CONTRIBUTIONS OF BANKING SECTOR IN ECONOMIC GROWTH: 
A Case of Pakistan

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ABSTRACT
This study investigates the contributions of banking sector in economic growth of Pakistan. The data used in this study were collected from the period of 1981 to 2010 of 10 banks. Augmented Dickey Fuller (ADF) and Philip Perron unit root test, ordinary least square and granger causality test have been used. Unit root test confirms the stationary of all variables at first difference. Regression results indicate that deposits, investments, advances, profitability and interest earnings have significant positive impact on economic growth of Pakistan. The Granger-Causality test confirms the bidirectional causal relationship of deposits, advances and profitability with economic growth. On the other side we found unidirectional causal relationship of investments and interest earnings with economic growth runs from investments and interest earnings to economic growth. It is recommended that the policy makers should make policies to enhance the banking sector in Pakistan because banking sector is significantly contributing in the economic growth of Pakistan.

Keywords – Advances, Economic Growth, Deposits, Investments, Profitability

1 INTRODUCTION:
It is confirmed in previous studies that a significant and strong link show between the Financial Sector of a nation and the performance of overall country economy. It is crystal clear that nations who have good financial system have a tendency to develop its economic growth more quickly. Likewise in every country Banking Sector’s have been monitored by regulated authorities, In Pakistan State Bank of Pakistan (SBP) reform a regulatory financial sectors are trend to be a banking sector, these sector have a twofold impact first they play fundamental role in the economy through development activities second they give resources to general public and other development organization for strengthen through lending of funds & non-fund base advances, but at the same time this sector also face incapacity due to non performing loans and to failed in recovery of given advances.

In Pakistan, the common resource of supplies funds and the main source of financing to support the national economic performance are commercial, investment and Islamic banks. However other the non-banking financial institutes like development financial institutions, provident and pension funds insurance companies, and takaful operators, also take share to meeting the financial needs of the economy, thus the factors resultant for performance of bank and economic growth are investments, bank Profit/Loss, banks deposits, banks advances and Interest Earning. The commercial banks of Pakistan and other financial industry distinguish positive financial relationship on economic growth of Pakistan.

According to Hussain (2004) banking system plays an important role in financial sector and accounts for 95% of this sector and demonstrated a positive relationship with economic growth of Pakistan. Over the past decade, substantial interest focused on the link between the financial sector and economic growth. Endogenous growth theory emerged in the late 1980s and paved the way for new theories exploring the link. In addition, improved empirical methods added considerable value to subsequent studies. Many studies have investigated the impact of Banking Performance on Economy of Pakistan in which studies tests the determinants of Interest rate and Non Performing Loans on economy of Pakistan using time series or panel data. Banking Industries were highly influence by the NPL’s, and mostly these loans were not recovered. This bad debts where highly influence the power of lending for Banking sector’s and inadequate the efficiency; the substantial growth in information technology has effect the performance in the banking industry of Pakistan (Farooq et al., 2010).
According to Rehman (2011) empirical study on financial reforms considers in the form of inflation, savings, Bank’s Deposit Schedule, Bank’s Lending Schedule and own spread rate. Later problem was not investigated adequately about the performance indicators of banking industry represented in the form of Investments, Profitability of banking industry, Advances, Interest Earning. In This paper try to cover the space modestly, and find out the relationship between factors which involve directly in the productivity and performance of banking sector and enhance the economic growth of Pakistan.

The financial growth of banking sectors in Pakistan has aimed to achieve the following:

- Integrity of financial institution.
- Broaden and deepen capital markets.
- Bring technological transformation with providing quality services.
- Reduce the opportunity for corruption, by reducing the number of state owned banks
- Improved the performances of bank in terms of increasing efficiency levels of banks.

In order to overcome the deficiencies of economy of Pakistan, banks or provincial government banks required to bring improvement in services and financial performances through strengthening financial base of organization and that only possible through the process of growth or restructuring in the related sector. It has been observed from last twenty years that during the growth process; the top management required to pay attention towards the restructuring part of the institutions i.e. they require to give explanation for whatever they took decision related to staff keeping or firing, closing down the branches, in case of Net profit loss situation to assure the transparency.

In past studies many researchers found negative impact\(^1\) on economy growth due to reform in determinants of financial performance and some found no or bad response in comparison with different types of financial sectors including banking sectors. In the best of my knowledge there is some data available on this topic all around the globe but if we look around in Pakistani context, I couldn’t find any study specifically in relation with banking performance determinants of Pakistan. There is a need of research in this frame of work to explore the impact of profitability, deposit, investments, advances and interest earning.

The purpose of study is to determine the efficiency of performing indicators of banking industries and its relation on economic growth. The rest of the paper is organized as follows. Section 2 reviews the empirical literature on the relationship of banking sector and economic growth. Section 3 discusses the empirical strategy for examining the relationship. Section 4 shows the model’s estimation results. Final section concludes the study, provides some policy implications and set directions for further research.

2. LITERATURE REVIEW

Fadare (2004) empirically identifies the effect of banking sector reforms on economic growth in Nigeria by using the data 1999 - 2009. Variables used for the study are interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate, inflation rate lagged by one year, size of banking sector capital and cash reserve ratios. Results indicate that the relationship between economic growth and other exogenous variables of interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate and cash reserve ratio show the negative and insignificant. Hence it is suggested that criteria which encourage banking sectors to give more capital or start huge amount of lending to the individuals by minimize cash reserve ratios which is not suppose to be motivated factors for economic growth if the borrowing capacity that due to these criteria it will not surpass to the growth of private sector in the form of longer term finances. To find out the solution of this problem, the financial policies should consider to reform and enforce the borrowing in small industries with proper regulatory policies and against secure type of collaterals and confirmation of guaranteed repayment of finances given to them.

\(^1\) Fadare (2004)
Jayaraman et al. (2010) investigates Service Quality Delivery and Its Impact on Customer Satisfaction in the Banking Sector in Malaysia. The methodology employed in obtaining information about customer satisfaction in banking via a survey conducted through sample of the general consumer population. Variables are used according to census data whether responsiveness, empathy, reliability, assurance and tangibles act as a subjective rating of appeal in the retail banking sector. Technique has been used SERVQUAL model for effective to measure customer satisfaction in the retail banking.

Kenawy (2009) investigates the Globalization and its Effects on the Banking System performance in Egypt by using descriptive quantitative analysis method, using published data and Information’s in the reports of the Central Bank of Egypt, besides the books and scientific periodicals in this field. Variables used in this research are Globalization & Mergers. Results shown that financial growth process aimed at enhancing the efficiency of the national economy through management style and approach in the private and government sectors this sectors achieve a greater financial resources available to the government due to conduct a sale in some units owned and lead to the retreat of the responsibility the state budget for financing investments, and increase productivity the quantity and quality of the availability of better methods of management.

Al-Laham, et al. (2009) studied the Development of Electronic Money and Its Impact on the Central Bank Role and Monetary Policy. This paper depends on analytical method at determining the impact of the development of electronic money in the different areas. Data variables such as monetary supply, exchange rates, the money multiplier, velocity of money and seignorage are consider. Results shows that e-money, as a network good, could become an important form of currency in the future. Such a development would influence the effectiveness and implementation of monetary policy. If an increased use of e-money substantially limits demand for central bank reserves, it would require changes in the operational target of the central bank and a closer coordination of monetary and fiscal policies.

Koivu (2002) investigates the relationship between financial sector and economic growth by using empirical methods, data variables INT = Difference between lending and deposit interest rates as percentage points. CREDIT = Ratio of bank credit to private sector to GDP. RI = Reform index. INF = Annual consumer price index as percentages. GDP growth = Real GDP growth rate. Fixed-effects panel model techniques have been used.

Haron & Ahmad (2002) investigates that The Effects Of Conventional Interest Rates And Rate Of Profit On Funds Deposited With Islamic Banking System In Malaysia by using ‘Adaptive Expectation Model’ to measure the effects of rate of profit declared by Islamic banks on the level of deposits placed by their customers. Data Variables are saving deposits, Interest-free, Rates of Profit, results shows that relationship between the amounts of deposits placed in the Islamic banking system in Malaysia and returns given to these deposits hence which are guided by the profit motive. It is recommended that these doctrines require that Muslims should not placed profit maximization as the sole factor in establishing relationship with Islamic banks.

Gaiotti and Generale (2002) investigates the effects of monetary policy on the investment behavior of various categories of Italian firms, by using the panel from the Company Accounts Data Service by using based on both the accelerator and the error correction model. Data Variables are user cost, the cash flow and sales the results shown the significance levels that broadly robust to the choice of models and method, and the impact of the user cost is negative and significant. Hence the recommendation suggested that the effects of monetary policy transmitted through the financial indicators of the firms which are large enough to notice. However the financial advisors are the policy makers and it required vigilant eye at the financial figures of different companies, in order to reform and cater the monetary policies.

Din and Khawaja (1995) investigated the determinants of interest spread of the banking industry in Pakistan. by using cross section data model, data variables Concentration, Inelasticity, Liquidity, Market Share, Equity, Non-performing Loans, Administrative cost, GDP growth, Inflation, Interest rate. Feasible Generalized Least Square (GLS) on pooled data technique has been used. Results shows that there is no evidence of interest spread which
influence the performance factors of banking industry that also includes the other financial sectors example of which are DFI and investments funds that can serve as an alternate to banks for small savers,

Bitzenis (2008) investigate and evaluate the banking reforms in Serbia by using survey data results. The study uses the approach of pre and post performance through many factors which are relevant to reformation of banking systems are reliability and management quality responsiveness in Serbia banking systems. Qualitative technique has been use for results however this article also concludes the different problems and challenges face by the current system and find out the result that is positive.

Contrary to this, Malik (2010) says that reduction in investment is because of global economic crisis and its resultant factors. He concludes that a number of challenges, which are being faced by the banking industry of Pakistan, are causing hindrance to its further extension. Global economical recession and financial crisis along with its bi-products such as increased cost of borrowing, high risk of investment, reduced return on Investment (ROI) and Pak Rupee depreciation, is one of the major hindrances. Ultimately investor suffers low profit margins and low Return on Investment or else Quality of Service (QoS) issues. Bad Law and Order situation of the country prohibits the investors to invest in the businesses.

Dele (2007) investigates the banking reform in nigeria of the perspective of Soludo's by using the data of 40 commercial and merchants bank variables used for the study are lending, interest rate and the foreign exchange policy. The study uses the descriptive statistics to test the hypothesis Hence results indicates that recapitalization has shown significance to reform the banking services and to the growth of economy as whole. Hence the study suggested that a procedure to implement in which interest rate should be operate through monetary policy in order to move the GDP growth continuously toward the unique price and single market for local and international markets.

Mwega (2008) investigates this study for structural shifts in banks sectors and other DFI financial sectors in Kenya in front of globalization. In study it is found that the Kenya has moved into international banking reforms, hence it is also reflected by the slow moving elimination of ‘particular’ other financial organization since 1994 and the upward trend in share of net commissions and service charges of the banks’ total banking income, from ten per cent in the year 1998 to growth of twenty percent in the year 2007. The results and finding of the study concluded that the sector experienced reduced concentration and presumably more competition during 1998–2007. Further, it is found that small banks are the least focus and take small part in (most concentrated), followed by large banks and then respectively medium-sized banks.

Mwenda and Mutoti (2009) investigates the effects of market-based financial sector reforms on the competitiveness and efficiency of commercial banks, and economic growth, in Zambia. By using the variables such as Macroeconomic per capita GDP and inflation. Further, by using an endogenous growth model in which industrial production is a key for GDP growth hence the results show that structure adopted in second stage (maximize the regulatory and monitory, payments and remittances, and other financial operations of banking sector, next stage has been driven of a comprehensive financial sector development regulations which had significant and positive effects on banking cost efficiency, further in this study they was found that bank overall cost efficiencies, financial depth, stage two and stage three in which financial sector reforms has been discuss, the concluded that degree of economic freedom, and rate of inflation were significantly impact on economic growth. stage two policies and the inflation rate have negative effects however the remaining of the variables have positive results on economic growth.

Biekpe (2002) empirically investigates the factors of bank’s sector competition and intermediation influences in Ghana. The finding are suggests a market structure which are not take part in competitive environment of banking sectors in the Ghanaian banking system, in which financial intermediation managed by the hampers. The study also explains that Ghanaian banks are monopolistically edge. Mostly it is debated that the structure, as well as the other financial markets factors are, contributes an various barrier include indirect barrier to take part in contributing a maximum profits in the Ghanaian banking system. furthermore, it is suggested that policies
that motivate and stimulate greater consolidation in the financial sector would go a long way to enhance competition among banks and improve efficiency and profitability.

Poshakwale and Qian (2007) empirically investigates that what is impact of financial reforms on assertiveness and growth efficiency of the banking industry, as well and find the long-term and short-term impact on economic growth in Egypt during the period of 1992 to 2007. The study suggests that the reforms have a positive and significant effect on assertiveness and growth efficiency in Egypt banking industry. They also found the result which shows that government banks are generally well efficient than private banks and foreign banks which are less aggressive than domestic banks. The total inefficiency of Egyptian government banks is approximate 30 percent, which is comparable to different banks mentioned in report of African countries banking sectors. Hence it is concluded that there is a relation exist is significant in other financial industry and the banking sectors productive efficiency and economic growth and suggest in the short run but will not support in the long run. Overall, the results support that reformation in financial sectors particularly in banking sectors in Egypt will be continues process for growth in economy.

Khatib et al. (1999) investigate the relationship between commercial banking performance and economic growth in Qatar. By using the variables of bank profit, GDP, foreign interest rates, government revenues, government expenditures and banks equity by using the regression analysis model and (OLS) techniques have been used. By using Data for the period from 1996 to 1997. Further more stability tests for structural stability and granger causality experiments in which granger causality tests also use to analysis on all variables and other variables are suppose insignificant at acceptable. Hence the results find out that predictions through variables and model are highly effective and responsible for economic growth. The study suggest that the commercial banks are playing a large role in economic growth because of the profit making organizations. In addition among all the variables on GDP and banks equities were significant and with the positive signs, in the model equation found to be stable. Thus the financial advisors should be analysis through associations according to monetary policies and the financial factors and economic variables, the author further suggest that the model also support to check the relation through financial factors and other countries economic growth of that country.

Yazdani (2011) investigates the role and performance of private bank’s on the economic growth of Iran by using the variables economic growth, profitability, cash, and investment the analysis has been proposed through various questions by conducting two main hypotheses and five minor hypotheses for his study the part of financial sectors with relation to private banks and what is the impact occurs on economic growth of the Islamic republic of Iran. Further the study is conducted for test and find out the significance of hypotheses, by using the statistical secondary data was selected from among private banks which includes Eghtesad Novin, Parsian, Karafarin, Saman, Pasargad, and Sarmayeh. In the theoretical background the study defines the bank system performance and also financial development competitiveness’ indices has been used. For analysis of the secondary data statistical software SPSS has been used. The method used for analysis the data is inferential statistics indices also including Spearman correlation test, Pierson correlation test, David Watson test, independent t test, variance analysis F and linear regression chart. Hence the find and results obtained through analysis shows that all variables check in the research hypotheses are exist with the definite impact on the economic growth of Iran.

Samolyk (1992) empirically investigates the relation in the bank performance and economic growth at the state level. In their study they develop a review for regional credit that explain, one of the reason which is data cost effects the banking sectors and can also influences economic performance by development ability to funds local investments. Further the model supports that government banking sectors facing problems of economic criteria where by not well financially sound, and same that no evidence need to link in the sector which is financial established. The data has been used to find relation of this credit analysis model for the period of 1983 to 1990 the data consists of regional level and find the output of such channels which particularly, local focus on government banking sectors, further the results explain the real individual income growth in the country in consideration with NPL’s which is out of the average share.
Kayode et al. (2010) investigates the effect of bank lending and economic growth on the manufacturing output in Nigeria. By using the times series data which covering a period of 36 years (1973 to 2009) The technique has been used for analysis the model is the co-integration and vector error correction model (VECM) techniques. The empirical outcomes of the study show that production volume utilize in manufacturing and bank rate of lending loans significantly affect manufacturing output in Nigeria. However, at the other hand relationship between manufacturing output and economic growth could not be successfully made and progress in the country. Hence the results shown that a mix consideration of monitory policy for central bank to ceiling off the borrowing rate effort by the government, for the manufacturers and the other development financial institution for revised the lending and growth regulations and provide competitive environment, in order to motivate investments to this sectors and made easy procedures for borrowing loans and advances from these institutions.

3. DATA & METHODOLOGY
To find the long run relationship between the variables we have used multiple regression analysis. In this research we have focused on secondary type of data, all data is collected from the different official publications of respected banks and State bank of Pakistan. In this study we have used six variables namely, gross domestic product, deposits, investments, advances, profitability and interest earning. In this study we have used the data of ten banks from the period of 2001 to 2010. After selection of the above variables we can describe the economic growth function of Pakistan in the following way:

\[ GDP = f(\text{DEP, INV, ADV, PRF, INE}) \]

Where GDP is the gross domestic product, \( f \) represents the function of and DEP, INV, ADV, PRF, INE represent respectively, deposits, investments, advances, profitability and interest earning. After specifying the trade balance function in linear form with an addition of error term, we can write in following way:

\[ GDP = \alpha + \beta_1 \text{DEP} + \beta_2 \text{INV} + \beta_3 \text{ADV} + \beta_4 \text{PRF} + \beta_4 \text{INE} + \varepsilon \]

This research is based on the following hypothesis that clearly defines the research criterion.

H1: Deposit has no significant impact on Economic Growth
H2: Investments has no significant impact on Economic Growth
H3: Advances has no significant impact on Economic Growth
H4: Profitability has no significant impact on Economic Growth
H5: Interest Earning has no significant impact on Economic Growth

4. RESULT ANALYSIS

**Table 4.1: Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>DEP</th>
<th>INV</th>
<th>ADV</th>
<th>PRF</th>
<th>INE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3182.309</td>
<td>283.548</td>
<td>137.872</td>
<td>312.871</td>
<td>59.309</td>
<td>38.059</td>
</tr>
<tr>
<td>Maximum</td>
<td>6004.405</td>
<td>1325.790</td>
<td>746.330</td>
<td>1987.002</td>
<td>338.354</td>
<td>83.802</td>
</tr>
<tr>
<td>Minimum</td>
<td>1346.376</td>
<td>27.529</td>
<td>20.948</td>
<td>13.341</td>
<td>0.347</td>
<td>9.900</td>
</tr>
<tr>
<td>Observations</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

The table 4.1 represents the descriptive statistics of the model. In the above table GDP is a dependent variable and DEP, INV, ADV, PRF and INE are independent variables. The sample size comprises of 100 observations from the period of 2001 to 2010 of ten banks. The minimum and maximum value of GDP (1346.376) & (6004.405) respectively, whereas the mean value is (3182.309) and standard deviation is (1347.689). The minimum and maximum value of DEP (27.259) & (1325.790) respectively, whereas the mean value is (283.548) and standard deviation is (439.590). DEP having minimum value (9.90), maximum value (83.80), mean value
(38.059) and standard deviation (21.846). INV having minimum value (20.948), maximum value (746.330), mean value (137.872) and standard deviation (180.724). ADV having minimum value (13.341), maximum value (1987.002), mean value (312.871) and standard deviation (338.235). PRF having minimum value (20.948), maximum value (746.330), mean value (137.872) and standard deviation (180.724). INE having minimum value (9.90), maximum value (83.80), mean value (38.059) and standard deviation (21.846).

Study in the mentioned subject of econometrics indicates that various macroeconomics variables data are found non stationary. The finding was drawn from regression (integrated in different order) proceeds non sense or spurious regression. Thus it is essential to analysis the stationary of the data before drawn the long run association among the variables.

Table 4.2 Stationary Test Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Augmented Dickey Fuller test</th>
<th>Philip Perron test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>First Difference</td>
</tr>
<tr>
<td></td>
<td>Inter. &amp; Trend &amp; Inter.</td>
<td>Inter. &amp; Trend &amp; Inter.</td>
</tr>
<tr>
<td>GDP (Gross Domestic Production)</td>
<td>1.48</td>
<td>-1.36</td>
</tr>
<tr>
<td>DEP (Deposit)</td>
<td>0.96</td>
<td>-1.83</td>
</tr>
<tr>
<td>INV (Investment)</td>
<td>-2.55</td>
<td>-2.40</td>
</tr>
<tr>
<td>ADV (Advances)</td>
<td>2.43</td>
<td>-0.03</td>
</tr>
<tr>
<td>PRF (Profitability)</td>
<td>0.16</td>
<td>-0.46</td>
</tr>
<tr>
<td>INE (Interest Earning)</td>
<td>-0.73</td>
<td>-2.88</td>
</tr>
</tbody>
</table>

Table 4.2 highlighted the finding of Augmented Dickey Fuller (ADF) test and Philip Perron unit root test. The result show that the non stationary in all variables at level. Here equation is used to check stationary in the data first with intercept and then with trend and intercept. Here null hypothesis means non stationary in the data and alternative hypothesis means stationary in the data. All the given variables are non stationary at level. Analyzing the stationary in the data at level consequently checking stationary at first difference the result indicates that all the variables are stationary at first difference. All the variables are checked at the lag length of one. All the given variables are integrated at order one.

Table 4.3: Results of OLS

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Probability</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.775</td>
<td>9.815</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>DEP</td>
<td>0.410</td>
<td>1.991</td>
<td>0.049</td>
<td>6.798</td>
</tr>
<tr>
<td>INV</td>
<td>0.536</td>
<td>3.007</td>
<td>0.003</td>
<td>4.615</td>
</tr>
<tr>
<td>ADV</td>
<td>1.067</td>
<td>4.955</td>
<td>0.000</td>
<td>7.451</td>
</tr>
<tr>
<td>PRF</td>
<td>-0.099</td>
<td>-0.923</td>
<td>0.036</td>
<td>1.844</td>
</tr>
<tr>
<td>INE</td>
<td>0.018</td>
<td>0.226</td>
<td>0.002</td>
<td>1.061</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.887</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin Watson</td>
<td>1.906</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Statistic, (Probability)</td>
<td>72.742 (0.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the above table GDP is a dependent variable and DEP, INV, ADV, PRF and INE are independent variables. Table 4.2 gives us the value of R square, which represents the correlation between the observed values and predicted values of the dependent variable. R-Square is called the coefficient of determination and it gives the
adequacy of the model. Here the value of R-Square is 0.887 that means the independent variable in the model can predict 89% of the variance in dependent variable. The p-value is given by 0.000 which is less that 0.05, which shows the significance of our model. The values of Durbin-Watson statistics for dependent variables in our case is very near to 2.00, this indicates that there is no autocorrelation exists in our study and the regression models assume that the error deviations are uncorrelated.

The Beta value shows the relationship between the variables in the model, if the value of coefficient is positive it means that independent variables have positive relation with dependent variable i.e. increase in dependent variable is caused by increase in independent variable and if the value of coefficient is negative than independent variables are having negative relation with the dependent variable i.e. decrease in dependent variable is caused by increase in dependent variable. The values of coefficients beta and constant are used to construct the regression model, the model is shown below:

\[ GDP = 0.775 + 0.410 \text{ (DEP)} + 0.536 \text{ (INV)} + 1.067 \text{ (ADV)} - 0.099 \text{ (PRF)} + 0.018 \text{ (INE)} \]

Beta coefficient shows the tendency of an independent variable to respond against dependent Variables. Therefore greater value of beta indicates the larger impact on dependent variable and vice versa. Deposits (0.410), Investments (0.536), advances (1.067) profitability (0.099) and interest earnings (0.018) all are having positive and significant impact on the economic growth because the p-value is less than 0.05, that’s mean if DEP, INV, ADV, PRF and INE are increase then the GDP will also increase.

In table 4.3 column label P-value shows that all variables P-values are <0.05; i.e., deposits (DEP) has (0.049), investments (INV) has (0.003), advances (ADV) has (0.000), profitability (PRF) has (0.036) and interest earnings (INE) has (0.002) therefore all variables are significant. VIF is the test of multicollinearity among the variables (Excessively high correlation among the independent variables). The rule of thumb describe that VIF > 10.0 indicates multicollinearity problem among the variables, since the table 4.3 shows that no variable have VIF value > 10.0 so therefore multicollinearity does not exist in this model.

Durbin-Watson test is use to test autocorrelation among the data (error term). In Durbin-Watson test, null hypothesis indicate that autocorrelation does not exist in error term and alternative hypothesis depicts that autocorrelation exist in error term. Since regression model has assumption of uncorrelated error term therefore it must be fulfilled to run regression analysis. In Table 4.3 indicate value of durbin watson as 1.906 which shows that autocorrelation does not exist in error term. Regression model Overall significance has identifies by F-value. It is actually the explained variance divided by unexplained variance (mean error). In table 4.3 F-stat shows the value (72.742) and it’s Probability (0.000).

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>F-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEP does not Granger Cause GDP</td>
<td>4.563</td>
<td>0.010</td>
</tr>
<tr>
<td>GDP does not Granger Cause DEP</td>
<td>2.389</td>
<td>0.089</td>
</tr>
<tr>
<td>INV does not Granger Cause GDP</td>
<td>5.245</td>
<td>0.030</td>
</tr>
<tr>
<td>GDP does not Granger Cause INV</td>
<td>0.234</td>
<td>0.633</td>
</tr>
<tr>
<td>ADV does not Granger Cause GDP</td>
<td>2.987</td>
<td>0.069</td>
</tr>
<tr>
<td>GDP does not Granger Cause ADV</td>
<td>7.524</td>
<td>0.003</td>
</tr>
<tr>
<td>PRF does not Granger Cause GDP</td>
<td>6.600</td>
<td>0.016</td>
</tr>
<tr>
<td>GDP does not Granger Cause PRF</td>
<td>7.360</td>
<td>0.003</td>
</tr>
<tr>
<td>INE does not Granger Cause GDP</td>
<td>6.177</td>
<td>0.007</td>
</tr>
<tr>
<td>GDP does not Granger Cause INE</td>
<td>0.158</td>
<td>0.855</td>
</tr>
</tbody>
</table>
The Granger Causality approach to the problem of whether ‘x’ causes ‘y’ is to see how much of the current ‘y’ can be explained by past values of ‘y’ and then to see whether adding lagged values of ‘x’ can improve the explanation. ‘Y’ is said to Granger-Caused by ‘x’ if ‘x’ helps in the prediction of ‘y’ or equivalently, if the coefficients on the lagged x’s are statistically significant. After applying the causality test we found the bidirectional causal relationship of deposits, advances and profitability with economic growth. On the other side we found unidirectional causal relationship of investments and interest earnings with economic growth runs from investments and interest earnings to economic growth.

**CONCLUSION AND RECOMMENDATIONS**

This study investigates the contributions of banking sector in economic growth of Pakistan. The data used in this study were collected from the period of 1981 to 2010 o 10 banks. Augmented Dickey Fuller (ADF) and Philip Perron unit root test, ordinary least square and granger causality test have been used. Unit root test confirms the stationarity of all variables at first difference. Regression results indicate that deposits, investments, advances, profitability and interest earnings have significant positive impact on economic growth of Pakistan. The Granger-Causality test confirms the bidirectional causal relationship of deposits, advances and profitability with economic growth. On the other side we found unidirectional causal relationship of investments and interest earnings with economic growth runs from investments and interest earnings to economic growth. It is recommended that the policy makers should make policies to enhance the banking sector in Pakistan because banking sector is significantly contributing in the economic growth of Pakistan.

**BIBLIOGRAPHY**


