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#### Impact Of Macroeconomic And Bank Specific Factors On The Murabahah Financing Among Islamic Banks In Pakistan

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<p><b>Riza Ali Shah</b> Research Scholar, Karachi University Business School, University of Karachi, Pakistan, Corresponding Author Email: <a href="mailto:shahariza@gmail.com">shahariza@gmail.com</a></p> <p><b>Muhammad Muzammil</b> Assistant Professor, Karachi University Business School, University of Karachi, Pakistan. <a href="mailto:Muhammad.muzammil@uok.edu.pk">Muhammad.muzammil@uok.edu.pk</a></p>	<p><b>Abstract</b></p> <p>The purpose of this study is to examine the effect of macroeconomic and Islamic bank specific factors on Murabahah financing in Pakistan. The study took GDP growth rate, Inflation Rate, Interest Rate, GDP Per Capita, Advances to deposit ratio and NPL ratio as independent variables while Murabahah financing took as dependent variable. The study focused on Islamic commercial banks/ Institutions in banking Industry of Pakistan. The study took those Islamic banking firms / Institution who hold 70% of Islamic operations and the Data is taken for the period from 2014 to 2023. The data took on annual basis for Meezan Bank, Bank Islami, Dubai Islamic Bank and Bank Albaraka official websites and their annual reports. The study followed random sampling technique to consolidate the data and applied with the panel regression technique using E-views. The results of study revealed that overall model is accepted at the 5 percent level of significance with the probability value of 0.01476 of the F-statistics with value of 3.1103. Furthermore, R-square value observed 0.4374 that shows that selected independent variables has moderate impact on the Murabahah financing in the Pakistani Islamic Banking industry. The coefficient values show that there is significant impact of the change in GDP growth rate, change in GDP per capita, change in inflation rate, change in interest rate and NPL ratio on Murabahah financing at 5 percent level of significance with the significance value of 0.0000, 0.0085, 0.0001, 0.0017 and 0.0000 respectively. The coefficient values for change in GDP growth rate, change in GDP per capita, change in inflation rate, change in interest rate and NPL ratio on Murabahah financing reported -0.4864, 0.0.613, 0.5212, 0.5206 and 0.145 respectively. However, the impact of the change in advances to deposit ratio and lag variable of Murabahah financing observed insignificant at even 10 percent level of significance. Further Islamic banks/Institution are improving their operational efficiency and encourages or educate customers about economic risk and for better policy developments also Islamic banking professional and stakeholders aiming to enhance the strategic management of murabahah financing in Pakistan’s Islamic Financial sectors.</p>
<p><b>Keywords:</b></p>	<p>GDP Growth Rate, Inflation Rate, Interest Rate, GDP Per Capita, Advances To Deposit Ratio And NPL, Murabahah Financing.</p>



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### Introduction

#### Background

Murabahah financing is the transactions of the sale of goods by stating the acquisition price and profit (margin) agreed upon by the seller and the buyer. Here are some of the references. The application of the Murabahah financing has found most extensive one as compare to other Shariah modes among commercial banks in Pakistan (Sharif, 2021). Murabahah financing is based on the cost plus profit sale contract that requires the disclosure of the cost of the goods along with margin applied in the form of profit with compliance to the Shariah principals (Ahmed, 2020). There are number of factors underlying the success of the Murabahah based financing including cultural and religious aspects, regulatory support, market awareness, economic and business aspects along with its feasibility to meet up business needs in Shariah compliant manner (Usmani, 2019).

Literature has reported that Pakistan is a country with majority of Muslims and adherence to the Islamic principles. Hence the input of the aggregate demand with an alternative option to consider in comparison to conventional solution have made Murabahah a popular option in Islamic banking system (Imam & Kpodar, 2014, Farah et al. 2024). The simple structure and its management among Islamic banking firms also found as a critical factor of Murabahah based financing's popularity (Chapra, 2008). The regulatory input also found as a critical element in determination of the promotion of the Islamic banking practices and Shariah based solutions to replace conventional tools (Iqbal & Mirakhor, 2007).

#### Problem Statement

The post COVID-19 condition significant diverted the attention of the professional and the associated bodies also on the Islamic banking firms. This has also brought up with the empirical and qualitative investigation to understand the performance of the Islamic banking firms during and post COVID-19 along with consideration of the risk dynamics (Hidayat, 2024). An empirical study revealed that macroeconomic factors significantly input in determination of the demand also for the Islamic banking solutions including Murabahah based financing but found missing with collective investigation along with bank specific factors (Hafizh & Ajmadayana, 2023).

The recent decade has been observed with high inflation in Pakistan as its results impact on the policy rate of the country. This brought up with the tough economic condition for the country along with its role in the expansion rate of the Islamic banking firms not only but also the growth rate of the Islamic banking institution however it found lacking to investigate also with bank specific factors in investigation (Khan, 2018, Farah et al. 2024). As Murabahah represents the major portion of the Islamic banking firms hence the probable impact on the Murabahah portfolio observed with critical outcomes (Karim, 2016, Farheen et al. 2025). As Murabahah financing is based on fixed pricing, However, the fixed pricing structure, in worse economic conditions, observed welcoming for customer already having with the Islamic financial solution hence observed with its positive role to better manage with financial commitments during periods of inflation (Karim, 2016). The literature in case of Pakistan has found missing with sufficient level of empirical investigation to examine it. In this reference problem statement of the study has described below.

*“To investigate the impact of the macroeconomic factors in the determination of the performance of the Murabahah financing among Islamic banking firms/ Institution in Pakistan”*

#### Gap Analysis

The economy of a country is built on two sectors which are the real and monetary sectors. The real sector is the economic sector that depends on the manufacturing and the services sectors, while the monetary sector depends on the banking sector (Adeusi, Aluko and Other, 2015). The input of the financial sector is important to determine economic dynamics of a country and with historically the importance of the Islamic financial solutions over the period in response of experiences financial crises of the conventional mechanism however empirical studies on Islamic financial solution found not sufficient in lieterature specially concentrated study on Islamic mode of financings (Jundi, 2022). Ali and Miftahurroham (2016) said that the Murabahah agreement allows different price quotes for different payment prices before the Murabahah agreement is carried out. When the contract has been agreed upon then there is only one price however the input of macroeconomic factors in its growth determination found less attended (price of the contract used).

#### Research Objective

The research objective of the current study is it empirically investigated the role of the bank specific and macroeconomic specific factors in determination of Murabahah financing. This study helps to empirically investigated the role of macroeconomic factors like GDP growth rate, Inflation rate Interest rate and GDP per capita in the determination of the Murabahah Financing among Islamic banking firms in Pakistan. Similarly, the current study also examines the role of bank specific factors like advances to deposit ratio and NPL Ratio also in the determination of the Murabahah Financing among Islamic banking firms in Pakistan.



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### Research Questions

The research questions of the current study are based on research objectives are mentioned below.

1. What is the impact of the GDP growth rate in the determination of the Murabahah Financing among Islamic banking firms in Pakistan?
2. What is the impact of the Inflation rate in the determination of the Murabahah Financing among Islamic banking firms in Pakistan?
3. What is the impact of the Interest rate in the determination of the Murabahah Financing among Islamic banking firms in Pakistan?
4. What is the impact of the GDP per capita in the determination of the Murabahah Financing among Islamic banking firms in Pakistan?
5. What is the impact of the advances to deposit ratio in the determination of the Murabahah Financing among Islamic banking firms in Pakistan?
6. What is the impact of the NPL Ratio in the determination of the Murabahah Financing among Islamic banking firms in Pakistan?

### Research Significance

The significance of the current study are multi-dynamics. This study helps the study of the finance and especially Islamic finance to understand with the role of the macroeconomic factors in the determination of the Murabahah based financing solutions in Pakistan. This study also attracts the attention of the researchers to bring up with more inside investigation to bring up with more valued insights in the existing body of literature and its role in the determination of the better industrial practices. Niswatin and Ivan Rahmat Santoso (2025) This study also helps the regulatory to understand with the ground realities and sensitivity of the macroeconomic factors to Murabahah based financing solutions in Pakistan to come up with constructive policy inputs. This study also helps Islamic financial sector professionals to execute their role in an efficient manner to ensure its role in better outcomes in upcoming brighter time of the Islamic banking industry in Pakistan.

### Research Scope

The current research study is focused on the Islamic banking industry in Pakistan to investigate the phenomenon and explain the role of the macroeconomic and bank specific indicators in the determination of the Murabahah based financing performance among Islamic banking firms in the Pakistan. The study focusses the data of 10 years of Four Islamic banking institutions in the country and perform the empirical analysis. The data is collected on annual basis for the selected variables and perform the analysis using panel regression technique with support of the E-views as statistical software. Niswatin and Ivan Rahmat Santoso (2025) The tests is performed at 5 percent level of significance, by using annual reports data of mentioned Islamic banks which Includes (Meezan Bank, Bank Islami, Dubai Islamic Bank and Bank Albaraka) and then the data is downloaded and then consolidated in excel sheet. Furthermore, the State Bank of Pakistan website also accessed to collect the annual data for the macroeconomic indicators for the current research investigation.

### Literature Review

#### Theoretical Review

The key concern of Islamic financial firms is to strictly restrain from the interest based practices in banking transactions. The Islamic financial institutions are globally operating under the standard published by Accounting and Auditing Organization of Islamic Financial Institution (AAOIFI) (Putri & Putri, 2023). The experiences of global financial crises over the period found with deteriorating impact on economies specially developed one with an increased incidence of poverty. This also raised up with search of solutions for an alternative financial system where Islamic financial system has with its prominence (Hidayat, 2024, Farheen et al. 2025). The global demand for the interest free financial is gradually increasing over the period and identified as a tool for stimulation to economic growth and prosperity of humanity (Virdausa, Widiyanti & Avicennayanti, 2023).

#### GDP Growth Rate

GDP growth rate is basically the increase/Decrease in a country Gross Domestic product in a specific period. This basically indicates the economic expansion or contraction. Following of the references are as below. Literature has described GDP as gross domestic production and its growth rate is measured on annual basis in percentage form with an increase in economic output of a country. It translates the economic health of a country with its expansion rate and considered as a critical indicator for policymaker to consider in policy making and understanding the policy outcome along with an element of attention for the investors and economists (Jundi, 2022).

The GDP growth rate is computed by comparison of current year GDP to past year that is often adjusted for inflation and expressed as real GDP in order to avoid distortion by price variations (Bawono, Ulinnuha & Nasikin, 2021). An empirical study has revealed that a positive GDP growth rate shows that economy is expanding and prospering while the vice-versa condition shows economic contraction. There is different theoretical explanation of the GDP growth rate described by Keynesian and classical



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economic models (Adebesin, 2024). On the other hand, the classical model states that there should be minimal government involvement with major reliance on the natural mechanisms of supply and demand to drive economic expansion i.e. GDP growth (Nouman et al, 2022).

### **Inflation Rate**

Inflation rate is another macroeconomic indicator like GDP growth rate and it is generally referred as general level of process of goods and services reported with high consumer's purchasing power. Following of the references from different articles are as follow, there are number of price indexes that are used to compute the inflation rate including consumer price index (CPI), wholesale price index (WPI), producer price index (PPI) and sensitivity price index (SPI) (Sharif, 2021). CPI has found more concrete and its implications in literature to examine its role in determination of macroeconomic and industry specific conditions (Ahmed, 2020). The inflation rate has found of close attention for the policy makers and regulatory body to examine the cost of living, real income and overall status of the economic stability (Iqbal & Mirakhor, 2011).

### **Interest Rate**

Interest rate is basically the cost of borrowing money expressed as a percentage of the amount borrowed over a specific time period. Following of the references are mentioned below, interest is a very important factor to determine the cost of borrowing and return on investment opportunities. This is commonly presented as a percentage of principal amount and contribute with its significant input in performance of the financial market and determination of the economic activities (Hayady, Anggraini & Daulay, 2023). The interest rate also determines with its influence over decision in term of consumption, savings and investment for individuals and businesses (Nikmah & Hidayati, 2022). The input of the central bank is primary in determination of the interest rate and act as a tool with definition of the discount rate of banking funds. The role of the interest rate also found influenced with supply and demand of money in a country.

### **Murabahah Financing**

Murabahah financing is basically an Islamic financing where a bank or a financial institution purchase an asset on behalf of client and then sell it to the client with the profit margin. Further this contains No Interest charge, Pre agreed profit margin and on installment basis. Followings are the different references taken from different articles are as follow. The Murabahah financing is a type of Islamic finance Shariah mode that comes up with the purchasing of an assets by a financial institution on spot and then its resale to the borrower on the deferred payment basis in installments with additional of the fixed profit amount on the cost of purchase (Bawono, Ulinuha & Nasikin, 2021). Murabahah financing comparative to the conventional financing avoid interest that is strictly prohibited in Islam (Abbasi & Siddiqui, 2024). In Murabahah financing profit margin is predetermined and agreed upon by both contracting parties (Rafika & Wardana, 2023, Niswatin and Ivan Rahmat Santoso (2025)).

Murabahah financing not only overcome the concerns regarding the prohibition of interest-based transactions but also excessive uncertainty (gharar) or activities considered harmful to society (haram) (Hafizh & Ajmadayana, 2023). The Murabahah financing emphasis on the transparency and fairness in transaction with the seller's profit margin clearly defined (Hayady, Anggraini & Daulay, 2023). Murabahah financing is a transaction of trade instead of loan. The Murabahah transaction bind the seller's profit to value of goods being sold to ensure that financial transactions are backed by tangible assets. On the contrary, in conventional lending money being lent for money (Hidayat, 2024). Another study also revealed that Murabahah financing helps to ensure equity and fairness among the participants (Febrianti et al, 2024).

### **GDP per Capita**

GDP per capita is basically the Total GDP divided by the total population and it measure the standard of Living or the economic well-being. GDP per capita is an important macroeconomic indicator and extensively investigated in literature to understand its role in the determination of the economic well-being and economic performance (Abbasi & Siddiqui, 2024). The input of the GDP per capita is also very important in understanding the standard of living in a country and ability to manage with the expenditures. It has also found with its role in the determination of the aggregate demand. GDP per capita represent the average economic output per person (Alsouri, Barakat & Yamin, 2023). GDP per capita is computed by dividing a country's Gross Domestic Product (GDP) to its population (Virdausa, Widiyanti & Avicennayanti, 2023).

### **Advances to Deposit Ratio**

Advance to deposit ratio is the proportion of Bank loans given to customer compared to the total deposits it received. Advances to deposit ratio is another important variable to understand with its role in the determination of the performance of the financial sector (Adebesin, 2024). The advances to deposit ratio is extensively investigated in literature with its role in definition of the financial sector performance (Hayady, Anggraini & Daulay, 2023). Advances to deposit ratio helps to examined the financial metric in assessing the firm level liquidity and lending behavior of the bank (Putri & Putri, 2023). The computation of the advances to the deposit ratio comes up with the division of the bank's total advances (loans) net of provision to its total deposits (Iqbal & Mirakhor, 2011).

### **NPL Ratio**

NPL ratio is basically showing the percentage of loans that are close to being in default as compared to the total loan portfolio. Among number of bank specific factors there is also significant role of the non-performing loans in the examination of the financial health of the bank and its loan portfolio performance (Febrianti et al, 2024). NPL shows the portion of the advances that are nonperforming and burden to the bank (Sharif, 2021). NPL also shows the quality of the lending portfolio of the bank and its lending practices (Ahmed, 2020, Farah et al. 2024). Literature has reported the computation of the NPL by dividing the non-performing loans of the bank to its total loans outstanding (Usmani, 2019). There is different classification of the non-performing loans described under different financial regulatory regimes in different countries (Khan, 2018).

There are different buckets of the non-performing loans defined in the financial regulation to understand its criticalness to the overall loan portfolio (Mollah & Lipy, 2020). Another study revealed that a higher NPL ratio brings up with a condition to the bank where bank experience with the significant level of the bad loans (Abbasi & Siddiqui, 2024). The impact of the bad loan is found on the banking firm's financial health and its ultimate impact on the banking firm's profitability (Alsouri, Barakat & Yamin, 2023). There is also an important role of the non-performing loans in the determination of the credit risk and the portfolio effectiveness based on the banking firm's lending practices. This also shows the banking firm's risk management practices and strategies (Virdausa, Widiyanti & Avicennayanti, 2023).

### **Hypotheses Development**

#### **GDP Growth Rate & Murabahah Financing**

There is significant importance of the macroeconomic indicators in the determination of the progression of the economic activities along with the role of the financial sector in it (Karim, 2016). Literature has reported that there is significant correlation of the Islamic banking portfolio growth to the GDP growth rate of a country (Imam & Kpodar, 2014, Farheen et al. 2025). Among Islamic banking products, Murabahah financing has been observed of greater share around 60 to 70 percent of the portfolio hence observed with the significant role of the GDP growth rate in its determination (Usmani, 2019). Murabahah financing has been described as cost plus financing Islamic structure with its significant association to the overall performance of the Islamic banking institutions (Iqbal & Mirakhor, 2011). Murabahah financing has observed with the business feasibility to finance working capital needs hence found with the significant correlation to the GDP growth rate of the country (Ahmed, 2020).

*H1: There is a significant impact of the GDP growth rate in the determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.*

#### **Inflation Rate & Murabahah Financing**

Literature has found with this significant volatility to the macroeconomic factors with critical aspects need to be considered to determine its role in understanding economic prosperity (Rafika & Wardana, 2023). Murabahah financing comes up with purchase of goods or assets by businesses and individuals to avail financing option at fixed marked-up rate decided at the time of the contractual agreement between the parties (Hafizh & Ajmadayana, 2023). Literature has reported with active use of consumer price index (CPI) in assessing the inflation and its impact on the financial sector performance overall (Hayady, Anggraini & Daulay, 2023). There is significant association also found of the inflation to the Murabahah financing of Islamic banks. Another study revealed that inflation often lead to an increase in overall price level of goods and services (Putri & Putri, 2023). Another study reported that an increase in inflation comes up with an increase in price level including assets in list of purchase of firm and individuals that are intended to financing using Murabahah based financing solutions (Virdausa, Widiyanti & Avicennayanti, 2023).

*H2: There is a significant impact of the Inflation rate in the determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.*

#### **Interest Rate & Murabahah Financing**

Murabahah financing has found free of interest i.e. Riba with its fixed pricing mechanism and a substitute to the conventional interest rate (Virdausa, Widiyanti & Avicennayanti, 2023). There is a significant competition to the Islamic banks in the Pakistan from conventional banks. There is an implicit link between the cost of Murabahah financing and the interest rate environment in financial sector (Saputra, Zulpahmi & Fitriyanto, 2023). Although Murabahah contract is based on the fixed pricing structure while Islamic banks are often found with adjustment of their Murabahah margins in response to changes in the central bank's policy rate (Nikmah & Hidayati, 2022). The policy rate has found its impact on the cost of funds for both the conventional and Islamic banks. State Bank of Pakistan has reported with the setting of the profit margin that is also considered by the Islamic banking firms to meet up market condition like found in Murabahah financing (Hafizh & Ajmadayana, 2023, Farah et al. 2024). However, the deficiency of the truly distinguished Islamic financial market found with complications to depict the true spirit of the Islamic financing solutions from interest rate fluctuations. This has found with the price-sensitivity of Murabahah financing to macroeconomic conditions and benchmarks like the Karachi Interbank Offered Rate (KIBOR) (Abbasi & Siddiqui, 2024).

*H3: There is a significant impact of the interest rate in the determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.*

### Murabahah Financing & GDP per Capita

The connection between GDP per capita and economic growth is well-established, and its impact on the financial sector, including the growth of various financing models, cannot be overlooked. GDP per capita influences financial stability and access to financing options, which directly affects the demand for Islamic financing products such as Murabahah (Febrianti et al, 2024). Murabahah financing, a Sharia-compliant asset-based financing mechanism, grows in economies with higher GDP per capita, as people have more disposable income and businesses expand (Sharif, 2021). With higher levels of economic output and individual wealth, individuals and corporations are more likely to seek financing options that align with Islamic principles, including Murabahah (Hidayat, 2024). Thus, as GDP per capita rises, the demand for ethical and Sharia-compliant financing, such as Murabahah, is likely to increase, creating a positive correlation between economic prosperity and the growth of Islamic finance (Usmani, 2019).

*H5: There is a significant impact of the GDP per Capita in the determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.*

### Murabahah Financing & Advances to Deposit Ratio

In the context of Murabaha financing, the ADR becomes even more significant. Murabaha, a common Islamic financing structure, involves a bank purchasing goods on behalf of a customer and selling them at a marked-up price (Abbasi & Siddiqui, 2024). The bank's ability to assess its ADR is critical in managing the liquidity necessary for such transactions (Alsouri, Barakat & Yamin, 2023). A high ADR might indicate that the bank is extending more credit through Murabaha transactions, which could enhance profitability but also increase exposure to liquidity risks if too many customers default or if the bank cannot liquidate assets efficiently (Virdausa, Widiyanti & Avicennayanti, 2023). Conversely, a low ADR may suggest that the bank is exercising caution in its Murabaha financing activities, maintaining liquidity buffers to ensure financial stability (Putri & Putri, 2023).

*H6: There is a significant impact of the advances to deposit ratio in the determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.*

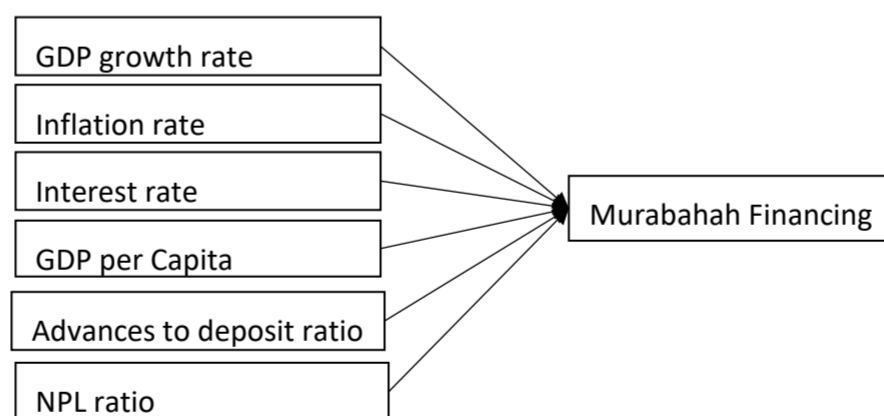
### Murabahah Financing & NPL Ratio

The significant role of Non-Performing Loans (NPLs) remains central to evaluating the financial health of a bank and the performance of its loan portfolio among the number of bank-specific factors (Febrianti et al., 2024). NPLs represent the portion of loans that are non-performing, imposing a burden on the bank (Sharif, 2021). Additionally, they reflect the quality of a bank's lending portfolio and its lending practices (Ahmed, 2020, Niswatin and Ivan Rahmat Santoso (2025)). As the literature suggests, the calculation of NPL is typically done by dividing the non-performing loans by the total loans outstanding (Usmani, 2019). Moreover, various financial regulatory regimes worldwide have different classifications of NPLs, with specific buckets defined to measure the criticalness of these loans to the bank's overall portfolio (Khan, 2018; Mollah & Lipy, 2020).

*H7: There is a significant impact of the NPL ratio in the determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.*

### Conceptual Framework

There conceptual framework of the current study has mentioned below.



**Figure 2.1: Conceptual Framework**

### Research Methodology

Research philosophy has described as foundational belief and approach that guide the process of research conductance that encompasses methodologies like positivism, Interpretivism, realism, and pragmatism. The current study aims to empirically investigate the impact of the GDP growth rate, interest rate, GDP per capita and inflation rate as macroeconomic indicators in determination of the Murabahah financing along with bank specific factors like advances to deposit ratio and NPL ratio hence positivism matches the scope of the present study. The positivism research philosophy emphasis on the observable, empirical data and seeks to establish causal relationships using quantitative methods (Imam & Kpodar, 2014). This proceed with the collection of the macroeconomic data for the variables like interest rates, inflation and GDP to analyze the impact on the



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Murabahah financing through application of the statistical techniques and its assessment with testing of the constructed hypotheses. The Positivism focuses on the objectivity and generalization of the findings based on the measurable outcomes. The current study aims to investigate the empirical impact of the GDP growth rate, interest rate, GDP per capita and inflation rate on Murabahah financing along with bank specific factors like advances to deposit ratio and NPL ratio hence based with the deductive approach. Those past conducted studies and theories have been used to construct hypotheses and test using the statistical techniques.

### Research Design

Research strategy has described as plan or approach to achieve the research objective. There are multiple research objectives used literature based on the nature of the data (Nikmah & Hidayati, 2022). As the current study is using with the secondary published data on GDP growth rate, inflation rate, GDP per capita, advances to deposit ratio, NPL ratio and Murabahah portfolio therefore, it clearly shows that the current study is quantitative in nature and based on this the most suited research strategic to meet up the research objectives of the current study is grounded theory as it is based on the existing theory to explore the correlation between the set of variables with the application of the statistical technique and exploring the findings with hypotheses testing. The current study is performed with the consideration of the cross-sectional aspects as the data collection process is done at point of time to run the statistical techniques on the developed model and extract the results to test the developed hypotheses (Virdausa, Widiyanti & Avicennayanti, 2023). Furthermore, this also fulfill the requirement of the current study without any dependency. This represent the collected data is panel in nature.

### Research Techniques & Procedures

The targeted population of the present research study is the Islamic banking institutions in Pakistan which Includes Meezan Bank, Bank Islami, Dubai Islamic and Bank Albaraka. The Islamic banking industry in Pakistan is regulated under SBP regulations. Furthermore, banking industry of the country is operating a well-segmented structure including commercial banks i.e. conventional and Islamic banks, specialized banks, microfinance banks and other financial institutions. The dominant in the Islamic industry include Meezan Bank, Bank Islami, Dubai Islamic bank and Al Barakah bank. The current study uses the non-probabilistic sampling technique and includes only those banking institutions from the targeted population having purely Islamic banking practices. Further the current study only includes those financial institutions who have atleast greater than 10 years in the Islamic banking practices. The study includes those banks/ Institutions who more then 70% of Islamic banking operations or having Islamic banking windows. The current study has selected with sample size of 4 listed Islamic banks having Islamic banking portfolio either fully or partially. Furthermore, the data is collected for 10 years on annual basis from 2014 to 2023 for the Murabahah financing from annual reports and SBP website and banks own website.

### Research Model & Data Analysis Technique

The research model of the present study has mentioned below.

$$\text{MURBF} = \beta_0 + \beta_1 \text{GDPGR} + \beta_2 \text{INFRT} + \beta_3 \text{EXHRT} + \beta_4 \text{INTRT} + \beta_5 \text{GDPCAPITA} + \beta_6 \text{ADVDEPRATIO} + \beta_7 \text{NPLRATIO} + \text{Error Term}$$

Where,

GDPCAPITA = GDP per Capita

ADVDEPRATIO = Advances to Deposit Ratio

NPLRATIO = NPL Ratio

MURBF = Murabahah Financing

GDPGR = GDP Growth Rate

INFRT = Inflation Rate

INTRT = Interest Rate

As the data of the present study is panel in nature i.e. having both time series and cross-sectional attributes? The time series aspect is explained as data is collected for more than one year while the cross sectional aspect is explained as data is collected for more than single banking firm. This shows the panel nature of the data. Hence, the data is applied with the panel regression technique and applied for the hypotheses testing at 5 percent level of significance. The least square panel model is also tested for the appropriateness with application of the Hausman Test either the model is fixed or random in nature. In addition, descriptive statistics are also explored to explain the data behavior.

The data is applied with statistical technique on the E-Views as a software.

### Result & Discussion

#### Descriptive Statistics

The below table clearly shows that the mean values of Murabahah Financing, GDP Growth Rate, GDP Per Capita, Inflation Rate, Interest Rate, Advances to Deposit Ratio and NPL Ratio reported 15.28, 3.32, 218.94, 10.31, 10.45, 60.68, 19.76 respectively. Similarly, the median value of Murabahah Financing, GDP Growth Rate, GDP Per Capita, Inflation Rate, Interest Rate, Advances to Deposit Ratio and NPL Ratio reported 14.57, 4.33, 205.71, 8.35, 9.38, 58.41 and 13.15 respectively. In addition, the maximum value for Murabahah Financing, GDP Growth Rate, GDP Per Capita, Inflation Rate, Interest Rate, Advances to Deposit Ratio and NPL Ratio reported 30.97, 6.57, 394.45, 30.77, 22.00, 86.16 and 78.37 respectively. Furthermore, the minimum value for Murabahah Financing, GDP Growth Rate, GDP Per Capita, Inflation Rate, Interest Rate, Advances to Deposit Ratio and NPL Ratio reported 3.25, -4.77, 131.73, 2.53, 5.75, 40.86 and -10.55 respectively. Similarly, the standard deviation for Murabahah Financing, GDP Growth Rate, GDP Per Capita, Inflation Rate, Interest Rate, Advances to Deposit Ratio and NPL Ratio reported 6.97, 3.52, 80.62, 8.41, 5.07, 13.52 and 22.09 respectively.

**Table 4.1:** *Descriptive Statistics*

	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
Murabahah Financing	15.28	14.57	30.97	3.25	6.97	40
GDP Growth Rate	3.32	4.33	6.57	-4.77	3.52	40
GDP Per Capita	218.94	205.71	394.45	131.73	80.62	40
Inflation Rate	10.31	8.35	30.77	2.53	8.41	40
Interest Rate	10.45	9.38	22.00	5.75	5.07	40
Advances To Deposit Ratio	60.68	58.41	86.16	40.86	13.52	40
NPL Ratio	19.76	13.15	78.37	-10.55	22.09	40

#### Correlation Matrix

The below table shows that there is significant Pearson correlation of Murabahah financing to GDP growth rate, GDP per Capita, Inflation, Interest Rate, Advances to Deposit Ratio and NPL ratio of 0.0329, -0.0294, -0.0261, 0.0132, 0.3959 and 0.2678 respectively. Similarly, there is also significant Pearson correlation GDP growth rate to GDP per Capita, Inflation, Interest Rate, Advances to Deposit Ratio and NPL ratio of -0.5866, -0.7078, -0.5806, 0.2497 and 0.3305 respectively. The study also showed that there is significant Pearson correlation GDP per Capita to Inflation, Interest Rate, Advances to Deposit Ratio and NPL ratio of 0.9527, 0.9096, -0.1878 and -0.4220 respectively. In addition, the study also showed that there is significant Pearson correlation Inflation to Interest Rate, Advances to Deposit Ratio and NPL ratio of 0.9475, -0.2647 and -0.3985 respectively. Furthermore, there is also significant Pearson correlation Interest Rate to Advances to Deposit Ratio and NPL ratio of -0.1974 and -0.4028 respectively. At last there is also significant Pearson correlation of NPL Ratio to advances to deposit ratio of 0.1047. These all Pearson correlation association found significant at 5 percent level of significance.

**Table 4.2: Pearson Correlation Matrix**

	Murabahah Financing	GDP Growth Rate	GDP Per Capita	Inflation Rate	Interest Rate	Advances to Deposit Ratio	NPL Ratio
Murabahah Financing	1.0000						
GDP Growth Rate	0.0329	1.0000					
GDP Per Capita	-0.0294	-0.5866	1.0000				
Inflation Rate	-0.0261	-0.7078	0.9527	1.0000			
Interest Rate	0.0132	-0.5806	0.9096	0.9475	1.0000		
Advances to Deposit Ratio	0.3959	0.2497	-0.1878	-0.2647	-0.1974	1.0000	
NPL Ratio	<u>0.2678</u>	<u>0.3305</u>	<u>-0.4220</u>	<u>-0.3985</u>	<u>-0.4028</u>	<u>0.1047</u>	<u>1.0000</u>

### Hausman Test

The below Hausman test clearly shows that the preferred model in between random effect model and the fixed effect model is the random effect model as the value of the test observed higher than 0.05 hence null hypothesis accepted that the panel model is random effect model.

**Table 4.3: Hausman Test**

### Correlated Random Effects - Hausman Test

Equation: Untitled

Test period random effects

Test Summary

	Chi-Sq. Statistic	Chi-Sq. d.f.	
Period random	0.481076	2	0.7862

### Random Effect Model

The below table clearly shows that the overall model is accepted at the 5 percent level of significance with the probability value of 0.01476 of the F-statistics with value of 3.1103. Furthermore, R-square value observed 0.4374 that shows that selected independent variables has moderate impact on the Murabahah financing in the Pakistani Islamic Banking market. The coefficient values show that there is significant impact of the change in GDP growth rate, change in GDP per capita, change in inflation rate, change in interest rate and NPL ratio on Murabahah financing at 5 percent level of significance with the significance value of 0.0000, 0.0085, 0.0001, 0.0017 and 0.0000 respectively. The coefficient values for change in GDP growth rate, change in GDP per capita, change in inflation rate, change in interest rate and NPL ratio on Murabahah financing reported -0.4864, 0.0.613, -0.5212, 0.5206 and 0.145 respectively. However, the impact of the change in advances to deposit ratio and lag variable of Murabahah financing observed insignificant at even 10 percent level of significance.

**Table 4.4: Random Effect Model**

**Dependent Variable: D(MURABAHAFINANCING)**

**Method: Panel EGLS (Period random effects)**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDPGRWTHRATE	-0.486421	0.039670	-12.26183	0.0000
D(GDPPERCAPITA)	0.061359	0.021666	2.832055	0.0085
D(INFLATIONRATE)	-0.521286	0.110552	-4.715312	0.0001
D(INTERESTRATE)	0.520684	0.150361	3.462882	0.0017
D(ADVANCESTODEPRATIO)	-0.035500	0.045798	-0.775135	0.4448
NPLRATIO	0.145238	0.014857	9.775452	0.0000
MURABAHAFINANCING(-1)	-0.207419	0.139845	-1.483203	0.1492
C	1.033376	2.379608	0.434263	0.6674
R-squared	0.437437	Mean dependent var		0.138889
Adjusted R-squared	0.296796	S.D. dependent var		5.621926
S.E. of regression	4.714394	Sum squared resid		622.3142
F-statistic	3.110310	Durbin-Watson stat		1.932627
Prob. (F-statistic)	0.014763			

### Discussion

The overall study revealed that there is significant impact of change of NPL Ratio on the Murabahah financing portfolio as observed with positive correlation at 5 percent level of significance. Based on the transparent nature of Murabahah contracts, banks and borrowers agree upon the cost and profit margin upfront, reducing the risk of non-payment (Zaher & Hassan, 2001, Farah et al. 2024). This results in an increased demand for the Murabahah financing. When NPL ratio of the banks are in growing phase to prefer to lend on Islamic contract and Murabahah financing is among those hence observed with positive relationship between NPL ratio and Murabahah financing (Febrianti et al., 2024). Theories have also revealed that a higher NPL ratio suggests an increase in default rates, which could lead financial institutions to become more cautious, potentially affecting their Murabahah financing portfolio, especially if banks face higher risks. This would manifest as a positive correlation with the portfolio, as changes in NPLs might reflect more stringent lending policies (Sharif, 2021).

Given that Murabahah is backed by tangible assets, it inherently reduces the likelihood of loan defaults. By avoiding the complexities associated with interest-based loans, which are prone to higher default risks due to fluctuating repayment schedules, Murabahah transactions provide a clear and fixed repayment structure (Elgari, 2016). In addition, banks and financial institutions monitor NPL ratios closely, as an increase in NPLs signifies a greater risk of losses. This leads to more conservative lending behavior, including in Murabahah financing, which relies on asset-backed transactions. Consequently, higher NPL ratios result in a reduced willingness to extend financing, impacting the portfolio's performance (Mollah & Lipy, 2020). Additionally, the clear terms of Murabahah agreements ensure that both parties have a shared understanding of the financial obligations, fostering stronger repayment behavior from borrowers (Ayub, 2018).

The overall study revealed that there is significant impact of change of GDP per capita on the Murabahah financing portfolio as observed with positive correlation at 5 percent level of significance. Theories have revealed that GDP per capita reflects the average income level of citizens in an economy (Alsouri, Barakat & Yamin, 2023). A higher GDP per capita implies a wealthier population with greater disposable income, which can support the repayment capacity of borrowers, thus fostering a positive relationship with Murabahah financing portfolios (Putri & Putri, 2023). Practically, as the income levels rise, consumers and businesses are more likely to engage in financial transactions, including Murabahah financing, because they have better financial stability (Adebesin, 2024).

Financial institutions are more willing to offer such products when the economic environment is strong, leading to a positive correlation with the Murabahah portfolio (Febrianti et al, 2024). Murabahah financing, a Sharia-compliant asset-based financing mechanism, grows in economies with higher GDP per capita, as people have more disposable

income and businesses expand (Sharif, 2021). With higher levels of economic output and individual wealth, individuals and corporations are more likely to seek financing options that align with Islamic principles, including Murabahah (Hidayat, 2024, Niswatin and Ivan Rahmat Santoso (2025)). Thus, as GDP per capita rises, the demand for ethical and Sharia-compliant financing, such as Murabahah, is likely to increase, creating a positive correlation between economic prosperity and the growth of Islamic finance (Usmani, 2019).

When inflation rises, borrowers' financial conditions weaken, making it harder to repay loans, including Murabahah financing in practical terms. Financial institutions may also face higher operational costs, and the rising cost of goods and services can discourage investment, leading to a decrease in Murabahah financing demand and a negative impact on the portfolio (Rafika & Wardana, 2023). There is significant association also found of the inflation to the Murabahah financing of Islamic banks. Another study revealed that inflation often lead to an increase in overall price level of goods and services (Putri & Putri, 2023). Another study reported that an increase in inflation comes up with an increase in price level including assets in list of purchase of firm and individuals that are intended to financing using Murabahah based financing solutions (Virdausa, Widiyanti & Avicennayanti, 2023).

The overall study revealed that there is significant impact of change of interest rate on the Murabahah financing portfolio as observed with positive correlation at 5 percent level of significance. Literature has reported that Murabahah financing is a non-interest-based product, the overall interest rate environment can influence demand for Islamic financing products (Virdausa, Widiyanti & Avicennayanti, 2023). A rise in interest rates on conventional loans could increase the relative attractiveness of Murabahah financing, causing an expansion in its portfolio. Similarly, a higher interest rates on conventional loans may drive borrowers toward alternative financing options, such as Murabahah, which does not rely on interest. As such, financial institutions may see an increase in demand for Murabahah financing, resulting in a positive correlation with interest rates (Nikmah & Hidayati, 2022).

The overall study revealed that there is significant impact of GDP growth rate on the Murabahah financing portfolio as observed with negative correlation at 5 percent level of significance. This is because growth rate may result in shift toward equity based financing options hence reduces the reliance on short term Murabahah financing. This also results in encouragement of profit-sharing models over fixed-cost structures among businesses. (Hafizh & Ajmadayana, 2023). Similarly, an increased GDP growth rate often compels financial institutions to offer alternative solutions to customers to diversify the risk and portfolio mix (Abbasi & Siddiqui, 2024).

**Table 5.1: Hypotheses Summary**

Sr. Hypotheses	Sig.	Comments
1	0.1137	Rejected
<i>H1: There is a significant impact of the GDP growth rate in the determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.</i>		
2	0.0041	Accepted
<i>H2: There is a significant impact of the Inflation rate in the Hypotheses determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.</i>		
3	0.0186	Accepted
<i>H3: There is a significant impact of the interest rate in the Hypotheses determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.</i>		
5	0.0499	Accepted
<i>H4: There is a significant impact of the GDP per Capita in the Hypotheses determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.</i>		
6	0.4644	Rejected
<i>H5: There is a significant impact of the advances to deposit ratio in the determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.</i>		
7	0.0000	Accepted
<i>H6: There is a significant impact of the NPL ratio in the Hypotheses determination of the Murabahah finance performance among Islamic banking institutions in Pakistan.</i>		



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### Conclusion

The study investigated the empirical impact of the macroeconomic and bank specific factors in the determination of the performance of the Murabahah financing among Islamic banking firms in Pakistan. The study adopted with the quantitative research approach and collected with the secondary data on the selected variables as mentioned above in chapter 3 on annual basis. The annual reports of the listed firms and State Bank of Pakistan website visited to collect the information for the selected variables. The study followed with the random sampling and targeted the banking industry. The study took 4 banking firms for the period 2014 to 2023 for the data consolidated. The collected data is applied with the panel regression technique using E-views as software. The extracted results are tested again the constructed hypotheses.

The results of the study clearly revealed that overall model is accepted at the 5 percent level of significance with the probability value of 0.01476 of the F-statistics with value of 3.1103. Furthermore, R-square value observed 0.4374 that shows that selected independent variables has moderate impact on the Murabahah financing in the Pakistani Islamic Banking market. The coefficient values show that there is significant impact of the change in GDP growth rate, change in GDP per capita, change in inflation rate, change in interest rate and NPL ratio on Murabahah financing at 5 percent level of significance with the significance value of 0.0000, 0.0085, 0.0001, 0.0017 and 0.0000 respectively. The coefficient values for change in GDP growth rate, change in GDP per capita, change in inflation rate, change in interest rate and NPL ratio on Murabahah financing reported -0.4864, 0.0.613, -0.5212, 0.5206 and 0.145 respectively. However, the impact of the change in advances to deposit ratio and lag variable of Murabahah financing observed insignificant at even 10 percent level of significance

### Recommendations

The set of recommendations designed based on the current study are mentioned below. Financial institutions should focus on increasing total deposits to boost Murabahah financing availability, as the study highlights its positive influence on financing growth. Institutions need to consider their asset management strategies, as the negative relationship with Murabahah financing indicates that higher assets might reduce financing potential. (Farah et al. 2024) Companies should maintain profitability, as the significant positive relationship with Murabahah financing suggests that higher profits may lead to more financing opportunities. The interest rate significantly impacts Murabahah financing, so businesses should monitor interest rate trends and adjust their financing strategies accordingly. The negative impact of inflation on Murabahah financing emphasizes the importance of controlling inflation to maintain stable financing growth. Policymakers and financial institutions should promote economic growth, as higher GDP growth positively affects Murabahah financing availability, fostering financial stability. Policymakers should prioritize inflation control to prevent adverse effects on Murabahah financing, as high inflation negatively impacts the financing's viability. (Farheen et al. 2025). Companies should optimize asset liquidity, as excessive assets can negatively affect financing opportunities, impacting the overall financial ecosystem. Continuous monitoring of GDP, inflation, and interest rate trends is crucial for organizations to align their Murabahah financing strategies with macroeconomic conditions. The current study can be extended to understand the impact of each set of variables of different mode of Shariah financing along with cross regional assessment to bring up with more valuable insight in exploring the phenomenon.

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