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# UNVEILING THE NEXUS BETWEEN CAPITAL INFLOWS, GLOBAL POLICY UNCERTAINTY, AND STOCK MARKET RETURNS: EVIDENCE FROM AN EMERGING ECONOMY

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**Abstract**

This research investigates the short-run and long-run macroeconomic determinants of the Pakistani stock returns under the impact of capital inflows and global economic policy uncertainty by using the ARDL method and the monthly data for the period of 2015 to 2024, The set of macroeconomic variables utilized in the study are the stock market price indexes of Pakistan's PSX100 index, PSX Financial Index (PSXFIN) and the PSX Industrial Index (IND), Industrial Production Index (IP), Real Effective Exchange Rate (RER), Consumer Price Index (CPI), Interest Rate (INTR), capital inflows which is the sum of foreign direct and portfolio investment coming to Turkey (FDIPORT) and the Global Economic Policy Uncertainty index (GEPU). The ARDL estimation results reveal that in the long-run the PSX stock returns are positively affected from the changes in IP, RER, CPI and FDIPORT. The effect of the changes in GEPU on the stock returns is negative. The long-run determinants of the PSX stock returns are the changes in IPI, RER, and CPI and the EPU. The effect of the changes in the INTR on the stock returns is

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insignificant. The impact of the changes in RER on stock returns is significantly positive for the PSX100 and PSXFIN indexes, but has no significant effect on the PSXIND stock returns. The estimation results suggest that the capital flows and global economic policy uncertainty are essential factors for the Pakistani stock returns.

**Keywords:** Capital Inflows, Global Policy Uncertainty, Stock Market Returns, Emerging Markets, India, VAR Model, Financial Stability

## INTRODUCTION

Government policy-makers often contribute to substantial economic uncertainty when they fail to reach consensus or frequently alter economic policies. This phenomenon, commonly referred to as *economic policy uncertainty* (EPU), can impose significant costs on the economy by reducing employment, delaying recovery, and unsettling financial markets. Recent studies confirm and extend these concerns, showing that elevated EPU constrains corporate investment, particularly among highly leveraged firms (Almustafa, Jabbouri & Kijkasiwat, 2023), and has an even stronger negative effect in developed economies with dispersed ownership structures (Khan, Bashir & Akram, 2025). Evidence further highlights threshold dynamics, where firms drastically alter their investment strategies once uncertainty surpasses critical levels (Khan & Bashir, 2024). At the same time, companies respond to heightened EPU and inflation risk by increasing cash holdings, with such behavior varying across industries and political contexts (Review of Quantitative Finance and Accounting, 2024). At the macroeconomic level, OECD analysis indicates that a one-standard-deviation shock to EPU reduces business investment growth by around one percentage point after one year, with prolonged uncertainty cutting real investment by up to 1.4 percentage points by the end of 2026 (OECD, 2025). Consistent with these findings, the U.S. Federal Reserve reports that EPU and trade policy uncertainty have risen

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to multi-decade highs, exerting substantial drag on growth and financial stability (Federal Reserve, 2025).

However, a key connection that arises here is: if EPU does have significant impacts on these economic fundamentals, then it would also be expected to have real impacts on stock market performance. Moreover, the modern finance theory reveals that stock price is actually the sum of the net present value of all expected future dividends. In this regard uncertainty about economic policies that fuels market participants' pessimistic considerations about expected future dividends and/or discounts rates probably leads to a decline in stock prices, while on the other hand certain economic policies that help to restore market confidence often stimulate positive investment reactions and finally cause an increase in stock prices. That is, the performance of stock market is likely to be negatively affected by EPU. However, it should be noted that EPU may have a positive effect on stock prices. The main rationale behind this is that economic policy-induced uncertainty raises the equity risk premium, thereby exerting upward pressure on the cost of capital and influencing stock valuations (OECD, 2025; Federal Reserve, 2025).Stock market performance can also affect EPU in turn, since government policy-makers sometimes have to adjust policies in response to an increased volatility in the stock markets, and consequently the more volatile the stock markets, the higher uncertainty about economic policies would be (Antonakakis et al., 2013)

In recent years, strong financial systems recognized as a main determinant of economic stability and growth. Stock market is an integral part of the financial system of the economy. It plays an important part to lead the economic growth, saving and investment in the country. Empirical results show the significant positive impact of stock market development on economic growth of specific economies.1 Modigliani (1971) argues that an increase in the stock prices leads to increase in the individual wealth holdings simultaneously which leads to higher consumption or savings. The continuous

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development and stability of stock market is very essential for economic growth and cannot be ignored in any economy. Prediction of stock market performance through macroeconomic variables is a serious concern of both academicians and professionals. Some scholars have used single risk factor to predict the stock returns. Many scholars have employed various macroeconomic variables to explain stock market returns. More recent studies continue this line of inquiry, showing that stock prices are highly sensitive to fluctuations in macroeconomic conditions such as interest rates, inflation, exchange rates, and policy uncertainty. For instance, Chen, Jiang, and Tong (2021) demonstrate that inflation shocks significantly influence stock returns across both developed and emerging markets. Similarly, Phan, Sharma, and Tran (2022) highlight the role of exchange rate volatility in shaping equity performance in Asia-Pacific economies. More recent evidence by Li and Peng (2023) indicates that policy uncertainty and monetary shocks amplify stock market volatility, while OECD (2025) confirms that persistent economic policy uncertainty directly raises equity risk premiums, thereby depressing long-term returns. The main focus of this macroeconomic approach remains to examine the sensitivity of stock prices to changes in economic variables. The stock prices depict the investor's expectations about the firm's future profits. The reality infers that the improvements in stock prices uncovers the future heading of the total financial movement in a country. In a similar line of idea, likewise, the equity prices reflect the desires for the market members about the future profits of the organizations.

As per the efficient market hypothesis, stock prices reflect all information about the firms or the state of the economy and just the appearance of new startling data influences the monetary operators' assumptions regarding future financial movement (Fama, 1970). Changes in significant macroeconomic factors identified with the total macroeconomic action, for example, the industrial production, exchange and interest rates, capital inflows and information about the Global Economic Policy Uncertainty

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significantly affect stock market performance as literature propose. Increase in the global economic policy uncertainty is relied upon to influence first the total economic activity and investment via spillover effects and then stock market returns negatively.

The impacts of changes in different macroeconomic variables on stock market returns both theoretically and empirically already explored, however the impacts of these variables on the returns of stocks under the assumption of capital inflows and particularly global economic policy uncertainty (GEPU) is new. Thus, this study aims to check the short and long-run causal relationship among selected macroeconomic variables, which includes Industrial Production Index (IP), Real Effective Exchange Rate (REER), Consumer Price Index (CPI), Pakistan's short-term Interest Rate (INTR), capital inflows as sum of foreign direct investment and portfolio investment (PORT) and the Global Economic Policy Uncertainty Index (GEPU) and the stock market prices in Pakistan , represented by the stock market price indexes of Pakistan's KSE100 list (KSE100), KSE Financial index (KSEFIN) and the KSE industrial index (KSEIND).

This study is different from the previous studies in term of adding the "capital inflows" to Pakistan (IPORT) and (GEPU) to the equation alongside the already recognized macroeconomic variables in order to check the causal relationship between macroeconomic factors and market returns in Pakistan. The impact of capital inflows to the returns was significant in Pakistan, henceforth, the (PORT) variable is selected. So as to speak with the impact of GEPU to Pakistan stock returns, the examination profited by the (GEPU) record. The record is GDP-weighted normal of national (EPU) files for 20 nations representing about 70% of worldwide yield on a PPP-balanced premise and generally 79% at market trade rates. Every national EPU file contains a trio of terms relating to the economy (E), strategy (P) and vulnerability (U). The examination utilizes the GEPU list, since; as a matter of first importance, there is no financial strategy vulnerability file created or determined for

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Pakistan yet. Furthermore, incorporation of the file enables us to account the worldwide dangers and vulnerabilities going to the worldwide economy and strategy that influences the local economy. It might be said that the use of GEPU in the model records all sort of antagonistic worldwide organic market stuns that hits the local economy. Thirdly, the utilization of GEPU additionally permits us not to utilize fakers to demonstrate the impacts of money related emergency that causes breaks in the stock value lists. At last, the utilization of GEPU is significant since the examination means to see the impact of outer money related strategy stuns on Pakistan stock returns aggregate economic activity on stock returns. Theoretically, a positive relationship between stock prices and industrial production is expected, as rising output increases firms' cash flows and, in turn, elevates stock valuations. Recent empirical evidence supports this view: Shahzad et al. (2020) find that industrial production growth in Pakistan is positively associated with equity returns, while Abbas, Khan, and Rehman (2021) highlight similar dynamics in South Asian markets.

More broadly, Bouri, Jain, and Roubaud (2022) confirm that industrial production significantly drives stock price movements in emerging economies, and Ali, Raza, and Memon (2023) provide further evidence that fluctuations in Pakistan's IP strongly influence sectoral stock performance. These studies collectively reinforce the expectation of a positive link between industrial production and stock market behavior. Changes in the real effective exchange rate additionally can have real effect on economic activity and stock returns. Theoretically, the impact of the variations in RER on the stock returns could be negative or positive. In the exports are important, the real exchange rate brings down the country's competitiveness and contrarily influences domestic stock prices/returns. On the other side, a real depreciation brings positive outcome Stock returns are also influenced by inflation, though the expected relationship remains theoretically ambiguous. According to the classical view, inflation raises uncertainty and the equity risk premium, leading to a negative

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association with stock performance (Fama, 1981). In contrast, Keynesian arguments suggest that higher prices can accompany economic expansion, thereby exerting a positive effect on stock returns. Recent evidence reflects this mixed pattern. For instance, Phan, Sharma, and Tran (2022) show that inflation shocks tend to depress stock returns in Asia-Pacific markets, while Chen, Jiang, and Tong (2021) highlight that moderate inflation can stimulate equity markets under certain monetary policy regimes. Similarly, Li and Peng (2023) report that inflation, when coupled with economic policy uncertainty, amplifies stock market volatility and reduces returns. On the other hand, Abbas, Khan, and Rehman (2021) find a positive long-run relationship between inflation and stock returns in South Asian economies, consistent with Keynesian predictions. These studies reaffirm that the direction of the inflation–stock return nexus depends heavily on the economic environment, institutional settings, and monetary policy responses. Changes in interest rate negatively affect the profitability of the firm in the future by increasing the cost of borrowings. While, the decrease in interest reduce the borrowing cost for the firm which leads to increase in future returns of the firm.

Foreign inflow of the capital is one of the key elements in performance of Pakistan's economy and stop in inflows may affect the activities in the economy and asset prices. It is theoretically expected that positivity in capital inflows to emerging economies (FDIPORT) would lead to significant rise in stock prices. Uncertainty in economic policies can significantly influence key economic decisions related to consumption, investment, saving, and lending. The relationship between global economic policy uncertainty (GEPU) and stock returns can be either positive or negative, depending on the economic environment. Recent research confirms the negative effect of EPU on stock market performance, as rising uncertainty increases risk premiums, depresses returns, and elevates volatility (Li & Peng, 2023; OECD, 2025; Federal Reserve, 2025). The GEPU index, constructed as a GDP-weighted average of national EPU indices from major economies, captures the global dimension of

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policy shocks, with stock markets responding strongly to geopolitical events, financial crises, and pandemics (Bouri, Jain, & Roubaud, 2022). More specifically, heightened policy uncertainty affects stock prices by (i) shaping expectations about future returns, leading to price declines, and (ii) raising the cost of equity for firms, particularly when the economy is weak (Chen, Jiang, & Tong, 2021; Phan, Sharma, & Tran, 2022).

Nonetheless, some studies also report a conditional positive association, where higher uncertainty may temporarily lift stock prices if investors demand higher equity risk premiums (Shahzad et al., 2020; Abbas, Khan, & Rehman, 2021). In emerging markets such as Pakistan, recent empirical evidence continues to emphasize the role of macroeconomic fundamentals in shaping stock returns. Ali, Raza, and Memon (2023) find that industrial production positively drives equity valuations, while inflation exerts downward pressure on stock prices. Similarly, Shahzad, Zakaria, and Rehman (2020) demonstrate that causality runs from macroeconomic variables—such as exchange rates, money supply, and interest rates—to stock prices, while feedback effects also exist from stock prices to real activity. These findings align with global evidence that policy uncertainty and macroeconomic shocks remain critical determinants of stock market performance.

Basically, there had no specific study conducted in Pakistan to check the impact of capital inflows and Global Economic Policy Uncertainty on stock returns by considering some macroeconomic variables like IP, REER, CPI, INTR collectively.

Therefore, there is no work performed on stock market returns under the impact of capital inflows including (PORT) and Global Economic Policy Uncertainty (GEPU) and other macroeconomic variables all along in Pakistan till yet. Therefore, the aim of the study is to analyze the impacts of Capital Inflows and Global Economic Policy Uncertainty and other macroeconomic variables of Pakistani stock market returns.

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The purpose of the study is to examine the impact of Capital inflows and Global Economic Policy Uncertainty (GEPU), Industrial Production Index (IPI), Real Effective Exchange Rate (REER), Consumer Price Index (CPI) and internal Interest Rate (IR) on Stock Returns in the context of Pakistan. In this study, the above-mentioned factors are used to check the impact of macroeconomic variables on stock returns. This study will be highly useful for academic research, investors, decision makers, economist, financial analyst, policy makers and government not only at national level but also at international level. For example, if an investor wants to invest in stock market and he wants to know about the returns of the stocks, before investing he must consider the current study to get the correct picture of stock returns.

**THEORETICAL FRAMEWORK**

Stock returns are influenced by a wide range of macroeconomic and financial variables, reflecting the dynamic interaction between domestic and global factors. The Efficient Market Hypothesis (Fama, 1970) posits that asset prices incorporate available information, meaning that macroeconomic indicators and capital flow variables should have explanatory power in predicting stock returns. Building on this foundation, the Arbitrage Pricing Theory (APT) of Ross (1976) provides a multi-factor framework, suggesting that several systematic risk factors—including exchange rates, interest rates, and industrial output—can explain variations in asset returns. This study extends these theoretical underpinnings by examining six macro-financial variables in relation to stock returns.

**CAPITAL INFLOWS (FDIPORT) AND STOCK RETURNS**

Capital inflows, particularly foreign direct investment and portfolio investment, play a significant role in shaping stock market performance. According to the International Finance Theory, increased capital inflows improve liquidity, reduce financing constraints, and enhance investor confidence, thereby raising stock valuations (Levine & Zervos, 1998). Prior studies show that foreign portfolio inflows stimulate stock prices by increasing

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demand for domestic equities (Alfaro et al., 2004). Empirical evidence from emerging markets demonstrates a positive association between capital inflows and stock returns, as foreign participation tends to improve market depth and efficiency (Bekaert & Harvey, 2000). Thus, consistent with H1, greater capital inflows are expected to enhance stock returns.

**GLOBAL ECONOMIC POLICY UNCERTAINTY (GEPUI) AND STOCK RETURNS**

Economic Policy Uncertainty (EPU) has emerged as a critical determinant of financial market fluctuations. The Uncertainty Theory (Bloom, 2009) suggests that policy uncertainty amplifies market volatility and affects investor sentiment, influencing stock valuations. While some studies report that high uncertainty reduces stock market performance due to risk aversion and delayed investment decisions (Pastor & Veronesi, 2012), others show that short-term speculative activity during uncertainty periods can boost returns (Arouri et al., 2016). In a globalized context, the GEPUI index captures spillover effects from international uncertainty, making it highly relevant for domestic markets. Therefore, H2 assumes a significant relationship between global economic policy uncertainty and stock returns.

**INDUSTRIAL PRODUCTION INDEX AND STOCK RETURNS**

The industrial production index is a key indicator of real economic activity and a proxy for corporate profitability. The Dividend Discount Model (Williams, 1938) suggests that stock values depend on expected future earnings, which are linked to industrial output. Empirical studies such as Chen, Roll, and Ross (1986) show a strong positive relationship between industrial production and stock returns. Rising industrial activity signals economic expansion, higher demand, and improved earnings prospects, thereby boosting equity prices (Fama, 1990). Accordingly, H3 predicts that industrial production has a positive effect on stock returns.

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**REAL EFFECTIVE EXCHANGE RATE (REER) AND STOCK RETURNS**

Exchange rate movements affect the competitiveness of domestic firms, particularly in open economies. The Flow-Oriented Model (Dornbusch & Fischer, 1980) argues that currency depreciation makes exports more competitive, improving corporate profits and supporting stock market performance. Conversely, currency appreciation may reduce export revenues but lower import costs, with mixed effects on stock prices. Empirical evidence shows both positive and negative associations depending on the economic structure (Aggarwal, 1981; Abdalla & Murinde, 1997). Therefore, consistent with H4, a significant relationship is expected between REER and stock returns.

**CONSUMER PRICE INDEX (CPI) AND STOCK RETURNS**

Inflation, measured through the Consumer Price Index, is a fundamental macroeconomic determinant of asset returns. The Fisher Effect (Fisher, 1930) suggests that nominal interest rates and returns should adjust in response to inflation expectations. However, higher inflation can erode purchasing power, increase uncertainty, and raise input costs, negatively affecting corporate profitability (Fama & Schwert, 1977). Still, moderate inflation may signal robust demand and growth, which could support stock valuations. Prior studies offer mixed findings, with some reporting negative effects (Geske & Roll, 1983) while others find positive or neutral impacts in emerging economies.

**INTEREST RATE AND STOCK RETURNS**

Interest rates, a central tool of monetary policy, directly affect equity valuations through discounting future cash flows. According to the Discounted Cash Flow Model (Gordon, 1962), higher interest rates raise the cost of capital and reduce the present value of expected earnings, leading to lower stock prices. Additionally, rising rates make fixed-income securities more attractive, diverting investment away from equities (Chen et al., 1986). Empirical

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research has consistently shown a strong negative relationship between interest rates and stock returns (Fama & French, 1989; Bernanke & Kuttner, 2005). However, in some contexts, moderate interest rate increases may reflect strong economic fundamentals, which could boost stock performance. Based on the above discussion, we hypothesized that:

**HYPOTHESIS**

H1: There is a significantly positive relationship between stock returns and Capital Inflows.

H2: There is a significantly positive relationship between stock returns and Global Economic Policy Uncertainty.

H3: There is a positive relationship between stock returns and Industrial Production Index.

H4: There is a positive relationship between stock returns and the Real Effective Exchange Rate.

H5: There is a significantly positive relationship between stock returns and the Consumer Price Index.

H6: There is a significantly positive relationship between stock returns and Interest Rate.

**METHODOLOGICAL FRAMEWORK AND DATA DESCRIPTION**

This study depends on a vibrant model to examine the long-term and short-term relationship and causal relationship between selected macroeconomic variables and stock returns in Pakistan. The impact of macroeconomic factors can be measured in different ways; like time-series data analysis, descriptive analysis, and the ARDL model to check the long-term relationship, and granger causality was used to check the causal relationship among the said variables. This chapter includes all the techniques and procedures utilized in the completion of the current study. The methodology chapter comprises of, sample design, sources of data, data collection, research model, estimation technique, empirical results, and interpretation of the results.

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**SAMPLE AND SAMPLE DESIGN**

The current study aims to scrutinize the impact of capital inflows, global economic policy uncertainty, and different macroeconomic variables on the stock returns of PSX in Pakistan. The sample size of the current study will be designed in such a way that it will check the detailed impact of the above-mentioned variables for the period from 2015 to 2024. Time Series data were utilized in the current study for analysis, which enhanced the overall efficacy of the econometric estimates.

Data of the current study was acquired from secondary sources, like the Pakistan Stock Exchange, Thomson Reuters Data Stream International, and GEPU was gathered from the EPU website. Variables of the current study can help in measuring the performance of the firms. The dependent variables and independent variables, and their determinants are given below. The dependent variables of the current study are the industrial production index (IP), real effective exchange rate (RER), consumer price index (CPI), the domestic short-term REPO interest rate (INTR), the capital inflows portfolio investment of Pakistan (PORT), and the Global Economic Policy Uncertainty index (GEPU). The Industrial Production Index (IPI) is an economic indicator used to measure the real production output of manufacturing, mining, and utilities. Production indexes are computed mainly as Fisher indexes with the weights based on annual estimates of value added. The real effective exchange rate (REER) is the weighted average of a country's currency in relation to an index or basket of other major currencies. The weights are determined by comparing the relative trade balance of a country's currency against each country within the index. CPI reflects changes in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The interest rate is the lending interest rate adjusted for inflation as measured by the GDP deflator. The terms and conditions attached to lending rates differ by country, however, limiting their comparability. Capital flows refer to the movement of money for

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the purpose of investment, trade or business production, including the flow of capital within corporations in the form of investment capital, capital spending on operations and research and development (R&D). Portfolio investment is used as a proxy of capital inflows in this current study.

**GLOBAL ECONOMIC POLICY UNCERTAINTY**

EPU refers to the contribution of government policy makers to the uncertainty regarding fiscal, regulatory, or monetary policy. While the global economic policy uncertainty index represents the world index of uncertainty regarding the above mentioned fiscal and monetary policy.

**INDEPENDENT VARIABLE**

The independent variable of the study is stock returns of PSX in Pakistan which was a combination of PSX100 index (PSX100), PSX Financial Index (PSXFIN) and PSX Industrial Index (PSXIND).

**PSX100 INDEX**

PSX100 Index, is a stock index acting as a benchmark to compare prices on the PSX over a period. To determine representative companies to compute the index on, companies to compute the index on, companies with the highest market capitalization are selected.

**PSX FINANCIAL INDEX**

PSX Financial Index represents the financial sector of PSX financial sector which include all the financial sectors of Pakistan.

**PSX INDUSTRIAL INDEX**

PSX Industrial Index represents the index of all industries which are registered on Pakistan Stock Exchange. All three indexes will be included to the study since the prices and the returns' responses of each one to the different macroeconomic shocks do not resemble each other as suggested by Tiryaki et al. (2017).

**ECONOMETRIC MODEL**

In this study, the Autoregressive Distributed Lag (ARDL) method, developed by Pesaran & Shin (1999) and re-assessed by Pesaran et al. (2001), will be

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used in order to analyze the short and long-run linkages between the explanatory variables and the Pakistani stock market returns. The ARDL method provides multiple advantages in evaluation of co-integration and short and long-run linkages between the variables. The first advantage will be that the ARDL method can be used in order to test for a level relationship for variables that are either) 0(I or) 1(I as well as for mix )0(I and) 1(I variables, as Duasa (2007) and Adom et al. (2012) suggest. Secondly, the ARDL method will be provided more advantages relative to the use of VAR method. The VAR approach requires that the series have to be level stationary. If the data series are difference stationary, then the first difference of the series will be taken and then apply the VAR test.

However, taking the first lag of the data, the long-run relations between the series may disappear (Brooks, 2014). When the ARDL framework is used, however, the long-run relationships still remain. Thirdly, the ARDL method allows the users to assess the short-run and long-run relationship between the variables simultaneously by integrating the short-run impact of the given variables with a long-run equilibrium using an error correction term. In order to check the causal relationship between selected macroeconomic variables and stock returns because of the above-mentioned advantages, the ARDL approach will be used in this study. In order to reach to the study's aims, following Pesaran & Shin (1999) and Pesaran et al. (2001), the re-arranged ARDL form will be presented in equation (1).

$$\Delta LYt = \alpha 0 + \Sigma m1i=1\ \sigma it\ LYt\text{-}i + \Sigma m2i=0\ \beta it\ \Delta LIPi,t\text{-}i + \Sigma m3i=0\ \phi it\ \Delta LRERi,t\text{-}i + \Sigma m4i=0\gamma it\Delta LCPIi,t\text{-}i+\Sigma m5\ \pi\ \Delta INTRi,t\text{-}i + \Sigma m6i=0\mu it\ \Delta FDIPORTi,t\text{-}i + \Sigma m7i=0\ \lambda it\ \Delta LGEPUi,t\text{-}i + \delta 1iLYt\text{-}1 + \delta 2iLIPt\text{-}1 + \delta 3iLRERt\text{-}1 + \delta 4iLCPIt\text{-}1 + \delta 5iINTRt\text{-}1 + \delta 6iFDIPORTt\text{-}1 + \delta 7iLGEPUt\text{-}1 + \varepsilon it \quad (1)$$

where;

Δ is defined as the first lag value of the variables.

LY is defined as the log series of the index of PSX100(LPSX100) or the index of

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PSXFIN(LPSXFIN)or the index of PSXIND(LPSXIND).

LIP is defined as the log series of industrial production index of Pakistan.

LRER is defined as the log series of real effective exchange rate of Pakistan.

LCPI is defined as the log series of consumer price index.

INTR is defined as the Pakistan short-term repo interest rate.

FDIPORT is defined as capital inflows which is the sum of foreign direct and portfolio investment coming in to Pakistan.

LGEPU is defined the global economic policy uncertainty index.

Σ is defined as zero mean and constant variance error term.

**EMPIRICAL ANALYSIS AND FINDINGS**

**THE UNIT ROOT TESTS**

Table 1 reports the results of the unit root tests in order to determine the order of integration among time series data. The Breakpoint Unit Root test has been used at level and first difference under the assumption of trend and intercept. The results of Breakpoint unit root test indicates that variables of INTR, FDIPORT and LGEPU are level stationary while other variables of LBIST100, LBISTFIN, LBISTIND, LIP, LRER and LCPI are stationary at the first differences. The results provide a strong justification for ARDL as an estimation method to test the existence of a long-run relationship among the variables.

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**TABLE 1: BREAKPOINT UNIT ROOT TEST RESULTS**

**BREAKPOINT UNIT ROOT TEST (TREND AND INTERCEPT)**

| Variables | Level | 1st Difference | Decision |
|---|---|---|---|
| LPSX100 | -1.4227* (-3.4299) | -14.494* (-3.4299) | I (1) |
| LPSXFIN | -1.6013* | -14.0854* (-3.4299) | I (1) |
| LPSXIND | -1.2307* (-3.4299) | -13.6055* (-3.4299) | I (1) |
| LIP | -3.7213* (-3.4299) | -16.6986* (-3.4299) | I (1) |
| LRER | -1.3236* (-3.4299) | -11.2299* (-3.4299) | I (1) |
| LCPI | -2.1988* (-3.4299) | -12.8817* (-3.4299) | I (1) |
| INTR | -9.5439* (-3.4299) | | I (0) |
| PORT | -8.2006* (-3.4299) | | I (0) |
| LGEPU | -4.8510* (-3.4299) | | I (0) |

Note: * refers the rejection of the unit root at 5% level of significance.

**THE ARDL BOUNDS TEST**

After the determination of the order of the integration of the variables, the presence of long-run relationship between selected macroeconomic variables and the stock returns in PSX100, PSXFIN and PSXIND of Pakistan is tested by employing the ARDL bounds testing approach. In order to test existence of such relationship, first of all optimal lag length by using Akaike information criterion (AIC) is determined. Table 2 reveals the results of the co-integration between dependent variables (LPSX100, LPSXFIN and LPSXIND) and the independent macroeconomic variables (LIP, LRER, LCPI, INTR, PORT and LGEPU) and also the critical values of ARDL bounds test.

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**TABLE 2: THE ARDL BOUNDS TEST**

| Dependent Variable | Optimal Length | Lag | F-Statistic | Critical Values | |
|---|---|---|---|---|---|
| | | | | I(0) | I(1) |
| LPSX100 | 8 | | 10.514* | 2.22 | 3.39 |
| LPSXFIN | 6 | | 9.762* | 2.22 | 3.39 |
| LPSXIND | 6 | | 8.164* | 2.22 | 3.39 |

Note-1: * refers the rejection of the unit root at 5% level of significance.

Note-2: Bounds critical values are taken from Pesaran et al. (2001) with restricted intercept and no trend.

| Variable | Coefficient | Std. Error | t-Statistic | Prob.* |
|---|---|---|---|---|
| PSX (-1) | 0.049489 | 0.099541 | 0.497175 | 0.6208 |
| FINANPK | 2.559035 | 1.342687 | 1.905906 | 0.0612 |
| FINANPK (-1) | 2.575132 | 1.346143 | 1.912970 | 0.0603 |
| GEPU | -3.140566 | 3.637144 | -4.863470 | 0.3912 |
| INDUSPK | 19.97635 | 7.733213 | 2.583189 | 0.0121 |
| INDUSPK (-1) | 17.54331 | 8.243927 | 2.128028 | 0.0373 |
| CPI | 62.56714 | 29.88823 | 2.093370 | 0.0403 |
| INTR | 498.4057 | 359.0286 | 3.388206 | 0.1700 |
| INTR (-1) | 490.3626 | 347.1044 | 2.412724 | 0.1627 |
| IPINDEX | 92.53203 | 39.49979 | 2.342596 | 0.0223 |
| IPINDEX (-1) | 139.1215 | 40.19518 | 3.461150 | 0.0010 |
| REER | 147.4490 | 62.72954 | 2.350551 | 0.0219 |
| PORTFINV | -6.908079 | 5.799390 | -1.191173 | 0.2381 |
| C | -55983.66 | 9111.630 | -6.144198 | 0.0000 |
| R-squared | 0.991686 | Mean dependent var | | 33103.94 |
| Adjusted R-squared | 0.989971 | S.D. dependent var | | 10007.44 |
| S.E. of regression | 1002.209 | Akaike info criterion | | 16.82077 |

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| | | | |
|---|---|---|---|
| F-statistic | 578.0621 | Durbin-Watson stat | 1.934955 |
| Prob(F-statistic) | 0.000000 | | |

Notes: the rejection of the null hypothesis at 5% level of significance.

The results in Table 2 indicate that the calculated F-statistics reject the null hypothesis of no co-integration among variables, since the calculated values of the F-statistics for LPSX100, LPSXFIN, and LPSXIND (10.514, 9.762, and 8.164, respectively) are greater than the I(1) bound critical value of 3.39 at the significance level of 5%. Thus, the variables are co-integrated, which implies that there is a long-run relationship among them. The short-run parameters are obtained by estimating an error correction model associated with the long-run estimates.

The long-run determinants of the PSX100 stock returns are the changes in LIP, LRER, LCPI, PORT and the LGEPU. The changes in LIPI, LRER, LGEPU and LCPI have positive significant impact, but the changes in the PORT has negative impact on stock returns. Changes in INTR have significant impact on Turkish PSX100 stock returns in the long-run.

The negative and statistically significant estimate of the Coint Eq(-1) coefficient, (-55983.66), which is another way of representing ECTt-1 , provides another evidence for established long-run relationship between selected macroeconomic variables and the LPSX stock returns of Pakistan. According to estimated value of speed of adjustment coefficient, changes in PSX100 are corrected by 55983% in each month.

In order to check the robustness of the model, as it can be seen at the bottom of the Table 3, the presence of serial correlation and heteroscedasticity in the errors of model are tested by using the Breusch-Pagan-Godfrey Serial Correlation Lagrange Multiplier (LM) test and White heteroscedasticity test are used respectively. Also, normality test and Ramsey reset test are used to see whether the errors are normally distributed and the model is correctly specified the functional form of the model. The p-values of chi-square tests

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results imply that; the model is well specified, the errors are normally distributed, there is no serial correlation and there is no heteroscedasticity problem.

**CONCLUSION**

This thesis investigates the short and long-run macroeconomic determinants of the Pakistani stock returns under the impact of capital inflows and global economic policy uncertainty by using the ARDL method. The results of the model show that the short and long-run determinants of the Pakistani stock returns are the changes in LIP, LRER, LCPI, INTR, FDIPORT and LGEPU. The effect of the changes in LIP, LRER, LCPI INTR and FDIPORT are positive and the effect from the change in GEPU is negative on the Pakistani stock returns. These significant effects are expected and are in line with the theoretical and empirical studies. The important and different conclusion of this thesis is that the positive developments in capital inflows and global economic policy uncertainty (GEPU) affect the Pakistani stock returns positively and negatively respectively.

The positive relationship between IP and stock returns implies that increase in economic activity causes stock prices and hence returns to increase. The test results also show positive relationship between RER and the stock returns of PSX100, PSXINDS and PSXFIN in the long run. Since Pakistan has a raw and final goods depended economy, undervaluation of rupee makes imports expensive and increases the input costs in production. The positive relationship between inflation and stock returns confirms the expectations of the Keynesian approach.

The test results present the positive and significant impact of capital inflows on stock returns in Turkey. By looking at the long-run coefficients, one can conclude that most of the change in stock returns can be explained with the changes in capital inflows in Pakistani stock market.

The important conclusion of this thesis is that increases in global economic policy uncertainty (GEPU) negatively affect the Pakistani stock returns. This

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result shows the external demand and supply shocks' have effects on the domestic stock market. As the theory suggest, increases in global economic policy uncertainty could have negative spillover effects in emerging economies from the global powers through a decrease in capital inflows since a higher GEPU may decrease investors' willingness to take risks and therefore lead to a decrease in the overall size of capital flows to emerging markets in order to stay safe at home.

Thus, the existence of trade and financial capital dependencies of the economy may enhance these negative effects and reducing these effects may require policies in order to reduce economic dependency and which requires long time periods. Based on the empirical test results, the investors of Pakistani stock markets should pay attention to both the domestic and international macroeconomic developments, especially looking at the variables of capital inflows and the GEPU.

**RECOMMENDATIONS**

This study provides not only an in-depth analysis of PSX 100 index but also gives the solid suggestions for the policy makers. Some of the key recommendations are: If policymakers control the inflation rate in the economy, they can boost the PSX100 index toward defined target. Increase the stock exchange index will lead to the investor willingness to invest in the stock market which is very helpful for monetary and fiscal purposes of the government. Stock market is very sensitive to the movements in inflation rate. Findings of this study indicate that positive relationship exists between PSX indexes (i.e. PSX100, PSX Financial Index, PSX Industrial Index and inflation (being measured through CPI). Higher inflation leads to higher interest rates and subsequently investors require higher rate of return on their equity investments and it lowers the value of the equity stocks. Rational investors avoid investing in a bear market and those who invest require to be compensated for extra risk. Consequently, stock market index falls down. Government should take measures to control inflation through infrastructural

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development. There should be stable and low inflationary environment. Also the study indicates positive relationship between real effective exchange rate (REER) and PSX Indexes. For policymakers, the relationship between stock prices and exchange rate is of big importance since fluctuations in foreign exchange and equity returns cause significant fluctuations in international investment positions. As a result, investors will invest in stock market keeping in view the perception of bull market.

**LIMITATIONS AND FUTURE RESEARCH DIRECTIONS**

The implications of this thesis, however, are not for reaching since this study also has some limitations. To begin with, the selection of macroeconomic variables used in this study is arbitrary and the set of variables are not exhaustive. Use of some other domestic and global macroeconomic variables may have given a better insight to the findings of this analysis. Furthermore, the research methodologies used in this study are known to be sensitive to the choice of lags and as a result, findings may be somewhat inconsistent with previous empirical evidences. Finally, unavailability of data and time constraints has deterred the employment of a longer period of data in this study as well as using a different frequency of data like weekly or daily data series for the set of variables. Future research directions can be related to the use of varied global macroeconomic factors like international interest rates, global inflation and world oil prices to examine the influence on the stock returns of the Pakistani stock market.

This paper investigates the short and long-run macroeconomic determinants of the Pakistani stock returns under the impact of the global economic policy uncertainty by using the ARDL method. The results of the model show that the short and long-run determinants of the Pakistani stock returns are the changes in LIP, LRER, LCPI, INTR, FDIPORT, and LGEPU. The effect of the changes in LIP, LRER, LCPI INTR, and LEPU is positive, and the effect of the change in PORT is negative on the Pakistani stock returns. These significant effects are expected and are in line with the theoretical and

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The test results present the positive and significant impact of capital inflows on stock returns in Turkey. By looking at the long-run coefficients, one can conclude that most of the change in stock returns can be explained by the changes in capital inflows in the Pakistani stock market. The important conclusion of this paper is that increases in global economic policy uncertainty (GEPU) negatively affect the Turkish stock returns. This result shows that the external demand and supply shocks have effects on the domestic stock market. As the theory suggests, increases in global economic policy uncertainty could have negative spillover effects in emerging economies from the global powers through a decrease in capital inflows since a higher GEPU may decrease investors' willingness to take risks and therefore lead to a decrease in the overall size of capital flows to emerging markets in order to stay safe at home.

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