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Impact of Revenue Diversification on Financial Performance: A Study of Commercial Banks in Pakistan

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ABSTRACT

The primary objective of this study is to examine the influence of income diversification on the financial performance of commercial banks in Pakistan. Data from 10 commercial banks have been collected in a panel format spanning from 2015 to 2023. The acquired data was initially analyzed using Eviews 9 in a PLOS analysis. Then, the Breush-Pagan(BP) test was done to see if the findings of the Pooled OLS analysis were appropriate or if the results of a fixed model would be more suitable. The p-value of the BP test indicated that the data should be modeled using the Random model. Subsequently, the Haussmann Test confirmed that the findings obtained from the random model were appropriate for the model. The correlation study reveals a favorable link between both interest and non-interest based revenue and the financial performance of the selected institutions. The random model indicates a considerable positive correlation between markup-based and non-markup-based income and financial performance.

Keywords: Interest Income, Non-Interest Income, Commercial Banks, Financial Performance

Background

A bank is a financial institution that receives deposits and utilizes those funds to extend loans to individuals. The main responsibility of the banking sector is to accept deposits and extend loans to individuals. The banking system serves as a regulatory and generative apparatus for a nation's currency, so assuming a crucial function in the nation's economy. Different types of banking systems are operating in our holy land for meeting the financial requirements of the peoples from different categories who are engaged in businesses and agriculture etc. Two broader types of banks that operate in our Pakistan is central and commercial bank (Stiroh, 2004). Commercial bank performs two functions accepting the deposits, advancing loans to traders, exporters, importers etc. and finance foreign trades, deals with remittances, also agency functions. Central bank is charged for the expansion and contraction of the volume of the money to general public. SBP on the commission of British distributed the central bank of India on 30th December 1948 and 30% goes to the Pakistan and on state bank ordinance 1948 it was charged for the issue of notes and kept reserves to secure monetary stability in Pakistan and after the commenced of the 1956 act of SBP and is regulating the monetary and credit system of in a country.

All these functions are for the issuance of the currency notes and for the supervision of financial system in a country. The SBP are the agents for all other banks in a Pakistan and makes monetary policy to control credit and money supply. SBP acts as an agent, advisor and banker to the government in many ways. Because as a banker the SBP it keeps the deposits and makes payments on the behalf of the government. As banker foreign currencies are also traded and keep gold in stock also. And as an agent because as a short-term advance to government and local bodies. As an adviser bank gives timely advices to the government on economic problems like currency devaluation etc. The state bank of Pakistan kept and manage foreign exchange reserves for the country as there is no specific market for them in a Pakistan. The total commercial banks operating in a Pakistan have to keep some cash reserves with SBP on certain percentage so that is why the SBP acts as a clearing house for all commercial banks operating in a Pakistan. SBP also collect all the important economic data which helps in the researchers and policy makers to access different economic conditions that exists in a country and works for the economy

betterment in a country. It supervises the commercial banks to which a sound financial system is occurring in a country.

The SBP also play an important role for ensuring the financial sectors stability as a central bank and supervisor of the entire commercial banks the SBP has a duty to regulate the credit and monetary system of Pakistan and further maximize its growth in the nation interest under the 1956 act of the state bank of Pakistan. SBP a strategic plan of the 2020 also emphasizes for strengthen the framework of the financial stability and for that purpose a separate department for financial stability a department has to be formed (SBP) and apart from the financial stability in a country, the SBP consolidates the FSD specification issues for financial stability also. The SBP also initiated the work in some new and emerging areas for the aiming to address the financial stability of the country.

Problem Statement

Different number of techniques is adopted by different researchers for the diversification of the incomes and its impact on the financial performance all the bankers have different techniques adoption method. In Pakistan mostly the ratio analysis is adopted by the bankers to evaluate the bank financial performance.

Objective of the Study

- To investigate the relationship of markup based income on financial performance.
- To investigate the relationship of non-markup based income on financial performance.

Literature Review

Amidst the rapidly evolving atmosphere of today, businesses are recognizing the importance of diversifying their sources of income to attain sustained development and adaptability. income diversification involves using a range of tactics, such as introducing new goods, enhancing operational efficiency, and utilizing technology advancements to expand outside conventional sources of income. Ochenge (2022) and Liu et al. (2022) have indicated that income diversification encompasses both internal and external elements. Attaining a successful equilibrium between internal innovation inside a company and responsiveness to external market forces is crucial in this regard.

Nevertheless, it may be difficult to efficiently manage the process of diversifying revenue through several means. Effective resource allocation, cultural resistance, and risk management are identified as key challenges by Li and McMillan (2021) and Yan and Jia (2022), respectively. The findings of research that was carried out between the years 2020 and 2024 show the significance of businesses strengthening their resource allocation, streamlining their internal procedures, and developing risk management methods that are robust. The benefits of effectively diversifying one's income are quite compelling, notwithstanding the restrictions that have been mentioned. There is a correlation between increasing the variety of sources of revenue and improving financial stability, enhancing competitive advantage, and ensuring long-term viability. Organizations have the potential to successfully manage economic risks and concurrently achieve a competitive advantage if they embrace this strategy approach (Younas et al., 2021). This literature review takes a detailed look at the topic of income diversification and offers helpful advice to businesses that are attempting to navigate the complexities of the modern-day business environment.

Academics have examined the notion of income diversification from numerous vantage points, one of which is to emphasize the concept's complexity and diversity. Nisar et al. (2018) underscore the importance of deliberately adapting product offerings, venturing into untapped markets, and adopting emerging technologies. Diversification is a comprehensive notion that encompasses a range of tactics employed by organizations to increase the diversity of revenue streams from which they derive. The Resource-Based View (RBV) posits that the enhancement of a firm's assets and capabilities through diversity ultimately leads to enhanced financial performance (Barney, 1991). The agency theory posits that diversity possesses the capacity to substantially mitigate the occurrence of conflicts of interest between management and shareholders, thereby culminating in enhanced financial performance. A comprehensive examination of the relationship between income diversity and financial performance requires a foundational knowledge of the various cognitive processes and conceptual frameworks involved.

Utilizing both quantitative and qualitative research approaches, an investigation was carried out with the purpose of calculating the impact that income diversification has on the overall financial performance of the organization. According to Cetorelli and Goldberg (2011), quantitative research frequently makes use of several financial measures, including return on assets (ROA) and return on equity (ROE), in order to evaluate the success of a company's finances. In most cases, these investigations include exploring huge datasets in order to provide insights that are applicable to a wide range of situations. On the other hand, qualitative research focuses on specific cases and provides in-depth, complete insights into the mechanisms that are involved in revenue diversification inside certain businesses (Wu & Kachari, 2015). For the purpose of properly evaluating the strength and significance of the findings, it is vital to conduct an in-depth examination of these distinct methodologies. This will ultimately result in an improvement in the overall knowledge of the influence that income diversity has on financial indicators.

A wide variety of factors, including those that are internal and those that are external, are responsible for the diversification of revenue that organizations participate in. According to Buch and Lipponer (2018), market factors, competition, different regulatory frameworks, and technological advancements all have a role in the decisions that are made regarding strategic diversification. Because of economic concerns and the pressures of competition, organizations routinely look for new ways to generate revenue. As an illustration, the introduction of digital technologies has led businesses to expand their operations by adding online platforms and services that are based on technology. Understanding the strategic motivations that motivate businesses to extend their income sources requires that these characteristics be recognized. Recognizing them is therefore essential.

In particular, the literature review investigates actual data concerning the impact that income diversification has on the performance of the financial institution. The researchers Demirguc-Kunt et al. (2018) found a clear association between income variety and financial stability. This finding suggests that increasing revenue diversification might lead to an increase in financial stability within an organization. According to the findings of the research, businesses that diversify their sources of revenue have the potential to achieve greater financial performance, therefore

significantly reducing the risks that are associated with relying primarily on a single source of income. Nevertheless, it is essential to exercise caution because subsequent study carried out by Talel et al., (2024) has demonstrated the possibility of significant harmful outcomes. These ramifications may include an increase in the complexity of operations, an increase in the costs associated with management, and a probable decline in essential abilities. Claessens and Laeven (2003) and Beck et al. (2018) found that the impact of revenue diversification differs from one industry to another due to the fact that various industries have diverse features. For example, banking, manufacturing, and services all have different characteristics. By gaining an understanding of these nuances, one may improve their overall knowledge of the influence that diversifying income sources has on the financial health of a variety of businesses.

Based on the literature review the following research hypothesis are developed;

H1: There is a positive impact of interest income on financial performance of banks

H2: There is a positive impact of non-interest income on financial performance of banks.

Research Methodology

This study is quantitative in nature and panel data for 10 commercial banks collected from annual reports from year 2015-2023.

Return on Equity (ROA)

Shows the net income generated during specific time period from the assets of the banks. Banks capability is to manage its assets efficiently to produce profit. Formula is:

Net Interest Income to Total Assets

It shows how well employed the interest-bearing assets to interest bearing liabilities. Formula is Net Interest Income to Total Assets Ratio= Net interest income/ Total Assets×100.

Model Specification

Regression analysis is statistical tool for finding the relationship between two variables. The dependent variables are the profitability ratios and macroeconomic factor are independent variables. $ROA=\beta_0+ \beta_1 IN_INC +\beta_2 NIN_INC$

Data Analysis Descriptive Statistics

This method of statistics is used for summarizing a data set and sometimes referred as descriptive analytics. Descriptive statistics is one of the most common types from the statistics types for the capability of sketched the clear conclusions from the analyzed data. It does not forecast the future like other types but only use of historical data to print and develop the outcomes.

Table 1: ***Descriptive Statistics***

	NIN_INC	**IN_INC**	**ROA**
Mean	11925668	36177628	0.0079
Median	8174741	28316322	0.0094
Maximum	36941617	1.22E+08	0.0254
Minimum	388615	1849786	-0.0514
Std. Dev.	10607379	29710428	0.0093
Skewness	1.108673	1.043884	-3.9328
Kurtosis	3.101891	3.524805	24.816
Jarque-Bera	14.37043	13.5164	1568.636
Probability	0.000758	0.001161	0.000
Sum	8.35E+08	2.53E+09	0.5534
Sum S. Dev.	7.76E+15	6.09E+16	0.0060
Observations	80	80	80

Table 2: ***Correlation Analysis***

	NIN_INC	**IN_INC**	**ROA**
NIN_INC	1.000000		
IN_INC	0.837207	1.000000	
ROA	0.265066	0.289134	1.000000

There are two independent variables non-interest income, interest income and return on assets. The correlation table shows that there is positive relationship between all the variables and the strongest relationship is of non-interest income with the interest income and return on assets. This method is for identifying the relationship between variables.

Regression Analysis

Table 3: ***Pooled Regression Analysis***

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.069509	0.016055	-4.329325	0.0001
LIN_INC	0.004694	0.004655	1.008373	0.3169
LNIN_INC	0.006233	0.004195	1.485596	0.1421

**LIN_INC is log of interest income, LNIN_INC is log of non-interest income*

Model Specification

As the data is cross sectional in nature then it is important to test whether Pooled OLS, or Random effect model or Fixed effects models to be selected which provide a reliable result of the data. For this purpose, Breuch-Pagan test is applied on the Pooled OLS. The results are given below;

Null hypotheses: No effects

Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided

(All others) alternatives

Test Hypothesis

	Cross Section	Time	Both
Breusch-Pagan	10.78	1.92	12.70
	0.001	0.1656	0.0004
Mixed Chi-Square asymptotic critical values			
	1%	7.289	
	5%	4.321	
	10%	2.952	

From the above table P-value of Breusch-Paygan test is 0.0010 which is less than 0.05 so here the null hypothesis rejected and concluded that Random or Fixed model will provide a better result than Pooled OLS.

The next stage of the model selection is to run the random or fixed effect model. Here in the first phase random model is run on the data and then applied the Hausman Test to test whether the random results to be selected or fixed effect model's results will be accurate.

Table 4: ***Hausman Test for Random Effect***

Test Summary	**Chi-Sq. Statistic**	**Chi-Sq-def.**	**Prob.**	
Cross-section random	4.656563	2	0.0975	
Variable	**Fixed**	**Random Var**	**(Diff.)**	**Prob.**
LIN_INC	0.012812	0.004123	2.7E-05	0.0915
LNIN_INC	0.012763	0.009045	3E-06	0.0311

The result of the above table p-value if 0.0975 which is greater than 0.05 which shows that the results of the random effect model is appropriate for the model.

Table 5: ***Random Effect Model***

Variable	**Coefficient**	**Std. Error**	**t- Statistic**	**Prob.**
C	-0.084	0.024	-3.425	0.001
LIN_INC	0.04	0.004	2.872	0.018
LNIN_INC	0.09	0.003	2.345	0.021

Table 6: ***Effects Specification***

	S.D.	**Rho**	
Cross-section random	0.004	0.306	
Idiosyncratic random	0.006	0.693	
Weighted Statistics			
R-squared	0.21	Mean dependent var	0.003
Adjusted R-squared	0.18	S.D. dependent var	0.007
S.E. of regression	0.006	Sum squared resid	0.003
F-statistic	8.86	Durbin-Watson stat	1.634
Prob(F-statistic)	0		

The results of the above table reveal that interest income and non-interest income have positive impact on the financial performance in banks. The first hypothesis was that there is a positive relationship between interest income and financial performance of banks. From the table t value is 2.872 with p value of 0.018 shows that there is significant positive relationship between interest income and financial performance. The second hypothesis was that there is positive relationship between noninterest income and financial performance. The result shows that t value is 2.345 with value of 0.021 which confirms the significant positive relationship between

noninterest income and financial performance. The adjusted R square value 0.18 shows that due to interest and non-interest income there is 18% change in financial performance of the banks. The overall model significance the f- value is 8.86 with p value 0.000 shows that the model is best fitted. The econometric model of the study is:

$$= - 0.084 + 0.04 _INC + 0.09 _INC$$

Conclusion

The research examines the relationship between variables of the 10 private and public sector banks. How well they will diversify and how well will the revenue will generate so, constant struggle is going for it to better the financial performance for the banks. The purpose in the economy is to both raise the capital and make sure that it is invested in opportunities that will provide highest returns. The experts and analyst continuously try to forecast future trends also for it. And they also mentioned the risk that will incur for the investor in the future also. The essential examination is carried out in the empirical study to determine the changes in upcoming times. The study used regression model for it to show which bank ratio is highly diversified that will help the investors to easily invest in that sector without bear any problems. After regression analysis discovered that positive relationship between interest income and ROA. Results are matched with Githaiga (2023) and Zouaoui and Zoghlami, (2023).

Those banks whose efficiently and effectively successes in diversifying its return portfolio will have greater financial performance of their financial ratios and will catch many investors to invest in that bank which is highly diversified and has enhance its revenue. So, for checking the diversification of financial sectors the study of two independent variables the Interest income and non-Interest income against dependent variable return on asset of 10 banks is analyze from 2015 2023 which is recently done by the researchers the regression model is chosen for finding the significance of the chosen variable. The PLOS, fixed and random model is selected. The Breusch and Hausman test is applied. If alpha is greater than 0.05 then PLOS applied and if alpha is less than 0.05 than Hausman test is applied that will help the investors.

Recommendation

As the inflation is increased day by day in Pakistan and gains high speed in 2023. Before 2023 it does not gain such speed but after 2023 it gains immense speed and lower purchasing power of investors so they are not investing in financial sectors more because of the huge risk that will bear on them. Keeping the recommendation in view made by some researchers that to keep inflation in mind if your investing so the investment should be diversified not in one thing you should invest. so therefore, policy maker should keep in mind and SBP should concentrate to those options thoroughly either they should gain from interest income or from non-interest income for the achievement of consistent growth.

The federal government should make strong policies for it to immense revenue for the financial sectors. Suggestions for the investors is that they most closely overview the relationship of ROA with interest income and non-interest income and then invest in that sector which has high ratio and low inflation rate also. And government should make policies to reduce the high interest and make possible as they can decline inflation rates by effectively work on monetary and fiscal policy.

Limitations of the Study

As the collection period is short as compared is to earlier research on this topic so collection is just for 9 years' data is only collected for the financial sectors that only covers the interest and non-interest income relation with return on asset and lack return on equity, risk averse and inflations rates of these financial sectors. The nature of the research is determined by the data quality and correctness of the only secondary data. The impact of the data sources is may be seen in both estimation and analysis results and only two variables are taken because of time shortage.

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