

The Empirical Study On Determinants Of Share Valuation: A Study Of National Bank Of Pakistan

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ABSTRACT

This study is attempted to identify the factors affecting the share valuation in the Banking sector with focus on National Bank of Pakistan. The data related to internal factors for the period 2000 to 2019 were obtained from the annual reports of State Bank of Pakistan. The data for external variables were collected from Pakistan economic surveys and statistical bulletins of State Bank of Pakistan. The multiple regressions is used to analyze the casual relationship among independent and dependent variables. Additionally, descriptive statistics and correlation techniques are administered to draw robust inferences

INTRODUCTION

In this era characterized by rapidly changing priorities with respect to socioeconomic developments, the role of banking sector has become more important than ever, especially in the developing countries like Pakistan. The changing priorities necessitate it to promote growth and development that is all-inclusive and environmental friendly. The nations embarking on path to achieve sustainable development goals (SDGs) are more likely to attract funding from multiple international organizations, which require the presence of efficient banking sector to facilitate the foreign financial transaction and channelize them into targeted sustainable growth investments. Creating wealth accumulation & broadening financial access by enhancing savings, ensuring efficient allocation of those savings, facilitating the financial transactions (payments & receipts) for trading goods and services, banks are seen as one of the most important tools to accelerate a nation's economic growth along the lines of equitable, sustainable and environmental standards. Levine (2021) reported that banks

facilitate socioeconomic development and growth through performing five key functions. The first, fundamental function of a bank is to pool savings from diverse individuals and subsequently mobilize those funds to the investment opportunities which are having high social and economic impacts. Pooling of savings is particularly problematic in developing economies due to higher transaction costs and the issue of information asymmetry. An effective banking system tends to reduce information asymmetry by making information available to all the stakeholders in the market and reduce transaction costs through achieving economies of scale and thus enhances domestic savings and makes investment in highly efficient and diversified portfolios which create innovation in the market and increase growth at regional and national levels. Okere and Ndugbu (2015) argued that better mobilization of domestic savings ensures efficient resource allocation which in turn stimulates technological innovation leading to higher growth in an economy. The second function relates to generating ex ante information for better

capital allocation. Household savers find it extremely difficult and costly to acquire accurate information on companies and investment opportunities which constrain their ability to put their capital to productive use. Banks as financial intermediaries possess adequate information on the firms and their financial viability and are adept at identifying better investment opportunities. In such a scenario, banks achieve specialization in credit allocation and operate at economies of scale which enable them to identify the right investment opportunities and invest on behalf of households. The improved ex ante information facilitates tech-entrepreneurs in identifying effective technological production processes which ensure the growth of their ventures in the initial phase thereby enhancing the chances of their survival and growth. Due to information supplied by the banks, an overall financial system stimulates the production of credit information and investment opportunities in the market which is exploited by the businesses to stay liquid and achieve their targeted growth. The third function is to provide Corporate Governance. A bank in its role as a capital provider can effectively put in place a controlling mechanism under which it can provide direction over how to use the funds in order to ensure the investment generates financial returns as expected by households and simultaneously it should maximize firm's value in line with its shareholders. Pal (2024) pointed out that in the financial market households are the supplier of capital and firms are utilizer of that capital and in such situation there exists an agency problem under which the firms may not work in the best interest of the households given that the managers who re charged with operating investment funds have more information than the households have and as a result managers work in a way which brings more benefits to their personal careers and followed by the benefits of the firm whereas the benefits of households stay at the bottom on their priority list. In such situations banks provide corporate governance which ensures that firms should invest the capital in the best interest of all the parties involved, including households who supplied the capital in the first place. Banks possess market knowledge which is used to mitigate the agency problem. Through effective corporate governance banks make the firms invest and operate in innovative and economical better ways which create

a number of positive economic externalities in the market. In the presence of an active banking sector households get a fair return on their savings and in turn are motivated to save more, thereby fulfilling the investment needs of an economy. Study of Mamatzakis et al. (2023) found a positive linkage between banks' corporate governance and high volume of household savings in in the economy. Fourth function is to facilitate management of risk and trading diversification. Investment projects executed at an individual entrepreneur level, or a firm level are exposed to multifaceted risks especially in developing countries. Banks have required resources and expertise to analyze the risk to investments and accordingly they can figure out ways to mitigate them. Banks don't only provide credit but also supply firms the tools and techniques to measure the risks and suggest practical strategies to get through profitably the difficult times. Over time banks develop a better pool of expertise which is critical in addressing firm specific and external macro risks which can threaten survival of a firm and slow down its growth. The liquidity risks are especially resolved by effective banking sector, which encourages firms to invest in innovative technologies to increase their revenue through bringing unexploited segment of the market in their revenue nets. Strong financial system makes it possible to measure and forecast with a reasonable amount of certainty the cross sectional, inter-temporal and environmental risks that typically innovative and environmental-friendly investment projects face during the implementation phase. Such risk sharing knowledge encourages entrepreneurs to invest into growth enhancing sustainable projects thereby benefiting people and planet. The last function of a bank is to facilitate trade of goods and services. A banking system provides a mechanism through which payments are made and received while reducing information and transaction costs, making it economical for businesses and customers in the market. Such facilitation is required to trade goods and services effectively. Due to continuous innovation in banking services, innovative entrepreneurial businesses are witnessing a higher level of productivity gains which in turn promotes further technological breakthroughs in both financial and economic sectors and ultimately, puts a nation on the path to sustainable development. Bhat and Jain (2021) argued that cost effective transactions allow a

firm to carry out more informational transactions and thus achieve specialization which makes it more expert in a specific domain, leading to a high quality of service provider in the market. Such specialized firms are likely to strengthen the competitiveness of an economy, spurring innovation and socioeconomic development in regional and national spheres.

Problem Statement:

The presence of a strong and dynamic banking sector is essential for socio-economic development of a country. The developed nations have attained a sustainable economic growth on the back of their vibrant banks, which provide funding to entrepreneurs as well as big corporations thereby create employment opportunities and raising income level of people, leading to a higher living standard. Banks tend to serve the needs of households by financing their car purchases, home construction and other purchases. Likewise, banks support governments in developing infrastructure at local and national levels, which provide impetus to economic growth and reduce poverty. It is well-documented that a bank's sustainability in delivering its core functions is greatly linked with the valuation of its equity share in the market. Though past studies have identified a number of factors that are believed to determine a bank's share price which is representative of its intrinsic valuation, yet there is no consensus on which factor matters the most if bank has to ensure its shares should be traded at fair value in the stock exchange market (Paudel, 2024). The researchers also debated on whether bank-specific or external economic factors carry more weightage in influencing the direction and pace of a bank's share movement (Chhetri, 2023). A bank's understanding of the factors that derive its share valuation greatly facilitate in designing strategies that ensure a predictable share valuation in present and future times. The main aim of this study is to provide empirical evidence over causal linkages among bank specific factors and macroeconomic indicators with share valuation of the National Bank of Pakistan (NBP), which is one of the most valuable banks operating in Pakistan.

Research Objectives:

This study has the following research objectives:

- Identify and evaluate the external factors (i.e., GDP growth, interest rate and inflation)

that influence the share value of National Bank of Pakistan.

- Determine and examine the internal factors (i.e., Assets' growth, deposits' growth, investment growth, profitability growth, EPS, dividend payout and return on assets) that effect the share value of National Bank of Pakistan.

Literature Review:

In developing economies like Pakistan banking sector plays a pivotal role in attaining all sustainable development goals set out by the United Nations. Banks mobilize savings and provide much-needed funds for investments thereby ensuring an efficient allocation of financial resources of a nation. Alam, et al. (2021) argued that the banking sector has a critical role to play in socioeconomic growth of a country by enhancing financial access to entrepreneurs thereby contributing to the regional and national development. Past studies have shown that the developed countries have attained their social and economic developmental goals through promotion of a vibrant banking sector (Joshi, et al., 2023). According to Obiora, et al. (2022) banks are essential to make poverty reduction strategies workable by facilitating the transfer of payments to the people who need it the most. The economic endogenous growth theory posits that the existence of an active banking sector is likely to promote national savings and accumulates capital which are challenges to fund technological innovation and economic growth. An efficient banking sector creates the cost effective and efficient investment environment by reducing information asymmetries, effective enforcement of investment contracts, absorbing multiple risk factors and reducing transaction costs thereby giving businesses competitive advantage. The results of Duramany, et al. (2022) showed that foreign direct investment flows are greater in the countries that are having a vibrant financial sector.

Parapat (2022) analyzed bank specific factors on the share price valuations of the commercial banks functioning in Indonesia. It was empirically evidenced that deposit volume in ratio of investment, net interest margin, return on asset ratio and nonperforming loan play key role in determining share valuation in the stock exchange. The banks that have high investment to deposit ratio and offer high

return-on-asset get their shares sold at premium price in the stock exchange. Whereas the volume of nonperforming loan is negatively associated with the worth of their equity shares. According to Mülbert (2013) good corporate governance is one of the most critical conditions for a bank to enhance intrinsic worth of its share price. Good corporate governance helps a bank in four ways in making it a well-managed financial institution. First, it estimates a bank's exposure to market risk and its tolerance level for operational and financial risks, to develop risk management philosophy. Secondly, it designs risk strategies and establish their implementation mechanism to ensure they mitigate the risks and produce the desired outcomes. Thirdly, it orchestrates the corporate and business strategies that are aligned with risk management framework of a bank in order attain growth objectives while managing risk factors within the tolerance level. Lastly, it establishes a comprehensive monitoring paradigm that enables a bank to continuously oversee the performance of its risk strategies and business strategies to ensure the bank is moving in the right direction. According to Jonardy and Avionita (2024) a bank's profitability, dividend payout policy and earning per share are important predictors of its equity valuation in the market. Profitability is associated with a bank's earning per share which leave a positive impact on share valuation. In the developing countries, investors prefer higher dividend given the volatility in the capital gain and thus higher dividend ratio has a positive effect on the worth of a share. The research study of Abdo et al. (2023) found the importance of macroeconomic factors that drive value of the stock. It was evidenced that among macro indicators, GDP is a strong

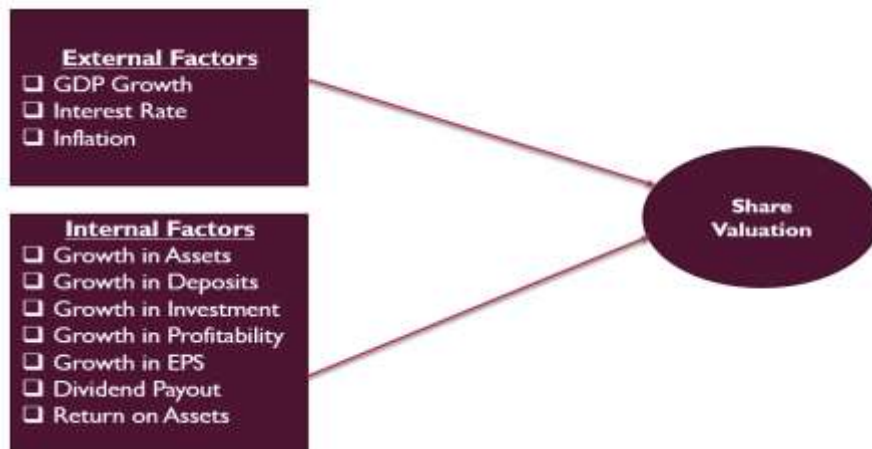
determinant of a price valuation as GDP growth captures the growth in almost all economic sectors which create a financially sound environment in stock exchange. The inflation was found to have a negative relationship with a bank's share valuation as it draws away investors from investing in stock exchanges and consequently demand for shares drop significantly.

Research Hypotheses:

The following hypotheses are developed which are empirically tested.

- **H1:** The GDP growth significantly drives the share valuation of National Bank of Pakistan.
 - **H2:** The interest rate is significantly associated with the share valuation of National Bank of Pakistan.
 - **H3:** The inflation is significant determinant to the share valuation of NBP.
 - **H4:** The Assets' growth significantly determines the share valuation of NBP.
 - **H5:** The growth in deposits has significant impact on the share valuation of NBP.
 - **H6:** The investment growth has significant influence on the share valuation of NBP.
 - **H7:** The growth in profitability has significant effect on the share valuation of NBP.
 - **H8:** The EPS is significantly related with the share valuation of NBP.
 - **H9:** The dividend Payout is significantly related with the share valuation of NBP.
- H10:** The return on assets ratio has significant impact on the share valuation of NBP.

Conceptual Model:



Source: This Study

Research Methodology:

The methodology administered in this study is briefly explained below:

Research Design: Quantitative analysis based on time series secondary data.

The sample size: In this study the annual share prices (i.e., December 31) for the period 2000 to 2019 are used.

Data Collection: The data related to internal factors are obtained from the annual reports of State Bank of Pakistan. The data for external variables are collected from Pakistan economic surveys and statistical bulletins of State Bank of Pakistan.

The following multiple regression is used to analyze the casual relationship among independent and dependent variables.

$$SV = \alpha_0 + \beta_1GDPGR + \beta_2INT + \beta_3INF + \beta_4ASTGR + \beta_5DEPGR + \beta_6INVGR + \beta_7PROFGR + \beta_8EPSGR + \beta_9DVP + \beta_{10}ROA + \epsilon$$

Data Analysis and Discussion:

The time series secondary data is used in this study. Therefore, in the first stage of analysis, data has been checked for stationarity requirements.

Stationarity Diagnosis:

Examining the variables for stationarity is essential, especially when data set is based on time series. The task of stationarity tests is to find out whether a data series contains a trending behavior, or it has a non-

stationary behavior around its mean as it is assumed that macroeconomic indicators exhibit a trend throughout its data point series. Pointed out that econometric models that are built upon time series data variables require the data sets without having unit root which are considered data with stationarity trend in order to produce robust and valid parameters which can be used for prediction purposes. In cases where data sets have unit root and they are non-stationary in characteristics, then economic models may generate spurious parameters which mislead researchers in drawing false inferences and conclusions. Therefore, it has become important to check the variables for stationarity before making their use in the econometric models. If a data set has a unit root, then it is said to be non-stationary, showing that data set is trended. Contrary, if a data set has no unit root, then it is known as stationary data series which is desirable for running econometric models on it.

Stationarity Diagnosis: Asset Growth

The result of ADF test shows that ADF test statistics of the asset growth variable is -4.620974 with probability value of 0.0019, indicating that this value is significant at 95% confidence level and therefore, the null hypothesis that the data set has a unit root is rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that Asset growth variable has no unit root, and it is stationary at level.

Augmented Dickey-Fuller Test Equation
 Null Hypothesis: ASTGR has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=4)
 Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.620974	0.0019
Test critical values:		
1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.
 Null Hypothesis: ASTGR has a unit root
 Exogenous: Constant
 Bandwidth: 0 (Newey-West automatic) using Bartlett kernel
 Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-4.620974	0.0019
Test critical values:		
1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Deposit Growth

The result of ADF test shows that ADF test statistics of the deposit growth variable is -5.750651 with probability value of 0.0002, indicating that this value is significant at 99% confidence level and therefore, the null hypothesis that the data set has a unit root is

rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that deposit growth variable has no unit root, and it is stationary at level.

Augmented Dickey-Fuller Test Equation
 Null Hypothesis: DEPGR has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=4)
 Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.750651	0.0002
Test critical values:		
1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation

Null Hypothesis: DEPGR has a unit root

Exogenous: Constant

Bandwidth: 6 (Newey-West automatic) using Bartlett kernel

Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-6.010472	0.0001
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Investment Growth

The result of ADF test shows that ADF test statistics of the deposit growth construct is -5.254760 with probability value of 0.0005, indicating that this value is significant at 99% confidence level and therefore, the null hypothesis that the data set has a unit root is

rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that investment growth construct has no unit root, and it is stationary at level.

Augmented Dickey-Fuller Test Equation

Null Hypothesis: INVGR has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.254760	0.0005
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation

Null Hypothesis: INVGR has a unit root

Exogenous: Constant

Bandwidth: 4 (Newey-West automatic) using Bartlett kernel

Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-5.918611	0.0001
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Profitability Growth

The result of ADF test shows that ADF test statistics of the profitability growth construct is -3.261786 with probability value of 0.0319, indicating that this value is significant at 95% confidence level and therefore, the null hypothesis that the data set has a unit root is rejected and the alternative hypothesis

that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that the profitability growth construct has no unit root, and it is stationary at level.

Augmented Dickey-Fuller Test Equation
 Null Hypothesis: PROFGR has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=4)
 Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.261786	0.0319
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation
 Null Hypothesis: PROFGR has a unit root
 Exogenous: Constant
 Bandwidth: 4 (Newey-West automatic) using Bartlett kernel
 Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-3.322459	0.0282
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Earning Per Share (EPS) Growth

The result of ADF test shows that ADF test statistics of the earning per share (EPS) growth variable is -3.312878 with probability value of 0.0288, indicating that this value is significant at 95% confidence level and therefore, the null hypothesis

that the data set has a unit root is rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that the earning per share (EPS) growth variable has no unit root, and it is stationary at level.

Augmented Dickey-Fuller Test Equation

Null Hypothesis: EPSGR has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.312878	0.0288
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation

Null Hypothesis: EPSGR has a unit root

Exogenous: Constant

Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-3.289417	0.0302
Test critical values: 1% level	-3.831511	
5% level	-3.029970	
10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Dividend Payout

The result of ADF test shows that ADF test statistics of the dividend payout variable is -5.090236 with probability value of 0.0008, indicating that this value is significant at 99% confidence level and therefore, the null hypothesis that the data set has a unit root is

rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that the dividend payout variable has no unit root, and it is stationary at first level difference.

Augmented Dickey-Fuller Test Equation

Null Hypothesis: D(INVTAST) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.090236	0.0008
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation

Null Hypothesis: D(INVTAST) has a unit root

Exogenous: Constant

Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-5.090236	0.0008
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Return on Asset

The result of ADF test shows that ADF test statistics of the return on asset variable is -3.111229 with probability value of 0.0448, indicating that this value is significant at 95% confidence level and therefore, the null hypothesis that the data set has a unit root is

rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that the return on asset variable has no unit root, and it is stationary at first level difference.

Augmented Dickey-Fuller Test Equation

Null Hypothesis: D(ROA) has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=4)

Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.111229	0.0448
Test critical values: 1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation

Null Hypothesis: D(ROA) has a unit root

Exogenous: Constant
 Bandwidth: 6 (Newey-West automatic) using Bartlett kernel
 Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-7.321274	0.0000
Test critical values:		
1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Gross Domestic Growth (GDP) Growth

The result of ADF test shows that ADF test statistics of the gross domestic growth (GDP) growth variable is -3.756383 with probability value of 0.0123, indicating that this value is significant at 95% confidence level and therefore, the null hypothesis

that the data set has a unit root is rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that the gross domestic growth (GDP) growth variable has no unit root, and it is stationary at first level difference.

Augmented Dickey-Fuller Test Equation
 Null Hypothesis: D(GDP) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=4)
 Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.756383	0.0123
Test critical values:		
1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation
 Null Hypothesis: D(GDP) has a unit root
 Exogenous: Constant
 Bandwidth: 3 (Newey-West automatic) using Bartlett kernel
 Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-3.655833	0.0150
Test critical values:		
1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Inflation

The result of ADF test shows that ADF test statistics of the inflation construct is -4.321964 with probability value of 0.0039, indicating that this value is significant at 95% confidence level and therefore, the null hypothesis that the data set has a unit root is

rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that the inflation construct has no unit root, and it is stationary at first level difference.

Augmented Dickey-Fuller Test Equation

Null Hypothesis: D(INF) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.321964	0.0039
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation

Null Hypothesis: D(INF) has a unit root

Exogenous: Constant

Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-4.331077	0.0038
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Interest Rate

The result of ADF test shows that ADF test statistics of the interest rate construct is -3.091203 with probability value of 0.0454, indicating that this value is significant at 95% confidence level and therefore, the null hypothesis that the data set has a unit root is

rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that the interest rate construct has no unit root, and it is stationary at level.

Augmented Dickey-Fuller Test Equation

Null Hypothesis: INT has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=4)
 Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.091203	0.0454
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation
 Null Hypothesis: D(INT,2) has a unit root
 Exogenous: Constant
 Bandwidth: 5 (Newey-West automatic) using Bartlett kernel
 Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-5.195121	0.0008
Test critical values: 1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

*MacKinnon (1996) one-sided p-values.

Stationarity Diagnosis: Share Price

The result of ADF test shows that ADF test statistics of the share price variable is -4.761205 with probability value of 0.0016, indicating that this value is significant at 95% confidence level and therefore, the null hypothesis that the data set has a unit root is

rejected and the alternative hypothesis that a data set has no unit root is accepted. Furthermore, the result of PP test is significant, lending support to the inference that the share price variable has no unit root, and it is stationary at first level difference.

Augmented Dickey-Fuller Test Equation
 Null Hypothesis: D(SP) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=4)
 Sample: 2000 2019

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.761205	0.0016
Test critical values: 1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Phillips-Perron Test Equation

Null Hypothesis: D(SP) has a unit root

Exogenous: Constant

Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

Sample: 2000 2019

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-4.937294	0.0011
Test critical values:		
1% level	-3.857386	
5% level	-3.040391	
10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

Multiple Regression Analysis and Discussion:

The results of econometric Model show that the value of adjusted R square is 0.597, implying that 59.7% of variance in share valuation is jointly explained by three macroeconomic factors and seven firm-specific factors (i.e., GDP growth rate, inflation rate, interest rate, asset growth, deposit growth, investments growth, profitability growth, earning per share growth, dividend payout and return on assets). This high adjusted R square value indicates that model has a substantial explanatory power. The value of Durbin-Watson is 1.749 which falls with the acceptable range of 1.5 to 3, reporting that there is no auto correlation among the residual terms. The results of Variance Inflation Factor (VIF) show that all independent variables have VIF value lower than the cut-off value of 3 and all tolerance values are above 0.2 level, implying that there is no serious multi-collinearity among predictive variables used in this model. Finally, the F-statistics of model-3 is 132.910 which is significant at 99% level, indicating that the model has a significant predictive power.

It is widely recognized that the rise in GDP shows economic growth which is associated with higher equity values in the stock exchange (Arif & Sovia, 2024). Economic growth increases labor force participation, which in turn enhances purchasing power of people and some of that income ends up being invested in the capital market, giving rise to the prices of stock prices. The consumers having high interest rate. Corporations that are growth oriented and aggressively capitalize on growth opportunities often have high priced shares. For financing growth investments, corporations resort to internal and external sources of financing. In internal sources,

purchase power often results into higher demand for goods and services produced by the corporations. Making them profitable. In such periods, corporations are likely to invest into investment opportunities which lead to the growth in share prices. Thus, there are tremendous ways through which GDP growth cause a significant rise in their shares. The investors are often interested in cash-in-hand and capital gain from their investments in shares. A firm's dividend payout ratio plays an important role in determining a price valuation of a share in the market. The firms that pay a great portion of earning per share in dividend tend to have their shares to be sold at a premium price as it provides ready cash to investors (Lyimo, 2024). High inflation brings a lot of challenges to an economy. It severely hurts the investment ratio at individual and corporate levels, limiting the economic activities. Due to higher inflation, people prefer to spend only on essentials and avoid investing in stock exchanges. Similarly, corporations witness lower sales volume during hyperinflation era and hence, their investment strategies are largely constrained. As a result, the demand for equity shares significantly lower, thereby reducing its market value. In times of higher interest rate, the worth of equity shares gets depressed (Melinda & Berliani, 2024). This is mainly because, investors prefer investments in debt financing instruments such as bonds instead of shares due to a high return on non-equity portfolios owing to high banks prefer to fund their investment projects using deposit money and thus, higher deposit volume has a positive impact on share worth. In the same vein, banks that invest in updating technology and open up more branches, have their assets increased, which in

turn drives the share valuation in the market. Past studies have shown that shares are sold quickly and at higher prices of those banks that are rich in profit (Ambarsari & Verlandes, 2023). Investors expect that higher profit will result in a higher dividend payout and also enhance capital gain that bode well for share valuation. The banks that enjoy growth in profit have higher earning per share as shareholders realize more earning due to higher profitability and it is well established that higher earning per share attracts investors to buy the shares of such firms, ultimately giving boost to the share valuation. The chief aim of an investor is to enhance its return-on-investment portfolio, which is achieved through realizing higher return in comparison of their investment. Investors are found to divest the investment in which return is lower and spend more money in firms that provide attractive return (Cahyani, et al., 2023). This divestment cycle substantially lowers the share value of banks that offer lower return and alternatively, divested money goes into shares of firms that have higher return.

The results of regression model show that out of seven bank specific factors, six (i.e., deposit growth, investments growth, profitability growth, earning per share growth, dividend payout and return on assets) have significantly positive impact on share valuation of the National Bank of Pakistan (NBP), whereas one factor that is asset growth is not found to have a significant association with share price of NBP. This may be because asset growth is related with deposit and investment growth variables and hence its impact is suppressed as these variables share the same common variance of the dependent variable. Based on p-values, six out of seven firm specific

hypotheses are fully supported. With respect to macroeconomic factors, all three variables (i.e., GDP growth rate, inflation rate and interest rate) are significantly associated with share price of NBP. GDP growth has a positive impact, indicating that when Pakistan's economy is booming, the valuation of shares in stock exchange goes up. Whereas the negative impact of inflation and interest rate is witnessed as during high inflation and interest regime, stock exchange undergoes in bearish run which reduces the value of share prices including share worth of NBP. Based on p-values, all three hypotheses related to macroeconomic factors are fully supported.

Conclusion:

Among all economic sectors, Banks play one of the most influential roles in enhancing socioeconomic growth and development in a country. Banks achieve such growth and development through accumulation of capital and optimizing its allocation to the investment opportunities that spur technological advancements, create employment opportunities, increase earning of people resulting in higher living standards for masses. This study has identified key bank specific factors and macroeconomic indicators that influence share valuation of the National Bank of Pakistan. Findings carry substantial implications for NBP's managers to invest more and focus on increasing deposit ratio to enhance its share valuation. For the government, it is important to know that financial sustainability in the stock exchange can be achieved when economy improves, and inflation and interest rates are controlled

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ROA, DEPGR, INVGR, INT, EPSGR, DVP, INF, ASTGR, GDPGR, PROFGR ^b	.	Enter

a. Dependent Variable: SV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.775 ^a	.601	.597	.781	1.749

a. Predictors: (Constant), ROA, DEPGR, INVGR, INT, EPSGR, DVP, INF, ASTGR, GDPGR, PROFGR

b. Dependent Variable: SV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	728.918	10	80.991	132.910	.000 ^b
	Residual	483.838	09	.609		
	Total	1212.756	19			

a. Dependent Variable: SV

b. Predictors: (Constant), ROA, DEPGR, INVGR, INT, EPSGR, DVP, INF, ASTGR, GDPGR, PROFGR

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF	
1	(Constant)	-7.403	17.550		-.422	.674	-42.020	27.215		
	GDPGR	.163	.050	.128	3.275	.001	.065	.260	.513	1.948
	INF	-.108	.048	-.076	-2.223	.026	-.203	-.013	.672	1.489
	INT	-.137	.052	-.108	-2.620	.009	-.240	-.034	.465	2.152
	ASTGR	-.490	.430	-.105	-1.139	.256	-1.339	.359	.478	2.094
	DEPGR	.177	.046	.322	3.836	.000	.086	.268	.452	2.212
	INVGR	.246	.048	.213	5.161	.000	.152	.339	.459	2.178
	PROFGR	1.789	.452	.364	3.956	.000	.897	2.681	.376	2.659
	EPSGR	.089	.032	.087	2.801	.005	.027	.151	.549	1.822
	DVP	.119	.028	.132	4.230	.000	.064	.174	.664	1.507
ROA	.267	.035	.208	7.697	.000	.199	.336	.717	1.394	

a. Dependent Variable: SV

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