Banks’ Profitability Under Democratic & Dictatorship Regime: Evidence from Pakistan

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ABSTRACT

The aim of the study is to find out the determinants of profitability of Pakistan Banking System under democratic and dictatorship regime, i.e. 2006-2008 and 2009-2011 respectively. The authors were taken macroeconomic variables, i.e. GDP, Inflation and Interest Rate and bank-specific variables, i.e. Liquidity, size and capital adequacy as independent variables whereas Return on Asset as the dependent variable. By employing panel regression, the authors found that size has a significant negative relationship with profitability under both regimes. Interest and Liquidity had a positive significant relationship during democratic tenure. However, liquidity had significantly negative relationship between dictatorship duration. The findings will be helpful for the banking sector to make their policies accordingly.

Keywords: Democracy, Dictatorship, Banking System, Profitability

1. INTRODUCTION

The Banking industry in Pakistan has been playing a vital role in Pakistan’s economy since independence. It has provided employment to educated individuals plus contribute in Gross Domestic Product’s service sector constantly. Initially, there was only conventional banking in the Pakistan but due to persistent effort by Sharia scholars and State Bank of Pakistan there was a boom in banking industry i.e. commencement of the Islamic Banking system. Politically, Pakistan has been facing ups and downs since origin as we all know that the nation has been ruled by Army dictators for more than thirty years. It is also noticeable that none of any Prime Minister in Pakistan has completed the tenure of constitutional five years, therefore political instability always hurt the foreign investment and the overall national economy. We can interpret democracy as the system where ruler of the country chose by the voting system or we can say elections whereas in dictatorship, the whole system will be ruled by the Chief of Army system after take over the Civilian government due to their corruption or unlawful activities within or outside the country. It is another debate that whether dictators take over Civilian government by imposing right charges on democratic ruler or not. It is also observed from different media anchors, economists, scholars, investors, etc. that dictatorship delivered quality, economical platform for businesses and trade whereas many opposed them.

Tahir et al (2012) In terms of macroeconomic performance, the country has managed considerably better during military rule. Economic growth during military regimes averaged 6.1% compared to four per cent during democratic tenure. Muhammad et al (2016) We found that Military governments performed better in terms of Gross Domestic Product and controlling Inflation while democratic government performed better in terms of Per Capita Income. Junaid Rashid Tanoli (2013) When Gen. Pervez Musharraf took over the administration from Nawaz Sharif in 1999, the volume of the economy was only $70 billion. In the subsequent 8 years the number speeded to $170 billion and Pakistan was among the fastest rising economies of the world. The national treasury had only $0.4 billion and Pakistan was on the
edge of becoming bankrupt, but by the end of the autocracy, national treasury was accredited with $18 billion. This research will be helpful to portray the true effect of macroeconomic and financial indicators of profitability of Pakistan Banking sector during democratic and dictatorship tenure. None of any study has been done on this topic, although it is very important for stockholders, depositors, investors, lenders, borrowers and banks themselves.

During the dictatorship era of Musharraf, we have found that the average interest was too low if we compare to the interest rate during democracy. The GDP was at its peak i.e. more than 7%, whereas lowest 0.8% in democracy tenure. There was overall an expansionary monetary policy during the dictatorship whereas the contractionary monetary policy was observed under a democratic regime in respect of interest rate, money supply and other macroeconomic indicators.

2. LITERATURE REVIEW

Theoretical Background:

The independent variables which we have taken are also supported by the available finance and economic theories which are listed and define as below:

Inflation:

According to theory of Perry (1992), if inflation increase then the profitability of banks will be declined. It is easily understood that if inflation increases, then consumers will have less to deposit therefore financial institution will have less funds to re-invest and earn more profit.

Size:

Economy Theory suggests that increase in size will help to increase in profit. The firm will produce their product in less cost and earn more profit.

GDP:

According to Francis (n.d.), an increase in growth will result in increment of profitability of Islamic banks. It is easily understandable that if economy produce more goods and services than there will be an excess inflow of cash in the market, which will be deposited in banks through which they earn more profit through the Shariah mode of investments.

Liquidity:

A negative relationship has suggested by Francis (n.d.) that lesser liquidity increases banks’ profitability.

Previous Studies:

Number of researches have been done on determinants of banks’ profitability irrespective of democracy and dictatorship regime due to political stability in most of the countries. To develop a model, the author has chosen the following empirical studies. Nicolae et al (2015) tested the determinants of profitability of 27 European banks over the period 2004-2011. The researchers found an interesting and positive impact of economic growth, management efficiency and liquidity on the profitability of twenty-seven European banks. Elisa et al (2016) examined the effect of bank-specific and macroeconomic indicators of profitability of thirty-five top European banks over the period 2009-2013. By employing regression, the researchers concluded that the size of the bank and liquidity tend to be more positive significant with the profitability of banks. Maria et al (2015) found economic growth, liquidity and size have a significant and positive impact on profitability of twenty-seven universal banks in Portugal over the period 2002-2011.

Abdus Samad (2015) examines the impact of internal and external indicators on Bangladesh’s banking sector profitability. He took annual two years’ data of forty-two Bangladesh commercial banks. Results found that liquidity & capital adequacy had significant positive impact on profitability whereas size and other macroeconomic indicators are found to be insignificant. Fadzlan Sufian (2009) investigated the macroeconomic and financial indicators of profitability of a developing economy i.e. China Banking sector. The sample of 12 joint stock commercial banks was taken with annual data of eight years i.e. 2001-2007. The researchers concluded that size, capital adequacy, Inflation and GDP
have a positive impact, whereas liquidity and overhead costs had a negative impact on profitability of Chinese commercial banks.

Ali. T.Yahya et al (2017) tested the impact of macro-economic and financial indicators on profitability of Yemeni banks. The researchers took the annual data over the period 2010 to 2014. By employing multiple regression, they found that size, liquidity, GDP, Inflation and political instability had a positive significant impact on profitability of Yemeni Banks. Moges et al (2017) explored the determinants of private commercial banks’ profitability of Ethiopia. By using panel regression, the authors found that random effect would be better model by using Hausman Test. The random effect model revealed that Gross Domestic Product, size of the firm and Inflation have a positive impact on Return on Asset whereas liquidity has negative impact on profitability of Ethiopian banks. As a recommendation the noteworthy and constructive impact of Bank size can be taken as a good indication for commercial banks to combine and to have scale benefit. The significant impact of macro-economic variables in explaining banks revenue is an indicator to design strategies that stimulate maintainable output development and governing inflation to have stable banking sector.

Flamini at al (2009) proposed that macroeconomic variables significantly affect banks’ profitability in Africa. In specific, inflation has a positive effect on bank profits, which recommend that banks estimate future variations in price rises appropriately and promptly enough to regulate interest rates and margins. They also found that economic growth has a positive impact on profitability of African banks. Chioma et al (2014) has projected a positive relation between inflation and long term interest rates with bank performance.

Alemu (2015) examined determinants of commercial banks profitability of eight banks’ in Ethiopia from for 10 years from 2002 - 2013. The study employed multiple linear regressions and the panel regression model to examine the statistics. The study recognized that size of banks; capital adequacy and gross domestic product have a positive and statistically significant relationship with the profitability of banks. Chinoda (2014) discovered the internal factors that affect bank profitability in Zimbabwe. The study sampled five commercial banks of Zimbabwe. Using the general linear regression model the study found that size of the bank; liquidity, gross domestic product and inflation had a positive correlation with profitability (ROA).

Research Objective:

a) To compare the effect of macroeconomic variables, i.e. Gross Domestic Product, Inflation and Interest rate on the profitability of Pakistan Banking Sector under democratic and dictatorship regime.

b) To compare the effect of financial indicators, i.e. Size of the bank, liquidity and Capital adequacy on profitability of Pakistan Banking Sector under democratic and dictatorship regime.

Research Hypotheses:

Ho: Macroeconomic variables, i.e. Gross Domestic Product, Inflation and Interest have no impact on profitability of Pakistan Banking Sector under democratic and dictatorship regime.

Ho: Financial variables, i.e. Inflation, Interest rate and Liquidity have no impact on profitability of Pakistan Banking Sector under democratic and dictatorship regime.

3. METHODS

Sample:

Total twenty-two commercial banks, including five Islamic banks and seventeen conventional have been taken as the sample in this study. Islamic banks are the banks which are working under Shariah compliant mode regulated by State Bank of Pakistan whereas conventional banks are traditional financial institutions where main source of income is interest.
Data Collection:

Panel data of twenty-two banks have been taken for analysis over the period 2006-2008 & 2009-2011. The tenure from 2006 – 2008 represents a dictatorship regime, whereas 2009-2001 were the years of democracy in Pakistan. The year 2009 was eliminated by the authors due to the year of election and transformation of ruling system from dictatorship to democracy. The macroeconomic data will be taken from Economic Survey of Pakistan and Pakistan Bureau of Statistics.

Statistical Tools:

We have panel data, i.e. cross sectional data of the banking industry and annual data of macroeconomic variables, therefore the researchers will employ panel regression in this study. Panel regression will be helpful to analyze the panel data by selecting suitable models among random effect, fixed effect and OLS. The suitable model will be chosen with the help of Hausman Test and LM Test. To fulfill assumptions of Panel regression, some diagnostic tests will also be run by the researchers.

Variables:

(a) ROA:

ROA is a ratio calculated by dividing the net income over total assets. ROA has been used in most of the studies for measuring the profitability of the banks. ROA measures the profit earned per dollar of assets and define the fact that how well the top management are utilizing their assets in order to generate profit from their total assets (Naceur, 2003).

Table 1: Dependent Variable and their Assessment.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Name</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>Return On Assets</td>
<td>Net Income/Total Assets</td>
</tr>
</tbody>
</table>

Independent variables

(a) GDP:

Demirguc-Kunt and Huizinga (1999) show that quick economic growth rises the profitability. Theoretically speaking, GDP captures improvements and falls manifesting in the business cycles. We shall take the annual growth rate of GDP in percentage.

(b) Inflation:

The rate at which the general level of prices for goods and services is rising and subsequently purchasing power is falling. We shall take the current price index of inflation.

(c) Interest Rate:

Interest Rate is one of the main sources of income for banks. They invest deposits and earn income, i.e. interest. In Pakistan, State Bank of Pakistan is the regulatory authority to govern interest rate.

(d) Liquidity:

Liquidity risk is the risk of loss of a bank resulting from its inability to meet its needs for cash. We have used a liquidity ratio to indicate the liquidity ability of the bank.
(e) Size:

The size of the firms refers to the asset of the firm. If any firm has high number of assets, then they have to enjoy economies of scale benefit. It would be inefficiency of any firm if they can’t generate profit from their future benefits. Size will be measured as the log of total assets of the bank.

(f) Capital Adequacy:

The ratio of equity to total assets (CA) is considered one of the basic ratios for capital strength. A strong capital structure is mandatory for financial institutions, especially in developing economies as it provides further strength to withstand financial crises and elevated safety for depositor’s midst unstable macroeconomic conditions. (Growe et al., 2014; Alper and Anbar, 2011; Oslan and Zoubi, 2011).

Table 2: Independent Variables & Their Assessments.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Variables Name</th>
<th>Assessment</th>
<th>Hypothesized relationship with profitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIQ</td>
<td>Liquidity</td>
<td>Total Loans/Total Deposits</td>
<td>+/-</td>
</tr>
<tr>
<td>SZ</td>
<td>Size of the Bank</td>
<td>Log of Total Assets</td>
<td>+/-</td>
</tr>
<tr>
<td>INF</td>
<td>Inflation</td>
<td>CPI</td>
<td>+/-</td>
</tr>
<tr>
<td>GDP</td>
<td>Real Gross Domestic Product</td>
<td>Annual Growth Rate of Economy</td>
<td>+/-</td>
</tr>
<tr>
<td>I</td>
<td>Interest Rate</td>
<td>Interest Rate By SBP</td>
<td>+/-</td>
</tr>
</tbody>
</table>

Conceptual Framework:

The equations which has been developed for all models are as below:

**Equation (Democratic Regime):**  
$$ROA = Bo + B1GDP + B2INF + B3I + B4CA + B5LQ + B6SZ + \sigma$$

Where, PF = Profitability of Banks, Return On Asset of banks under democratic regime

$$GDP = \text{Gross Domestic Product under democratic regime}$$

$$INF = \text{Inflation under democratic regime}$$

$$I = \text{Interest under democratic regime}$$

$$CA = \text{Capital Adequacy under democratic regime}$$

$$SZ = \text{Size of Banks under democratic regime}$$

$$LQ = \text{Liquidity of Banks under democratic regime}$$

$$\sigma = \text{Error}$$

**Equation (Dictatorship Regime):**  
$$ROA = Bo + B1GDP + B2INF + B3I + B4CA + B5LQ + B6SZ + \sigma$$

Where, PF = Profitability of Banks, Return On Asset under dictatorship regime

$$GDP = \text{Gross Domestic Product under dictatorship regime}$$

$$INF = \text{Inflation under dictatorship regime}$$
I = Interest under dictatorship regime
CA = Capital Adequacy under dictatorship regime
SZ = Size of Banks under dictatorship regime
LQ = Liquidity of Banks under dictatorship regime
\( \sigma = \text{Error} \)

**Transformation of Equation:**

Due to fulfill the assumptions of panel regression, the researchers have transformed the equations into \( \log \log \) form to eliminate the issue of heteroscedasticity. If heteroscedasticity exists, the results or finding will be spurious therefore it is necessary for researcher to satisfy all assumptions of panel regression during analysis. Hence, the transformed equations for both models are as below:

**Equation (Democratic Regime):**

\[
\log(\text{ROA}) = Bo + B_1\log(\text{GDP}) + B_2\log(\text{INF}) + B_3\log(I) + B_4\log(\text{CA}) + B_5\log(\text{LQ}) + B_6\log(\text{SZ}) + \sigma
\]

Where, PF = Profitability of Banks, Return On Asset of banks under democratic regime

GDP = Gross Domestic Product under democratic regime
INF = Inflation under democratic regime
I = Interest under democratic regime
CA = Capital Adequacy under democratic regime
SZ = Size of Banks under democratic regime
LQ = Liquidity of Banks under democratic regime
\( \sigma = \text{Error} \)

**Equation (Dictatorship Regime):**

\[
\log(\text{ROA}) = Bo + B_1\log(\text{GDP}) + B_2\log(\text{INF}) + B_3\log(I) + B_4\log(\text{CA}) + B_5\log(\text{LQ}) + B_6\log(\text{SZ}) + \sigma
\]

Where, PF = Profitability of Banks, Return On Equity under dictatorship regime

GDP = Gross Domestic Product under dictatorship regime
INF = Inflation under dictatorship regime
I = Interest under dictatorship regime
CA = Capital Adequacy under dictatorship regime
SZ = Size of Banks under dictatorship regime
LQ = Liquidity of Banks under dictatorship regime
\( \sigma = \text{Error} \)
Empirical Results

Table#3: Panel Regression Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>(Fixed Effect Model) Democratic Regime</th>
<th>(Random Effect Model) Dictatorship Regime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.411 (0.000)</td>
<td>0.023 (0.001)</td>
</tr>
<tr>
<td>GDP</td>
<td>-0.115 (0.230)</td>
<td>0.012 (0.409)</td>
</tr>
<tr>
<td>Inflation</td>
<td>-0.428 (0.517)</td>
<td>-0.813 (0.237)</td>
</tr>
<tr>
<td>Size</td>
<td>-0.119*** (0.000)</td>
<td>-0.206*** (0.010)</td>
</tr>
<tr>
<td>Capital Adequacy</td>
<td>-3.011 (0.402)</td>
<td>0.091 (0.311)</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>0.091*** (0.000)</td>
<td>1.072 (0.872)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>1.811*** (0.012)</td>
<td>-0.133*** (0.008)</td>
</tr>
<tr>
<td>F-Statistic (P-Value)</td>
<td>19.41 (0.0004)</td>
<td>24.978 (0.00023)</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.423</td>
<td>0.398</td>
</tr>
<tr>
<td>Hausman Test</td>
<td>Prob&gt;chi2 = 0.0001</td>
<td>Prob&gt;chi2 = 0.1379</td>
</tr>
</tbody>
</table>

Breusch-Pagan(LM)
Testing for random Serial Correlation:  -  -  Prob>chibar2 = 0.0000

*** Significant at less than 0.05

Table 3 shows that for democratic regime, Hausman Test p-value is less than 0.05 therefore fixed effect model count as the most suitable model than random effect or OLS. In the fixed effect model, the researchers found that liquidity and interest rate had a positive significant impact on profitability of banks whereas size had significantly negative impact on profitability. However, other variables remained insignificant during democratic regime. The F-statistic shows that the model fits for analysis and R-Squared justifies that explanatory variables describes 42.3% variation of such variables on dependent variable i.e. Return on Asset. On the other hand, for dictatorship model, the Hausman test rejected fixed effect model with p-value of more than 0.05. Afterward, the researchers ran the LM test to identify the best model among OLS and Random Effect model. The p-value of 0.000 indicates that the random effect model is more suitable than OLS. In random effect model, it was found that liquidity and size had significantly negative impact on profitability of the Pakistan banking system. F-statistic and R-squared indicates that the model is fit for study.
Table# 4 Diagnostic Tests

<table>
<thead>
<tr>
<th>Tests</th>
<th>(Fixed Effect Model) Democratic Regime</th>
<th>(Random Effect Model) Dictatorship Regime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch-Pagan LM test of independence</td>
<td>0.4578</td>
<td>0.2312</td>
</tr>
<tr>
<td>Wald Test for Group Wise Heteroscedasticity</td>
<td>0.2212</td>
<td>Robust Command</td>
</tr>
<tr>
<td>Wooldridge test for autocorrelation in panel data</td>
<td>0.5036</td>
<td>0.1901</td>
</tr>
</tbody>
</table>

Table no.4 shows the list of diagnostic tests for both models i.e. democratic and dictatorship. In fixed effect model LM independence test, Wald test for group heteroscedasticity and Wooldridge test for autocorrelation provide evidence that there is no cross-sectional dependence, heteroscedasticity and autocorrelation issue in panel data. The same results were found in random effect model for dictatorship in which the p-values suggested that the data were not auto correlated and there was no cross-sectional dependence problem. However, in STATA we do not have any test for heteroscedasticity for Random effect model therefore we had run robust error command. The purpose of robust is to reduce the standard errors and get sureness on heteroscedasticity assumptions. Baltagi (2005) However, these elements of literature are almost separate in the panel data error components literature. When one deals with heteroscedasticity, serial correlation is overlooked, and when one deals with serial correlation, heteroscedasticity is ignored. Exemptions are robust estimation of the variance covariance matrix of the reported estimates. Baltagi et al (2008) developed a formula for heteroscedasticity test jointly with autocorrelation but it was neither an econometrics instrument nor run by any software. Due to above reasons the author has decided to run robust command in order to curtail standard errors and make results more valid.

4. DISCUSSION & CONCLUSION

The results found that macroeconomic variables i.e. Gross Domestic Product (GDP) and Inflation (IF) had not any noticeable impact on profitability of commercial banks of Pakistan during democratic and dictatorship regime. The cause behind insignificant impact was may be the under developed economic system of Pakistan which do not react according to the macroeconomic variable theoretically. Though, Interest rate (I) was found to be significantly positive to the profitability of commercial banks under democratic regime. 1 percent increase in Interest rate leads to increase 0.09 percent of profitability. On other hand, during dictatorship it was insignificant. The main reason behind this behavior was high interest rate during democratic tenure and low interest rate under dictatorship regime. High interest rates always attract consumer to deposit their savings which will result in high revenue by re-investment of such funds into more effective options from financial institutions. Moreover, bank-specific variable Size (SZ) had significantly negative impact on profitability of commercial banks under both tenures. One percent increase in size leads to 0.119 percent and 0.206 percent decrease in profitability of commercial banks under democratic and dictatorship government respectively. The banks were more ineffective under dictatorship tenure in the sense that they didn’t utilize their assets in an active manner. Though, ineffectively prevailed too in democratic government but lesser than dictatorship tenure. Liquidity (LQ) had significantly positive impact on profitability throughout democratic government whereas negative impact under dictatorship tenure. Capital Adequacy ratio had no impact on profitability of commercial banks under both tenures therefore it was found to be insignificant in both models therefore it is concluded that capital was the weak determinant of profitability of commercial banks under both systems.
REFERENCES


