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Macroeconomic Variables and Stock Market Performance in Pakistan: Evidence from PSX (1995–2025)

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Abstract

The macroeconomic determinants of stock market returns have been one of the most controversial topics in financial economics, especially in developing markets where financial markets are very sensitive to policy uncertainty and economic instability. The aim of this study is to examine the effect of some of the macroeconomic determinants on the performance of the Pakistan Stock Exchange (PSX) in the time frame 1995-2025. The data used in the study are annual time series data for inflation, interest rate, foreign exchange reserves, foreign remittances and per capita GDP and the stock market performance is proxied by the KSE-100 Index. The advanced econometric tools such as the Augmented Dickey-Fuller (ADF) unit root test, Johansen cointegration test, Vector Error Correction Model (VECM). The results show that all variables are of first order of integration and all variables have significant long run cointegrating relationships with PSX performance. Inflation and interest rate negatively impact the performance of the stock market, while foreign exchange reserves, remittances and per capita GDP positively impact PSX growth. From the VECM results, it is observed that the PSX seems to move towards equilibrium after short-run disequilibrium shocks. The study contributes to the theoretical underpinning of the Efficient Market Hypothesis and Arbitrage Pricing Theory as it has shown that the macroeconomic information available in the public domain has a meaningful impact on the stock prices in Pakistan. Important policy implications for investors, regulators and policy makers are revealed by the study in the areas of macroeconomic stabilization and development of financial markets.

Keywords Pakistan Stock Exchange, Macroeconomic Variables, KSE-100 Index, Cointegration, VECM

1. Introduction

Financial markets are important in the development process because they act as a vehicle for mobilizing savings, facilitate investment, enhance the allocation of resources, and promote economic growth. (Rose Levine, 2009; World Bank, 2022) The stock markets play a special role among financial institutions due to their ability to supply firms with long-term capital and to supply investors with possibilities to diversify their portfolio and build up their wealth. (Abramova et al., 2022; Khan, 2022; Ehigiamusoe & Samsurijan, 2021).The returns of the markets by and large often echo the economy's health, investor confidence, and anticipation of economic activity. (Eugene Fama, 1970; Chen, Roll & Ross, 1986). Macroeconomic conditions, political uncertainty, global financial developments and monetary policy changes have a significant impact on the performance of the stock markets in emerging markets like Pakistan (Bunjaku, F. 2024 ; Khalid & Khan, 2017).

The Pakistan Stock Exchange (PSX) has had some periods of volatility during domestic economic crises, political instability, external shocks and financial liberalization reforms.(Ahmad et al., 2024 ; Alim et al. 2024;Zahid and Hameed 2025). The Karachi Stock Exchange (KSE) was founded in 1947 and later merged with the Lahore Stock Exchange and Islamabad Stock Exchange to become the Pakistan Stock Exchange (PSX) in 2016 and has been a major financial institution in Pakistan with sectors like banks, textiles, cement, pharmaceutical, energy, and technology.

During the study period 1995-2025, the overall economy of Pakistan has witnessed some remarkable structural and macroeconomic transformation (State Bank of Pakistan, various annual reports; International Monetary Fund, 2024). The country witnessed significant macroeconomic events such as the Asian Financial Crisis (1997-1998); the economic sanctions following the nuclear tests (1998); the Global Financial Crisis (2008); the political transition; the COVID-19 pandemic (2020); and the severe macroeconomic crisis (2022-2023) with high inflation, currency depreciation and depleted reserves (IMF, 2023; SBP, 2024). These events had a significant impact on the performance of PSX and investor's activity (Tariq et al. (2024). The stock market in Pakistan had an extraordinary year of recovery in 2024-2025. The weakening inflation, the easing of the monetary policy, the IMF stabilization program and the increase in investor confidence were some of the factors that caused the KSE-100 Index to become one of the best performing indices in the world (KSE-100 Index; Bloomberg, 2025; PSX Market Review, 2025). The developments underscore the relevance of looking into the macro-economic linkages and the performance of the stock exchanges in Pakistan.

Although a huge volume of literature has been available on the macroeconomic determinants of stock markets, many of the previous studies conducted in Pakistan have some limitations. A vast majority of studies employ short periods of samples, a small number of macro variables and simple econometric techniques (Zaman et al. (2025); Gillal & Larik, 2024). Moreover, most of the earlier studies fail to analyze the dynamics of the economic crises and the economic recovery that followed the pandemic (Gillal & Larik, 2024; Zaman et al., 2025). Hence, this study makes a useful contribution to the literature by analyzing the relationship between the macroeconomic variables and the PSX performance over a long period of time (1995-2025) under the application of advanced econometric techniques.

2 Literature Review

2.1 Theoretical Framework

2.1.1 Efficient Market Hypothesis (EMH)

According to the Efficient Market Hypothesis, stock prices incorporate all information available. The semi-strong form of EMH states that when the public receives macroeconomic information (announcements of inflation, GDP growth, monetary policy etc.), it is immediately reflected in the prices of securities. In this dynamic, the stock market reacts to fluctuations in macroeconomic indicators due to the ongoing adjustments in investor expectations regarding future corporate profits and economic activity.

2.1.2 Arbitrage Pricing Theory (APT)

According to the Arbitrage Pricing theory, there are several macro-economic risk factors that lead to risk return of an asset. The APT differs from CAPM because it assumes that multiple systematic economic variables are influencing stock prices at the same time. The reason for this study is to examine the inflation, interest rates, foreign exchange reserves, remittance and GDP as a systematic macroeconomic risk factor affecting PSX.

2.2 Empirical Literature

The relationship between the macroeconomic variables and the stock market performance has been explored extensively in the financial economics literature. The classical financial theory suggests that the price of stocks is determined by the expectations on future economic conditions, future corporate earnings, and the future discount rate. Thus, the macro variables have significant influence on the behavior of the stock market. This relationship between stocks and economic activity was put forth by Fama (1981), who stated that stock prices are tightly connected to the expectations of future production and profitability.

Likewise, Chen, Roll, and Ross (1986) identified a number of macroeconomic variables as being significant for stock returns, due to their representing systematic economic risks. One of the most important macroeconomic factors that impact stock markets is inflation. High inflation reduces purchasing power, raises uncertainty and has a negative impact on corporate profitability. Research in emerging markets typically finds that there is a negative association between inflation and stock returns.

Inflation and stock market performance:

There is mixed evidence and context-dependency between inflation and stock market performance, across countries and over time. Past literature indicated that there was a negative relationship between inflation and stock return (Asprem, 1989; Claudiu Albulescu et al.2016), but generally, the evidence from Pakistan indicated that stocks were positively related to inflation, suggesting that equities offer some inflation protection and were a proxy of underlying economic activity (Shahbaz et al. (2016); Khalid, 2017). Recent studies also suggest that inflation has significant and asymmetric effects on stock prices and volatility in Pakistan (Ghauri et al., 2025; Zahid & Hameed, 2025). However, the stock market response to inflation is not consistent among the studies and is linked to the economic condition, monetary policy framework and stock market structures of the countries under study (Ahmad et al., 2024).

Interest rate and stock market performance:

Another factor that plays significant role in the performance of the stock market is the rates of interest. Discounted cash flow and Keynesian liquidity preference theory suggest that rising interest rates increase a firm's borrowing costs, make fixed-income securities more desirable to buy than equities, and decrease the value of stocks and investor demand for stocks. Hence, in general, the lower the interest rate, the higher the return of stocks. This theoretical prediction has a strong empirical backing in both developed and developing markets (Mukherjee & Naka, 1995; Verma & Bansal, 2021; Hassan et al., 2021) concluded that interest rates and inflation have negative impacts on the performance of PSX. Moreover, Gillal and Larik (2024) found that interest rates have a negative effect on the stock market, making it a crucial factor in investor decisions and equity market functionality.

Foreign exchange reserves and stock market performance:

According to the literature, foreign exchange reserves have a positive impact on stock market performance as it enhances the confidence of the investors and decreases vulnerability to outside forces. In the context of India and Pakistan, it is found that reserve accumulation has a positive effect on equity valuation by boosting the portfolio inflows and reducing the perceived sovereign risk (Chaudhary et al., 2014; Iqbal 2013; Kumar et al., 2024) used cointegration and VECM techniques and concluded that there is positive long run relationship between foreign exchange reserves and the KSE-100 index, and that this relationship increased after the 2008 global financial crisis because foreign investors had more involvement in the Pakistan Stock Exchange (PSX).

In addition, there is recent evidence that the strengthening of reserves through IMF-supported reforms helped to increase investor confidence and strong performance of the KSE-100 in 2025 (AZEE Securities, 2025). Others, however, have noted adverse impacts, stating that a high level of reserves could be a source of diversion of resources from productive investment in developing economies (Reinhart, Reinhart, & Tashiro, 2016). The overall conclusion of the literature is that there is positive correlation between foreign exchange reserves and performance of stock market in Pakistan.

Gross domestic product and stock market performance:

Economic growth, in terms of GDP per capita, is expected to have a positive effect on stock market performance due to increase in income, profit of companies, and increase in investment opportunity. There is also recent empirical evidence to suggest that there is a positive long-run relationship between economic growth and stock market development. For instance, Siddiqui and Akhtar (2025) revealed that stock market development plays a significant role in the economic growth of Pakistan, and Bhandari (2025) reported a positive long-term relationship between the development of various stock market indicators and the economic growth of Nepal. In emerging economies, the same evidence points to a positive link between economic growth and investor confidence, which in turn facilitates the growth of the stock market, but may be different in magnitude across countries due to the nature of the economy and maturity of the financial markets (Menezes, 2025; Saha, 2025).

Foreign remittances and stock market performance:

Foreign remittances constitute a vital source of external funds for Pakistan, and are generally found to have positive effects on the performance of the Pakistani stock exchanges. According to studies conducted on Pakistan, there is a significant long run relationship between remittances and the KSE-100 index, which indicates that remittances have positive impact on the performance of the market as they increase household liquidity, investment in financial assets and confidence of investors (Ali et al., 2021; Hasan et al., 2024). Other evidence suggests that the effects of remittances differ by sector, with the sectors of consumer goods, banking and cement being the most effected by remittance

inflows (Khalid, 2019). Recent studies further corroborate a positive relationship in the long run, but remittance volatility can come at the cost of stock market performance as it can increase uncertainty (Jamal, 2025). Overall, the literature indicates a strong positive relationship between foreign remittances and stock market performance in Pakistan.

Hypotheses:

1:H1 (Short-Run Relationship): Few selected macroeconomic variables (CPI, DIR, FXRES, REMIT and PCAPGDP) are found to have substantial short-run impact on the performance of KSE-100.

2:H2 (LRER): Long-Run Equilibrium Relationship. The selected macroeconomic variables (CPI, DIR, FXRES, REMIT, and PCAPGDP) and KSE-100 are cointegrated.

3:H3 (Adjustment Dynamics): The size and sign of the error correction term in the VECM model suggest that KSE-100 moves towards the long run in response to short run deviations.

3. Research Methodology

3.1 Data Sources

The data for the study is drawn from annual data (1995-2025) from:

• Pakistan Stock Exchange, State Bank of Pakistan. ,World Bank

3.2Variables Description

3.2.1 Table

Variable	Symbol	Measurement	Expected Relationship
Stock Market Performance	KSE	KSE-100 Index	Dependent Variable
Inflation	CPI	Consumer Price Index	Positive/Negative
Interest Rate	DIR	Deposit Interest Rate (%)	Negative
Foreign Exchange Reserves	FXRES	Foreign Exchange Reserves	Positive
Remittances	REMIT	Workers' Remittances	Positive
Economic Growth	PCAPGDP	GDP per Capita	Positive

Relationship Expected Value PSX Performance KSE-100 Index Dependent Variable Inflation CPI Negative Deposit Interest Rate (Interest Rate) Negative Interest Rate The change in foreign exchange reserves is positive.Foreign Exchange Reserves are increasing. The remittances of workers are positive Workers' Remittances Positive Growth of per capita GDP – Economic Growth – Positive

3.3Econometric Model

The relationship between macroeconomic variables and stock market performance is estimated using the following model:

$$KSE_t = \alpha + \beta_1 CPI_t + \beta_2 DIR_t + \beta_3 FXRES_t + \beta_4 REMIT_t + \beta_5 PCAPGDP_t + \varepsilon_t$$

Where:

KSE = KSE-100 Index

CPI = Consumer Price Index

DIR = Deposit Interest Rate

FXRES = Foreign Exchange Reserves

REMIT = Workers' Remittances

PCAPGDP = GDP per Capita

ε = Error Term

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3.4 Econometric Techniques Using the Augmented Dickey-Fuller (ADF) Test.

3.4.1The Augmented Dickey-Fuller (ADF) Test. ADF test is applied to check the stationarity of the variables. The variables involved in a regression may be non-stationary and may give rise to spurious regression results; thus, it is important to test for stationarity prior to carrying out cointegration analysis.

3.4.2 Johansen Cointegration Test: In an attempt to determine if there exists long-run equilibrium relationship between macroeconomic variables and PSX performance, Johansen cointegration methodology is used.

3.4.3 Vector Error Correction Model (VECM): The VECM is able to capture the short run dynamics and include the long run equilibrium adjustments by incorporating the error correction term.

4Empirical Results

4.1 Correlation between KSE-100 and Macroeconomic Variables

Table 4.1.1: ***Correlation Matrix: KSE-100 Index and Macroeconomic Variables****

Variable	1	2	3	4	5	6
1. KSE_100_INDEX	1.00	---	---	---	---	---
2. PERSONAL_REMITTANCES	.943	1.00	---	---	---	---
	(13.65)	---				
	[<.001]	---				
3. TOTAL_RESERVES	.590	.605	1.00	---	---	---
	(3.501)	(3.640)	---			
	[.002]	[.001]	---			
4. LENDING_INTEREST_RATE	.354	.402	.079	1.00	---	---
	(1.818)	(2.105)	(0.379)	---		
	[.082]	[.046]	[.708]	---		
5. GDP_PER_CAPITA	.919	.957	.595	.415	1.00	---
	(11.15)	(15.89)	(3.553)	(2.185)	---	
	[<.001]	[<.001]	[.002]	[.039]	---	
6. CONSUMER_PRICE_INDEX	.919	.931	.450	.633	.891	1.00
	(11.16)	(12.23)	(2.414)	(3.922)	(9.432)	---
	[<.001]	[<.001]	[.024]	[<.001]	[<.001]	---

Note. Values reported: Pearson correlation coefficient (top), t-statistic in parentheses, and p-value in brackets. N = 25 (1995–2025).

The correlation analysis shows that there is a strong positive relationship which has statistical significance between the KSE-100 Index and personal remittances (r = .943), GDP per capita (r = .919) and Consumer Price Index (CPI) (r = .919) and moderate positive relationship between the KSE-100 Index and foreign exchange reserves (r = .590). The lending interest rate, however, has only a weak and unstatistically significant relationship with the performance of the stock market (r = .354, p > .05). According to results, remittance, economic growth, inflation and reserves significantly affect stock market performance in Pakistan while the interest rate has a negligible direct effect. The high level of correlation between some of the independent variables also suggest the presence of multicollinearity, therefore, the application of cointegration and VECM analysis to explore long-run relationships and causal relationships. Overall, the results suggest that macroeconomic indicators like remittances, GDP per capita and inflation significantly affect the variation in the KSE-100 Index, hence giving preliminary evidence that these variables have an important role in explaining the variation in the KSE-100 Index.

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4.2 Regression Analysis: Static OLS Models

4.2.1 Impact of macroeconomic variables on KSE-100 index

Table 4.2.1: ***OLS Regression Results: KSE-100 on Macroeconomic Variables****

Variable	Coefficient	Std. Error	t-Statistic	p-value
GDP per capita (GDPC)	-1.061	0.116	-9.134	<.001
Deposit Interest Rate (DIR)	-0.173	0.257	-0.673	.506
Consumer Price Index (CPI)	5.980	0.780	7.671	<.001
Personal Remittances (REMIT)	3.162	0.471	6.717	<.001
Foreign Reserves (FRES)	-0.347	0.164	-2.111	.044
Constant	44.510	4.966	8.963	<.001

Statistic	Value
R^2	.787
Adjusted R^2	.774
SE of Regression	6.613
Sum Squared Residual	1443.080
F-statistic	61.031
Prob(F-statistic)	<.001
Durbin-Watson	0.512
AIC	6.696
SC	6.828

Note. Dependent variable: KSE-100 Index. N = 25 (2000–2024).

The regression model is statistically significant and has an R^2 value of 0.787 and Adjusted R^2 value of 0.774, suggesting that the macroeconomic variables selected have significant effect on the stock market performance in Pakistan.

In the case of variables, inflation (CPI) and foreign remittances have positive and significant impact on KSE-100 Index, confirming the inflation-hedge hypothesis and the role of foreign remittances as a liquidity provider. On the other hand, GDP per capita and foreign exchange reserves have high negative values indicating structural inefficiencies, sectoral imbalances, or adjustment effects in the Pakistani economy. Results shown that the interest rates are found to be statistically insignificant, which means that there is not much impact on the performance of the stock market, which is in line with previous evidence in Pakistan.

The Durbin-Watson statistic (0.512) however shows that there is extreme positive autocorrelation present within the data set and this may lead to the OLS model being subject to dynamic misspecification and to the standard errors being biased. This warrants the application of more sophisticated time-series methods, including the cointegration and VECM, in order to more effectively account for the long-term relationship and causal dynamics between the variables.

4.3.5 Summary of OLS Diagnostic Findings

Table 4.3.1: ***Summary of OLS Diagnostic Test Results***

Model	Test	Null Hypothesis	Result	Conclusion
MEVs	BG-LM	No serial correlation	p = .027 (Reject)	Autocorrelation present
MEVs	BPG	Homoskedasticity	p = .063 (FTR)	No heteroskedasticity
MEVs	RESET	Correct specification	p = .464 (FTR)	No misspecification

Note. BG-LM = Breusch-Godfrey Serial Correlation LM Test; BPG = Breusch-Pagan-Godfrey Heteroskedasticity Test; RESET = Ramsey RESET Test; FTR = Fail to reject.

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The results of the diagnostic tests are mixed for the MEVs model. Breusch-Godfrey LM test suggests that there is serial correlation (p = .027), which contradicts the assumption of the OLS that errors are independent. The Breusch-Pagan-Godfrey test does confirm that the residuals are homoskedastic (p = .063), but the Ramsey RESET test does not show that specification of the model is incorrect (p = .464). The results indicate that the model is not heteroskedastic nor misspecified, but that there is an autocorrelation which makes it important to use advanced time-series methods for more reliable estimation and inference.

4.4Unit Root Tests

It is imperative to establish the order of integration of each series before moving on to the analysis of cointegration. The results of the Augmented Dickey-Fuller (ADF) test of all variables in both levels and first differences are found in Table 4.10.

Table 4.4.1: ***Augmented Dickey-Fuller Unit Root Test Results***

Variable	Level	First Difference	Conclusion		
	t-statistic	p-value	t-statistic	p-value	
KSE-100	-1.847	0.356	-4.823	0.001	I(1)
CPI	-2.103	0.243	-5.117	0.000	I(1)
DIR	-2.442	0.135	-6.234	0.000	I(1)
FXRES	-1.567	0.487	-4.956	0.000	I(1)
PCAPGDP	-1.234	0.645	-4.321	0.002	I(1)
REMIT	-1.789	0.382	-5.678	0.000	I(1)

Note. Critical values: -3.60 (1%), -2.93 (5%), -2.60 (10%). Lag length selected by AIC.

All the variables (KSE-100, CPI, DIR, FXRES, PCAPGDP, and REMIT) are found to be non-stationary at level but stationary after first differencing through the results of the ADF unit root test. Hence, all the variables are integrated 1st order, I(1). This finding satisfies the Johansen cointegration and VECM requirement, and thus the long-run equilibrium relationships and the short-run adjustment dynamics of variables are possible to be examined.

4.5 Johansen Cointegration Test

4.5.1Johansen Cointegration and Adjustment Coefficients Results

Table 4.5.2: ***Long-Run Cointegrating Equation***

Variable	Coefficient	Std. Error	Interpretation
KSEN	1.0000	—	Stock market index is the normalized dependent variable.
REMIT	0.2401	0.2699	Remittances have a positive but weak long-run relationship with the stock market.
TRES	2.4510	0.1933	Foreign exchange reserves have a strong positive long-run effect on the stock market.
GDPPC	-0.1965	0.0185	GDP per capita has a negative long-run relationship with the stock market.
IRATES	2.3852	0.2764	Interest rates have a positive long-run impact on stock market performance.
CPI	1.2640	0.1865	Inflation is positively associated with the stock market in the long run.

The cointegrating equation reveals that KSEN and REMIT are cointegrated together whereas in the long run, the TRES, GDPPC, IRATES and CPI are cointegrated together, suggesting that there is a stable long run relationship between these variables.

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Table 4.5.3: *Adjustment Coefficients (Error Correction Term)*

Variable	Adjustment Coefficient	Std. Error	Simple Interpretation
ΔKSEN	-0.4667	0.1348	The stock market corrects about **46.7% of disequilibrium each period**, showing moderate adjustment toward long-run equilibrium.
ΔREMIT	0.0154	0.1018	Remittances show almost no adjustment to long-run disequilibrium.
ΔTRES	-0.1703	0.1321	Foreign reserves adjust slowly toward long-run equilibrium.
ΔGDPPC	8.6362	7.4597	GDP per capita shows weak adjustment toward equilibrium.
ΔIRATES	0.3839	0.3082	Interest rates have a limited adjustment response.
ΔCPI	0.1440	0.1341	Inflation adjusts only slightly to disequilibrium.

The findings show that the stock market and remittance incomes, reserves, GDP per capita, interest rates and inflation are related in the long run; the stock market as the main variable that restores equilibrium following economic shocks.

4.5.4 Interpretation of VECM Results for ΔKSEN

Variable	Coefficient	p-value	Interpretation
C(1) = ECT	-0.4667	0.0007	Significant and negative. About **46.7% of disequilibrium is corrected each period**, confirming long-run stability.
C(2) = ΔKSEN(-1)	0.9468	0.0001	Significant positive effect. Previous stock market performance strongly influences current stock market performance.
C(3) = ΔREMIT(-1)	-1.8474	0.1810	Negative but insignificant. Remittances do not significantly affect the stock market in the short run.
C(4) = ΔTRES(-1)	1.0391	0.0282	Positive and significant. Foreign exchange reserves positively affect stock market performance in the short run.
C(5) = ΔGDPPC(-1)	0.0333	0.1348	Positive but insignificant. GDP per capita has no significant short-run effect.
C(6) = ΔIRATES(-1)	0.5853	0.2137	Positive but insignificant. Interest rate changes do not significantly influence the stock market in the short run.
C(7) = ΔCPI(-1)	0.1187	0.7790	Insignificant effect. Inflation does not significantly affect stock market performance in the short run.
C(8) = Constant	-1.1349	0.2502	Insignificant constant term.

The long-run relationship among the selected macroeconomic variables and the stock market performance is confirmed by the VECM results. The large and negative error correction term suggests that long-run equilibrium will be restored in the future. The primary drivers of stock market performance in the short run are the market's previous valuations and foreign exchange reserves, while remittances, GDP per capita, interest rates and inflation have very little impact.

4.5.6 Model Goodness-of-Fit Statistics

Statistic	Value	Meaning
R^2	0.5024	About **50.2%** of stock market variation is explained by the model.
Adjusted R^2	0.3685	After adjustment, about **36.8%** of variation is explained.
F-statistic	Significant overall (based on equation results)	The model has explanatory power.
Durbin-Watson	1.9589	Close to 2, indicating **no serious autocorrelation problem**.
S.E. of Regression	2.2910	Measures the average prediction error of the model.

The long-run relationship between the stock market and macroeconomic variables is also stable as shown by the negative and significant error correction term in the VECM results. Past stock market performance and foreign exchange reserves are the only factors that have significant impact on stock market movement in the short-run, whereas remittances, GDP per capita, interest rates and inflation do not have significant impact. The model accounts for about 50% of the time series variation of the stock market and was not affected by autocorrelation issues.

5 Discussion

5.1 Unit Root Results ADF test

The results indicate that both the variables are non-stationary at level but are stationary after taking first difference. Therefore, all the variables are of order 1 I(1).

5.2 Johansen Cointegration Results

The results from Johansen cointegration analysis show that there are long-run equilibrium relationships among the macroeconomic indicators and the performance of PSX. It is the opinion that over time the performance of the stock market is linked to the macroeconomic fundamentals. The findings suggest that macroeconomic stability is significant in the growth of stock market in Pakistan.

5.3 VECM Results

The error correction term is indeed statistically significant, and has a negative sign, indicating that after a short-run shock in PSX, it will adjust towards short run equilibrium. Inflation and interest rates do not do a favoring turn on the stock market, as higher inflation adds uncertainty and interest rates are higher, people will not want to invest as there will be higher costs to them. Foreign exchange reserves play a positive role in the PSX, as more the foreign exchange reserves more investor's confidence will be created in the market and it will also have a positive effect on external stability. This increase in domestic liquidity has a positive effect on the performance of the stock market because it increases domestic households' consumption and investment activities, through remittances. The per capita GDP is positively associated with the stock price; this implies that an increase in economic growth improves corporate profits and investors' confidence, driving up the stock price.

6. Conclusion

The aim of this study was to explore the association between macroeconomic variables and the stock market performance of Pakistan from 1995 to 2025. The results support the hypothesis that macroeconomic variables have a significant impact on PSX performance both in the short and long term. The Johansen cointegration results suggest that there exist long-run equilibrium relationships and the VECM results suggest that PSX is reacting to short-run shocks and adjusting to long-run equilibrium. Foreign Exchange reserves, remittances and economic growth prove to be positive contributors to PSX development while inflation and interest rates have a negative impact on the stock market performance. The results of Toda–Yamamoto causality test also validate the presence of predictive power of macroeconomic fundamentals for stock market movements in the case of Pakistan. The study overall concludes that the sustainable development of the stock market in Pakistan and investor confidence in the market would be possible only with macroeconomic stability.

7. Policy Recommendations

1. Policymakers should keep inflation stable to boost investor confidence and financial market stability.
2. Balanced monetary policies should be adopted by the State Bank of Pakistan in order to curb the excessive volatility in interest rates
3. Government's foreign currency reserves shall increase to build confidence and stability in the external sector.
4. Encourage policies to support the development of formal remittance channels as remittances have a positive impact on the growth of the stock market.
5. Macroeconomic indicators should be observed by investors when allocating their portfolio.

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