Contemporary Dynamics Affecting Bank Performance: An Analytical Study From Pakistan

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ABSTRACT

The research examines the influence of contemporary dynamic factors on bank profitability by using unbalanced panel data of 15 Pakistani banks including both the private and public sector banks over the last decade. The study used unbalanced panel data analysis to investigate the impact of several dynamic factors including bank size, capital, loans, deposits, governance, foreign investments, bank orientation, Gross Domestic Product, inflation rate, market capitalization, interbank rate, budget deficit, government regime, online banking and 3G & 4G technology on major profitability indicators i.e., return on assets, return on equity, return on capital employed, net interest margin and operating profit margin. The Random Effect Model indicates that Bank Size, GDP and Capitalization in the Market have a significant and a affirmative impact on the assets based return. Online banking is found having a significant progressive impact on Capital employed return. The variables of Capital, Loans Advanced, Deposits submitted, GDP and online banking have a significant positive impact on Operational Margin, but loan advances, corporate governance at the banks and foreign initiated investment have a positive impact on operational profitability. The results indicate the presence of significant influence of multiple contemporary dynamic factors on bank profitability in the selected data set. Thus, bank managers need to address these variables of significant importance to remain competitive in the dynamic banking environment of Pakistan.

Key words: Bank Profitability, Corporate Governance, Technology & Innovation

INTRODUCTION

The banking sector is the most important part of the economy. They are responsible for holding financial assets and creating more money by investing their financial assets. For the modern trade and economy, the banking sector is very important as it provides financial resources. For both financial and non-financial organizations, the miracles of globalization continue to unfold, the concept of efficiency becomes more fundamental. Competitive marketing strategy is followed by banks as it decides their prosperity and development. Compared to the past few years, there are many changes in the banking process (Hussain & H Bhatti, 2010). Later in 1997 when the banking supervision process was aligned with worldwide best practices the banking segment in Pakistan experienced significant changes. In the banking sector, lots of changes in the proprietorship, structure, and concentration has been brought by the ongoing procedure of merger/consolidation and public sector banks privatization (SBP, 2009).

The banking industry serves as the main source of financing to run the economic affairs. The smoother its operations, the better and more acceleration it can provide. The major macroeconomic aspects in any

economy are associated with the performance of the financial institutions specifically the depository institutions such as the commercial banks. Here in the present study, the factors having a potential to influence the performance of the banking industry have been investigated. The intent of the study focuses on bank specific micro as well as macro factors. This shall be beneficial to the financial industry as it focuses on contemporary dynamics. This study captures the econometric effects and attempts to report variables of significant importance in this regard. Alongside the lagged effect of macro variables is a key notation as identified in the econometric equation. This enables us to capture the effect of policy implications as they impart influence on the coming tenure.

Hashmi, Raza & Shah (2020) worked on the impact of financial intermediation functions and found a significant impact of the functions of growth. Thus, functioning of the intermediaries impart influence on growth. To ensure that these intermediaries are also performing well, we need to find the impact of variables which influence the performance of banking industry. For this purpose, the current investigation focuses on the contemporary variables affecting the performance of financial intermediaries. Also, the work of Hashmi & Hassan (2016) attempt to study the impact of financial intermediaries on the macro-economic level. From the beginning of eighteenth century, financial institutions are working but in prior they were not known as banks but just a place for keeping the important things of individuals (Moussa, 2012). An important role is played by these organizations in the growth and development of country. A successful financial system is required to encourage private investments and make the business more profitable (Kutsienyo, 2011). In recent years positive changes has been observed in the banking sector of Pakistan, and the reason of these positive changes in the banking sector is the introduction of innovative techniques in the financial affairs, liberalism (Javaid, Anwar, Zaman, & Ghafoor, 2011)

Although, keeping in mind the power of risk exposure providing favorable returns is the management responsibility. For developing the banking sector, major role is played by regular banks and e-banking (Sadeghi & Farokhian, 2011). In a country, the strength of the banks is very important because most of the assets are provided by the banks. Banks are the real providers of assets. However, it is very important for policy makers, regulators, state banks, and corporate finance specialists to determine the variables that affect bank's performance. Micro Factors of our study are Bank size, Capital, Loan, Deposits, Governance, Foreign Investments and Bank Orientation, while macroeconomic factors are GDP, Inflation, Market Capitalization, Interbank Rate, Budget Deficit, Government Regime, 3G&4G Technology and Number of Online Banking Users.

The purpose of this study is to find out the relationship between internal variables and external variables on the profitability of the top 15 banks in Pakistan. The purpose of this study is to verify the relevant hypothesis. The following study is structured as follows: after introduction, the next part of the study focuses on the literature review. Follows is data and methodology followed by the results and the summary, conclusions, and recommendations.

LITERATURE REVIEW

The literature review provides an overview of the determinants of bank profitability that have been studied previously. To analyze the determinants of profitability, few studies looked at a group of countries. According to these studies, the determinants of the bank's profitability are classified into two groups: internal and external variables. These investigations clearly recognize that the independent variables are micro and macro factors, and the dependent variables are return on asset (ROA), return on equity (ROE), return on capital employed (ROCE), net interest margin (NIM) and operating profit margin (OPM).

Bank size, capital, loans, deposits, governance, foreign investments, and bank orientation are the micro factors and GDP, inflation, Market Capitalization, Interbank rate, budget deficit and government regime, 3G& 4G and online banking are the macro factors. (Demirguc-Kunt & Maksimovic, 1998) identify that size is positively related to profitability. According to their findings, having more assets can satisfy their inflexible capital so that they can have more assets to make advances to borrowers and their income and profit levels can increase. Several surveys have concluded that the size of the bank is positively related to the profitability of the bank, but to some extent this is true, as the size of the bank and the profitability of the bank are evident, so there may be a decrease in profitability. (Havrylchyk, 2006) identifies that bank capital and profitability are positively and directly related. Previous studies have shown that the capital ratio explained that bank profitability has a positive correlation to the capital ratio, since well-capitalized banks are more profitable. A higher capitalziation can increase productivity in the banking sector (Mamatzakis, 2015); (Rosman, 2014); (Tabak, 2013) (Noor, 2011); (Chiou, 2009); (Pasiouras F., 2008); (Yildirim, 2007); (Grigorian & V, 2002); (Hasan, 2003). (Miller & Noulas, 1997) discover that credit risk is negatively affecting bank's profitability. They found that when the bank's credit risk and profitability correlate negatively, it means that the more serious risk associated with the loan, as a higher level of loan loss supplies level can pose a problem for the banks in maximizing profit. Most previous studies show that there is a positive relationship between the loan ratio and bank's profitability. If the bank increase increases loan volume along with lower margins, it can be expected to have a negative impact on profitability (Staikouras & Wood, 2004) (Kabir & Bashir, 2005).

The hour of saving and store structure contrarily affects benefit. (Heggested, 1977) while Sherlock's (1985) track down that the bank's benefit is emphatically influenced by request stores. On the other hand, benefit isn't influenced by the advance rate; the credit to-store proportion and store rate (Fraser and Rose, 1971). (Moussa, 2015) tracked down an irrelevant effect of stores on the liquidity of banks. (Alkassim, 2005) shows that stores decidedly affect productivity and the banks that depend for financing can improve return on resources. (Onakoya, Ofoegbu, and O.Fasanya, 2012) we track down that corporate administration has been on the low side and furthermore contrarily affected the exhibition of banks. The examination in this way talks whether key preparing for board individuals and bank chiefs ought to start or improved, especially in courses advancing corporate administration and banking morals.

Mohammed (2012) has inspected the connection between corporate administration and bank benefit in Nigeria and tracked down that a positive connection between corporate administration and bank productivity. (Expectation, Laurenceson, and Qin, 2008) break down the impacts of unfamiliar speculations

on business banks in China. They find that Chinese business banks can get profits by the administration information that unfamiliar key venture has vowed to move. What's more, when the outer accomplices move their insight the board, banks' abilities for monetary innvoations, underlying rearrangements, and new items and administrations can improve. This trade interaction can profit distinctively and will start to improve the executives rehearses. (Modebadze, 2011) interest in Georgia banking area has expanded since 1999.

The effectiveness examination shows that saves money with the investment of worldwide monetary organizations (ERBD or IFC) or unfamiliar vital proprietors are more productive than their neighborhood accomplices. (Boubakkri, Cosset, Fischer, and Guedhami, 2005) from 22 non-industrial nations, we analyzed the exhibition of 81 banks after privatization. Our outcomes recommend the accompanying: 1) as a rule, the banks chose for privatization have less banks, the banks that remain state-possessed are more monetarily feasible and proprietorship have higher monetary proficiency, and a higher dissolvability than the banks chose for privatization. 2) Profitability expansions in the post-privatization stage, yet relying upon the sort of proprietor, effectiveness, hazard, and capitalization may fall apart or improve. 3) The privatization of economy and credit hazard hence brings huge upgrades additional time are brought by privatization in monetary productivity and credit openness. 4) We additionally find that recently privatized banks that are controllable by nearby mechanical gatherings are presented to higher credit and loan fee hazard after privatization.

The term 'performance' signifies conveying into performance or accomplishment, or achievement of explicit exercises, or the exhibition of an endeavor of an obligation. 'Bank performance' might be characterized as the impression of how the assets of a bank are utilized in a structure which empowers it to accomplish its destinations. Besides, the term bank performance implies the selection of a bunch of pointers which are demonstrative of the bank's present status and the degree of its capacity to accomplish the ideal destinations.

As the financial area is viewed as a fundamental portion of an advanced economy, its productivity is of imperative significance. To guarantee a sound monetary framework and an effective economy, banks should be painstakingly assessed and investigated. While banks help business associations by delivering a wide scope of items and administrations, the items and administrations are pretty much indistinguishable starting with one bank then onto the next, and there is little extension for separating between them. Subsequently, it is important to gauge the banks' individual presentation to decide their commitment to business improvement. It is inescapable that banks keep on drawing in huge consideration from people in general and investigation by monetary controllers as there is a developing need to assess banks in a more effective way. Not just administering foundations, controllers and bank the board bodies, yet additionally customers of banks, are getting progressively worried about the steadiness and supportability of these monetary establishments.

Demirgc-Kunt and Huizinga, (1999) shows that for huge number of nations, the benefit of saves money with quick financial development increments. All things considered, raises and falls appearing in the business cycles catches by GDP. Larger part of the past examinations uncovers that there is a positive connection among GDP and bank's benefit. (Partner, 2014) for all labor and products utilizes the level of Consumer Price Index (CPI). The genuine worth of expenses and incomes is affected by swelling. There

may be positive or negative connection among swelling and bank's benefit contingent upon whether it is normal (Perry, 1992). Thus, it is normal that benefit may be an emphatically identified with swelling. (Abreu and Mendes, 2002), for some European nations surveyed the bank's revenue edge determinants and bank productivity. They track down that those banks which are very much promoted face lower chapter 11 expense and by that path there benefit increments. Notwithstanding the way that with a negative imprint in all relapses, in clarifying banks' productivity the joblessness rate is important, and the expansion rate is likewise related with it.

Interbank rate is the proportion of cash loaned to different banks partition by the cash acquired from different banks. If this proportion is more than 100 then it really shows the bank isn't a borrower of assets in the commercial center yet a net placer and thus more fluid (Hassan and Bashir, 2003). When spending which has done by the individual, business or government financial plan are more than the incomes throughout a particular timeframe, then, at that point spending shortfall happen. Deficiency ought to be paid; it would make obligation on the off chance that it's anything but paid. To start with, every year obligation's advantage should be paid. Second, the higher obligation levels would make trouble in raising benefit.

During the period 1997-2001, because of 2001 crisis the efficiency collapse and after those developments were seen but it was just because of the efficiency rather than technological changes. It reveals that internal variables are more important for profitability as compared to external variables. Pakistan has recently made significant progress in the telecommunications sector. The focus is on getting the maximum benefit for the general user in the terms of access to modern services and better quality of service due to the competitive environment among network operators. International investors have also contributed directly due the economy, and new horizons have emerged for researching and improving the broadband developments in line with the changing direction of the Pakistani telecommunication industry (Imtiaz, A.Khan, & Shakir, 2015).

In Malaysia, the financial area incorporates different private and government banks, and some private and government banks have their own branch networks all through the country. Albeit the legislative banks have a moderately durable presence, private banks are getting progressively serious and more unpredictable. As an outcome of monetary changes and activation, diverse monetary organizations have arisen on the lookout. This has not just made an undeniably powerful and serious financial climate, which calls for improved assessment and examination, however by and large, has energized more prominent effectiveness in financial administrations.

(Haider, Manzoor, Sumra, & Abbas, 2011) the aim of this article is to examine the impact of electronic banking on the profitability of Pakistani banks. This article is valid for twelve Pakistani banks. The study is qualitative in nature and examines various objectives that determine the performance of banks mainly in terms of profitability. In addition, the effects of customer competence on service provision from the banking perspective are discussed. At the same time, the main reasons for the banks to switch to e-banking services are discussed. The research is carried out by interviewing the heads of these banks. The results shows that e-banking has increased the profitability of the banks; allowed banks to pay their expenses and make profits in a short period of time.

As confirmed in the previous discussion, there is a strong relationship between external and internal determinants of a bank's profitability. Gap in the literature will be address by this paper by using various techniques to check the profitability of Pakistani banks. The country related shocks are absorbed and data in this study. Analysis of the literature for the profitability of the banks has proposed various interpretive variables for internal and external determinants. The micro variables of my studies will be Natural log/total assets (size), equity capital/total assets (capital), bank loans/total assets (loan), total deposits/total assets (deposits), governance, foreign investment and bank orientation, while the macroeconomic variables are GDP, inflation, market capitalization, interbank rate, budget deficit and government regime, 3G and 4G technology and number of online banking users and the dependent variables are return on equity (ROE), return on assets (ROA), net interest margin (NIM), return on capital employed (ROCE) and operating profit margin.

Data & METHODOLOGY

The panel data set covers the period of 10 years from the last decade and includes samples of 15 banks in Pakistan. These include public and private sector banks. We had collected the data from PSX, SBP and the bank's annual report.

Methodology

We used Unbalanced Pooled Ordinary Least Square Method (POLS) as this method is used in different research (Gul, Irshad and Zaman, 2011).

Pooled Ordinary Least Square (POLS) condition will be examined as:

$$Y_{it} = \beta_0 + \beta_1 x1_i + \beta_2 x2_{it} + \beta_3 x3_{it} + \beta_4 x4_{it} + \beta_5 x5_{it} + \beta_6 x6_{it} + \beta_7 x7_{it} + \beta_8 x8_{i(t-1)} + \beta_9 x9_{i(t-1)} + \beta_{10} x10_{i(t-1)} + \beta_{11} x11_{it} + \beta_{12} x12_{i(t-1)} + \beta_{13} x13_{it} + \beta_{14} x14_{it} + \beta_{15} x15_{it} + u_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

where,

Y_{it} "Ratio of Return on Asset (ROA), Return on Capital Employed (ROCE), Return on Equity (ROE), Net Interest Margin (NIM) and Operating Profit Margin for bank *i* at time *t*".

$x1_{it}$ "Ratio of natural logarithm of Total Asset (SIZE) for bank *i* at time *t*".

$x2_{it}$ "Ratio of Equity Capital to Total Asset (CAPITAL) for bank *i* at time *t*".

$x3_{it}$ "Ratio of Total Loans to Total Assets (LOAN) for bank *i* at time *t*".

$x4_{it}$ "Ratio of Total Deposits to Total Assets (DEPOSITS) for bank *i* at time".

$x5_{it}$ "percentage of INED's on Board (GOVERNANCE) for bank *i* at time *t"*.

$x6_{it}$ "percentage of shares held by foreign investors (FOREIGN INVESTMENTS) for bank *i* at time *t"*.

$x7_{it}$ "Public sector/Private sector (BANK ORIENTATION) for bank *i* at time *t"*.

$x8_{it-1}$ "Gross Domestic Product (GDP) for bank *i* at time *t"* $x9_{it-1}$
"Inflation (INF) for bank *i* at time *t*".

$x10_{it-1}$ "Market Capitalization (MC) for bank *i* at time *t"*.

$x11_{it}$ "Interbank Rate (IR) for bank *i* at time *t"*.

$x12_{it-1}$ "Budget Deficit (BD) for bank *i* at time *t"*.

$x13_{it}$ "Government Regime (GR) for bank *i* at time *t*".

$x14_{it}$ "3G& 4G Technology for bank *i* at time *t"*.

$x15_{it}$ "Number of Online Banking Users (NOLBU) for bank *i* at time *t"*.

$i = 1$ to 15 banks

$t = 2008\text{-}2017$

u_{it} = "Error term".

In Pooled Ordinary Least Square (POLS) method more reliable estimates of the parameters can be obtained. Where the relationship between variables is stale across cross-section units is considered as a valid procedure. Pakistani banks response to cyclical movements is similar and this evidence is given by our data set. The reason of applying the pooled OLS estimation method is that the relationship between assets and profitability is constant over banks. This paper includes the following elements of the micro & macroeconomic factors that are affecting the bank's profitability:

Dependent Variables included in the study are as follow:

ROA: measures the company's profitability relative to its assets. ROA explains how the management uses its resources, effectively for profitability. ROA is calculated by dividing a company's net income by its total assets; ROA is expressed as a percentage. ROA measures how much profit is earned on per dollar of

assets. ROA also reflect how well real investment resources are used by management to generate profits (Nacuer, 2003) (Alkassim, 2005). ROA is calculated as:

ROA= Net Income/Total Assets

ROE: is the profitability ratio which determines that with each dollar of shareholder's equity how many dollars of profit a company creates. We can calculate ROE by dividing net income to total equity (Fraker, 2006). ROE is calculated as:

ROE= Net Income/ Total Shareholders' Equity

ROCE: is a financial ratio which calculates a company's profitability and the efficiency in which its capital is used. ROCE is calculated as Profit before Interest and Expense (EBIT) divided by the Capital employed. ROCE compares profit with capital invested in an organization. ROCE considers source of financing and is same as return on assets (ROA). It is the ratio of income before interest and expense to capital employed (Fogelberg & Griffith, 2000). ROCE is calculated as:

ROCE= EBIT/ Average Capital Employed

Net Interest Margin: got from loans generated by other financial institutions or banks. The bank is an organization working together in providing finances to different parties. In this way the interest income earned will determine the benefit of the bank. The capability of bank management in controlling the volume of interest cost and in handling productive assets to generate interests will influence the bank's productivity (Saunders & Schumacher, 2000)**;** (Brock & Suarez, 2000) demonstrated the net interest margin positively effects profitability. While (Raharjo, Hakim, Manurung, & Maulana, 2014) demonstrated that government banks are not affected by net interest margin however private banks in Indonesia are negatively affected by net interest margin. Net Interest Margin is calculated as:

Net Interest Margin= Net Interest Income/ Total Assets

Operating Profit Margin: Earnings Before Interest and Taxes (EBIT) relative to its total net assets. The ratio is an indicator of how effectively a company is using its assets to generate earnings before contractual obligations must be paid.

Micro Factors included in the study are as follow:

Bank Size: Larger banks enjoy a higher level of profits as compared to smaller banks in controlling economies of scale in transactions and size is used to capture the reality. As a result, size and bank's profitability are positively related to each other. (Molyneux & Thorton, 1992), (Bikker & Hu, 2002) and (Goddard, 2004) find that bank profitability is positively related to size. The proxy used for bank size natural log of total assets.

Capital: High capital banks can easily meet regulatory standards and excess capital can be provided in the form of loans. Thus, higher the level of capital will lead to higher profitability (Berger, 1995). Capital ratio can be calculated by dividing equity by the total assets. In the case of capital, a capital / asset agent is used. The capital ratio calculates the amount of funds used for bank assets from the owner's own capital. The capital is calculated as follows as:

Capital= Total Capital/ Total Assets

Loan: (Lin & Zhang, 2009) identified that financial performance is affected by credit considering the 322 Chinese banks over the period 1997-2004. The outcomes reveal that higher profitability can be achieved by offering more loans. As compared to, (manglanit 2011) suggested that profitability is increasing so they should decrease credit over the period 1990- 2006. (Miller & Noulas, 1997) discover that credit risk is negatively affecting the bank's profitability. If a bank's credit risk and profitability are negatively related, then if there is a high risk associated with the loan, the level of loan loss supplies may be a problem for the bank to increase its profitability. Loans are calculated as:

Loans= Total Loans ÷ Total Assets

Deposits: The bank's profitability is negatively affected by time savings and deposit structure (Heggested, 1977) while Sherlock's (1985) determines that demand deposits positively influence the bank's profitability, similarly (Fraser & Rose, 1971) identify that bank's profitability is not affected by loan rate; the deposit rate & loan-to-deposit ratio. Deposits are calculated as:

Deposits= Total Deposits/ Total Assets

Governance: (Onakoya, Ofoegbu, & O.Fasanya, 2012) We observe that corporate governance has adversely affected the results of banking activities and was low. Board members and senior bank executives need to initiate or improve their strategic training, especially in courses promoting corporate governance and banking ethics. The proxy used for governance is the percentage of INED's. Governance is calculated as:

Governance= Percentage of Independent Non-Executive Directors/ Total Number of Directors

Foreign Investment: (Modebadze, 2011) Participation in Georgia banking sector has increased starting from 1999. The efficiency analysis discloses that banks with international financial institutions involvement (ERBD or IFC) or foreign strategic ownership are more profitable than their local counterparts. Our overall assessment of the results suggests the foreign ownership has had a positive effect on the bank's performance. The proxy used for foreign investment is the percentage of shares owned by foreign investors. Foreign Investment is calculated as:

Foreign Investments= Percentage of shares held by foreign investors

Bank Orientation: (Boubakkri, Cosset, Fischer, & Guedhami, 2005) from 22 developing countries we examine the post privatization performance of 81 banks. Our outcomes suggest that:

1) State-owned banks have higher economic efficiency and higher economical as compared to the banks selected for privatization.
2) Profitability increases in privatization phase, but it depends on the types of owners, efficiency, risk exposure, and capitalization may worsen or improve.
3) Overtime privatization yields significant improvements in economic efficiency and credit exposure.
4) We also identify that after privatization the banks which are newly privatized and controlled by local industrial groups are more exposed to credit risk and interest rate risk. For Public Sector Banks we will take 0 and for Private Sector Banks we will take 1.

Macroeconomic Factors included in the study are as follow:

GDP: (Demirgc-Kunt & Huizinga, 1999) We will demonstrate that rapid economic development enhances the profitability of other countries. Raises and falls showing in the business cycles are captured by GDP. After that, to create an adjustment effect on the bank's profitability, a general level of activity movement is needed. In experimental literature, two categories of GDP are commonly used. Firstly, there is a cyclical output that is reflected in the gross domestic product that the deviation of GDP was separated by HP. Second, to cope with the level of economic development, gross domestic product per capita is used. The indicator used for GDP is the annual growth rate of GDP.

Inflation: For the profitability of banks, inflation is important, and it has been repeatedly described in the literature because of its influence on the consumers of resources and sources. Specifically, the price behavior of an organization is affected by inflation. For example, as inflation rises above inflation, organizations can raise prices and demand will not decline due to profit (Driver & Windram, 2007). Under such circumstances, if normal inflation rate is equivalent to actual inflation rate, commercial activity does not decrease and therefore it won't affect the banks' profitability. The consumer price index (CPI) is the index used for inflation.

CPI= basket of goods and services in a given year/ Price of the same basket in the base year *100

Market Capitalization: (Modigliani & Miller, 1958) has confirmed that debt and capital will function as substitutes under complete market conditions. In such circumstances, there will be a negative effect on bank profitability if firms go for more equity financing. We will take total market capitalization.

Market capitalization = Share Price* number of shares outstanding

Interbank Rate: The interbank interest rate is the interest rate applied to short-term loans between banks. Banks borrow and borrow money on the interbank market to manage liquidity and meet reserve requirements set by regulators. Interest rates depend on maturity, market conditions and credit ratings. Interbank rates may also refer to the price at which banks conduct wholesale foreign exchange transactions

on spot and futures markets. Spread is narrower than small retail transactions. The possibility that this ratio exceeds 100 indicates that banks are not net borrowed funds in the market but are net investors and hence liquidity is high (Hassan & Muhammad Bashir, Determinants of Islamic Banking Profitability, 2003). We adopted an interbank offering interest rate.

Interbank rate = Money Lent/ Money Borrowed

Budget Deficit: When expenditure made by individual, corporate, or government budget exceeds than revenues over a certain period, budget deficit will occur. (Sayilgan & Yildrim, 2009) the profitability of banks positively influences the balance between the budget of the industrial production index and the capital ratio. The budget deficit is calculated as:

budget deficit = budget deficit / GDP * 100 or
Budget deficit = revenues - expenses.

Government Regime: have demonstrated that internal factors are more efficient in bank profitability compared to external factors, thanks to this discovery. Therefore, in contrast, the quality of governance is more important than the regulation on banks' soundness (Kale, Eken, & Selimlar, 2015). The proxy used for the government regime is PPP / PML (N). We will take 0 from the 2008 - 2012 period, and from 2013 - 2017 we will take 1.

3g& 4g Technology: Pakistan has lately made important development in the telecommunications segment. The chief focus is on getting the concentrated assistance for the general user in the terms of access to contemporary services and improved quality of facility due to the modest environment between network operators. International investors have also contributed directly due the economy, and new horizons have emerged for researching and improving the broadband developments in line with the changing direction of the Pakistani telecommunication industry (Khan & Shakir, 2015). The dummy is used to capture the effect of the technology of 3G& 4G impact during the era before the implementation of 3G& 4G we have taken time 2008-2013 is 0 and from the period 2014-2017 when 3G& 4G is implemented is 1.

Number Of Online Banking Users: (Haider, Manzoor, Sumra, & Abbas, 2011) the purpose of this study is to investigate the influence of online banking on the Pakistani banks' profitability. This document covers 12 banks in Pakistan. This survey is qualitative in nature, and we are looking at various tasks that determine the performance of banks, especially from the perspective of profitability. Also, from the bank's point of view, we will also discuss the impact of customer literacy on service delivery. It also discusses the main reasons for banks using electronic banks. This survey is conducted through interviews with the managers of these banks. Profitability of the banks could be improved by e-banking. In doing so, the bank can cover its expenses and profits in a short time. Client illiteracy is not considered a serious barrier to the provision of this product or service. For banks, the introduction of e-banking is mainly due to customer expansion and customer integration. The profitability of banks increased with the transition to the e-banking environment. The proxy used for online banking is the number of online banking users of each year.

Online Banking= Number of Online Banking Users

RESULTS OF THE MODELS

This section highlights the descriptive statistics, correlation matrix analysis, and the regression analysis for all the profitability indicators such as ROA, ROE, ROCE, NIM and operating profit margin.

Table 1: Descriptive Statistics of all Variables

Variables	Mean	StandardError	Minimum	Maximum
ROA	0.005866	0.001046	-0.0541	0.06
ROE	0.0078	0.101626	-14.7427	2.3471
ROCE	0.040507	0.034939	-4.497	0.28
NIM	0.030638	0.000917	-0.0025	0.0716
OPM	0.008018	0.001458	-0.09054	0.030177
Bank Size	18.7623269	0.248603256	0	21.71061195
Capital	0.096116	0.006726909	-0.031	0.5022
Loans	0.449671333	0.009694248	0	0.6745
Deposits	0.732208	0.012229297	0	0.9085
Governance	0.287958667	0.015673622	0	0.8571
Foreign Investments	0.032625553	0.004964003	0	0.2795
Bank Orientation	0.666666667	0.038618963	0	1
GDP	0.03885	0.00120915	0.0036	0.0579
Inflation Rate	0.093895	0.003936161	0.0286	0.196
Market Capitalization	5214681.5	195106.3204	2120651	9522358
Interbank rate	0.10895	0.002355	0.0645	0.161
Budget Deficit	-0.0639	0.001077	-0.088	-0.046
Government Regime	0.5	0.040961596	0	1
Online Banking	1068681.7	66852.14725	0	2347026
3G&4G	0.4	0.040134004	0	1

Table 1 lists all dependent variables ROA, ROE, ROCE, NIM, Operating Profit Margin, and all independent variables (micro variables including bank size, capital, loans, deposits, governance, foreign investment, bank orientation, Macroeconomic variables include GDP, inflation, market capitalization, interbank interest rates, budget deficit, government regime, 3g and 4g technology, number of online banking users, moves

from a low level of 0.005866 to a high value. This sample includes banks of different sizes and banks from different industries, but the standard deviation of NIM is 0.011.237. This shows that observations in the data set are close. The maximum standard deviations for banking services are 2389554.653 and 818768.2449, respectively, and all other variables have low values of standard deviation, indicating the consistency of the data set near their average value. The relationship between the variables studied, ROA, ROE, ROCE, NIM and operating profit margin was examined using the relationship with micro and macroeconomic factors of the Bank's profitability shown in Table 4.2.

Correlation Analysis

Table 2: Pairwise correlations

Variables	1	2	3	4	5	6
ROA	1					
ROE	0.441*	1				
ROCE	0.295*	0.30*	1			
NIM	0.320*	0.25*	0.36*	1		
OPM	0.895*	0.43*	0.45*	0.34*	1	
Bank Size	0.209*	0.053	0.083	0.30*	0.24*	1
Capital	-0.116	0.076	0.059	0.25*	-0.13	-0.06
Loans	-0.142	-0.03	-0.13	0.27*	-0.1*	0.41*
Deposits	0.129	0.02	-0.04	0.29*	0.122	0.72*
Gov.	-0.006	-0.01	0.145	0.01	0.026	0. *
For Inv	0.04	0.053	0.007	0.015	0.063	0.20*
Bank Ori	-0.05	-0.04	0.153	0.21*	0	0.267
GDP	0.269*	0.23*	0.127	-0.02	0.27*	0.18*
Inf. Rate	-0.26*	-0.2*	-0.2*	0.125	-0.2*	-0.2*
Mkt. Cap	0.181*	0.143	0.19*	-0.12	0.20*	0.24*
Int. Rate	-0.19*	-0.1*	-0.13	0.132	-0.1*	-0.1*
Budget Deficit.	0.017	-0.07	0.07	-0.07	0.014	0.054
Gov. rgm	0.143	0.125	0.18*	-0.14	0.157	0.23*
On. Banking	0.239*	0.15	0.25*	-0.12	0.26*	0.29*

3g&4g	0.167*	0.093	0.18*	-0.1	0.18*	0.22*

Variables	7	8	9	10	11	12
Capital	1					
Loans	0.157	1				
Deposits	-0.3*	0.48*	1			
Gov.	0.27*	-0.02	-0.07	1		
For Inv	-0.13	0.047	0.034	-0.07	1	
Bank Ori	0.088	0. *	0.119	0.023	0.23*	1
GDP	0.09	-0.13	0.003	0.1	0.124	0
Inf. Rate	-0.05	0.21*	-0.05	-0.13	-0.14	0
Mkt. Cap	0.031	-0.2*	-0.04	0.18*	0.16*	0
Int. Rate	-0.04	0.16	0.014	-0.11	-0.13	0
Budget Deficit.	0.015	-0.11	-0.09	0.089	0.069	0
Gov. rgm	0.001	-0.1*	0.006	0.17*	0.147	0
On. Banking	0.035	-0.2*	0	0.21*	0.154	0
3g&4g	0.032	-0.2*	-0.06	0.17*	0.154	0

Variables	13	14	15	16	17	18	19	20
GDP	1							
Inf. Rate	-0.8*	1						
Mkt. Cap	0.75*	-0.8*	1					
Int. Rate	-0.8*	0.92*	-0.8*	1				
Budget Deficit.	0	-0.2*	0.42*	-0.1*	1			
Gov. rgm	0.54*	-0.8*	0.89*	-0.7*	0.38*	1		
On. Banking	0.69*	-0.8*	0.92*	-0.7*	0.31*	0.85*	1	

3g&4g	0.58*	-0.7*	0.91*	-0.7*	0.67*	0.81*	0.83*	1

Table 2 shows that ROA, ROE, ROCE, NIM and Operating Profit Margin are positively correlated.

Bank size and foreign investment are positively related to all dependent variables (ROA, ROE, ROCE, NIM, operating profit margin). It seems that bank with larger size will earn higher profitability (Bikker & Hu, 2002) (Goddard, Molyneux, & Wilson, 2004) (Molyneux & Thorton, 1992).

Similarly, loans, inflation rates and interbank rates are positively correlated with NIM and have negative relationship with the ROA, ROE, ROCE, and Operating Profit Margin. Total loans to total assets have a negative correlation between ROA, ROE, ROCE, and operating profit margin, but a positive correlation with NIM which shows that an increase in bank loans will decrease ROA, ROE, ROCE, and Operating Profit Margin and increase NIM.

Governance and banking orientation have a positive relationship between ROCE, NIM and operating profit margin, but ROA and ROE are negatively related with each other. This suggests that ROCE, NIM, operating profit margin increase, ROA and ROE decrease as governance and bank orientation increase.

GDP, market capitalization, government regime, online banking and 3g and 4g are positively related to ROA, ROE, ROCE, and operating profit margin, and NIM is also negatively related. GDP growth rate is positively correlated with ROA, ROE, ROCE, and operating profit margin due to improved economic situation in Pakistan. The results are consistent with previous studies (Bami, 2014).

Capital has a positive relationship between ROE, ROCE and NIM, but ROA and operating profit margin are negatively correlated with each other. Banks with lower capital rates should have higher risks and higher rates of return, and the results are in line with previous studies (Bami, 2014).

Deposits are positively related to ROA, ROE, NIM and Operating profit margin, and negatively related to ROCE. Compared to total assets, total deposits are negatively correlated with ROCE, indicating that banks that rely on deposits for financing are also much less profitable and the results are consistent with the results of (Abreu & Mendes, 2002) (Alkassim, 2005). Lastly, budget deficit is positively related to ROA, ROCE and Operating profit margin and negatively related to ROE and NIM.

Regression Analysis

Firstly, we run the common effect model. Secondly, we run the fixed and random effect model and then we apply the Hausman test to choose the most appropriate model. Random effect model is chosen after applying the Hausman test. Below is the summary of “Contemporary Dynamics Affecting Bank Performance”.

Table 3: Summary of “Contemporary Dynamics Affecting Bank Performance”

Random Effect Model					
Independent Variables	**Dependent Variables**				
Micro Factors	ROA	ROE	ROCE	NIM	OPERATING PROFIT MARGIN
Bank Size	+				
Capital				+	
Loans				+	+
Deposits				+	
Governance					+
Foreign Investments					+
Bank Orientation					
Macroeconomic Factors					
GDP	+			+	
Inflation					
Market Capitalization	+				
Interbank Rate				+	
Budget Deficit					
Government Regime					
Online banking			+		
3G & 4G					

Table 3 summarizes the contemporary dynamics affecting the bank's performance. Bank size, GDP and market capitalization have a significant positive impact on the ROA. There are no variables affecting the ROE. Online banking has a significant positive impact on ROCE. Capital, loans, deposits, GDP and online banking have a significant positive impact on profit margins, but loans, governance and foreign investment have a positive impact on operating profit margin.

Effect of Bank Orientation

Table 4: Impact of Bank Orientation **Effect of Bank Orientation**

Independent /ariable = Bank ation (Public =0 Private = 1)			
Dependent Variable	**Orient Coefficient**	**Standard Error**	**P Value**
ROA	-0.001344	0.002223	0.546468
ROE	-0.119643	0.216085	0.58063
ROCE	0.138629	0.073488	0.061199
NIM	0.005148	0.58063	0.007735
Operating Profit Margin	8.9559E-06	0.003104	0.997702

It is also noteworthy that the bank orientation has a significant impact on ROCE and NIM. This shows that in context of ROCE and NIM, private banks perform better than public banks. This can be attributed to better administration resulting in improved performance.

CONCLUSION

In this study, we analyze the impact of micro and macroeconomic variables on the profitability of the banks of Pakistan in the last decade. Micro factors and macroeconomic factors affect the Pakistani bank's profitability. Banks with more Bank size, capital, loans, deposits, governance, foreign investments, bank orientation, GDP, inflation, market capitalization, interbank rate, budget deficit, government regime, online banking and 3G&4G are more certain and such benefits can be translated into higher benefits. In this regard, two hypotheses were created to analyze the profitability of banks using specific determinants. In other words, Hypothesis 1 proves that micro factors have a significant impact on the bank's profitability. In Hypothesis 2, macroeconomic factors have a major impact on the bank's profitability. The result shows that both hypotheses have been accepted and have had a significant impact on Pakistani bank's profitability.

PRACTICAL IMPLICATIONS

The outcomes of this research are positive for Pakistani banks. This research provides awareness about contemporary dynamics that are affecting bank performance in Pakistan. Banks utilize the findings of this study to make good decisions. This study helps banks to recognize the contemporary dynamics that are affecting bank performance. By using the findings of this study, banks can enhance decision-making, banking profitability and improve policy direction. The outcome of this study will help banks in making effective decisions and can get awareness about the impact of contemporary dynamics on bank performance. Banks can learn how to increase the profitability level of their banks.

The Pakistani policymakers will have data that will help them when concocting strategies that influence the banking sector. The overall population will likewise be educated on the different elements that are critical as far as directing the financial performance of banks. This information will prove to be useful particularly the potential speculators exchanging at the KSE.

DIRECTIONS FOR FUTURE RESEARCH

We have the opportunity, using the latest available data, to conduct further research on the effectiveness and comparison of sub-sectors in Pakistan's banking sector to obtain more precise policy recommendations for different national sub-sectors. In future, researchers can investigate the impact of other contemporary dynamics on bank performance in different countries.

RECOMMENDATIONS

The finding suggests that to stabilize bank profitability and strengthen the banking sector resilience, among other things, decision makers and managers in the banking sector should seek to improve GDP, market capitalization, interbank rate, budget deficit, government regime, online banking expectations that we must strive to increase the volatility of 3G and 4G and inflation. It is recommended that the same research can be carried out at other financial institutions in Pakistan. In addition, the same study can be carried out in other countries to examine the impact of contemporary dynamics on bank performance.

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