ISSN: 2321-8819 (Online) 2348-7186 (Print) Impact Factor: 1.498 Vol. 7, Issue 3, March, 2019

A Conceptual Paper for Macroeconomic Determinants of Non-Performing Loans (NPLs) In Banking Sector of Pakistan

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ABSTRACT

This paper develops a conceptual framework to understand the importance of the most relevant macroeconomic factors that may affect the level of non-performing loans (NPLs) in conventional banks of Pakistan. The conceptual framework asserts that the energy gap, the bank credit to private sector with corruption and political stability should also be analyzed along with GDP, lending interest rate and the unemployment rate to encapsulate the overall impact of systematic risk in the changes in the level of conventional banking NPLs. In developing countries, the gap between the demand and supply of energy (energy gap), corruption and political stability have far reaching effect on the overall economy through hampered business activities. When bank credit creation is damaged due to pile up of the bad loans, better regulations and policy making can rescue the banking system and economy. The rationale behind considering these variables in the proposed model is to provide better insights of influential external factors and to devise better policies and regulations to cope up with these for the stability of the banking sector and economy.

KEY WORDS

NPLs, Macroeconomic variables, Bank credit to private sector, Energy gap, Corruption, Political stability, Banking sector of Pakistan.

Introduction

In the contemporary world, the financial institutions are the backbone of the economy and their vital role cannot be ignored (Waqas, Fatima, Khan, & Arif, 2017); particularly in the developing countries as banks are the main source of credit (Mirza, Malik, & Abdul-Hamid, 2018; Raza, Jawaid, & Shafqat, 2013). The loan portfolios are the main earning assets of banks (Niu, 2016) and lending is the main activity of banking institution (Kargi, 2011). Therefore, a bank tries to utilize maximum of its funds for lending (Malimi, 2017) nevertheless, banks get some of its loans converted into risk of nonperforming loans (NPLs). The NPLs represents credit risk (Malimi, 2017) in the balance sheets of the banks. The credit risk represents the chance of the total or partial loan loss due to the risk of default (Basel Committee(BCBS[1]), 2000). NPLs reduce lending growth, miss investing in the good projects through the loans, hit customer confidence and cause decline in the growth of economy (Balgova, Nies, & Plekhanov, 2016; Cucinellli, 2015). Thus, economic activity suffers decline through NPLs which crowd out funds that could otherwise be used for productive investments (Nikolopoulos & Tsalas, 2017). NPLs are also the main cause of bank failures (Campbell, 2007), and the most visible risk faced by banks (Fraser, Gup, & Kolari, 2001). In fact, NPLs issue is critical to the survival of banking institutions (Saba, Kouser, & Azeem, 2012). Also, it is one of the financial stability indicators and it shows both credit and operational risks and also represent efficient allocation of resources. Therefore, determining the factors that influence NPLs is of prime importance. Here, the combination of the most influential macroeconomic variables is proposed, keeping in view the economic environment of the developing countries in general and specifically the overall circumstances of Pakistan.

Theoretical Background

Banks help in financial trading and plays the role of financial intermediary by channelizing funds from savers to borrowers in the form of loans by pooling the savers funds. Banks also facilitate its customers by performing the functions of risk manager as it shares risk by diversifying its investment and loan portfolios. It also works as liquidity provider due to the big pool of funds, its customers can receive their funds on demand. Moreover, with this liquidity, banks can facilitate deficit units with the adequate finances. Banks have the advantage of its skills, expertise and experience and they have a better access to the market and information. They provide premier information to their customers at

1 The Basel Committee on Banking Supervision (BCBS), also called Basel committee, is the primary global standard setter for the prudential regulation of banks and provides a forum for cooperation on banking supervisory matters. Its main objective is to achieve and extend financial stability through various supporting activities.

affordable cost that otherwise all the customers could not get (Hubbard, 2002).

Moreover, in market economics, the economic cycle is considered as a natural phenomenon. The economic cycle consists of many stages of the growth like peak, boom and recession. The first phase of the economic cycle of the countries is over heated and linked with the high level of gross domestic product (GDP). In contrary, the recession phase follows the boom and it is related to decline in employment rate as well as the decline in inflation's pressure (Baran, 2011). These changes in the macroeconomic cycle may affect the risk taking of the financial institutions. Overall changes in the economy are those systematic changes that may affect all the firms in the market (Mileris, 2015).

Many studies document the influence of the macroeconomic risk on banks' financial conditions. In addition, the macroeconomic downturn influences the loan portfolio diversification level. The homogeneity of bank portfolios would increase in the response to an increase in macroeconomic risk and uncertainty. The deteriorating information quality should lead to narrowing of the cross-sectional composition of the bank portfolios, as banks reducing the risk tend to allocate assets in their portfolio more homogeneously when the macroeconomic uncertainty increases (Calmès & Théoret, 2014).

Non-Performing Loans (NPLs)

The ratio of non-performing loans (total amount of NPLs held by a bank to gross loans) is a financial ratio which is an indicator of financial stability and it is considered critically important because it represents credit risk and efficient allocation of the resources to good projects. Several studies used this ratio to measure the credit risk (N. H. Ahmad & Ariff, 2004; Berger & DeYoung, 1997; Haryono, Mohd, & Hamat, 2016; Kabir, Worthington, & Gupta, 2015; Misman, Bhatti, Lou, Samsudin, & Rahman, 2015). The State Bank of Pakistan (SBP), (2010) has issued the guideline on classification and loan loss provision. This guideline is an addition to the disclosure requirement under the applicable financial reporting standards, when the principal or interest is past due over 90 days or 3 months, banking institutions shall classify a loan as a non-performing loan (NPL).

Kjosevski and Petkovski (2017) asserted that non-performing loan is a concept used by regulators that is mainly about loans which are overdue by 90 days. According to the IMF's definition, NPL is a microeconomic event that happens between lender and borrower at the transactional level. However, the studies have shown that NPL carries macroeconomic effects. Hu, Li, and Chiu (2007) demonstrated that NPL hinders macroeconomic growth and reduces economic efficiency because NPL exposes the system to financial vulnerability (Louangrath, 2015) and sub-prime mortgage crisis has cast attention on Non-Performing Loans (NPL) as a signal of an economic crisis (J. H. Park & Zhang, 2012).

Overview of NPLs in Conventional Banks of Pakistan

The banking sector in Pakistan is fairly developed and moderate sector (State Bank of Pakistan, 2015). The banks cover 95 percent of the financial sector in Pakistan (Ahmad, 2011). Badar & Javid (2013) pointed out that NPLs are growing rapidly in Pakistan in the last ten years. In Pakistan, the gross NPLs are increasing from 2006 onwards and it reached at the maximum in 2011 (15.74 %) and now it is still high at 10.06% (2016) which is above the threshold of 10% of NPL ratio (Demirgüç-Kunt & Detragiache, 1998) which points out that this issue needs immediate attention.

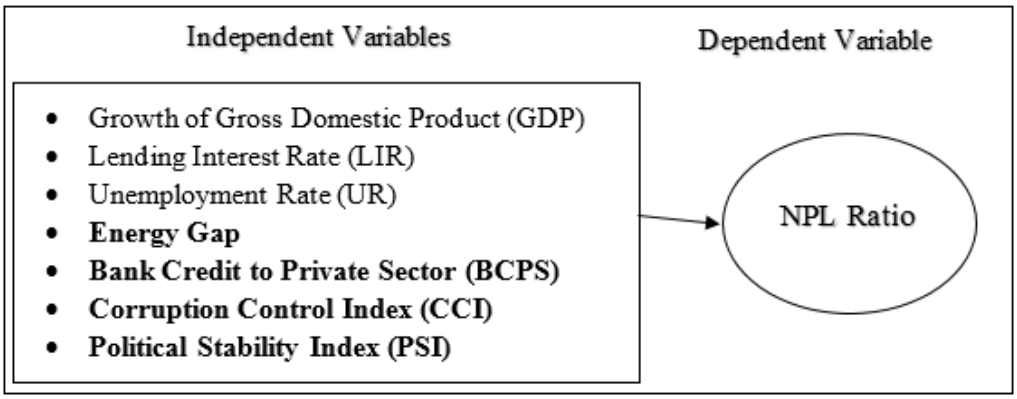
Due to high pile-up and overhang of NPLs in the recent past, the Pakistani Banking sector has witnessed several cases that were close to bankruptcy but somehow, with the intervention of the central bank (SBP), either these banks are merged into or are acquired by the other financially sound bank. There are eight mergers in the banking sector during 2006-2016 (Competition Commission of Pakistan (CCP), 2017).

High NPLs will lead to banking, financial and also economic crises (Lleshanaku, 2015). Moreover, high NPLs lead to an episode of distress to be classified as a full-fledged crisis is when the ratio of nonperforming loans in the banking system exceeds 10 percent (Demirgüç-Kunt & Detragiache, 1998). In 2014, out of 32 countries Pakistan was at 25th place that have NPLs over 10 percent of total loans (Balgova et al., 2016) while its NPLr(Non Performing Loan Ratio) in 2016 is still above 10 percent. Thus, this situation indicating NPLs can trigger a banking, financial or economic crisis.

Proposed Conceptual Framework

The unique combination of following variables is proposed in Pakistan to check their combined effect on banking NPLs. Though some variables like GDP, unemployment, and political stability index have checked on NPLs in some studies on Pakistan while these variables with other variables like lending interest rate, bank credit to private sector

and the corruption control index are also checked in the developing and the developed countries. But energy gap has not been checked with NPLs in any study in the known literature. The energy gap or shortage is more relevant in the developing countries like Pakistan where supply of energy is almost always short of energy demanded. Moreover, bank credit to the private sector also not been checked with NPLs in Pakistan in the known literature. The Corruption control index has also not been checked with NPLs in Pakistan and instead some studies used corruption perception index. The proposed conceptual framework is as under:



Macroeconomic Factors and NPLs

The existing literature contains empirical evidences that positive change in external (macroeconomic) factors like sustainable growth in the economy, the decline in unemployment and the interest rates are linked with better loan quality. The capacity of the borrowers to manage their loan repayment will increase with the improvements in external environment that eventually help in decreasing the number of defaults.

Growth of Gross Dometic Product and NPLs

The gross domestic product (GDP) growth is an indicator of the overall economic activity. Economic boom (expansion) causes rise in the income through higher employment which lower financial distress on borrowers and enable them to service their debts which will reduce NPLs for banks (Makri, Tsagkanos, & Bellas, 2014). Conversely, the recession (economic) deteriorates income level due to increase in unemployment (Chaibi & Ftiti, 2015). Moreover, banks behave quite pessimistically during recession and they decrease lending and increase provisioning for loan losses and start worrying about increased NPLs.

The literature reported negative relationship in some studies between GDP and NPL's (Konstantakis, Michaelides, & Vouldis, 2016; Louhichi & Boujelbene, 2016) whereas others reported positive relationship between them (Beck, Jakubik, & Piloiu, 2015; Shingjergji, 2013). In addition, evidence of insignificant relationship is also found (Dimitrios, Helen, & Mike, 2016; Nor & Ahmad, 2015). Therefore, it can be summarized that at one hand that low GDP growth reduces economic activity and thus borrowers' loan paying capacity while, on the other hand higher GDP growth causes to the increase in NPLs. Thus, due to inconsistency between the relationship of GDP growth rate and NPLs, GDP is included in this research conceptual framework. Thus, the following proposition can be developed:

Proposition 1: There is a significant relationship between GDP and NPLs.

Lending Interest Rate and NPLs

Lending Rate is the other depository corporations' rate that usually meets the short- and medium-term loan needs of the private sector. This rate normally fluctuates as per creditworthiness of the borrowers and depends upon the loan's objectives (WorldBank, 2018). While Regmi, Nikolsko-Rzhevskyy and Thornton (2015) defined it as the interest rate charged by banks to the private sector. The deregulation, characterized by abnormally high-interest rates, is the major reason behind the most of the banking and financial crises (Fofack, 2005). The NPLs increase significantly in response to higher interest rates (Castro, 2013). According to Espinoza & Prasad (2010), when economy is going down and the interest rates are going high, NPLs will rise. Since Pakistan depends on IMF (International Monetary Fund) to get support in its fiscal deficit, IMF loans bound the movement of interest rate (Rehman, Zhang, & Ahmad, 2016).

Some of the past studies reported negative relationship between the lending rate and NPLs (Ahmad & Bashir, 2013; Bucur & Dragomirescu, 2014; Fofack, 2005) whereas, others reported positive relationship between them (Beck et al., 2015; Muntean, 2014; Touny & Shehab, 2015). In addition, evidence of insignificant relationship is also found (Climent-Serrano & Pavía, 2014; Ghosh, 2015; Vatansever & Hepsen, 2015). Thus, the following proposition can be developed:

Proposition 2: There is a significant relationship between Lending Interest Rate and NPLs.

Unemployment Rate and NPLs

The unemployment rate is the number of unemployed relative to the labor force and it measures the proportion of the total labor force (Demirci, Huang, & Sialm, 2017). It is an important indicator of NPLs on consumer loans (Louzis, Vouldis, & Metaxas, 2012) but it also has a link to the business and economic activities that affect the demand of goods and services and eventually to business capacity to repay its loans (Quagliariello, 2007).

During economic growth swings, there will be increase in productions due to increased demand and it requires more workers at job at competitive income levels. Therefore, there will be low unemployment rate with greater paying capacity to manage and pay their loans which will result in decrease of NPLs (Bofondi & Ropele, 2011). While on the other hand, during economic downturns there will be less production as a result of declined demand. This will end up in the decrease of revenues that will lead to more lay-offs or decrease in the income of the work force. Thus, borrowers with low incomes have higher rates of default due to increased risk of facing unemployment and being unable to pay. An increase in the unemployment rate could also influence negatively the present and future purchasing power of households and consequently, increase the debt burden. Therefore, it will give rise to NPLs stock.

Konstantakis et al., (2016) states that unemployment affects cash inflows lowering income and increasing the probability of the loan defaults. Similar results are reported by Touny and Shehab (2015); Vatansever and Hepsen (2015); Ghosh (2015); Akinlo and Emmanuel (2014); Castro (2013); Louzis et al., (2012); Fainstein and Novikov (2011) and Nkusu (2011). According to Louzis et al., (2012) unemployment significantly influences all kinds of NPLs where NPLs from businesses have pronounced the impact due to its sensitivity. Alternatively, Zaib, Farid and Khan (2014) found negative relation between unemployment rate and NPLs; whereas, Shu (2002) found that that unemployment rate has insignificant impact on NPLs in Hong Kong banking system. Thus, the following proposition can be developed:

Proposition 3: There is a significant relationship between Unemployment Rate and NPLs.

Energy Gap and NPLs

The energy (electricity) gap (shortage), in recent years, has worsened in developing countries around the world. Energy has prime importance in the growth process of economy. The energy helps economic activity to increase that in turn increases output growth in an economy. Similar to the capital and labor in production function, energy is also very important input (Shahbaz, 2015).

Moreover, due to the continued deteriorating economic conditions in Pakistan, the establishment of new sources of energy generation was neglected by political governments in Pakistan which helped widening the energy gap in terms of difference in demand and supply of electricity (energy). This created a hurdle in the economic growth of the country and it leads to underutilization of the industrial capacity which gave rise to the cost of production that effectively impacted the loan repaying capacity of both businesses and individuals which in turn increased the level of NPLs. This also increased the unemployment in the country which also caused pile-up of bank credit. The leading evidence builds a pressure and damage paying capacity of domestic firms and industries, resulting in a rise in NPLs on the balance sheets of banks (State Bank of Pakistan, 2015).

The literature on the relationship of energy gap (crisis) and economic development represents a positive relationship (Lee, 2005; Wolde-Rufael, 2005). Keeton & Morris (1987) concluded that the rise in NPLs is due to the poor economic conditions with bad performance of energy and agriculture sector. In another study based on banker's perceptions, energy crisis has a significant relationship with NPLs in Pakistan (Farhan, Sattar, Chaudhry, & Khalil, 2012). A replica study based on the perceptions of the bankers in Nepal concludes similar results (Bhattarai, 2014). Thus, it shows that widened energy gap will result in poor business environment resulting in high cost of business and increase in NPLs. Thus, the following proposition can be developed:

Proposition 4: There is a significant relationship between Energy Gap and NPLs.

Bank Credit to Private Sector (BCPS) and NPLs

Bank credit to private sector (BCPS) refers to meeting the financing and credit needs of private sector by banking institutions (all banks except central banks). It is thought to be a good measure of financial development because comparative to public sector, the private sector utilizes funds more efficiently and productively to have a positive impact on the economy (Ang, 2009) while Ziaei (2016) considers it a proxy of lending channel.

The Pakistani economy is also suffering due to inadequate finances from banks for the new projects and it caused a number of defaults. The government bank borrowing for budgetary deficit has recently shifted from central bank to commercial banks and it created an impact of crowding out private sector credit (Zaheer, Khaliq, & Rafiq, 2017). A comparison on the credit to the private sector of regional countries reflect BCPS of Pakistan is comparatively very low.

Many of the previous studies has reported positive relationship between bank credit to private sector and credit risk (Akinlo & Emmanuel, 2014; Angela & Irina, 2015; Erdinç & Abazi, 2014; Jakubík & Reininger, 2014; Konstantakis et al., 2016). On the contrary as discussed, many of the other studies reported inverse relationship between BCPS and NPLs (Amin, Chernykh, & Imam, 2014; Das & Ghosh, 2007; Fofack, 2005; Klein, 2013; Nkusu, 2011). Thus, the following proposition can be developed:

Proposition 5: There is a significant relationship between Bank Credit to Private Sector and NPLs.

Corruption and NPLs

Corruption control index is an observation of the extent to which public power is exercised for private gain inclusive of both minor and splendid forms of corruption as well as exploitation of political influence for personal benefit. Shaffer (2008) declares it a clandestine activity and Breuer (2006) reveals that conflicts of interest are there when the concerned individuals go against their agreements with the office in any way implicitly or explicitly. It is a big hurdle in economic growth and development (Park, 2012) and it aggravates the problem with NPLs when funds are channeling to bad projects and not to the good ones (Bougatef, 2015; Park, 2012) which typically ends up with an increase of NPLs (Park, 2012). So, corruption is a serious barrier to the effective mobilization and allocation of the resources (Bougatef, 2015). Corruption is one of the essential factors to determine the NPL ratio (Hu et al., 2007) while Park (2012) acknowledges the corruption as a global determinant of the loan quality in the banking sector.

Corruption has great role in the NPLs' growth in developing countries (Ahmad, 2013b; Breuer, 2006). Boudriga, Taktak and Jellouli (2009) refer to Barth, Caprio and Levine (2006) who highlighted that authorizing official supervision and regulation will corrupt lending of banks by giving it a rise.

Many existing studies support "sand the wheel" effect of corruption which means that the greater the corruption, the higher the bad loans (F. Ahmad, 2013a; Batra, Kaufmann, & Stone, 2003; Boudriga et al., 2009; Goel & Hasan, 2011; Lízal & Kocenda, 2001; J. Park, 2012; Shaffer, 2008). On the other hand, Chen et al., (2015) support the view of "grease the wheel" or in their study. Boudriga et al., (2008) and Weill (2011) studies supported the same results. While Chen et al., (2015) conclude statistically insignificant relation between corruption and NPLs. The Similar conclusion is presented by Nor and Ahmad (2015) and by Ahmad (2013b) in Pakistan. Thus, the following proposition can be developed:

Proposition 6: There is a significant relationship between Corruption Control Index and NPLs.

Political Stability and NPLs

Political stability index (PSI) is a sensitivity of likelihood that the government is destabilized or overthrown by undemocratic or violent means inclusive of politically- motivated aggression and by the act of terrorism (International Monetary Fund, 2011). Shaffer (2008) concludes that political instability increases bad loans by heightening the effects of corruption. Bhattarai (2014) study summarizes that instable political environment increases the banks' NPLs based on the perception of bankers. While Hu et al., (2007) and Boudriga et al., (2008) argue that state-owned banks are more open to the political lobbying and the administrative pressure that result in a higher levels of NPLs.

Nor and Ahmad (2015) report that the political stability index has no significant relation in influencing NPLs of Banks in Malaysia. The similar results are also reported by Breuer (2006); Park (2012) and Boudriga et al., (2008). Thus, the following proposition can be developed:

Proposition 6: There is a significant relationship between Political stability Index and NPLs.

Conclusion and Policy Implications

The conceptual research is an attempt to construct a comprehensive framework to determine the most influential macroeconomic factors that affect NPLs of conventional banking system in Pakistan which can be used as an important input for policy making and regulating banking sector that will further help in improving ailing economy of Pakistan. Since, Pakistan is a developing country and its economy heavily depends on its banking sector, the findings on energy gap, corruption, political stability and bank credit to private sector will put light on new insights that will help in reforming the banking sector policies and regulations.

Future Research

This study will mainly focus on external factors to evaluate the NPLs of conventional banking sector. For future studies, it is recommended that internal factors like capital adequacy, liquidity and profitability are used. The ownership structure is an important factor for the success of a bank. So, future research can focus on moderating the role of different ownership structures in banking to determine the level of NPLs accumulation.

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