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Stock Market Performance and Economic Growth: Empirical Evidence from Pakistan Employing the ARDL Approach

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ABSTRACT

The impact of stock market on economic growth has always been a topic of scholarly inquiry. To study this relationship various methods are used, Autoregressive Distributed Lag is one of those methods which is employed in this study to investigate the impact of the stock market on the economic growth in the context of Pakistan. To investigate this relationship, independent variable is stock market performance and dependent variable is economic growth. Market capitalization is used as an indicator to measure stock market performance. The GDP is used as a proxy to measure economic growth of the country. The Data is collected from authentic sources of World Bank Indicators. By analyzing these variables, the study aims to explain the short-term and long-term relationship between these variables. The conclusions of this study provide policy implications at national level and help investors in devising investment strategies. This study provides new insights on the finance-growth nexus and contributes to already existing body of knowledge. By unraveling these dynamics, this study is expected to provide worthy insights into the

decision making process for various stakeholders, investing bodies, policymakers. Findings depict positive short and long term association between stock market performance and economic growth that implies establishing the healthy stock market that in effect enhances economic growth.

Keywords: Economic growth, Stock market performance, ARDL approach, Policy implications, Investment strategies, Long-term dynamics

INTRODUCTION

Pakistan with the tapestry of financial markets and macroeconomic indicators, is striving for sustainable economic growth in the shades of volatile markets and structural challenges. The economy of the Pakistan consisting diverse range of sectors and considered as a developing economy, is a great case for our investigation. Stock market performance determines various factors of the economy of a country which includes behavior of the investor and his sentiments for the market, flows of capital funds, economic condition of the country. Stock market performance is considered a barometer for these factors (Yartey, 2008). Against this backdrop, Pakistan is studied to investigate and seek the patterns in the ever evolving economic growth and stock market performance.

This study has far-reaching and multi-faceted significance. First of all, in modern times economy of a country consists of various sectors and financial markets ensure the channeling of resources to these sectors, and due to its in-built ability to channel the funds, stock markets play significant role in economic development of the country (Ahmad, et al., 2024). Due to this reason, understanding this relationship is paramount (Raza et al., 2016). Various stakeholders, policy makers and investing companies are expected to benefit by unraveling these relationships. Secondly, the study holds the potential to offer nuanced perspectives on how stock market fluctuations impact broader economic outcomes given Pakistan's history of economic volatility and structural challenges because of the ability of this relation to explain different channels through which capital moves in different sections of the economy (Pan & Mishra, 2018). Because of the fact that global financial markets are interconnected, findings of this study are expected to provide worthy implications for financial markets facing similar challenges as Pakistan. Policymakers, researchers, and investors are expected to benefit from the insights and findings of this article.

This study seeks to align real market practices with theories, policymaking with academic literature, and actions with research findings. Exploring the nexus between stock market performance and economic growth in Pakistan, aims to not only deepen our understanding of these complex relationships but also offer practical recommendations that can drive positive change in the economic landscape of the country and beyond. The study examined the relationship between stock market development and economic growth using data for three decades in the context of Pakistan. There have been many studies investigating finance- growth nexus but no study utilized the ARDL approach in the Pakistani context. This gap is considered to test relation using the ARDL approach.

This study addresses the research problem of examining the stock market performance and economic growth relationship in the context of Pakistan which will help in understanding the degree of impact of stock market performance on economic growth in the country. To address the research problem, this study answers the following research questions: 1) Using ARDL approach, what is nature of relationship between performances of stock market on economic growth in long run from Pakistan perspective? 2) How do adjustments in the stock market and short-term dynamics impact the economic growth of Pakistan, using ARDL model for evidence? 3) What are the implications for policymaking as extracted by empirical evidence of this relationship? Therefore, it is also intended to achieve the following research objectives: 1) Examining the correlation between the performance of the stock market and economic growth using a period of 1993 to 2022. 2) To analyze the causal relationships between stock market performance and economic growth in Pakistan using the ARDL approach. 3) To assess the implications of the relationship between economic growth and stock market development for policymakers and investors in Pakistan.

LITERATURE REVIEW

The effects of stock market performance on the economic growth of the country have been a topic of interest for academic personnel and various theoretical frameworks have been developed for understanding this relationship (Zaheer, et al., 2021; ul Haq, 2017; ul Haq, 2012). These frameworks are embedded in larger contexts of financial economies which tell of economic development influenced by financial systems. The finance-growth nexus posits that financial markets, including stock markets, are not just a sideshow, reflecting the underlying economic activity, but are a fundamental part of the growth process itself. Schumpeter (1911), doing seminal work on the finance-growth nexus, has argued first of all that financial sector services cause innovation and development. Due to the ability of the stock market to allocate capital resources to productive sectors, it is considered a catalyst for economic growth. Stock market indicators and economic growth having a positive correlation were then postulated and proved by Goldsmith (1969), Shaw (1973), and Mckinnon (1973) who provided evidence for the positive relation of these factors. These were conceptual studies and consequent studies covering topics of interest further elaborated the relations (Kirankabeş & Başarir, 2012).

The effect of financial development in enhancing economic growth cannot be ignored and the financial sector consists of banks, central monetary authorities, commission brokerage companies, and investment firms to name a few. The Components of financial sector channelize the trade of financial securities, ensuring the flow to capital deficit businesses that contributes to economic growth (Owen, 2020). Stock markets give access to funds that result in improvements in economy. Further resource allocation through this capital market ensures the boosting effects on investments, both foreign and domestic, that results in economic growth. Both in the long-run and short-run developments in stock markets positively affect the economic growth measured in Gross Domestic Product. Increased trade in the stock

markets make it ensure long and short-term funds available to the country's economy(Nguyen & Bui, 2019).

Stock markets achieve Capital Accumulation by linking potential investors and firms which are in need of funds. Almost all the top analysts have concluded that financial improvement and economic growth are indispensable to each other (Mir, Rana, & Waqas, 2021). The study put an important emphasis on the fact that macro factors of the economy have tremendously influenced the performance and increased profitability of the stock market. The advancements of the financial sector of a country guarantee the capital flow from surplus to demanding entities and it results in the activation of money and hence gainful investment plans (M. Z. Saeed et al., 2023). Financial markets are important tools in channeling the idle funds in the country to the firms that utilize them productively. In this causal relation when economic growth occurs, there increases surplus in the country which in turn enhances financial sector improvement. So this causal relationship is always unclear and always provides space for further empirical investigation. The direction of this relationship also has a great impact on the country's boarder policy application (Rooh, et al., 2025). A study conducted in Kenya investigated the particular topic and proved the unidirectional nature of the relationship between financial markets and economic growth. It was recommended by the study to reduce the barrier to the financial sector of the economy which will consequently safeguard the economic development of the country(Pan & Mishra, 2018).

Allocation of capital is effectively attained by the stock market which acts as a financial market, hence governments and corporations can raise capital for expansion of operations and financing of new projects. That implies a boosted economy if capital is channeled to productive activities. In the sense that it helps in the allocation of capital to productive units, the stock market is used as a barometer for measuring financial performance (Naseer, et al., 2024). The simultaneous flow of funds by supply and demand function to most productive firms due to their higher ability to leverage risks and returns makes economic growth a function of stock market development. Stock markets play a pivotal role in economic growth through the process of diversification spreading the funds of investors across sectors (Olweny & Kimani, 2011). The marginal productivity of capital is achieved if the stock market is efficient, liquid, and enough well-functioning providing an opportunity for investors to diversify unsystematic risk (Owen, 2020).

In our times, financial markets are significant inventions having impact on almost every sector of the economy including jobs, businesses, education, and technology. Several variables affect the stock market performance which includes political factors, economic factors, psychological factors, and industry-related factors. To analyze the financial markets two types of analyses are used namely Technical and Fundamental Analysis. Fundamental analysis uses three different factors (i) GDP, CPI, and other macro factors of the economy indicating the prospects of the company (ii) analysis of industry SWOT analysis (iii) Analysis of the company to evaluate the internal value of the company (Shah et al., 2019).

Analysts, investors, and other market participants use market capitalization as

a tool to evaluate company size, its value about other companies, and prospects of the company. The economic growth of a country is developed by a well-established stock exchange. PSX is considered an emerging financial market with lots of potential for investors within and outside the country. Market capitalization is an indicator used by analysts to predict the company size and this is the factor used in the indices of the stock exchange (M. Z. Saeed et al., 2023). Stock markets in emerging economies are often more rapidly affected by global news and hence are more volatile. To measure the growth of the stock market most of the existing studies used stock market indices which is not a good indicator, especially for analysis to compare the stock market development with the economic growth of the country. The reason is that indices are reflective of top firms whose stock prices may be driven high due to a multiplicity of factors and may not be reflective of stock market development. There are also small and medium enterprises that are not included often in indices due to their lesser market capitalization but they play an important role in stock market development. So the basket of stocks keeps on changing. The objective measure hence is the market capitalization for stock market development testing(Pan & Mishra, 2018).

In recent times one of the subject matters that attracted academia across the globe is finance growth relationships. Gross domestic product is the measure to be used for economic growth (Appiah et al., 2020). Stock market liberalization, a phenomenon that removes barriers for foreign investors, has a great impact on economic development (Ahmad, et al., 2021). It leads to approximately a 1% increase in the annual real economic growth. Although there is a lot of criticism on economic growth that it does not depict the living standards of residents, however, it is still the measure of prosperity. Adam Smith described the economic growth factor as an invisible hand which stabilizes the markets (Piętak, 2014). Mercantilism was popular at the beginning of a revolution of industry, which implies government intervention for the economic growth. Its implementation brings restrictions with itself. Free trade theory in contrast argues the free flow of goods and capital with minimal government intervention can enhance economic growth. Demand and supply are the only function that decides which products to produce. Models of economic growth were developed by Barro (1991), and Mankiw (1992). These models are extensively used by practitioners which provides the theoretical framework which examines the promoting factors to economic growth (Manzoor et al., 2021).

Schumpeter (1911), Shaw (1973), and Mckinon (1973) these researchers asserted the strong positive impact of financial development and economic growth. Supply leading hypothesis was formed by Patrick (1966) who asserted the important role played by financial sector improvement to economic growth. This hypothesis was later tested by many researchers giving mixed results. The reason for the negative relation was poor banking sector regulations and the highly liberalized financial sector (Tariq et al., 2020).

The majority of academic researchers have concluded the positive impact of financial sector development on the economic growth, there are researchers who have stated its opposite and complained the exaggeration of positive impact of this relationship. Furthermore 2008 crisis also provided the basis to argue that extensive

financial development has the potential to lay the seeds of global financial crisis that has immense negative impact on social welfare and long term economic growth. The majority of researchers comes to conclusion of positive relation, modern day relationship between finance and growth is traced back to the work of Goldsmith whose study examined the assets of financial intermediaries in comparison to macroeconomic factors like Gross National Product and also data-sets on the collection of bond and securities issue in relation to amount of loans relative to GNP. The study also concluded positive relationship of finance growth nexus (Popov, 2017).

Financial development positively impact economic growth by creating room for and expansion of financial activities in an economy and this crucial role is played by financial innovation (Owen, 2020).Financial markets have become very important and their enhancing importance has now engaged researchers to study the impact of financial improvement on economic growth. Development and improvement in financial markets has become an important factor for sustainable economic growth (Nazir et al., 2010).

Another study was conducted and its findings explain the relation between economic growth and stock market performance and result says stock market performance is positively related to economic growth. In short and long run stock market performance indicators influence economic growth positively (Nguyen & Bui, 2019). In Pakistan, the same subject matter is also a topic of scholarly attention. One significant research is from Nishat and Shaheen (2004) who used the data from 1960 to 2000 and examined the relation between stock market performance and economic growth using Vector Error Correction Model. And they concluded the positive long-term relation between the two variables (Nishat & Shaheen, 2004). Another study conducted same subject matter research and concluded that if financial development value is above the threshold value, it significantly affect the economic growth of the country. It also reported the negative impact if financial development level is below the threshold value. Study utilized the Threshold Model for investigating the relation (Tariq et al., 2020). Financial innovation results in the financial sector improvement because it enhances the financial activities in the economy by providing efficient financial services to investors and producers. Well established and functioning-well stock markets inevitably enhance the economic growth more effectively in developing countries. It is easier for entrepreneurs to raise long run capital in the presence well functioning stock market because of increased interest from domestic as well as foreign investors (Qamruzzaman & Wei, 2018).

The finding of one study says that stock market positively affects the economic growth of a nation. Gross Domestic Product of a country shows upside in relation to improvement in the stock market development. Approach used is Autoregressive Model due to the appropriateness of the approach in giving more accurate result in time series data (Olweny & Kimani, 2011). Although the general trend of previous studies provide positive impact of stock market development but there also the studies that gives the negative impact considering various contingencies. Using the ARDL approach in their study, it was concluded that Stock market development has a very little but negative impact on the economic growth of the country (Azhar & Imran,

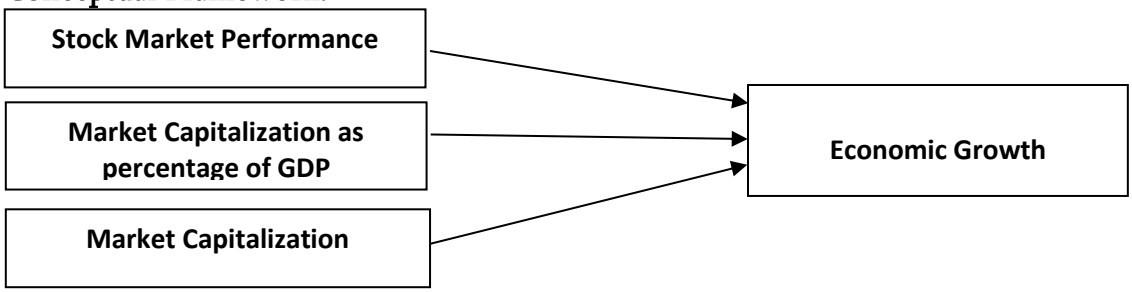
2024). Research was conducted in China and it was said that negative impact is due to the reason that China is a large country and stock market contribution to total economic activity seems a small proportion. Other reason was given that government of China uses the stock market as a tool to attain its goal rather than indicator of economic growth which can potentially lead to exaggerated prosperity and hence towards the financial bubbles(Pan & Mishra, 2018). Autoregressive Distributed Lag approach has been widely accepted for econometric technique, reason for its wide acceptance is robustness and flexibility for estimating the long and short-term variables relation. The approach was developed by Pesarand and Shin and extension was carried further by Shin, Perasan and Smith in their work in 2001. The approach is utilized to examine the time series data(M. Saeed et al., 2020). Stock markets are affected by variety of complex factor so applying linear setting approach has its shortcomings that it assumes the time series in a linear manner that is not in real practice. To avoid these shortcomings the ARDL approach is suitable to investigate the relation(Raza et al., 2016).

Hypothesis:

H1: Stock Market Performance measured by market capitalization is significantly related to economic growth

H2: Significant relation between stock market performance and economic growth has measurable impact on economic growth.

Conceptual Framework:



METHODOLOGY

Levine (2004) adopted in the research, quantitative research design to investigate the relationship in stock market performance and economic growth. This study justified the quantitative analysis for these time series numerical data analysis. Time series data generate the long run data sets and because of the time series numerical data, the research strategy used is quantitative analysis (Levine, 2003). Quantitative analysis is more suitable for investigation of numerical data for causal relationship between the time series variable. Quantitative analysis reduces the large data sets to the amount and results which are interpretable. It is done by categorizing data in trends, themes, tabular form and through sophisticated statistical techniques (Bryman, 2016). The researcher may intervene in quantitative setting of research for examining relationship between stock market performance and economic growth like selecting appropriate approach, econometric model selection and conducting statistical approach(Greene, 2015).

As the research aims to examine the stock market performance impact on economic growth in Pakistan by utilizing ARDL approach so, the unit of analysis for this macro analysis is country namely Pakistan. It implies analysis economic growth factor i.e. GDP of country and stock market performance using PSX indicators to extract trends and causal relationship between the variables (Fatima, et al., 2024). Stock market indicator used is the market capitalization. So, the unit of analysis is Pakistan signaling the analysis at national level(Shahbaz & Lean, 2012). Another unit of analysis is time period because research uses time-series datasets. These time periods can be month, quarter, semiannual, yearly and literally any time period. But this paper analyzes the annual data of variables for three decades 1993 to 2022.

Sampling design used in the paper is time series sampling and it includes data of 3 decades to investigate the relation and decide the impact of stock market performance on economic growth of Pakistan. As by Sakaran (2016), "The sampling unit is the element or set of elements that is available for selection in some stage of the sampling process". The sampling unit for research article is individual data of a single year stock performance or economic growth (Hussain, Muhiuddin & Oad, 2021).

The study uses the secondary data. For economic growth indicators of Pakistan the study utilizes the data from World Bank due to its reliability and reputability for economic growth indicators. Previous researches for economic growth investigation utilized data from World Bank's WDI indicators. Following studies utilized data from WDI indicator of World Bank (Tariq et al., 2020), (Manzoor et al., 2021), (Owen, 2020) and many more. So the globally used data for economic growth is fetched from WDI indicator. Stock market indicators, indices and market capitalization are taken from World Bank data source and macro-economic factors are used for IMF database. Using data for 3 decades will provide a comprehensive picture of economic cycles. The data is reliable and cited in different economic researches. Economic growth is dependent variable, annual change is real GDP is used to measure economic growth. Key independent variables include stock market capitalization as a percentage of GDP, representing market size, and stock market total value traded as a percentage of GDP, indicating market liquidity.

Model Specification:

The equation form of ARDL approach for only one dependent variable and many independent variables is as following:

Autoregressive Form:

$$y_t = a_1 + a_2 Y_{t-1} + a_3 Y_{t-2} + \epsilon_t$$

Distributed Lag:

$$Y_t = \beta_1 + \beta_2 X_{t-1} + \beta_3 X_{t-2} + \mu_t$$

ARDL:

$Yt = \alpha + \Sigma\alpha i.Yit + \Sigma\beta i.Xit + \Sigma\gamma i\Delta X.it + \varepsilon t$

- These variables are explained as:
- Yt is the dependent variable

- X it represents independent variables
- γi are the short-run dynamics
- εt is the error term
- α is the intercept
- Δ is the difference operator
- βi are the long-run multipliers

Bounds Testing Procedure:

Bound testing procedures are used in ARDL approach to investigate long run relationship between variables. For combined significance testing of variables' coefficients of lag level, F-test is conducted. Pesaran et al. (2001) provide two sets of critical values for the bounds test: one set if all variables are I(0) and another if they are all I(1). If the computed F-statistic falls above the upper bound, the null hypothesis is rejected, suggesting cointegration. If it falls below the lower bound, the null hypothesis cannot be rejected. If the test statistic is between the bounds, the result is inconclusive.

Error Correction Model (ECM)

Once cointegration is established, the ARDL model is reparametrized into an Error Correction Model to estimate the short-run dynamics while maintaining the long-run relationship. The ECM integrates the short-run adjustments with the long-run equilibrium without losing long-run information. The ECM can be represented as:

$$\Delta Y_t = \alpha + \Sigma\theta_i \Delta Y_{t-i} + \Sigma\varphi_{ij} \Delta X_{t-j} + \lambda ECM_{t-1} + \zeta_t$$

whereΔY_{t-i} and ΔX_{t-j} are the differenced lagged dependent and independent variables, respectively, ECM_{t-1} is the error correction term derived from the long-run equilibrium relationship, λ is the speed of adjustment coefficient, and ζ_t is the stochastic error term.

RESULT AND DISCUSSION

This section begins with descriptive statistics of both the variables. Data of both variables is taken from World Bank websites. For purpose of using ARDL approach logarithm of values is used that smoothes the values, it ensures stability of variance and interpretations of the variables (Pesaran et al., 2001)

Table 1: Descriptive Statistics at Level Value

	Market Capitalization to GDP %	Market Capitalization	GDP Billion Dollars	GDP Growth
Range	32.81	85.94	322.89	9.030
Minimum	5.04	4.90	51.81	-1.20
Maximum	37.85	90.85	374.70	7.83

Mean	18.10	35.078	189.86	3.66
St. Deviation	8.62	24.80	108.21	2.24

Descriptive statistics reveal an average annual GDP growth rate of 3.6%, with stock market capitalization averaging 18% of GDP. Absolute average values in term of billion dollars are as follows: GDP contains average value of 189.86B and market capitalization has average value of 35.078B dollars. Maximum value of GDP growth is 7.83%.

Table 2: Correlation at Level Value

		GDP Billion Dollar	Market Capitalization
GDP Billion Dollar	Correlation	1.000	0.767
	Sig. (2-tailed)		.000
	N	30	30
Market Capitalization	Correlation	0.767	1.000
	Sig. (2-tailed)	.000	
	N	30	30

The coefficient of correlation between these variables is 0.767 which suggests a strong positive relation between market capitalization and GDP. This means increase in market capitalization causes subsequent increase in GDP. 2-tailed test is applied and significance level is 0.000 that implies almost 100% of confidence level of this result. That means chances of rejecting these results are near zero (Field, 2013)

Regression

Table 3: Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1.000	Market Capitalization[b]		Enter

a. Dependent Variable: GDP

b. All requested variables entered.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1.000	.768[a]	0.589	0.574	70.571

a. Predictors: (Constant), Market Capitalization

Model summary of regression analysis describes how well model fits. R gives linear correlation coefficient which is .768 and can be used to predict dependent variable. This depicts decent level of positive relationship. R square is called coefficient of determination and it is proportion of variance in the dependent variable that can be described by independent variable. 0.589 value depicts around 59% of economic growth can be explained by market capitalization. High discrepancy between R square and Adjusted R square implies poor fit model. There is a very low gap in calculated model that describes good fit model. Value of standard error is 70.571. Standard error in results shows precision of model (Dhakal, 2019).

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1.000	Regression	200178.580	1	200178.580	40.193	.000[b]
	Residua	139451.30	28			

a. Dependent Variable: GDP Billion Dollar

b. Predictors: (Constant), Market Capitalization

ANOVA test explains the significance of the model. The F-ratio in the ANOVA tests whether the overall regression model is a good fit for the data. The table shows that the market capitalization statistically significantly predict the economic growth variable, F (1, 28) = 40.193, p (.000) < .05 (i.e., the regression model is a good fit of the data)(Dhakal, 2019).

Table 6: Coefficient[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1.000	(Constant)	72.383	22.569		3.207	0.003
	Market Capitalization	3.349	0.528	0.768	6.340	0.000

a. Dependent Variable: GDP Billion Dollar

This table depicts the significance of the independent variables. Significance level of independent variable is 0.00 which is greater than 0.005 implying the greater impact of explanatory variable in dependent variable.

Table 7: ADF Unit Root Test

	At Level I(0)	First Difference I(1)	Order of Integration
GDP Growth	0.0002	0.000	I(1)
MC to GDP %	0.062	0.000	I(0)

The stationarity test presented in above table shows mixed integration order. At level I(0), GDP growth which is proxy of economic growth is stationary. On the other hand, market capitalization is stationary at first difference I(1). This mixed integration enables to use ARDL approach. The mentioned values to use ARDL approach for calculating long run cointegration (Pesaran et al., 2001).

Table 8: ARDL Bounds

Test-Statistics	Value	Signifi.	I(0)	I(1)
F-Statistics	6.702	10%	3.02	3.51
K	1	5%	3.62	4.16
		2.5%	4.18	4.79
		1%	4.94	5.58

F statistics has value of 6.702. Result indicates long term cointegration which is consistency among means of the variable. F-statistics has value greater than at value and first difference at all three significance levels of 10%, 5%, 2.5%. This result shows that none of the hypothesis is rejected against cointegration hypothesis. Critical level of bounds at 1% is 5.58 which is less than model bound valued 6.702(Pesaran et al., 2001).

Table 9: Coefficient of Long Run ARDL Model

Variable	Coefficient	S.E	t-statistics	p-value
MC to GDP	0.13610	0.7135	0.1907	0.8507
Constant	0.3537	0.8558	0.4133	0.684

Results show positive long run impact of market capitalization on economic growth. Although, this impact does not seem much significant because one unit of lag

changed in independent variable brings only 13.6% change in dependent variable. Considering the population of Pakistan this long term impact of stock market may have positive impact on economic growth. P-value for this result should be more than 0.5 to accept the long run coefficient as representative of long run relationship. Because of the confirmed long run relation short term error correction model ECM is analyzed (Pan & Mishra, 2018).

Table 10: Short Run ECM ARDL

Variable	Coefficient	S.E	t-statistics	p-value
ΔMC to GDP_t	0.837	0.433	1.932	0.068
ΔMC to GDP_{t-1}	0.193	0.453	0.427	0.673
ΔMC to GDP_{t-2}	1.111	0.421	2.639	0.0161
ECM Term	-0.932	0.197	-4.714	0.0001

In the short run three lags of independent are selected to check impact on dependent variable. ECM term for this relation is -0.932 which legitimizes short run impact. P-value is less than 0.05 which is prerequisite for ECM model acceptance. Result shows 83.7% change with one unit change in dependent variable in same year. And this shows steady movement of values towards long run model. Previous year has 19.3 % impact on dependent variable. This implies short run association of variables.

Table 11: Diagnostic Test

Test Name	P-Value	Null Hypothesis	Decision
Heteroskedasticity	0.501	No Problem of Hetro	Do not reject null hypothesis
Serial Correlation	0.830	No Problem of Serial Correlation	Do not reject null hypothesis

Finally diagnostic test were applied to assess validity of the model. Heteroscedasticity test and serial correlation diagnostic tests were applied (Pagan and Hall (1983). Result indicates there is no problem of hetro and serial correlation in the model. Values are above 0.5 indicating model validity.

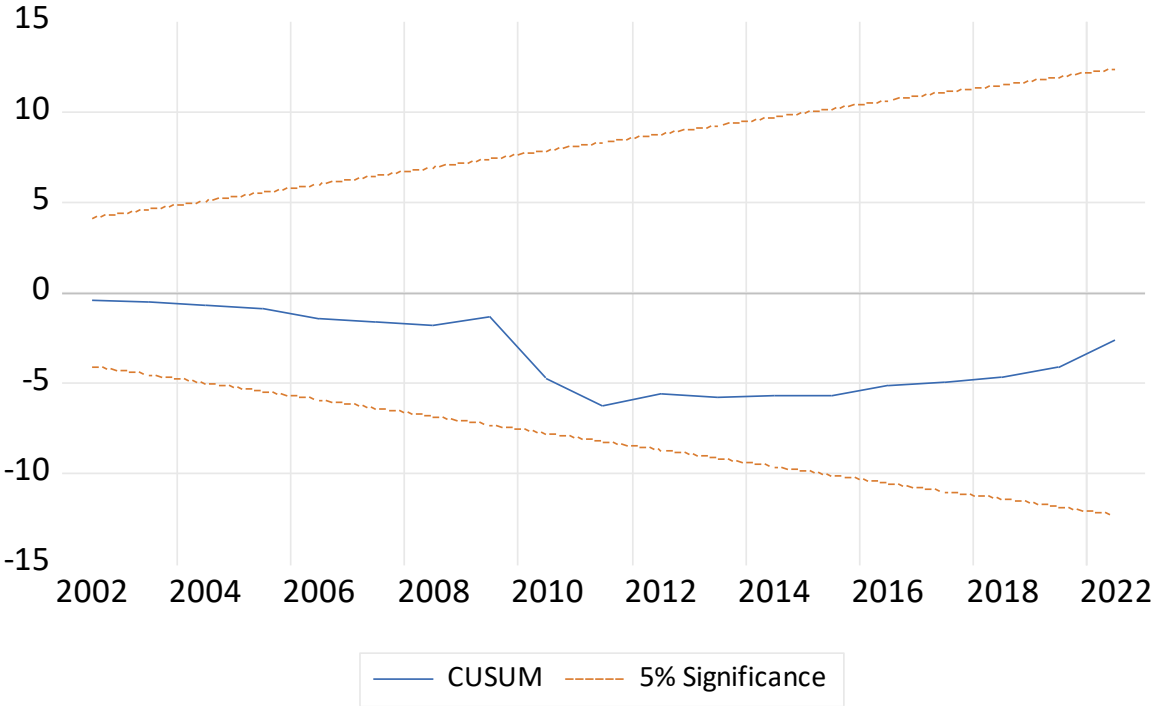


Figure 1 CUSUM Test

CUSUM test is utilized to check the stability. CUSUM lines are within limits at 5% significance level suggesting stability of the model.

Limitation and Future Direction

Although valuable findings are obtained, there are also some limitations Estimates may have been compromised due to the fact that both variables data has been collected only from one source. This availability of constrained data have some potential to impact the precision to some extent. Additionally, while the ARDL approach provides a robust framework for analyzing the relationship between stock market performance and economic growth, the study's results are contingent on the chosen model specifications and variable selection. These limitations should be acknowledged when interpreting the findings and considering their broader implications. Looking ahead, future research in this area could explore additional dimensions of the relationship between stock market performance and economic growth, such as the impact of stock market volatility on investment decisions, the role of stock market liquidity in supporting small and medium enterprises, and the differential effects of stock market development on various sectors of the economy. Furthermore, expanding the analysis to include a broader set of countries and time periods could provide a more comprehensive understanding of the nuanced interactions between stock market dynamics and economic growth. Addressing these avenues for future research will contribute to a more holistic comprehension of the intricate relationship between stock market performance and economic growth, offering valuable insights for policymakers, investors, and researchers alike.

Recommendations

The result and findings of this article have significant policy implications for various market participants, policymakers and regulatory bodies. Findings depicts

positive short and long term association between stock market performance and economic growth that implies establishing the healthy stock market that in effect enhances economic growth. Moreover, policies that encourage broad market participation and provide avenues for small and medium enterprises to access the stock market can stimulate economic expansion. Additionally, the findings call for policymakers to consider the implications of stock market fluctuations on economic stability and to implement measures that mitigate excessive volatility. Overall, the study's results underscore the need for a conducive regulatory environment that supports the symbiotic relationship between stock market performance and economic growth.

CONCLUSION

Study examined the relationship of stock market development on economic growth using data for three decades in context of Pakistan. There have been many studies investigating finance- growth nexus but no study utilized ARDL approach in Pakistan context. This gap is considered to test relation using ARDL approach. The empirical analysis using the ARDL approach has provided compelling evidence of a positive and significant relationship between stock market performance, as measured by market capitalization and economic growth. The estimated long-run coefficients indicate that stock market development plays a vital role in fostering economic expansion, with a 1% increase in market capitalization associated with a 0.13% increase in economic growth. The findings depict the significance of robust and efficient stock markets in channeling capital towards productive investments, thereby contributing to overall economic growth. After long run relation is confirmed, error correction model is used and term describes the dynamic relation between stock market and economic growth.

Article has both practical and theoretical implications. Research has implications beyond the territorial boundary of Pakistan. Because of the character of global financial markets as being interconnected, findings of this study can hopefully provide action worthy implication for similarly challenge facing financial markets. Investigating the influence of stock market performance on country' economic growth in Pakistan context, this study is expected to impose these finding in broader global and emerging economy financial markets. Policymakers, researchers and investors are expected to be benefited by the insights that findings of this article. This study seeks to align real market practices with theories, policymaking with academic literature, and actions with research findings. By exploring the nexus between stock market performance and economic growth in Pakistan, it aims to not only deepen our understanding of these complex relationships but also offer practical recommendations that can drive positive change in the economic landscape of the country and beyond. In summary, Pakistan as a prospect of future development due to its volatility in stock market must establish an efficient stock market for fostering economic development. There is significant relationship as measured by empirical evidence using ARDL approach.

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