

RESEARCH NOTES

NON-PERFORMING LOANS: Determinants and Impact on Banking Industry

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Non-Performing Loans (NPLs) gained attention of economists and researchers since the last three to four decades; the time when banking sector experienced the increasing trend in the NPL's and started facing crises. The importance of the financial sector cannot be ignored or argued as economic growth in any country cannot take place without a sound financial sector. Factors of ex-post credit risk are a matter of considerable magnitude for supervisory establishments related to management of banks and financial permanence. Non-Performing Loans (NPLs) are the result of occurrence of ex-post. In the literature NPLs are termed as major cause of bank failures which may eventually result in hurting the economy. Reinhart and Rogoff (2010) stated that NPLs can be marked as beginning of the banking crisis. A loan will be classified as non-performing if the borrower has ceased to pay the principal and interest, as stated in the loan repayment contract. Non-performing loans (NPLs) are such loans and advances on which markup or principal is over due by 90 days or more from the due date. In banking industry the issue of NPLs is quite significant, minimization of NPLs is indispensable for development of the banking industry and subsequently also for the economic development.

The piling up of NPLs deteriorates the quality of assets which leads to considerable losses and significant contraction in capital buffers. The rapid escalation in NPLs also limits the lending operation of banks which ultimately has repercussions in economic activity, besides increasing vulnerability of banks from internal and external shocks. The banking sector of Pakistan like other developing economies faces many problems due to NPL's. The rising magnitude of NPL's does not only hurt the banking sector but also hampers the economic growth of the country. Kaminsky and Reinhart (1999) stated that the rising trend of non-performing loans in any economy indicates financial crises. NPL's in the Pakistani Banking sector shows an increasing trend each year. According to the State Bank of Pakistan's report 'Financial Companies Analysis', there was an increasing trend in gross ad-

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vances and the NPLs in banking sector of Pakistan, during the period of 2006 to 2013. Over the stated period the NPLs to gross advances depicted an upward trend which is not a positive sign for the development of banking sector and for economic growth. During the year 2010-11 the NPLs to gross advances of Pakistani Banks have crossed the 14 per cent limit; however, during 2013 the level of NPLs to gross advances declined to 13 per cent. This reduction is quite encouraging as banking industry also witnessed the growth in gross advances.

It is also supported by the fact that the profitability of banks has risen over the period of 2006 to 2013, despite the increasing trend in the level of NPLs. The year 2008 and 2009 were the least profitable years for Pakistani banking industry in the said period; however, from 2011 onward the banking industry has maintained significant profitability, nevertheless growth in the profitability of Pakistani banks is not very impressive over the stated period.

One of the major contributing factors may be the energy crises in the country which became severe since 2006 and has hampered the industrial growth in the country. In their study [Farhan et al. (2012)] stated two major economic factors that contribute in the rising NPL's. First is the energy crises since 2006 and the other is unemployment. Due to the energy crises industrial production is affected, whereas, the alternative arrangements for energy are too expensive, hence, heavy cost is incurred in the industrial production. Secondly, unemployment has significantly contributed in the NPL's, specifically in the consumer financing. Therefore, an unemployed individual cannot repay his loan installments; and thus these two problems are to be solved.

Evaluating the determinants of NPLs by analyzing the two bank levels and macro-economic factors, the relevant literature classifies two types of factors to explain the augmentation of NPLs, over the period of time. One category concentrates on macroeconomic factors which are external events that are expected to influence the capacity of borrowers to pay off or discharge their liabilities; whereas, the second category, concentrates on the bank specific factors which imputes the level of NPLs. In the literature, there is an existence of empirical evidence for both types of factors. Louzis et al. (2012) classified the macroeconomic and bank specific factors as systematic and idiosyncratic factors. They stated that NPLs are affected by both the bank specific and macro-economic variables by examining the banking system of Greece. Besides, Louzis et al. (2012) and Nir Klein (2013) also stated that NPLs can be attributed to the two bank's specific factors and macroeconomic factors by employing the data of Central, Eastern and South-Eastern European countries for the period 1998 to 2011. Bercoff et al. (2002) also examined the determinants of NPLs in Argentina, covering the period of 1993 to 1996 and found that NPLs are influenced by both the macro-economic and bank-specific factors.

There is considerable evidence in the literature regarding the association between macroeconomic factors and NPLs. The behavior of NPLs is anti-cyclical as



growth in GDP is one of the major factors in decreasing the levels of NPLs as it enhances the debt repayment capabilities of the borrowers. However, lower GDP growth decreases income level of the borrowers and also the debt servicing capacity. Besides the slowdown unemployment also rises and augments the level of NPLs. Fofack (2005), Salas and Suarina (2002), Jimenez and Saurina (2005), Rajan and Dhal (2003) and Nir (2013). Messai and Jouini (2013) also stated that GDP growth rate has negative relationship with NPLs by utilizing the data of three countries i.e., Spain, Greece and Italy for the period of 2004 to 2008.

In addition to the GDP, the literature also offers other macro-economic variables that affect the quality of banks' assets including inflation and interest rate, etc. The impact of inflation is unclear; on one side higher inflation lowers the level of NPLs by reducing the real value of loan and subsequently makes debt servicing easier, and on the other side higher inflation leads to higher NPLs subsequent to actions in monetary policy to tackle inflation [Nkusu (2011)]. The author has used the sample of 26 advanced economies in panel regressions in his research and stated that unfavorable macroeconomic developments have association with rising NPLs. Fofack (2005) also showed that inflationary pressures aids to high level of bad loans with flexible exchange rate rules in the countries of Sub-Saharan (Africa).

Macroeconomic factors are not the only determinants of NPLs as they are exogenous to the banking industry, whereas, bank specific factors such as their choice of ameliorating efficiency and management of risk are also likely to affect the growth of NPLs. Berger and DeYoung (1997) in their seminal paper stated the relationship between cost efficiency, capitalization and bad loans by utilizing the United State banks data over the period of 1985 to 1994. The authors employed Granger-causality approach to test their hypotheses concerning the relationship amid cost efficiency, loan quality and capital of banks. In this regard, they formulated four hypotheses namely, the 'bad management', 'bad luck', 'skimping' and 'moral hazards'. They observed two-way causality among cost efficiency to NPLs and explained causality from NPLs to cost efficiency under the 'bad luck' hypothesis, mainly due to external events like shutting down a plant. However, they explained causality from cost efficiency to NPLs by 'bad management' hypothesis. Specifically, this hypothesis stated that low cost efficiency or inefficient management leads to increase in NPLs because of poor monitoring of loans and loan underwriting. Nir Klein (2013) stated that higher quality of management leads to lower NPLs by using the data of Central, Eastern and South-Eastern Europe countries for the period of 1998 to 2011. Messai and Jouini (2013) also stated that Return on Assets have negative relationship with NPLs. In 'skimping' hypothesis Berger and DeYoung (1997) stated the positive causality between NPLs and high cost efficiency. In general they stated that little allocation of resources in monitoring risk may end higher NPLs in future.



Banks with relatively low capital or highly leveraged balance sheet have a tendency to incur more NPLs as Keeton and Morris (1987) discussed the hypothesis of 'moral hazard' and stated that banks with rather low capital increase their riskiness of portfolio and subsequently results in higher NPLs. Since assets of enterprises are financed through debt and equity, so to determine the percentage of assets financed through source debt-to-assets ratio and equity-to-assets ratio are worked out (State Bank). Banks with higher debt-to-assets ratio or lower capital ratio tends to experience more NPLs. Keeton and Morris actually manifested that more loss rate were visible amid banks with comparatively lower equity-to-asset ratio. In line with Keeton and Morris, Salas and Suarina (2002) and Berger and DeYoung (1997) also found negative relationship among capital ratio and NPLs. However Louzis et al. (2012) did not find support for this hypothesis of 'moral hazard' in the banking system of Greece.

Superfluous lending by banks is also an important factor of NPLs; generally it is argued that excessive lending eventually results in higher NPLs, as it decreases the quality of borrowers. Keeton and Morris (1987), Jimnez and Saurina (2005), Salas and Suarina (2002), and Sinkey and Greenwalt (1991) also found support for this proposition. Keeton (1999) also stated that there is an existence of relationship between impaired assets and growth in credit by using the United States banking system data over the period of 1982 to 1996.

Size of the bank can be one of the factor in determination of NPLs Salas and Saurina (2002)], but however, in the literature, there is a mixed impact of bank size on NPLs of banks. Some studies suggest that large banks have better management and more resources as compared to their smaller counterparts to recover their loans. However, it is also argued that large banks take excessive risk and eventually suffer losses [Louzis et al. (2012)]. Rajan and Dhal/Dahl (2003) also stated that bank size could have positive or negative relation with NPLs depending on the proxy of bank size.

In view of the importance and significance of NPLs in the banking sector and subsequently in economic growth, various studies analyze the impact of regulatory quality, macro-economic and bank-specific variables on the NPLs. Study by Bilgrami and Rehman (2015) examined the impact of 26 Pakistani commercial banks by using 8 years panel data from 2006 to 2013. For this purpose the Fixed Effect Model was used. In the group of bank-specific variables bank size, growth in advances, return on assets, return on equity and the leverage ratio has been selected. Variables return on assets and return on equity are the measures of cost efficiency, whereas, growth in advances and leverage, ratio are the measures of excess-lending and 'moral hazard' proposition respectively. Besides that in macroeconomic variables growth in GDP and annual inflation has been considered.

Bank specific factors, such as return on assets, return on equity, size of the bank and leverage ratio are important bank specific factors of NPLs. Pakistani commer-



cial banks in particular, affects the NPLs negatively, whereas, leverage ratio positively affects the NPLs. However, inflation and growth in GDP remain an important macroeconomic contributing factor of NPLs of Pakistani commercial banks. In particular, inflation affects positively whereas growth in GDP affects the level of NPLs negatively. Above all regulatory quality is also an important determinant of NPLs and it has a negative bearing on NPLs.

In the case of Pakistan, significant policy implications on economy are needed to improve supervision in order to prevent sharp rise of NPLs in future; like maintaining high credit standards and avoid excessive lending. Considering the impact of regulatory quality, macroeconomic and bank specific variables on NPLs, policy maker can make optimal policies, rules and regulations so that NPLs of Pakistani banks can be reduced which subsequently fosters economic development via banking sector.

There is a need to go for structural reforms in the banking sector for reducing NPLs of banks along with the existing efforts of the SBP. As high level of NPLs is an encumbrance on the economy, policy makers can facilitate banks for speeding up the cleaning process of their portfolio by relaxing legal and regulatory impediments. Over the period of time the State Bank of Pakistan has issued various circulars regarding risk management. In March 2005, the SBP issued a circular regarding implementation of Basel II and in August 2013 it issued another circular for implementation of Basel III. This was a set of thorough reform-measures. Basel III focuses on strengthening the supervision, regulation and risk management of the banking sector. Minimization of NPLs facilitates sustainable economic development through banking sector as its progression entails job opportunities, besides enhancing the contribution to the National Exchequer which ultimately results in the inclusive or all-encompassing development of Pakistan's economy.

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SOCIAL SECTOR EXPENDITURES AND ECONOMIC GROWTH: A Review

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The policy planners argue that social sector expenditures contribute crucial role in the economic development of a country by maintaining law and order, providing economic infrastructure, harmonizing conflicts between private and social interests, increasing labor productivity through education and health, and enhancing export industries. The government has a major tool that can be used to yield social welfare improvement that is the fiscal budget. The budget could be the mechanism to assist the state in implementing a long-term social strategy. The government budget decisions affect day to day life of peoples and their future as well. It influence where they work, the transport they use, and how much health care and educational facilities are available to them. In other words, the budget 'should' reflect the country's socio-economic policy priorities by translating policies and political commitments into expenditures and taxation [Ghaleb (2000), Khalifa (2001)].

The task of government is even more challenging when it comes to the case of a developing country that lacks the basic 'social requirements' imbedded in bureaucracy and corrupt behavior, and is heavily indebted. The size of government expenditures in social sector and its impact on economic growth has emerged as a major public choice issue facing economies in transition [Devarajan, et Al. (1996)]. The size of government expenditures in social sector is typically detrimental to efficiency, productivity and growth. The basis being that the public sector is not responsive to market signals and heavy regulatory process that engenders higher production costs; and distortions that arise from both the fiscal and monetary policies.

Expenditures in the social sector, including education, health, shelter, nutrition and social protection are productive. The establishment and enhancement of social security system by governments and access to basic social services for all should form an important component of policies for social development. Social safety nets should not preclude the creation of a comprehensive social security system. The provision of social and physical infrastructure through public expenditure on goods and services can indirectly improve productivity in the private sector through a more efficient allocation of resources [Chenery and Syrquin (1975), Khan and Omar (2014)]. Carr (1989) noted that the theory is unable to settle the debate, concerning the precise role that the government sector plays in the economic growth process. Consequently, the issue involved has been increasingly viewed as purely empirical.

On the empirical front, few researchers have tried to link particular components of government expenditures to social sector productivity and the economic growth

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but most of these efforts did not succeed due to lack of meticulous theoretical framework [Diamond (1989)]. Landau (1986) concluded that “Government consumption expenditure excluding military and educational expenditure appears to have noticeably reduced the economic growth.” Government educational expenditures seem to be inefficient at generating strong correlation between education and growth rates. Moreover, ‘economic theory’ does not provide a well-developed methodology for incorporation of government expenditures in standard growth models. Majority of the existing literature on relationship between government expenditure and economic growth is based on cross-section data which may be suspected due to various reasons, most important among them being the fact which the countries pooled differ markedly in their economic structures [Ram (1986)]. Aschauer (1989) found a positive relationship while Kormendi and Meguire (1985) discovered no significant relationship. The studies conducted in the nineties show significant positive relationships between the two. Baum and Lin (1993) examined the impact of three different types of government expenditures on economic growth using cross-section data from both the developed and developing countries for the period 1975 to 85. This study determined that expenditures on defense, welfare and education have different impacts on economic growth. The growth rate of educational expenditures has a significant positive impact on economic growth in all cases whereas; the growth rate of welfare expenditures has a negative and insignificant impact on economic growth in all cases. The growth rate of defense expenditures has a positive impact on economic growth which is significant for one subset of countries but is insignificant for another subset.

Nah (1997) studied the impact of various types of social expenditures on economic growth by using the 1992 data for 68 countries with the help of rank correlation and regression techniques. The conclusion through ranking revealed that advance countries spend relatively greater proportions of their public expenditure on health and social security but the developing countries allocate disproportionately larger amount for educational development. Schultz (1961), Psacharopoulos (1985), Rozenzweig (1996) specified that contribution of educational expenditure the process of economic growth is well documented in the literature and hardly requires further elaboration. Folster and Henrekson (2001), limit their study to rich countries due to differences in the composition of social expenditures between rich and poor countries. Covering the period 1970 to 1995, they found a robust negative relationship between social expenditures and economic growth. In addition, they concluded that a 10 per cent increase in social expenditures as a per cent of GDP is associated with a decrease in economic growth rate by 0.7 to 0.8 percentage points.

Alam, et al. (2010) examined the long-run relationship between social expenditures and economic growth in ten Asian developing countries. The study estimated the long-run impact of expenditures in social sectors, such as, education health and social security/welfare along with fiscal deficit/surplus on economic growth for



Asian developing countries including Bangladesh, India, Indonesia, Korea, Malaysia, Pakistan, Philippine, Singapore, Sri Lanka, and Thailand. The study employed Johansen and Juselius Co-integration approach to examine the long-run stable relationship between social expenditures along with fiscal deficit and economic growth for every case of country under study, as well as, the study used a specific rank test (Panel Co-integration test) for a panel of the Asian developing countries under investigation. Empirical analyses suggest the existence of long-run dynamic relationship among variables considered for all cases of sample countries. Panel co-integration analysis also supports the existence of long-run dynamic relationship among variables under study, for a panel of sample countries. According to the analyses the study concluded that expenditures in the social sector can increase the economic growth. Such social expenditures enhance productivity by providing infrastructure, education, health and harmonizing private and social interests.

Chiang and Chang (2006) investigated the long-run relationship among economic growth, capital stock and social security expenditures with heterogeneous country effects for 12 developing countries. This study employed the panel-based error correction model and the Granger causality test. The empirical results revealed the existence of a long-run relationship between the economic growth, capital stock and social security expenditures. Sakellariadis (2009) provided an analysis of Greek welfare system through estimation of a relationship between social protection expenditures and the Greek's economic growth. The share of social protection expenditures in the Greece GDP is small as compared to some other European Union countries but it is quite larger than that of the developing countries. In 2006, the share of social protection expenditures in Greece GDP was 24.2, while the EU-27 average was 26.9 and the EU-15 average was 27.5. In social protection expenditures, pensions have largest share. The authors indicate some qualitative facts concerning the social insurance system in Greece. According to him it is uneven and it promotes injustices and inequality, even within the similar occupation groups. This study found a negative relationship between social protection expenditures and the economic growth. If social protection expenditures are very small, the fiscal imbalances are generated in the economy. The authors suggest that social protection expenditures should be designed in such a manner that intent to reduce income inequality, poverty and social exclusion. It is recommended that if this will be the case then, the social protection expenditures may have a positive effect on economic growth. Fan and Rao (2006) investigated the various types of government expenditures across 43 developing countries from different regions during 1980 to 1998. They examined the trends, purpose, and impacts of different government expenditures. The contribution of government expenditures on different sectors in economic growth is mixed across regions. In Africa, government expenditures in agriculture and health are especially powerful to support economic growth, while in Asian region, agriculture, education and defense expenditures contribute positively to economic growth. The health ex-

penditures have a positive effect on economic growth in Latin America. The study also found that structural adjustment programs promote economic growth in Asia and Latin America, but not in Africa. The expenditures on agricultural, irrigation, education and roads contribute robustly to growth. The study also discovered that when disaggregating total agricultural expenditures into research and non-research spending, it is found that expenditures on research contribute productivity growth. Baldacci, et al. (2004) estimated the association between social spending, human capital and economic growth, for a panel of 120 developing countries. They used data for 1975 to 2000. The study finds that education and health sectors expenditures contribute considerable part in the accumulation of education and health of human capital, and therefore, promote higher economic growth. The study also suggest some policy recommendations for example, improving governance, reducing budget deficit and inflation; may assist to promote economic growth in many countries. It means that public policy is an essential tool to promote economic growth by providing education and health services to build human capital.

According to the new OECD data Canada, Estonia, Germany, Greece, Hungary, Iceland, Ireland and the United Kingdom have experienced substantial decline in social expenditures as a per cent of GDP, while social expenditures of other countries remains at high levels. On the other hand in some emerging economies it is lower than the OECD average. The public spending is lowest in India and Indonesia but IT IS highest in Brazil. The OECD countries give priority to pension and health expenditure in social spending. New SOCX data¹ also explains that income-testing in social protection systems is much more widespread in Anglophone and non-European OECD countries than in Europe. Finally, when considering the role of private social benefits and the impact of tax systems, social expenses are more analogous across OECD countries. France has the first place in social spending, the United States moves up the rankings to second place [Adema, et al. (2011),(2014)]. Khan and Omar (2014), established links between social expenditures and economic growth in Australia and New Zealand, and draw lessons for the fast developing ASEAN economies as they aspire to be the developed nations, soon. Using the annual data from 1980 to 2012, the study deploy co-integration and the error correction methods for establishing long-run relationship, and Granger causality tests for testing short-term direction of causality among the variables. For Australia, economic growth is found to have three main determinants: education, health and social expenditures. For New Zealand, health and social expenditures have been found as the main determinants of growth. However, no long-run relationship could be established among variables when the study included budget deficit in the model. The Granger causality tests indicate one-way causality running from economic growth to health expenditure and from social expenditure to economic

¹ TOECD Social Expenditure Database.

growth, in Australia. In case of New Zealand, one-way causality runs from education expenditure to economic growth, health expenditure to education expenditure, economic growth to health expenditure, and education expenditure to budget deficit. Social welfare expenditures also Granger causes economic growth. Therefore, the study suggest that social expenditures promote growth in Australia and New Zealand, with some implications for ASEAN countries that usually do not allocate sizeable portion of their budget for social welfare. The fast developing economies, such as, Singapore and Malaysia aimS to achieve the developed country status by 2020, should adopt more generous social policies for the sake of a balanced development, argued in the paper.

Major policy implications emerged from these studies are stable macro-economics, trade liberalization and growth oriented workable policies, if they are complemented by the provision of important public services; like health, education, infrastructure of roads, ports, water resources, quick and impartial judicial system, effective policy making system, strong legal framework, judicious taxation and a professional government. Strong and stable policy planning, professional institutions and competitive public service thus consider prerequisites for growth. The issue of growth versus welfare trade-off received serious attention from the economists and policy makers, worldwide. They may employ cost saving measures e.g., reliance on flatter commodity taxes, more discriminatory pensions, unemployment benefits based on work experience and wage level, disproportionately large spending on education, health, and reduction of administrative costs. Expenditure composition can also play an important role in promoting economic growth. Fiscal adjustment reduces unproductive expenditures and protects expenditures in social sector and has proved to be more sustainable and more likely to result in faster growth.

The numerous lessons can be drawn from this review. First, a variety of government spending has divers' impacts on economic growth, implying greater potential to improve efficiency of government spending by reallocation of funds among sectors. Second, governments should cut their expenditures in unproductive sectors such as defense, and limit excessive subsidies in fertilizer, irrigation and pesticides. In addition, all regions should increase spending in agriculture, particularly on production-enhancing investments, such as, Research and Development. This type of spending does not only capitulate high profits to agricultural production but also has a large impact on poverty reduction since most poor still reside in rural areas and their main source of income is agriculture. Therefore, there should be proper diversification of funding resources. Hence, strong and stable policy planning, professional institutions and competitive public service are considered prerequisites for growth.

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