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THE IMPACT OF BANK DIVERSIFICATION ON STOCK MARKET VALUE: EVIDENCE FROM PAKISTAN

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ABSTRACT

Although commercial banks have gradually followed the diversification strategy and sneaked into non-traditional activities for further income sources, studies on diversification outcomes provide diverse results. This research investigates how stock market values bank diversification using a data set of Pakistani listed banks for the period 2009-2017. Over all we find a negative relationship between bank diversification and stock market valuation. This implies investor prefer to invest in the banks who focus on traditional activities.

Keywords: Bank Diversification, Stock Market Value, Commercial Banks, Pakistan.

Introduction:

Corporate diversification has been a subject of debate in the contemporary times. On one hand where diversification is considered as a source of adding more revenues to the businesses. There are certain grave concerns on the other hand regarding its application in some fields. Banking is one of these fields where the increased diversification has been questioned in the literature. For instance, a study conducted by Elsas (2010) raised an observation that when banks increase their diversification levels by moving into fee-based businesses for instance by getting into trading activities or by underwriting insurance contracts, they are prone to make the same mistakes as non-financial firms made in the last centuries. There is a need to understand whether the diversification adopted by these banks creates any value for the shareholders or not.

Literature on the subject of bank diversification offers two strands of knowledge. A study conducted by Afzal (2012) asserts that on one hand, the bank diversifies in terms of its credit portfolio and on the hand, the diversification is revenue diversification where the focus of the banks is on the fee based business. A study conducted by Boot (2003) found that revenue diversification is critical for the banks in order to respond to the dramatic changes that has been triggered by the technological progress and deregulation. Therefore, the revenue diversification by the banks has been a strategic response to the business uncertainty.

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Growth is critical for every sector within the economy of the country. It leads to develop the economic stability and brings monetary benefits thereafter. Industry, Service and Agriculture services are the three main sectors that significantly contribute towards economic growth. Since the last two decades, industrial sector of Pakistan has increased at a steady rate, such as textile fertilizer tobacco and petroleum has shown steady growth as well (Economic survey, 2017-2018).

The service sector of Pakistan majorly operates on two efficiently operating sectors such as banking and tele communication. There has been a strong need to assess the potential of improvement in the policies before the efficiency level turns into a saturation point.

There are studies in the literature that shed light on this aspect in the banking sector. For instance, a study conducted by Huang & Chen (2006) suggest that revenue diversification in the banking industry may be used by banks as well. A study conducted by Chiorazzo et al, (2008) found that the non-interest income that has been earned as a result of revenue diversification activities gives certainty to the income flows of the bank which is may be less in the other income sources of the banks which are used to generate income. It is due to the fact that the rate of interest may tend to vary and is not solely in the control of the bank.

A study conducted by Gurbuz et al, (2013) found that the revenue diversification by the banks may also cause to increase the shareholder value as well. The research study takes income obtained from revenue diversification as non-interest income and income obtained from the traditional activities of the banks as interest income.

On the contrary there are certain other studies which suggest that the consideration of non-interest income (obtained as a result of revenue diversification) for the purpose of earning more profit may lead to increase in fluctuations in the level of profits. For instance, a research study conducted by Delong (2001) suggests that the bank may face increase in fluctuations of profits due to non-interest income. There are certain factors such as increase in the financial and operating leverage is critical for the activities based on fee and sources for non-interest income may cause more fluctuations as compared to the traditional sources of income. Therefore, the results could have been contrary to what the expectations suggest regarding the diversification in the non-interest income sources by the banks. A study conducted by Delpachitra and Lester in 2013 indicates that over diversification of revenues may tend to increase the risk of default rather than increasing the avenue of generating more profits. There is a need to make a sound strategy when dealing with the diversification aspect in the banking sector as the extensive revenue diversification may cause decline in the financial performance of the banks (Sahoo and Mishara, 2012). The researchers further suggest that there is a need to get specialized managerial expertise in order to indulge in income diversification in non-interest based activities because it brings new risk. Further, if the risk is not managed properly it may affect the performance drastically.

Therefore, vigilance is required for the purpose of making diversification. Banks must not only rely on the traditional sources of income. There must be a consideration of other sources of income however, while considering other options for the purpose of diversification it is critical to remain careful during the process of selection and decision making.

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Considering how revenue diversification has been perceived and adopted by the bank's, and how it creates impact the bank's value among the shareholders, the underlying study aims to investigate how this measure by the banks is valued by stock market.

Research question

1. What is the impact of Bank Diversification (more specifically revenue diversification in banks) on the stock market value?

Research Objective

1. To investigate the effect of Bank diversification (more specifically revenue diversification in banks) on the stock market value

The underlying contributes to the literature on the subject in number of ways. For instance, it complements the literature by studying a different contextual setting i.e. Pakistan. The country is falls under the category of emerging market therefore; it is critical to understand the how market dynamics take this perspective. Further, it provides orientation to the banking industry regarding a new type of diversification that may not be considered as vital as it is considered in other parts of the world keeping in view the results it may fetch to the industry. A research study conducted by Mirzaei and Kutan (2016) narrate that the impact of bank diversification could have been different in different contextual settings. This is a breakthrough which has been a reason for undertaking this study. It means that in different economies for instance those which are bank based economies and those which are market based economies the impact of bank diversification could have been different. There has been a lot of research studies that have taken bank diversification in terms of portfolio diversification. However, the underlying study has attempted to take a different perspective that is revenue diversification to investigate the question that how stock market values such type of diversification.

The underlying study aims to investigate that how stock market value bank diversification under the contextual settings of Pakistan. In addition to this, the scope has been confined to the banking industry where the data of twenty banks have been obtained for the purpose of analysis. It is pertinent to note that although there has been a lot of work that is done on the fact that how diversification may increase the profitability of any bank, there is a dearth in studies which discuss in detail regarding which type of diversification and what is the result for the shareholder if the bank indulges in such sort of diversification.

Literature Review:

Theoretical Review:

As the key variable understudy is Bank diversification, the modern portfolio given by Markowitz (1952) has been taken as an underpinning theory for the underling study. The theory supports the notion that why firms should diversify? Diversification is basically the expansion of investments into activities that are not perfectly correlated. Such type of selection for the purpose of making investments tends to reduce the risk of portfolio. The application of this theory, in the context of the strategic decision taken

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by the firm suggest that the managers can diversify in two ways, firstly by entry into the new markets or by offering new products. Such an approach allows the managers to reduce risk that is specific to each activity and leave only risk that is common to all activities. It further means that the internal diversification can cause a firm to eliminate a firms' idiosyncratic risk and only leaves systematic risk to be faced by the firm on its part.

Empirical Review:

The underlying study focuses on the revenue diversification which results in causing the banks to indulge in the income sources that are other than the interest-based income sources. These other sources are also called non-interest income sources such as underwriting services, insurance etc.

Most of the literature on the subject of diversification deals with it in the context of risk and return. The general trend in the banks is often to diversify in their credit portfolios. The banks focus more on the interest only income. Whereas the underlying studies aims to investigate the non-interest income sources. In other words, the revenue diversification by the banks is the focus of this study. Along with the research studies that rely on the interest income sources and their diversification, the underlying study reviews the literature that concluded that when the banks tend to diversify in the interest income sources, they may achieve higher book to market value. However, this higher book to market value lasts only up to a certain point after that the performance indicators tend to show a negative association with the higher levels of diversification. A study conducted by Edirisuriya et al, (2015) found the application of the same notion when empirically test in the context of four South Asian countries (Bangladesh, India, Pakistan, Srilanka).

In connection to this, there are also research evidences on the fact that both interest based income or non-interest income (that is earned as a result of revenue diversification) both tend to reduce the insolvency risk of the banks and increase profitability (Sanya and Wolfe (2010 & 2011). It also tends to reduce the probability of systemic risk. A study conducted by William and Prather (2010) found that when shareholders keep an eye on the exposure of non-interest income, they do not get over-exposed to the point where the volatility effect diversification. The diversification of banks towards the revenue diversification sources tend to shift their attention away from the traditional income activity to non-interest income sources (sources of revenue diversification i.e. fee based activities (Gurbuz et al, 2013). Besides the benefits that the non-interest income that may be generated by the banks by indulging into the revenue diversification, there has been an increased probability that the banks may become in a position to provide better quality services to their customers. A study conducted by De-young and Rice (2004) found that the shift of banks towards revenue diversification (non-interest income source) may result in the positive relationship between the banks and customers. The banks tend to provide better quality services to their customer's post indulging in the diversification activities.

Further, the subject of bank diversification in any aspect i.e. revenue or credit portfolio diversification entails an ongoing debate. Diversification may tend to benefit the banks if it is less risky and it earns a better return to the bank. On the other hand, it may hurt banks in the opposite scenario. A study conducted by Moudud ul haq et al (2018) on the banks of Indonesia, Malaysia, the Philippines, Thailand

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and Vietnam found that diversification in any aspect earns the banks heterogeneous benefits. The study reveals that where revenue diversification tends to bring robust positive impact on the performance of the bank and its stability, asset diversification on the other hand may vary from country to country. There is a need for the banks to prioritize the activities of diversification according to their needs in order to maximize the benefits.

There are few studies in the literature that suggest the inclination of the banks towards the non-interest income (revenue diversification) has been gaining momentum. For instance a study conducted by DeYoung & Rice, 2004) found that the increase in the technological advancement in the banking industry has caused the transition among banks towards the non-interest income (revenue diversification). The shift may be due to the fact that the non-interest income (revenue diversification) remain least correlated with the factors which may cause volatility in the traditional sources of income (Chiorazzo et al, 2008).

However, a recent study has proposed adverse findings and states that the banks that tend to have higher non-interest income i.e. inclined more towards revenue diversification, such banks tend to have higher contribution to the systemic risk as compared to that of traditional banking. The study tends to substantiate this proposition by decomposing total non-interest income into two components i.e. trading income, investment banking (Brunnermeier et al, 2019).

2.2.1.2 Stock Market and Revenue Diversification:

The core focus of the underlying study is to understand and investigate that how stock market of Pakistan values revenue diversification of the banks in the country.

There are multiple empirical evidences that affirm the fact that there is a relation between stock market and revenue diversification and any change in the bank's composition of activities in which the banks tends to indulge itself in order to generate more income sources may be perceived positively or negatively by the stock market value. For instance, research studies conducted by Stiroh (2006), Baele et al (2007), Sawada (2013) and Vo (2017) found that there is a relationship between stock market value and bank diversification.

The studies further reveal that stock market measures of risk and return have some advantages over accounting measures.

First, equity prices look forward to allow prediction of performance and risks allied with different strategies of choice.

Secondly, the use of stock market data demonstrates that decrease in total risk and into systematic and idiosyncratic mechanism. Therefore, it is beneficial information for shareholders that are interested in various types of banks risks so as to mitigate them.

Thirdly, by using stock market data, if the non-interest income of banks is raised than there would be an increase in stock market value.

Fourthly, investors play a vital role in non-traditional activities if we continue the study in an emerging economy than the results would be totally different due to the investors rational behavior, only large banks are appreciated for diversification.

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According to Vo (2017) a study which was conducted in Vietnam which is an emerging economy, and the researcher found that the link between bank diversification and stock market value is negative, people living there tend to focus on traditional activities similarly they appreciate diversification in large banks rather than small banks. The literature on diversification and its impact on stock market value of banking sector indicates how important diversification is for banks to improve their earning, considering the effect of bank diversification on stock market value of Pakistan and to explore how banks can increase their valuation through diversification.

A study conducted by berger et al (2010) found studies the Chinese market. The study obtained the data of 88 chinese banks for the period of 1996 and 2006 and attempted to investigate the impact of diversification activities of the banks. The study made a comparative analysis of the concentrated versus the diversification activities and found that diversification has a negative impact on the performance of the banks. Not a single measure of diversification for instance cost efficiency, size, risk, ownership etc could give any hope in this regard.

Further, a study conducted by elsas et al (2010) investigated the impact of diversification on the wealth of the shareholders. The study taken into account a number of measures to estimate the impact of diversification for instance, performance measures include Return on Equity, Return on Assets. Market based measures include market to book ration, beta etc. the findings of the study suggested that the diversification has a positive impact on the profitability of the banks especially if such diversification is targeting non-interest based businesses.

The study highlighted two key issues regarding the question that whether stock market values bank diversification or not. These two key issues tend to navigate the results of any study. These include firstly the measures used to estimate impact of diversification in different studies. Secondly, the study pointed out that the literature lacks to study the subject of diversification as an indirect source of value creation. This indirect source of value creation is filled by studying revenue diversification.

To sum, the discussion on the subject of corporate diversification has been explored in depth in the global perspective, however, there seems lack of viewing the bank diversification with the lens that this dissertation is aiming to explore. Therefore, there is a critical need to understand how the situation turns out in the context of Pakistan. However, it is important to understand that to what extent the concept has been explored in the context that has been targeted for the purpose of this study. Following section shall depict the local perspective on the subject of diversification.

2.2.2 Local Perspective

By now the detailed review of the literature has been done. This section considers it pivotal to consider the local perspective in this regard. The studies on the subject of diversification are found and are narrated below.

According to (Afzal & Mirza .2012) explained that larger banks in Pakistan are better diversified than smaller banks due to the capacity to mobilize their funds, whereas market risk is positively associated with diversification, which is shown for the investors' concern about diversification. If banks get

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economic assistances from diversification than they will diversify their portfolios and reduce the risk profile of credit portfolios and enhance financial systems.

Ismail et al. (2015) demonstrated that according to Pakistani culture diversification can increase the performance of the banks, and larger banks tend to diversify more than smaller banks after a certain point increase in diversification can lead to volatility. The study showed that banks in Pakistan has not achieved maximum diversification but if they make strategies for income diversification they can get the benefit.

To sum, the literature review of the research studies conducted at the local level indicate the dearth of the subject understudy. Therefore, this research study intends to explore further in the area of revenue diversification, by taking into account the banking sector of Pakistan.

Data and Methodology:

The underlying study is quantitative in its approach. The nature of the study is explanatory due to the reason that the study intends to examine and explain the link between the diversification and stock market valuation. Secondary data has been collected in order to conduct this research study. The data for the underlying study has been collected from the annual reports of twenty (20) banks. Details of the banks are provided in the Table 1 in appendix. The data has been collected on the basis of convenience sampling. The sample consists of the data having the time period of 2009 to 2017.

Moreover, Eviews has been used for the purpose of analysis and to obtain the results for the underlying study. Panel data regression has been used as a statistical technique for the purpose of analysis and in order to attain the research objectives set in the beginning of the process.

3.2 Econometric Model:

$$\mathrm{VALUE}_{it} = \alpha + \beta_1 \mathrm{Diversification}_{it} + \beta_2 \mathrm{Diversification}_{it} * \beta_1 \mathrm{Size}_{it} + \beta_3 \mathrm{Size}_{it} + \Sigma \mathrm{Controls}_{it} + \varepsilon$$

3.3 Variables:

Following are the variables that shall be used in the study.

3.3.1 Value.

It is the dependent variable used in the study. It is basically the market valuation indicator. In order to measure the DV (dependent variable) a proxy of market to Book ratio (MTB) has been used in the study. Market to Book ratio (MTB) is defined as the market value of equity divided by the book value of the equity (VO, 2017).

3.3.2 Diversification

It is an independent variable used in the study. By diversification, it means revenue diversification that is the focus of this study. The proxy of NNII (net non-interest income ration) ratio has been used to measure it. The formula for this ratio is as follows:

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NNII = Net Non-Interest Income/Net Operating Income.

3.3.3. Control Variables:

As the model of the study has been adopted from a research study conducted by Vo (2017), there are few control variables that are also included to increase the robustness of the study. These control variables include: Size, Operating Cost, ration of loans to total assets. Where

- **Size** is obtained by calculating the log of total assets (VO, 2017).
- **Operating cost** is basically the ratio of operating cost to total assets (VO, 2017).
- **Ratio of loan to total assets** is calculating by dividing the total loans to the total assets (VO, 2017).

An interaction term has also been used in the model. The interaction term has been created by multiplying the bank size (it has been obtained by taking the log of natural assets) with the diversification (more specifically revenue diversification that has been obtained by calculating NNII (Net Non-Interest Income ratio). The purpose of calculating the interaction term is to investigate the importance of bank size on the relationship between revenue diversification by the banks and its impact on the stock market valuation. In addition to this, as the model has been adopted from the study conducted by VO (2017) in Vietnam, no change has been made in the model.

3.3.4 Interaction Term:

The study has attempted to evaluate the importance of bank size on the relationship between diversification and the stock market valuation. Therefore, an interaction term shall be created within the model. It shall be created by multiplying the bank size (obtain through taking the log of natural assets) with the diversification (that shall be measured by NNII ratio) (Vo, 2017).

Results and Discussion

4.1 Descriptive Statistics:

Table 4.1 represents the statistical behavior of the variables that are included in the study. Descriptive statistics includes mean, median, standard deviation, skewness etc.

Table4.1 Descriptive Statistics

	Int_T	L-TA	Size	MTB	NNII	OC
Mean	561.313	0.117	8.501	1.142	64.364	153468.60
Median	7.143	0.102	8.551	1.081	0.838	14035.50
Maximum	5848.313	0.673	9.409	3.453	621.582	3153601.0
Minimum	0.000	0.005	7.375	-2.754	0.000	205.00
Std. Dev.	1266.195	0.093	0.463	0.827	142.773	532258.5
Skewness	2.427	2.624	-0.342	-0.378	2.313	4.494
Kurtosis	8.120	14.359	2.501	6.716	7.348	22.741
Jarque-Bera	373.348	1174.207	5.3798	107.834	302.284	3528.703
Probability	0.000	0.000	0.0679	0.000	0.000	0.000

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It summarizes that the average value of the variables which have been used for the purpose of this study. For instance, the mean value of independent variables that is NNII (Diversification) is 64.37. The table also attempts to describe the value of the maximum and the minimum values of the variables that have taken for the purpose of the study.

The results for the skewness are mixed. As the dependent variable that is MTB and one of the control variables show negative skewness, whereas all the other variables taken for the purpose of the study reflect positive skewness showing the tail on the right side of the probability density is longer or flatter. In addition to this, the variables also show a leptokurtic behavior with the kurtosis value more than three.

Table 4.2 Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	d.f.	Prob.
Cross-Section Random	0.00	5	1.00
Period Random	0.00	5	1.00
Cross-Section and Period Random	4.44	5	0.487

The table 4.2 of correlated random effects Hausman test shows that significant value of chi-square indicates that the model is suitable for this study is fixed effect model. As the best fit model that is fixed effect model chosen for the purpose of analysis in this study.

Table 4.3 Results of Panel Data Regression with Fixed Effects

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.17E+11	2.77E+11	1.866288	0.0643
Operating Cost	7.90E+11	1.14E+12	0.694184	0.4888
NNII	63125921	47751395	1.321970	0.1885
Size	-5.86E+10	3.25E+10	-1.801324	0.0740
LOAN_TA	9.69E+09	2.92E+10	0.331696	0.7407
MTB (-1)	1.65E+10	4.47E+09	3.695266	0.0003
Interaction Term	0.000	0.0010	0.120	0.905

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Table 4.3 (a) Effects Specifications

Statistical Measures	Statistical Values
R-Squared	0.795
Adjusted R-Squared	0.745
Durbin Watson Statistic	1.46
F-Statistic	15.986
Prob (F-Statistic)	0.00

It asserts that bank diversification (NNII p value -0.8998) does insignificantly impact the shareholder value of the banks. Same is the situation with the other control variables that has been taken for the purpose of this study.

The model explains that variations in the data exists as the value of adjusted R2 is 0.78 and the Durbin Watson statistics is 1.46 which indicates the presence of autocorrelation in the data. The value of F statistics is 15.98 with the probability value of 0.000 that is significant at 10% confidence interval.

There have been number of studies by the researchers where the curiosity of the researchers could have been vividly seen in order to understand the impact of bank diversification on the stock market value.

However, the tendency to explore the subject of diversification varies in different studies. In addition to this the results of these studies also show different results. A huge number of studies investigated the subject of diversification with respect to profitability and performance. There is a dearth in the literature regarding the investigation of bank diversification especially with regard to the revenue diversification with respect to the stock market value.

Where the studies addressed this aspect for instance, a study conducted by Vo (2016) in which the researcher focused on the Vietnamese market to capture the true picture, negative relationship was found between the stock market valuation and bank diversification. Although the results of this study validate the findings of the underlying study as well, where the results also depict negative relation between the two variables. However, it is pertinent to note that the underlying causes must be considered as well. The focus of Vietnamese investors on the traditional activities is due to the higher level of risk that is faced by the diversification strategies followed by the banks in the country. The investors in the country do not prefer banks generating volatility by investing in non-traditional banking activities and prefer core banking.

Moreover, a research study conducted by Swada (2013) that investigate the same subject of revenue diversification and attempted to find how stock market values bank diversification in the Japanese banking sector, found that the revenue diversification has positive effect on the bank's franchise value. However, the study also reveals that the revenue diversification does not cause the reduction in the risks faced by the banks.

Finally, a study conducted by Sanya (2010) while investigating the impact of revenue diversification on the European banks along with other factors such as ownership structure and insolvency risk, found that revenue diversification tend to have a positive impact on the banks value. It is due to the reason that revenue diversification tends to reduce the insolvency risk. In addition to this, revenue

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diversification along with the ownership structure tends to influence the strategic investment decisions, as a result the value of the bank increases as the insolvency risk of the banks reduces.

On the other hand, a study conducted by Baele (2007), on the similar subject using a different methodology concludes that bank diversification creates a positive impact on the bank diversification as the study reveals that the stock market anticipates that the diversification in the income sources by the bank shall improve its profits in the coming years.

Therefore, it is important to understand that different contextual setting tend to impact differently the relationship between the variables understudy.

Conclusion:

The results of the study for the selected sample reveal insignificant results. It shows that there is no significant impact of bank diversification over stock market value in Pakistan. There could have been various reasons in this regard. In order to understand the situation, we may need to refresh in our minds the turbulent history of the stock market in Pakistan and the number of traditional investing activities by banks in order to ensure their returns. Moreover, it is recommended that the future researchers to dig deep and find out the firms which are in the process of diversifying their risks by investing in stock markets and those which do not get into such sort of diversification.

Further, the comparative analysis at different levels shall bring more clarity in identifying the situation after the detailed analysis that what a bank gets after diversification and what is the performance level if no diversification is made.

The impact of control variables may not be neglected in this regard. As research study conducted by Demsetz and Strahan (1995) found that the subject could have been handled in a variety of perspectives. One of the most common and easy to understand strand in this regard is, its association with the asset size. It means that banks with large asset size tend to have a wide variety of borrowers and also a broader deposit base are in a better position to reap the benefits of diversification, be it of any type.

Lastly, the exploration of the non-interest income avenues may retrospectively tend to increase the non-interest expenses borne by the banks leading to increase in the operating costs. There is a need to explore this area in order to have a complete picture. Therefore, it is recommended to conduct future studies in this area with different perspectives to get the maximum utility out of this blue ocean with the adequate cost and benefit analysis.

A stock market provides the country's financial picture at a certain point in time. it is the yardstick to measure temperature of the financial performance of the firms trading in the stock market. It is important to note that the purpose of diversification is to create a better portfolio of investments to survive adequately in the long run. When such diversification is made in stocks, it becomes vulnerable to the ups and downs in the stock market value. Therefore, it is critical for the stakeholders to get sufficient protection to operate in this area.

Therefore, this study shall provide insights to the regulators to take appropriate actions regarding the real time situation faced by the banks in this area. Once regulated properly, it shall not only help the banks but also shall have a positive impact on the economy of the country as well.

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The study may be in better position to provide meaningful insights if segregation could have been made between the public versus private banks, conventional versus Islamic Banks. Commercial versus Microfinance banks. It could have helped in providing the real time situation sector wise and in the identification of the fact that which areas need more attention.

Finally, the duration of the data selection for the purpose of study was to bring all the banks on the same page as the updated data was not available for the latest years of most of the banks.

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