panel of European countries and found that disposable income, unemployment and monetary conditions are determinants of non-performing loans. Berge and Boye (2007) found that non-performing loans are highly correlated with the lending rates and unemployment for the Nordic banking system covering the time span from 1993 to 2005.

The above literature was related to factors influencing non-performing loans in developed countries now we review literature regarding the factors influencing the non-performing loans in the developing countries. Rajan and Dhal (2003) observed that increase in gross domestic product has a strong relationship with the volume of non-performing loans in the Banking sector of India. According to Shu (2002) in Argentina non-performing loans have a negative

relationship with GDP growth, inflation rate; increase in property prices while has a positive relationship with interest rate. Khemraj and Pasha (2009) investigated the determinants of non-performing loans in Gyana considering the data between 1994-2004, according to the authors growth in gross domestic product has an inverse relationship with the volume of non-performing loans explaining it as a good performance in the economy causes reduction in non-performing loans furthermore according to the authors real effective exchange rate has a positive relationship with the non-performing loans in the Guyanese banking sector furthermore according to the authors banks who charge higher interest rate are likely to have high volume of non-performing loans indicating a positive relationship between lending rate and non-performing loans.

The above studies focuses on conventional banking but non-performing loans are not only the problem of conventional banking but also of Islamic banking, Adebola, Wan Yusoff, & Dahalan (2011) conducted a research in Malaysia to investigate the determinants of non-performing loans in the Islamic banking sector of Malaysia covering the period between 2007 to 2009 according to them interest rate has a positive significant relationship with the non-performing loans and producer price index has a negative and significant relationship with the non-performing loans in the Islamic banking sector of Malaysia.

Siddiqui, Malik, & Shah (2012) conducted a research in Pakistan covering a period 1996Q to 2011Q3 by applying garch model according to the authors non-performing loans are affected by volatility on interest rates.

From the above literature review we can identify the economic variables which have strong relationship with the loan losses. Several variables highlighted by literature as important determinants are interest rate, growth in gross domestic product (GDP), inflation, unemployment and exchange rate. Energy crisis are also added in this list as this is an economic problem faced by Pakistani economy at the moment.

2.2 Economic Determinants and Their Relationship

The significance and anticipated signs of the relationships between non-performing loans and the selected variables are as follows:

2.2.1 Energy Crisis

Energy is one of the most important components of development in any economy, irrespective of any sector of economy cheap and constant flow of energy is necessary for the development of economy of any country, because energy is an essential and complementary part of production (Sahir and Qurashi, 2007, Lee, 2005). As far as relationship of energy crisis and economic development is concerned there is a lot of empirical work has been done in the world and studies have found positive relationship (Wolde-Rufael, 2004, Lee, 2005).

Keeton and Morris (1987) conducted a research in America to identify the factors which are causing non-performing loans in the banking sector of this country by taking the data from 1979-85 and according to them bad performance of agriculture and energy sectors along with poor economic settings/conditions are the main factors causing non-performing loans, according to the authors energy crisis leads to bad loans in the economy. As far as Pakistan is concerned it is facing energy crisis since 2006 as the production and distribution of energy (gas and electricity) has decreased rapidly and giving birth to long lasting energy crisis in the country (ESP 2007–2008, ESP 2006–2007). These energy crisis have damaged the economy in many ways, energy crisis leads to reduction in production of firms and affects the revenues which ultimately leads to bad loans.

Energy crisis is one of the biggest problem faced by Pakistan along with war against terrorism and law and order situations, due to this energy crisis (load shedding of electricity and gas, high cost of energy and high cost of replacement resources of energy) has destroyed many industries of Pakistan, these crisis have caused a huge amount of bad loans in the Pakistani banking sector as these sick/closed business units are unable to pay their loan obligations. One objective of this research paper is to highlight this important determinant of non-performing loans in the Pakistani banking sector.

2.2.2 Interest Rate

Lending rates/ interest rates are one of the primary economic determinant of non-performing loans/bad loans. There

is an empirical evidence of positive correlation between the interest rate and non-performing loans (Nkusu 2011; Adebola, Yusoff, & Dahalan, 2011; Louzis, Vouldis and Metaxas, 2011; Berge and Boye, 2007). An increase in interest rate weakens loan payment capacity of the borrower therefore non-performing loans and bad loans are positively correlated with the interest rates (Nkusu, 2011). As far as interest rate policy is concerned it plays a very important role in NPLs growth rate in a country/economy, Hoque and Hossain (2008) examined this issue and according to them non-performing loans are highly correlated with the high interest rates which enhances the debt burden of the borrowers and causes loan defaults. Espinoza and Prasad (2010) examined the macroeconomic determinants of non-performing loans in the GCC banking system according to them high interest rates increase loan defaults but they did not find a statistically significant relationship. Bloem and Gorter (2001) studied causes and treatment of NPLs, according to them frequent changes in the interest rate policy cause an increase in the bad loans. Asari, et al. (2011) also found a significant relationship between loan defaults and interest rates they also found that an increase in loan defaults also causes asset corrosion of banks and subsequently capital erosion. According to Dash and Kabra (2010) the banks with aggressive lending policies charging high interest rates from the borrowers incur greater non-performing loans. Collins and Wanjau (2011) also found interest rate as a primary factor boosting non-performing loans.

2.2.3 Economic Conditions

2.2.3.1 Growth in Gross Domestic Product (GDP)

There is a significant empirical evidence of negative association between growth in gross domestic product and non-performing loans (Louzis, Vouldis and Metaxas 2011, Khemraj and Pasha (2009), Salas and Suarina, 2002; Rajan & Dhal, 2003; Fofack, 2005; and Jimenez and Saurina, 2005). If we look into the explanation of this negative relationship provided by the literature we find that growth in the gross domestic product usually increases the income which ultimately enhances the loan payment capacity of the borrower which in turn contributes to lower bad loans and vice versa (Khemraj and Pasha, 2009).

2.2.3.2 Inflation

There is an empirical evidence of positive relationship between the inflation in the economy and non-performing loans (Khemraj and Pasha, 2009, Fofack 2005). While Nkusu, (2011) has explained that this relationship can be positive or negative according to the author inflation affects loan payment capacity of borrowers positively or negatively, higher inflation can enhance the loan payment capacity of borrower by reducing the real value of outstanding debt; moreover increased inflation can also weaken the loan payment capacity of the borrowers by reducing the real income when salaries/wages are sticky, moreover by highlighting the role of inflation in the presence of variable interest rate Nkusu further explains that in this scenario inflation reduces the debt servicing capacity of the loan holders as lenders adjust the lending interest rates to adjust their real return. So according to literature relationship between inflation and non-performing loans can be positive or negative depending on the economy of operations.

2.2.3.3 Unemployment

There is an empirical evidence of positive relationship between unemployment in the economy and non-performing loans (Nkusu, 2011, Vogiazas & Nikolaidou, 2011; Bofondi and Ropele, 2011; Berge and Boye, 2007; Rinaldi and Sanchis-Arellano, 2006; Gambera, 2000). As far as theoretical explanation of this relationship is concerned an increase in the unemployment in the country negatively affects the incomes of the individuals which increases their debt burden, it is obvious when a person loses his source of income how he can return his loan, similarly an increased unemployment in the economy also negatively affects the demand of the products of firms which ultimately affects the production/sales of the firms, this ultimately leads to decline in revenues of the firms and a fragile debt condition (Louzis, Vouldis and Metaxas, 2010).

2.2.3.4 Exchange Rate

As far as relationship of the exchange rate is concerned literature provides mixed reviews. According to Khemraj and Pasha (2009) there is a positive relationship between real effective exchange rate and non-performing loans. An appreciation in exchange rates may have different implications i.e. it can adversely affect the loan payment capacity of export oriented firms (Fofack, 2005) on the other hand it can positively affect the loan payment capacity of those borrowers who borrow in foreign currency, the relationship between Nominal effective exchange rate (includes inflation) and non-performing loans is indeterminate.

2.3 Non-performing Loans and their Classification

According to Obamuyi (2007) a loan is considered to be as non-performing loan (NPL) if its principal and markup is not being paid by the borrower in accordance with the agreed terms and conditions of loan payment. As far as Pakistan is concerned non-performing loans are divided into three main categories by State bank of Pakistan (SBP). According to the BSD circular No. 02 dated 3rd June 2010 regarding the prudential regulations of State Bank of Pakistan, excluding agriculture loans, a loan whose principal or markup repayment is overdue for 90 days is classified as “Substandard”, the loan is classified as “Doubtful” if being overdue for 180 days and a loan is classified as “Loss” if it is overdue for 01 year.

As far as non-performing loans of Pakistan are concerned these are increasing every year The volume of non-performing loan is rising every year as we can see that non-performing loans of Pakistani banking sector were Rs. 176.77 billion and having infection ratio of 7.28 percent and these have risen to Rs. 608.748 billion in march 2012 having infection ratio of 17.75percent (State Bank of Pakistan, 2012).

3. METHODOLOGY

3.1 Population

As far as **population** of the study is concerned this study is focused on the entire Banking sector of Pakistan as increasing non-performing loans in the recent years is a problem faced by all the banks local or foreign, public or private operating in Pakistan; secondly this study is focused on the perception of Pakistani bankers regarding the economic determinants of non-performing loans; so this study is focused on all those bankers who are involved in the lending dissension, handling non-performing loans portfolios and making credit risk assessments.

3.2 Sample

Multi stage sampling is used to get the data. In first stage top 10 banks are selected as **sample** from the entire population of Pakistani banking sector; this ranking from top to bottom is based on asset allocation of the banks as ranking of the banks is made on the basis of assets allocation by the State bank of Pakistan. These are National Bank of Pakistan, Habib Bank Ltd, United Bank Ltd, MCB Bank Ltd, Allied Bank Ltd, bank Alfallah Ltd, Bank Al-Habib, Standard Chartered Bank, Askari Bank Ltd and Faysal Bank Ltd.

As far as market share of top 10 banks is concerned regarding the non-performing loan these possess 56.54 % out of total NPLs of the Pakistani banking sector (344,223 million Rs. out of 608,748 million Rs.) and having 72% market share (SBP 2011).

As far as target sample of bankers is concerned data is collected from those bankers who are working in the credit administration offices of all the banks selected in this study, bankers of the credit risk departments and all those bankers involved in the credit approval departments at maximum level either at head offices regional offices or area offices, branch managers of corporate branches of the banks under study are selected as well. As far as selection of corporate branches is concerned every bank has at least one corporate branch in Pakistan. So the managers of these branches were also included in the sample.

3.3 Research Hypothesis

So the following hypothesis are formulated

H1. Interest rate/lending rate has a considerable positive relationship with the NPLs of Pakistani banking sector.

H2. Energy crisis has a considerable positive relationship with the NPLs of Pakistani banking sector.

H3. Unemployment has a considerable positive relationship with the NPLs of Pakistani banking sector.

H4. Inflation has considerable relationship with the NPLs of Pakistani banking sector.

H5. GDP growth has a considerable negative relationship with the NPLs of Pakistani banking sector.

H6. Exchange Rate has a considerable relationship with the NPLs of Pakistani Banking sector.

3.4 Data Collection

As far as collection of the primary data for the study is concerned a structured questionnaire was developed. This questionnaire was designed to for the survey to analyze the economic determinants of NPLs in the Pakistani banking sector from those bankers who are involved in the decision making of credit allocation and credit risk assessment and handling NPLs portfolios. This questionnaire was designed in way to elicit the perception of these bankers regarding the economic factors causing NPLs in Pakistan. The respondents were asked about the economic determinants of non-performing loans since 2006. Total respondents of the questionnaire were 201.

As far as handling credit portfolio is concerned data was collected from credit officers, credit managers/branch managers. Credit risk analysts and credit risk managers were part of risk assessment division of data collection. Initially a sample of 50 questionnaires was surveyed, this pilot testing was adopted to test the validity of the questionnaire. Cronbach alpha co-efficient of .0745 ensured the reliability of the questionnaire.

3.5 Instrument of Research

Five point Likert scale was used as a tool to assess the responses and to measure the impact of economic determinants of non-performing loans. The anchors included were

1= strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree

Total no. of questionnaires were 350 and usable responses were 201.

3.6 Multiple Regression Model

$$NPLz_i = \alpha_0 + \alpha_1 IR_i + \alpha_2 EC_i + \alpha_3 UE_i + \alpha_4 IN_i + \alpha_5 GDP_i + \alpha_6 ER_i + \epsilon$$

Where NPL_i = Non-performing Loans, IR= interest rate, EC = energy crisis, UE= unemployment, IN= inflation, GDP= growth in gross domestic product, ER= exchange rate and ϵ = error term.

In this regression model NPL_i is dependent variable which is an average of 5 items from 22 to 28. Interest rate (IR) is independent variable which is an average of 4 items from 1 to 4. Energy Crisis (EC) is independent variable which is an average of 4 items from 5 to 8. Unemployment (UE) is independent variable which is an average of 5 items from 9 to 13. Inflation (IF) is an independent variable which is an average of 3 items as well from item 14 to 16. GDP Growth (GDP) is an independent variable which is an average of 3 items from 17 to 19 and Exchange Rate is also an independent variable which is an average of 2 items from 20 to 21. The regression and co relational diagnostics analysis is used to analyze the impact of independent variables on the dependant variables.

4. Data Analysis and Interpretation

Data analysis is divided into two parts firstly descriptive analysis is discussed and in the end regression and correlation analysis is discussed.

4.1 Descriptive Analysis

Table 4.1: Descriptive statistics

	MEAN	STD. DEVIATION
Interest Rate	4.3905	.15759
Energy Crisis	4.5112	.25037
Unemployment	4.3174	.31136
Inflation	4.1327	.32503
GDP growth	4.4760	.16533
Exchange Rate	3.5804	.69923
Non-performing loans	4.3966	.18923

The above table shows the mean and standard deviation of the independent variables *interest rate, energy crisis, unemployment, inflation, GDP growth, Exchange Rate* and dependant variable *Npls*. According to the descriptive analysis all the variables excluding exchange rate has score more than 4= agree which indicates that Pakistani bankers perceive that these variables (*interest rate, energy crisis, unemployment, inflation, GDP growth*) have significant relationship with the non-performing loans of the Pakistani banking sector. Exchange rate has a score more than 3.58 indicating a tendency towards agree which means Pakistani bankers believe that exchange rate has a relationship with the bad loans in the Pakistani banking sector.

4.2 Regression and Correlation Analysis

4.2.1 Regression Analysis

Table 4.2: Regression analysis to test the significance of variables

R	0.834		
R Square	0.805		
Adjusted R square	0.793		
F	23.741		
Sig.	0.000		
Independent variable	Beta	t-value	Sig.
(Constant)		-22.184	.000
Interest Rate	1.381	28.474	.000
Energy Crisis	0.468	19.099	.000
Unemployment	0.539	17.706	.000

Inflation	0.173	11.527	.000
GDP Growth	-0.162	-10.941	.000
Exchange Rate	0.495	47.831	.000

In this paper regression analysis is used along with correlation analysis to test the significance of the variables. According to the analysis economic variables represent 79% variation in the non-performing loans in the Pakistani banking sector. F value (0.000) is indicating that model is a good fit.

H1: according to the table beta value of interest rate (1.381) is highly significant (0.000) at 1 percent level. It is indicating that according to the perception of Pakistani bankers interest rate has a significant positive relationship with non-performing loans. Findings also support the previous studies conducted by Siddiqui, Malik, & Shah (2012), Nkusu (2011); Adebola, Yusoff, & Dahalan (2011); Louzis, Vouldis and Metaxas, (2011). In a country like Pakistan where energy crisis and other external forces have affected the debt servicing capacity of a borrower too much in this situation an increase in interest rate badly affects the loan repayment capacity

H2: According to the table beta value for energy crisis (0.468) is highly significant (0.000) at 1 percent level of significance. This result indicates that according to the perception of Pakistani bankers energy crisis has a significant positive relationship with non-performing loans. Findings also support the previous study conducted by Keeton and Morris (1987). Pakistan is a country where energy crisis have ruined the industry, most of the units have closed. These energy crises has affected the economy of Pakistan very badly; affecting the loan payment capacity of borrowers as irrespective of any sector of economy cheap and constant flow of energy is necessary for the development of economy of any country, because energy is an essential and complementary part of production (Sahir and Qurashi, 2007, Lee,2005).

H3: As per table beta value for unemployment (0.539) is highly significant (0.000) at 1 percent level of significance. This result indicates that according to the perception of Pakistani bankers unemployment has a significant positive relationship with the non-performing loans. Findings also support the previous study conducted by Nkusu (2011), Vogiazas & Nikolaidou (2011), Bofondi and Ropele (2011). According to the Pakistani bankers Pakistani banking sector has been affected a lot due to the increasing unemployment in the country. If a person loses his job and he has no money to eat food how we can expect him to repay any loan amount or interest.

H4: As per table beta value for inflation (0.173) is highly significant (0.000) at 1 percent level of significance. According to the result Pakistani bankers perceive that inflation has a significant positive relationship with the non-performing loans. Findings also support the previous study conducted by Khemraj and Pasha (2009) and Fofack (2005).

H5: According to table beta value for GDP growth is (-0.162) highly significant (0.000) at 1 percent level of significance. According to the result Pakistani bankers perceive that Growth in GDP has a significant negative relationship with the non-performing loans. Finding also support the previous studies conducted by Louzis, Vouldis and Metaxas (2011), Khemraj and Pasha (2009), Salas and Suarina (2002), Rajan & Dhal (2003); Fofack, (2005), and Jimenez and Saurina (2005). Growth in the economy enhances the debt servicing capacity of the borrowers, as an improved economy increases the income of individuals and firms which ultimately positively affects the loan payment capacity of the borrowers.

H6: As per table beta value for Exchange rate (.495) is highly significant (0.000) at 1 percent level of significance. As per result Pakistani bankers perceive that an appreciation in exchange rate has a positive significant relationship with the non-performing loans finding also support the previous study conducted by Khemraj and Pasha (2009).

4.2.2 Correlation Analysis

Perception of the Pakistani bankers was obtained through a questionnaire

Table 4.3: Correlations

	NPLS	Interest Rate	Energy Crisis	Unemployment	Inflation	GDP	Exchange Rate
NPLS	1						
Interest Rate	.828**	1					
Energy Crisis	.690**	.910**	1				
Unemployment	.505**	.813**	.714**	1			
Inflation	.588**	.472**	.320**	0.129	1		
GDP	.474**	.266**	.253**	0.165*	0.153*	1	
Exchange rate	.523**	.377**	.382**	.524**	0.086	0.106	1

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

* . Correlation is significant at the 0.05 level (2-tailed).

Correlation analysis is used along with regression analysis to impact of economic determinants on the NPLS of Pakistani banking sector. This analysis reconfirms the results of regression analysis.

Table 4.3 points out that Interest rate has significant relation with the NPLS of Pakistani banking sector the value of r is (0.828**), ** .p<.01). Findings also support the previous studies conducted by Siddiqui, Malik, & Shah (2012), Nkusu (2011); Adebola, Yusoff, & Dahalan (2011); Louzis, Vouldis and Metaxas, (2011). The above table also points out that energy crisis has significant relation with the NPLS of Pakistani banking sector the value of r is (0.69**), ** .p<.01). Findings also support the previous study conducted by Keeton and Morris (1987). According to the table value unemployment has significant relation with the NPLS of Pakistani banking sector the value of r is (0.505**), ** .p<.01). Findings also support the previous study conducted by Nkusu (2011), Vogiazas & Nikolaidou (2011), Bofondi and Ropele (2011). As per table value inflation has significant relation with the NPLS of Pakistani banking sector the value of r is ((0.588**), ** .p<.01). Findings also support the previous study conducted by Khemraj and Pasha (2009), Fofack (2005). Similarly the r value ((0.474**), ** .p<.01) for GDP also indicates that GDP has significant relationship with NPLS of the Pakistani banking sector. Ra value ((0.523**), ** .p<.01) for exchange rate also indicate exchange rate has a considerable relation with the NPLS of the Pakistani banking sector.

5. Conclusion

Non-performing loans are dangerous not only for the economy of one country but also for the whole world as we have seen the financial crisis created by these loans in East Asian countries, America and Sub-Saharan Africa, so this is the need of the era to identify the factors responsible for non-performing loans; as researchers believe that once we identify these factors then we can make policies to prevent any future happenings of these loans (Adebola, Wan Yusoff, & Dahalan, 2011). A huge volume of non-performing loans serve as preface to financial fragility. Previous literature attempted to study the determinants of non-performing loans through secondary data collection but this study focused on the perception of Pakistani bankers who actually deal with the lending decisions and handle the non-performing loan portfolios. The bankers who are actually dealing with these issues can better describe the factors/elements causing this bad loan, that's why a primary research was designed to reach a conclusion regarding the economic variables of non-performing loans in the Pakistani banking sector. This is the first time that any study is conducted in Pakistan to highlight the economic factors of NPLs via primary data collection from loan providing and approving authorities of Pakistani banking industry. This study provides the perception of Pakistani bankers

regarding the economic factors causing non-performing loans in the Pakistani banking sector since 2006. All the hypothesis were accepted and correlation and regression data analysis described that Interest Rate, Energy Crisis, Unemployment, Inflation and Exchange Rate have a significant and positive relationship with the non-performing loans while GDP growth has significant negative relationship with the non-performing loans of Pakistani banking sector. Bad performance of energy sectors along with poor economic settings/conditions are the main factors causing non-performing loans in Pakistan.

Pakistan is facing energy crisis since 2006 most of the industrial units have become sick or have been closed causing a huge volume of non-performing loans. It's a need of the era to resolve this energy crisis otherwise the volume of non-performing loans will continue to increase. Since 2006 most of the bad loans have been caused by these severe energy crisis in the country; energy crisis not only affect the production of the units but it also affects the debt servicing capacity of the borrower as alternative sources to produce the energy are very costly causing huge cost of production.

Unemployment is the other factor which has caused a huge volume of non-performing loans especially in the consumer financing. If a person doesn't have any source of income and even don't have money to buy his food how we can expect him to pay his loan installments in time that's why there is a huge volume of non-performing loans in the consumer sector of Pakistan. If this unemployment problem is resolved people are given jobs and they have any source of earning it can also positively affect the demand of the products because increased unemployment in the economy also negatively affects the demand of the products of firms which ultimately affects the production/sales of the firms, this ultimately leads to decline in revenues of the firms and a fragile debt conditions.

In this study we highlighted the economic variables of non-performing loans. The future studies can be done on the social and political factors of non-performing factors of non-performing loans in the Pakistani banking sector. This study was focused on top 10 banks of Pakistan getting responses of only 201 bankers, in future studies more banks should be involved in the sample frame focusing on more bankers to get more accurate empirical results.

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