Political Instability and Investment Behaviour in Pakistan

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Abstract

The study investigates the impact of political instability on FDI and private investment in Pakistan from 1990-2019. Control variables include trade openness, inflation, real GDP, and interest rate differential. We have employed Zivot and Andrews stationarity test. The study makes use of the recently introduced dynamic ARDL simulation framework. The long-run results of our first objective show the negative association between FDI and political instability. They concern the factors we used as controls, trade openness, real GDP, and interest rate differential boost the FDI inflows, whereas inflation remains insignificant. The short-run result infers that the rate of adjustment is about 25%. As for our second objective, the dynamic ARDL model's long-term findings indicate that political instability deteriorates private investment. As for as control variables are concerned, trade openness and real GDP are positively associated with private investment, whereas interest rates dampen it. Inflation remains insignificant in affecting private investment. Short-run results show that the speed of adjustment is 53% annually. It is suggested that the government is responsible for creating an atmosphere promoting domestic and foreign investment. Investor confidence will be boosted through greater governance, higher institutional quality, and political stability.

Keywords: political instability, error correction, institutional quality, foreign direct investment, private investment.
1. **Introduction**

Political instability is the possibility of a government collapse for constitutional or unconstitutional reasons. Furthermore, government change enhances the likelihood of resulting modifications. On the one hand, economic growth slows down due to an uncertain political environment. Poor financial performance, on the other side, may lead to government collapse. From the growth perspective, political stability means a particular form of stability: the rule of law, strong institutions, an efficient bureaucracy, low corruption, and an investment-friendly business climate. Because stability entails a stable political environment, the economy may fare well in attracting foreign investment.

It is supposed that investment will be affected by macroeconomic and political uncertainty. The country facing political instability and economic uncertainty will face strong opposition from investors (Abdelkader, 2017). Uncertainty regarding the new policies of a possible new government makes the people hesitant to accept the risks, and they choose to invest elsewhere. Political instability is a severe problem for wealthy nations and emerging economies. Foreign buyers decrease when a country experiences political instability, resulting in weak financial growth. Political instability badly affects the economy. Political stability guarantees law and order, and a stable political system is necessary for the prosperity and advancement of the country. If policies are distorted and inconsistent, the government is considered inefficient. Political instability and economic growth are related. First, political unrest raises uncertainty, reducing private investment. Second, political turmoil influences demand, which significantly impacts economic growth. The literature claims that politically unstable countries are economically impoverished and have insecure policies (Alesina & Perotti, 1996).
FDI is a source of capital for developing nations for investment motives. It also contributes to creating job possibilities, leading to higher economic growth. Pakistan regarded FDI as a critical funding source to bridge the resource imbalance. FDI has been demonstrated to increase productivity and create competitiveness among manufacturers in developing nations (Yousaf et al., 2008). Foreign investors are concerned with institutions' stability in assessing the expected return on their investment. The high rate of expropriation (the act of a state or authority that appropriates property from its owner for public use or benefit) is due to less legal protection of assets and greater political instability, which reduces the attractiveness of the investment. There can exist different forms of expropriation depending on the circumstances. Foreign investors' investment decision mainly focuses on a country's political situation. The damage of property or confiscation, production interruptions, and personnel facing threats include a restriction on business operations that hinder the capacity of investors to take specific actions, disturbances, and modifications in the macroeconomics management or regulatory environment. The unstable environment brings doubts in investors' minds to risk their hard-earned capital. The foreign direct investment inflow rapidly reduced in many Asian countries due to corruption based on political motives (Nazeer, 2017).

Pakistan has been dealing with several issues, including foreign and domestic challenges. Pakistan has encountered financial market challenges since the financial market structure has yet to develop fully. Externally, Pakistan is dealing with an exchange rate and a trade imbalance. Pakistan has been unable to establish political power due to a lack of a stable government, financial difficulties, and social development (Hashmi et al., 2012). However, Pakistan is now facing various investment hurdles because of political uncertainty. Investors are cautious about investing in Pakistan (Attari et al., 2011).
1.1. Research Problem

FDI is crucial for Pakistan's economic growth and prosperity since the country has a savings and investment disparity. Pakistan's economy cannot create sufficient internal resources for sustained growth; hence, FDI supplements local investment to achieve economic objectives. FDI inflows facilitate technological spillover, employment and output, managerial skills, and human capital, boosting economic growth.

FDI inflows have increased dramatically almost everywhere in the world during the last two decades. In Pakistan, FDI inflows increased following financial market liberalization in the late 1980s. Since 2007, FDI inflows have been steadily declining. The investment-to-GDP ratio has declined, having a detrimental impact on employment levels. Multinational corporations invest in politically stable areas. As a result, international corporations consider the political stability of an economy when determining where to invest (Thompson & Poon, 2000). Pakistan is consistently struggling with political instability, which discourages FDI. Akhtar (2000) has described that an unstable political environment in Pakistan is common, impacting every economic sector and lowering investor confidence in Pakistan's investment climate. Due to Pakistan's volatile political environment, foreign and domestic enterprises are cautious about investing there. Because of the uncertain political situation, investors are hesitant to invest in Pakistan.

1.2. Research Gap and Contribution

Much research has assessed the significant relationship between FDI and economic growth in Pakistani and other countries. The bulk of these studies have indicated that FDI has a positive influence on economic growth. However, research has yet to be found that explores the links between FDI inflows and political stability in Pakistan. Our empirical findings indicate a long-run relationship between political instability and investment in Pakistan. As a result, our study aims to
fill the gap in the literature and would be extremely useful to policymakers and important economic decision-makers. Moreover, our analysis incorporates the most modern econometric technique, dynamic ARDL.

1.3. Objectives and Significance of the Study

In light of those mentioned above, the study aims to investigate the dynamic relationship between political instability and investment (both domestic and foreign) in Pakistan from 1990 to 2019. The study will provide long-run and short-run estimates of political instability and domestic and foreign investment. We have also used novel dynamic ARDL simulation, the most modern econometric approach to examine the dynamic relationship between political instability and investment. Based on the results of this investigation, Future researchers will be capable of doing comparable research for different nations. Cross-country analysis has been the principal methodology in earlier studies, which is sensitive to the sample countries. Recently, the focus has now switched to individual nation analysis. Thereby appropriate policy suggestions can be made in light of the variations in size, location, features, etc., that exist between countries.

There are five sections in the study. Section one has an introduction that includes the research problem, the research gap, and the study's aim. The following section focuses on the review of prior literature and the literature gap. Section three discusses the empirical model, variables, and methodology. Section four analyses the results and discussion; descriptive analysis, correlation matrix, the findings of the stationarity test, and dynamic ARDL. The final section discusses the conclusion and policy recommendations.
2. Literature Review

A literature review is a comprehensive overview of previous research, determines a theoretical base for the study, and helps us (the author). We have covered the earlier research on the subject in this section.

2.1. Political Instability and Foreign Direct Investment

Both theoretical and empirical research on FDI motivation and MNEs' formation has pointed to several factors which affect FDI inflows. The neoclassical theory states that FDI enhances the host nation's economic development by raising its standard of living. FDI encourages capital formation in the host nation, influencing profit reinvestment and additional capital inflows. The purpose of dependency theory is to close the technological gap. Many East Asian and Latin American countries adopted this theory throughout the 1970s, but eventually had to adapt to liberal policies, resulting in a shift from closed to open economies. Industrialization theory and spillover effects consider foreign direct investment (FDI) to be a transfer of capital, management, and new technology and are defined as a manifestation of industrial organization theory.

Regarding empirical literature, Buthe (2008) observed that developing countries see variations in foreign direct investment in different periods. It is not easy to comprehend how political factors affect these flows. He stated that foreign investment could be increased by assuring foreign investors of the treatment of their assets as outlined in international trade agreements like Preferential Trade Agreements and GATT/WTO. The deviation from these international agreements becomes expensive for the countries, so they are more reliable for the investors than domestic policies. The developing countries see more FDI inflows after being part of WTO and PTAs as they provide greater protection to foreign investors.
Asiedu (2011) explained that non-resource and resource-importing countries show similar associations between FDI and democracy, as FDI is highly affected by democracy. The data for 1982 to 2007 from 112 developing countries is used to estimate whether the host country's ownership of natural resources affects this relationship. It is concluded that the value of oil and mineral's share in total export above a threshold level promotes FDI in the presence of democracy. It is also noted that due to the expansion of democracy, the FDI is reducing in 22 countries and increasing in ninety countries.

The impact of political instability on Pakistan's economy was examined by Tabassam et al. (2016). The annual data is in four parts which cover the last twenty-two years. The GARCH and ARCH models investigate how political uncertainty affects economic growth. It is concluded that terrorism harms the dependent variable from all other variables like elections, strikes, and regimes. The conclusion is that political instability retards economic growth, and therefore, a greater role by the government is needed to bring political stability.

Cotte and Martinez (2019) looked at political violence and economic growth. To measure economic development and political violence, different datasets were used from 2000 to 2014 using panel fixed-effects and the GMM. The model for political violence describes that political violence is negatively affected by health coverage, education, arrests, and the aggregate-level production per capita while positively affected by illegal drugs, GINI displacing population, and unemployment rate. The model for economic development is negatively affected by corruption, armed action, and political violence while positively affected by political participation, saving, manufacturing, employment, and production.

According to Bano et al. (2019), terrorism, political unrest, financial instability, and energy shortages cause a decline in FDI inflows to Pakistan. The analysis is robust, based on events before
and after the financial crisis. ARDL is used to combine and integrate different variables. According to the findings, terrorism has less impact on FDI inflows to Pakistan than economic instability, energy scarcity, and political instability. Still, the primary reason for the decrease in FDI inflows to Pakistan is energy scarcity and terrorism.

The relationships between Bangladesh's exchange rate and foreign direct investment were examined by Qamruzzaman and Karim (2019). The study results show that monetary policy, public policy, FDI, and exchange rates have a long-term relationship. The FDI inflows are reduced when the exchange rate changes positively for the US dollar, while FDI inflows reduce to positive shocks.

Sujit et al. (2020) analyzed how risk, governance, and macroeconomic factors impact the US market's FDI. Investment in research and development is a crucial factor contributing to the increasing activity of FDI. The more the FDI inflows, the higher will be the firm profitability. In markets like the United States, exports and imports are essential determinants in determining FDI. Inflation has a detrimental influence on FDI flow. FDI intensity is negatively associated with inflation. Firms' FDI activity tends to be lower when the country's corruption levels are high.

Yusuf et al. (2020) investigated how political upheaval, democracy, FDI, and financial development influenced economic growth in West Africa. The study uses dynamic fixed effect methodology and secondary data from 1996 to 2016. The economic growth increased by 0.26% in the sub-region of West Africa due to increasing of 1% in FDI inflow. The empirical study finds no meaningful association in the short run. Political instability retards the growth of different countries significantly. The FDI is an essential tool that results in higher production and growth.

Association among the FDI, trade, and economic growth were observed in India by Kumari et al. (2021). The outcome demonstrates that none of the three factors mentioned above are related
over the long run. FDI drives economic growth, and economic growth drives FDI, according to VAR Granger, which shows bi-directional causality. Economic growth and trade openness have no bidirectional relationship.

VO and HO (2021) examined the mitigating effects of free trade agreements on the connection between FDI inflows and trade openness to ASEAN countries (FTAs). The research indicated a powerful positive influence of FTAs and trade openness on FDI inflows.

2.2. Political Instability and Private Investment

In general, five basic approaches are considered when determining investment drivers. The basic accelerator model, the liquidity theory, the anticipated profits theory, Tobin's Q Theory, and the neoclassical flexible accelerator theory are among the primary strands of investment behavior. According to neoclassical investment theory, real GDP growth and private investment are directly related (Greene and Villanueva, 1991; Fielding, 1997). Similarly, it has been argued that income level influences private investment favorably because higher-income countries tend to invest more of their money in domestic savings. These savings are then utilized to finance investments (Greene and Villanueva, 1991). Jorgenson (1971) and colleagues developed the neoclassical approach, a modified form of the flexible accelerator model. According to this approach, the desired capital stock is proportional to output and the user cost of capital.

As for as empirical literature is concerned, Frimpong and Marbuah (2010) investigated the determinants of private-sector investment in Ghana. The findings demonstrate the long-term effects of foreign debt, exchange rate, real output, external debt, and openness on private investment. Inflation, openness, and constitutional rule are determinants of private investment in the short run.
Morrissey and Udomkerdmongkol (2012) investigate the dynamics of FDI and domestic private investment under different governance components. For forty-six developing countries, annual aggregate data was used for 1996–2009. It is evident from the results that countries with better governance have a large amount of total investment (FDI and private). Political instability and corruption have a substantial influence on investment. Governance has a direct impact on private investment and FDI.

Ali et al. (2013) investigated political instability and its effects on private investment from 1972 to 2009 in Pakistan. To study the investment dynamics in the short and long run, respectively, ARDL was used. Private investment and political instability are negatively associated over the long and short terms. FDI and public sector investment both stimulate private investment in Pakistan. For a stable flourishing economy, a stable political environment is required, attracting domestic and foreign investors for investment without hesitation.

Hira (2017) examined how the behavior of corporate investors is affected by political uncertainty, which results from the change in stock prices in Pakistan. The data for 1998 to 2012 is obtained from the yahoo finance index for the stock market. Political instability and stock market index are analyzed concerning one another using ARDL. Political unrest and stock prices are demonstrated to be negatively related. An unstable political system frequently causes stock prices to decline. The stock prices have positive relations with exports and industrial production and a negative relationship with inflation.

Baker et al. (2019) concluded that the stability of the political environment in a nation affects the efficiency of its economic institutions. It is determined how political stability affects public-private partnerships. The monopoly is over by a stable political environment by building valuable institutions. The Regression analysis of data from 1999 to 2014 for twelve countries showed that
GDP per capita is affected by private infrastructure in the presence of a stable political environment.

Abedin et al. (2020) reinvestigated the association between domestic investment and remittances in Bangladesh. When a currency depreciates, and per capita GDP rises, remittances and domestic investment rise. The supremacy of the investment motivation of remittances is claimed by the considerable positive influence of per capita GDP and foreign exchange rate on remittances; over the long run, domestic investment is positively impacted by remittances. This study argues that to increase remittances for the interests of the economy, it is crucial to keep the domestic currency depreciation at a controllable level. Apart from that, a double-digit interest rate deters domestic investment.

Maradze and Nyoni (2020) investigated how private investment is affected by the influence of interest rates in Zimbabwe. To increase private investment in Zimbabwe, exploring the strategies that reduce interest rates and the crowding-out impact is necessary. In addition, it is vital to promote positive international relationships.

Rasmane et al. (2020) explored the influence of public investment in sub-Saharan Africa from 1980 to 2015. It is shown that private investment is impacted by public investment differently in three different groups of countries. The high risk of repatriation of profit, conflict, and terrorism does not exist in the group where public-private partnerships occur.

Tung and Thang (2020) examined seventeen countries in Asia and 32 countries in Africa, 49 developing nations, to assess how FDI will affect private investment. FDI complements private investment. Past behavior of private investment also significantly determines it. In the full-panel sample, trade openness, per-capita GDP, and electricity enhance private investment. The level of private investment in Asia is influenced significantly by variable electricity.
Alobari et al. (2021) analyzed Nigerian interest rates and investment. Multiple regressions demonstrated that high-interest rates have a detrimental influence on investment. Government should establish policies that encourage saving and lower prime lending rates for legitimate investors. It also argues that because income and savings are intertwined, relevant authorities should adopt economic measures that raise people's income levels to mobilize investment.

Anwar et al. (2021) studied how investment was impacted by the real interest rate in Pakistan from 1964 to 2012. The Johansen Cointegration test examines the long-term relationship among investment, interest rate, and income level. The primary hypothesis of this study is that real interest rates and investment have an adverse relationship in Pakistan.

Awad et al. (2021) examined that in Palestine, private investment is impacted by political instability and interest rates. The main findings support the neoclassical notion that interest rates deter private investment. There is no long-term association, according to the various empirical investigations. The loan rates and domestic investment are also not correlated.

2.3. Research Gap

Several studies have determined the substantial association between FDI and economic growth in Pakistani and other countries. The majority of this research has found that FDI boosts economic growth. However, research has yet to be found that has explored the links between FDI inflows and political stability in Pakistan. As a result, our study seeks to fill the gap in the literature and would be extremely useful to policymakers and important economic decision-makers. Moreover, our analysis incorporates a recently developed econometric technique, dynamic ARDL.

3. Data and Methodology

This section includes a summary of the statistical procedures and descriptions of the variables and the relevant data sources.
3.1. Empirical Model

The causes and contributing elements for FDI inflow fluctuate over time, while the priorities for growth and development remain constant. The neoclassical theory states that FDI enhances the host nation's economic development by raising its standard of living. FDI encourages capital formation in the host nation, influencing profit reinvestment and additional capital inflows. Our approach for modeling FDI inflows builds on past research using a multidimensional model. The chosen determinants are expected to affect FDI inflows due to their frequent inclusion as location-specific components in the OLI paradigm (Dunning, 1991 and 1998). These are political instability, trade openness, interest rate (IR), interest rate differential (IRD), inflation rate, and real GDP. The host nation's political, social, and economic characteristics affect the OLI parameters. Examining how different features of the host nation's economy affect FDI inflows is important. Following Madr and Kouba (2015), Musibah (2017), Zouhaier and Kefi (2012), Oladipo et al. (2007), and Bhatti et al. (2008), we, therefore, postulate the following model.

\[ FDI_t = \beta_0 + \beta_1 P. Inst_t + \beta_2 TO_t + \beta_3 RGDP_t + \beta_4 IRD_t + \beta_5 INF_t + \mu_t \]  

(1)

The dependent variable is FDI and some important standard determinants of FDI, like trade openness, interest rate differential (IRD), inflation rate, and real GDP.

When modeling the variables that impact investment, different approaches are taken into consideration. The most common model that appears to be applied in research is the flexible accelerator model. According to neoclassical investment theory, real GDP growth and private investment are related (Greene and Villanueva, 1991; Fielding, 1997). Similarly, it has been argued that income level influences private investment favorably because higher-income countries tend to invest more of their money in domestic savings. These savings are then utilized to finance
investments (Greene and Villanueva, 1991). Jorgenson (1971) and colleagues developed the neoclassical approach, a variant of the flexible accelerator model. This method holds that desired capital stock is proportional to output and the user cost of capital.

In light of the discussions above, it is believed that our model for the private investment equation will resemble the following:

\[ PI = f (\text{political instability}, \text{trade openness}, \text{real GDP}, \text{interest rate}, \text{inflation}) \]

\[ PI_t = \alpha_0 + \alpha_1 PI_{Inst_t} + \alpha_2 TO_{t} + \alpha_3 RGD_{P_t} + \alpha_4 IR_{t} + \alpha_5 INF_{t} + \varepsilon_t \]  

(2)

The dependent variable is a private investment and some important standard factors of private investment, such as trade openness, interest rate (IR), inflation rate, and real GDP.

3.2. Description of Variables

The annual inflows as a percentage of GDP (FDI) and private investment in gross capital formation as a percentage of GDP are dependent variables. The independent variables are chosen following empirical literature.

**Political stability** measures the likelihood that the government will remain in power and be able to carry out any programs that the government has outlined. International country risk guide provides data on government stability. It gives monthly political, economic, financial, and composite risk evaluations and projections for 141 countries. The data on government stability is based on numerous indicators from different sources. Popular support, government unity, and legislative strength are three sub-components of government stability; the index ranges between (0 to 12). A minimum score of 0 indicates low political stability, while a maximum score of 12 indicates high political stability. There are high risks of investment and investors' concerns in countries with low political stability. This means that the relationships found (positive/negative) will be the inverse of the relationship we are concerned with.
Other measures of political instability have also been employed in the empirical literature. The World Governance Indicators (WGI) describe a lack of violence and political stability. This indicator is graded on a scale of -2.5 to 2.5, with 2.5 indicating the most political stability. The Polity Scale is also used to measure democracy, ranging from extremely authoritarian (-10) to strongly democratic (+10) regimes (10). Political instability was quantified in Mankiw's (1995) study by the frequency of coups, wars, and revolutions. Political instability was defined by Persson and Tabellini (1999) as more frequent bloodshed and regime changes or political turmoil. Political instability was quantified by Barro and Lee (1993) in their analysis of the number of successful coups, revolutions, and political assassinations per million people. Strikes, free press, nonviolent demonstrations, internal and regional conflicts, and other initiatives, according to Campos and Nugent (2000). Tabassam et al. (2016) used a variety of political instability measures, including strike dummies as a proxy for political instability. A proxy is employed through a dummy election to quantify political instability.

3.2.1. Control Variables

**Trade openness** is defined as a percentage share in GDP by the combined value of exports and imports. Domestic investment and FDI are positively impacted by trade openness as FDI flow is more towards open countries, as discussed in empirical studies (Asiedu (2002, 2006); Bende-Nabende (2002); Fedderke and Romm (2006)).

**The gross domestic product** represents income, purchasing power, and market size. Higher aggregate demand positively impacts Domestic investment and FDI; the demand is positively affected by high average income, so consumers' purchasing power is captured by GDP per capita (Brada et al., 2006). According to Chakrabarti (2001), because economies of scale and
successful resource usage both require a sizable market, the potential for FDI inflow is higher the larger the market in the host nation.

**Inflation** is the annual percentage change in the average price. It is also a measure of macroeconomic instability, which is predicted to hurt domestic and foreign investment (Anyanwu and Yameogo, 2015).

The cost of borrowing and the savings yield are expressed as the **interest rate**. In addition to investing in more significant returns or higher interest rates, investors will search for low-cost funding sources or lower rates. It implies that money will flow from a low-rate to a high-rate nation. Gross and Trevino (1996) explain that FDI inflows will increase in an environment of relatively high interest. It is predicted that differences in interest rates will positively affect FDI influx. The interest rate effect negatively to domestic investment.

### 3.3. Date and Sources

We investigate how domestic private investment and foreign investment are impacted by political instability; we will perform a time series analysis for Pakistan from 1990 to 2019. `The data source for the GDP is the state bank of Pakistan, while the data source for the interest rate is international financial statistics (IFS). Trade openness, FDI, inflation, and private investment data are derived from WDI. International Country Risk Guide (ICRG) is the data source for political instability.

**Table # 1**

*Summary of Variables*

<table>
<thead>
<tr>
<th>Name</th>
<th>Representation</th>
<th>Explanation</th>
<th>Scale</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Direct Investment</td>
<td>FDI</td>
<td>Denotes the percentage of annual inflows.</td>
<td>% of GDP</td>
<td>WDI</td>
</tr>
<tr>
<td>Private Investment</td>
<td>PI</td>
<td>Gross fixed capital formation measures private investment.</td>
<td>% of GDP</td>
<td>WDI</td>
</tr>
<tr>
<td>Trade Openness</td>
<td>TO</td>
<td>The combined value of exports and imports as the percentage of GDP</td>
<td>% of GDP</td>
<td>WDI</td>
</tr>
</tbody>
</table>
### 3.4. Methodology

#### 3.4.1. Zivot and Andrews Unit Root Test

Conventional unit root tests have the drawback of not accounting for the structural break. Perron demonstrated that it becomes harder to reject a unit root when the stationary alternative is valid and a structural break is disregarded. He accomplished this by presuming that the break's timing is an external component. In their version of Perron's original test, Zivot and Andrews assume they are unaware of when the break-point occurs. Zivot and Andrews test for a unit root using three models by considering structural break: model 1, which permits a single adjustment to the series' level; model 2, which enables a one-time change to the trend function's slope; as well as model 3, which incorporates both one-time variations in the level and slope of the trend function. Therefore, using the subsequent regression equations, Zivot and Andrews test for a unit root in contrast to the alternative of a single structural break.

\[
\Delta Z_t = c_0 + \lambda Z_{t-1} + \delta t + \gamma DU_t + \sum_{k=1}^{i} d_k \Delta Z_{t-k} + \eta_t \quad \text{(Model 1)}
\]

\[
\Delta Z_t = c_0 + \lambda Z_{t-1} + \delta t + \phi DT_t + \sum_{k=1}^{i} d_k \Delta Z_{t-k} + \eta_t \quad \text{(Model 2)}
\]

\[
\Delta Z_t = c_0 + \lambda Z_{t-1} + \delta t + \phi DT_t + \gamma DU_t + \sum_{k=1}^{i} d_k \Delta Z_{t-k} + \eta_t \quad \text{(Model 3)}
\]
DT\(_t\) is the relevant trend shift variable, and DU\(_t\) is an indicator dummy variable for a mean shift occurring at each potential break-date (TB).

### 3.4.2. Novel Dynamic ARDL Simulation

ARDL, developed by Pesaran et al. (2001), and other cointegration frameworks that can only estimate and analyze the short- and long-run correlations between variables have been widely employed in previous research. Jordan and Philips (2018) recently created a novel dynamic ARDL simulation model to overcome the issues with the traditional ARDL technique. This newly developed framework can simulate, produce graphs of variable fluctuations over time and evaluate short- and long-term interactions. The capacity to anticipate, simulate and visualize the anticipated adjustment on a dependent variable by altering one regressor ceteris Paribus is a significant benefit of this approach (Khan et al., 2022). The novel dynamic ARDL Simulations are useful for testing cointegration and long and short-run equilibrium relationships in both levels and differences. It is an enhanced, effective time series approach for policy formulation. It examines the dynamic relationship between variables. It also provides a causal analysis. It can be used to determine if investment level variations cause or result from political instability. It is also used for policy evaluation analysis. We can evaluate the likely effects of policy changes by simulating various policy scenarios. It can help decision-makers develop sensible policies and make wise choices to encourage investment. Such scenario testing helps educate investment strategies by illuminating the dangers and possibilities associated with political instability. The following illustrates how the novel dynamic ARDL simulation model works, following Udeagha MC and Ngepah N (2021).

Dynamic ARDL representation of equation (iv).

\[
\Delta FDI_t = \nu_0 + \omega_0 FDI_{(t-1)} + \gamma_1 P.Inst_{(t-1)} + \gamma_2 TO_{(t-1)} + \gamma_3 RGDP_{(t-1)} + \gamma_4 IRD_{(t-1)} + \gamma_5 INF_{(t-1)} \\
+ \phi_1 \Delta P.Inst_t + \phi_2 \Delta TO_t + \phi_3 \Delta RGDP_t + \phi_4 \Delta IRD_t + \phi_5 \Delta INF_t + \nu_{1t}
\]
In the equation above, \( \omega_0 \) refers to the error correction term, \( \gamma_1 \) through \( \gamma_6 \) are long-run estimations, while \( \varphi_1 \) through \( \varphi_6 \) are short-run regressors, respectively.

Equation (v), an ARDL dynamic equation, is analogous.

\[
\Delta PI_t = \tau_0 + \pi_0 PI_{(t-1)} + \theta_1 P.Inst_{(t-1)} + \theta_2 TO_{(t-1)} + \theta_3 RGDP_{(t-1)} + \theta_4 IR_{(t-1)} + \theta_5 INF_{(t-1)} + \chi_1 \Delta P.Inst_t + \chi_2 \Delta TO_t + \chi_3 \Delta RGDP_t + \chi_4 \Delta IR_t + \chi_5 \Delta INF_t + \omega_t
\]

Similar to the previous equation, this one also uses the symbols \( \pi_0 \) to represent the error correction term, \( \theta_1 - \theta_6 \) to designate long-run estimations, and \( \chi_1 - \chi_6 \) to denote short-run regressors.

First, the above equation is estimated by choosing the appropriate lag length, and then the bounds test is performed. The alternative is used to investigate if there is a long-term link, which is the null hypothesis. The Krippganz and Schneider (2019) critical values are utilized in this investigation. The null hypothesis is rejected if the upper bound of the F statistics critical value is exceeded. Next, we move on to the long- and short-term estimates.

4. Results and Discussion

This section contains a discussion of the empirical findings. We first present the descriptive analysis findings to check that the data are normal. The results of the correlation matrix are discussed to avoid multicollinearity. The stationarity of data is discussed based on the Zivot and Andrews unit root test results. The impact on foreign and domestic investment by political instability is discussed using dynamic ARDL findings.

4.1. Descriptive Analysis

The first important step in conducting statistical analyses is descriptive analysis. The typos and outliers in the data are detected, and data distribution is visualized using descriptive analysis. It is crucial to identify the descriptive analysis to conduct further statistical analysis.

Table # 2

Summary Statistics
The average foreign direct investment is 1.564365 with a standard deviation of 0.768756, the average private investment is 10.0933, and the average political instability is 7.004167 with a standard deviation of 2.277328. 32.7926 is the average value of trade openness, and its standard deviation is 3.8495. The mean values of RGDP, interest rate, and inflation rate are 119661.4, 8.778667, and 8.3827, with standard deviations of 54169.59, 2.716096, and 4.0905, respectively. Data symmetry is measured by skewness. The variables' skewness (lack of symmetry) indicates that all variables are positively skewed, but political instability, interest rate, and trade openness are negatively skewed. For normal univariate asymmetry, its value must lie between -2 to +2 (George & Mallery, 2010; Trochim Donnelly, 2006). The kurtosis assesses whether the data are flat or peaks compared to the standard distribution. Skewness and kurtosis are used collectively to check that random variables follow a normal distribution. Jarque-Bera (Prob) also indicates that the distribution of data is normal.

### 4.2. Unit Root Test Results

We used the Zivot and Andrews unit root test to examine the variables' order of integration. Table 3 shows the unit root test results and suggests that all of the variables are stationary at the first difference except RGDP and inflation, which are stationary at the level in the presence of a structural break.

<table>
<thead>
<tr>
<th>Variables</th>
<th>FDI</th>
<th>PI</th>
<th>P.Inst</th>
<th>RGDP</th>
<th>TO</th>
<th>IR</th>
<th>IRD</th>
<th>INF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.564365</td>
<td>10.0933</td>
<td>7.004167</td>
<td>119661.4</td>
<td>32.79267</td>
<td>8.778667</td>
<td>5.87533</td>
<td>8.382760</td>
</tr>
<tr>
<td>Median</td>
<td>1.493256</td>
<td>9.850000</td>
<td>6.750000</td>
<td>113409.2</td>
<td>32.90500</td>
<td>8.850000</td>
<td>5.37500</td>
<td>8.360542</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.768756</td>
<td>1.567324</td>
<td>2.277828</td>
<td>54169.59</td>
<td>3.849560</td>
<td>2.716096</td>
<td>3.38175</td>
<td>4.090564</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.406908</td>
<td>0.397193</td>
<td>-0.11395</td>
<td>0.205880</td>
<td>-0.261138</td>
<td>-0.621933</td>
<td>0.26239</td>
<td>0.637313</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.393104</td>
<td>2.885597</td>
<td>2.065715</td>
<td>1.659730</td>
<td>2.202276</td>
<td>2.922404</td>
<td>2.36007</td>
<td>3.524945</td>
</tr>
<tr>
<td>Jarque-Bera (Prob)</td>
<td>0.525116</td>
<td>0.668590</td>
<td>0.561007</td>
<td>0.292682</td>
<td>0.566538</td>
<td>0.378793</td>
<td>0.65176</td>
<td>0.304937</td>
</tr>
</tbody>
</table>
Zivot and Andrews Unit Root Tests with Structural Breaks

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level Const.</th>
<th>Level Const. and Trend</th>
<th>Break</th>
<th>First Diff. Const.</th>
<th>First Diff. Const. and Trend</th>
<th>Break</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>-3.68</td>
<td>-3.97</td>
<td>1998</td>
<td>-5.93*</td>
<td>-6.15*</td>
<td>2017</td>
<td>I(1)</td>
</tr>
<tr>
<td>PI</td>
<td>-3.79</td>
<td>-3.84</td>
<td>2007</td>
<td>-7.38*</td>
<td>-8.36*</td>
<td>2002</td>
<td>I(1)</td>
</tr>
<tr>
<td>P.Inst</td>
<td>-3.45</td>
<td>-4.41</td>
<td>1993</td>
<td>-7.59*</td>
<td>-8.47*</td>
<td>2010</td>
<td>I(1)</td>
</tr>
<tr>
<td>TO</td>
<td>-4.53</td>
<td>-4.62</td>
<td>2000</td>
<td>-8.65*</td>
<td>-8.24*</td>
<td>2005</td>
<td>I(1)</td>
</tr>
<tr>
<td>RGDP</td>
<td>-4.70*</td>
<td>-4.89*</td>
<td>2008</td>
<td>-7.83*</td>
<td>-7.92*</td>
<td>2008</td>
<td>I(0)</td>
</tr>
<tr>
<td>IR</td>
<td>-3.97</td>
<td>-3.99</td>
<td>2002</td>
<td>-7.53*</td>
<td>-8.01*</td>
<td>2005</td>
<td>I(1)</td>
</tr>
<tr>
<td>IRD</td>
<td>-4.49</td>
<td>-5.04</td>
<td>2008</td>
<td>-5.42*</td>
<td>-6.12*</td>
<td>2012</td>
<td>I(1)</td>
</tr>
<tr>
<td>INF</td>
<td>-5.30*</td>
<td>-5.56*</td>
<td>2015</td>
<td>-7.94*</td>
<td>-8.32*</td>
<td>2012</td>
<td>I(0)</td>
</tr>
</tbody>
</table>

Note: * shows Zivot-Andrews test statistic at 5% critical level.

4.3. Correlation Matrix

The linear dependence between independent variables is investigated using bivariate correlation of variables. All of the variables in Table 4 have a correlation coefficient of less than 0.8. As a general rule, the correlation matrix results show that our model does not have a multicollinearity issue.

Table # 4

Bivariate Correlation

<table>
<thead>
<tr>
<th>Variables</th>
<th>P.Inst</th>
<th>TO</th>
<th>RGDP</th>
<th>IR</th>
<th>INF</th>
<th>IRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.Inst</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TO</td>
<td>-0.302434</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RGDP</td>
<td>0.141939</td>
<td>-0.437575</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IR</td>
<td>-0.339130</td>
<td>0.333140</td>
<td>-0.039076</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INF</td>
<td>-0.269822</td>
<td>0.566926</td>
<td>-0.183325</td>
<td>0.646130</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td>IRD</td>
<td>-0.259473</td>
<td>-0.097655</td>
<td>0.488822</td>
<td>0.719442</td>
<td>0.480665</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

4.4. Cointegration Analysis

4.4.1. Lag Length Selection
In the first step of the DARDL, we determine the lag length for the first difference variables. Table 5 displays the findings of numerous tests conducted to determine the optimal lag. This study uses the Schwarz criterion (SC) for lag selection because SC yields the lowest value at lag one in comparison to other techniques; lag 1 is appropriate for our model.

**Table # 5**

*Lag Length Selection*

<table>
<thead>
<tr>
<th>Lags</th>
<th>Equation I</th>
<th>Equation II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AIC</td>
<td>SC</td>
</tr>
</tbody>
</table>

Note: The lag order chosen by the criterion is indicated by an Asterisk.

**4.4.2. ARDL Bounds Testing**

To determine the long-run association between variables, we perform the bound test. The null hypothesis of no cointegration is contrasted with the alternative. The outcome of the cointegration test using the Kripfganz and Schneider (2018) recommended surface-response regression method is shown in Table 6. The F- and t-statistics exceed the upper-bound critical values at various levels of significance, leading us to reject the null hypothesis that there is no association level. Our empirical findings thus indicate cointegration between the variables under consideration.

**Table # 6**

*ARDL Bounds Test Analysis*

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>Value</th>
<th>10% critical value</th>
<th>5% critical value</th>
<th>1% critical value</th>
<th>Prob. Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equation I</td>
<td>I(0)</td>
<td>I(0)</td>
<td>I(1)</td>
<td>I(1)</td>
<td></td>
</tr>
<tr>
<td>F Statistics</td>
<td>12.6921</td>
<td>3.45</td>
<td>4.93</td>
<td>4.21</td>
<td>5.60</td>
</tr>
<tr>
<td>T Statistics</td>
<td>-5.2083</td>
<td>2.67</td>
<td>3.05</td>
<td>3.58</td>
<td>4.16</td>
</tr>
<tr>
<td>Equation II</td>
<td>I(0)</td>
<td>I(0)</td>
<td>I(1)</td>
<td>I(1)</td>
<td>I(0)</td>
</tr>
<tr>
<td>F Statistics</td>
<td>13.8442</td>
<td>3.97</td>
<td>5.06</td>
<td>4.83</td>
<td>5.79</td>
</tr>
</tbody>
</table>
We have also used the Maki cointegration test to evaluate the robustness. Table 7 supports the preceding surface-response regression findings. The findings of the Maki cointegration test, which consider structural breaks, demonstrate that the variables are cointegrated.

Table # 7

*Maki Cointegration (With Structural Breaks)*

<table>
<thead>
<tr>
<th>Model</th>
<th>Test Stats.</th>
<th>Structural Break</th>
<th>Test Stats.</th>
<th>Structural Break</th>
</tr>
</thead>
</table>

Note: 1% and 10% significance levels are indicated, respectively, by *** and *.

4.4.3. Outcomes of Dynamic ARDL

We conducted a bounds test to ascertain the long-term link between the variables after examining the order of integration and selecting the proper lag length for each model. Long-run and short-run results are acquired in the following step and are shown in Table 8 below.

Table # 8

*Dynamic ARDL simulations analysis*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistic</th>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.Inst</td>
<td>-0.182294</td>
<td>-2.839251**</td>
<td>P.Inst</td>
<td>-0.376972</td>
<td>-3.017032***</td>
</tr>
<tr>
<td>TO</td>
<td>0.145297</td>
<td>2.523636**</td>
<td>TO</td>
<td>0.317001</td>
<td>2.467376**</td>
</tr>
<tr>
<td>INF</td>
<td>0.033672</td>
<td>0.550090</td>
<td>INF</td>
<td>0.026111</td>
<td>0.244350</td>
</tr>
<tr>
<td>RGDP</td>
<td>0.491185</td>
<td>1.894841*</td>
<td>RGDP</td>
<td>1.065791</td>
<td>1.733342*</td>
</tr>
<tr>
<td>IRD</td>
<td>0.161977</td>
<td>2.367108**</td>
<td>IR</td>
<td>-0.313222</td>
<td>-3.055608***</td>
</tr>
<tr>
<td>C</td>
<td>-3.549086</td>
<td>-1.168051</td>
<td>C</td>
<td>-6.521983</td>
<td>-0.925048</td>
</tr>
<tr>
<td>D(P.Inst)</td>
<td>0.223668</td>
<td>2.060243**</td>
<td>D(P.Inst)</td>
<td>0.362718</td>
<td>1.983762</td>
</tr>
<tr>
<td>D(INF)</td>
<td>-0.029079</td>
<td>-0.749918</td>
<td>D(INF)</td>
<td>0.124619</td>
<td>2.946053**</td>
</tr>
<tr>
<td>D(TO)</td>
<td>0.030798</td>
<td>0.616230</td>
<td>D(TO)</td>
<td>0.101633</td>
<td>2.042579**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
<td>--------</td>
<td>----------------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>D(RGDP)</td>
<td>0.082380</td>
<td>1.774622*</td>
<td>D(RGDP)</td>
<td>0.531845</td>
<td>2.719962**</td>
</tr>
<tr>
<td>D(IR)</td>
<td>0.020549</td>
<td>1.038622</td>
<td>D(IR)</td>
<td>-0.298470</td>
<td>-4.643613***</td>
</tr>
<tr>
<td>ECT(-1)</td>
<td>-0.257734</td>
<td>-6.979075***</td>
<td>ECT(-1)</td>
<td>-0.532730</td>
<td>-7.642391***</td>
</tr>
<tr>
<td>R²</td>
<td>0.797145</td>
<td></td>
<td>R²</td>
<td>0.880735</td>
<td></td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.722410</td>
<td></td>
<td>Adj. R²</td>
<td>0.817595</td>
<td></td>
</tr>
<tr>
<td>Simulations</td>
<td>1000</td>
<td></td>
<td>Simulations</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>ROOT MSE</td>
<td>0.638</td>
<td></td>
<td>ROOT MSE</td>
<td>0.162</td>
<td></td>
</tr>
</tbody>
</table>

Note: ***, **, and * indicates the significance at the 1%, 5%, and 10% levels of significance, respectively.

**Long-run Results**

The findings show that domestic and foreign investment decreases when political instability increases. FDI inflows are discouraged by political instability because it is a long-term investment. Foreign investment performance is negatively affected by a volatile environment and policy changes, and this may happen more frequently due to political instability. The countries which do not reverse their policy are more attractive to foreign investors. Previous research backs up the findings of the study. Schneider and Frey (1985) proposed a politico-economic model that considers economic and political causes and shows that political instability affects foreign direct investment inflows considerably. Our findings are likewise Asiedu (2006) for Africa, Akhtar (2000), Aqeel et al. (2004), Hakro and Ghumro (2011), Shah et al. (2016), Yousaf et al. (2008) and Bano et al. (2019) for Pakistan, Asiedu (2002) for developing countries, Bende-Nabende (2002) for Sub Saharan Africa, Busse & Hefeker (2007) for 83 developing countries, Brada et al. (2006) for Central Europe and the Balkans, Madr & Kouba (2015) for emerging countries, Musibah (2017) for Middle East and North Africa, Nazeer & Masih (2017) for Malaysia and Thompson & Poon (2000) for ASEAN.

As for domestic investment, firms constantly analyze future expectations about the capital market and economy before making investment decisions. The level of investment falls when the risk of capital loss rises due to political instability. Due to uncertainty, foreign and domestic investors do not attract investment in an unstable country. Our findings are comparable to Anwar

Trade openness and FDI are positively related. As the openness ratio rises, the country will attract more investors, assuming the investments will be concentrated in the tradable industries. The FDI flow decreases due to the strict bureaucratic structure, a typical scenario of a closed trade regime. The regime with the concept of open trade attracts more firms to relocate to their countries. More foreign direct investment is made in nations with fewer export restrictions. International firms must use FDI to enter local markets when trade barriers are high. However, for export-oriented firms, more openness and the accessibility of less expensive local resources might attract more FDI (Jordan, 2004). Different literature findings are supported, such as Lane and Melesi-Ferretti’s (2001) finding that in emerging nations, FDI is influenced positively by openness. Ponce (2006) has found that trade, in other words, free trade agreements affecting openness, positively contributes to FDI. Private investment is positively impacted by trade openness, which is shown by the positive coefficient of trade openness. The investment and production in the country can be increased by encouraging producers by simplifying the procedures of exports and imports. Boachie et al. (2020) found that trade openness provides significant long- and short-term advantages in the private sector. Trade openness has long been seen as a critical component in economic growth with increased public or private investment. Our findings are in line with economic literature [Akhtar (2000); Aqeel et al. (2004); Asiedu (2002); Busse & Hefeker (2007); Madr & Kouba (2015); Thompson & Poon (2000); Baker et al. (2019); Feng (2001); Alesina & Perotti (1996); Khan (2008); King & Levine (1993)].
Higher real GDP attracts more foreign as well as domestic investment. An approximate indicator of a nation's economic health is its income per capita. Investors perceive and understand growth in real GDP as an indication that a country's economy is performing well. This is essential for investors because it shows these residents' purchasing power, which will drive them to favor one country over another. Previous research, such as Asiedu (2006) and Schneider and Frey (1985), assert that large markets boost FDI. According to Jordaan (2004), FDI will go to larger and growing economies, higher purchasing power, and opportunities for businesses to earn a higher return on their investments. When real GDP increases, it attracts private investors and eventually leads to significant private investments; the findings are in line with (Feng, 2001), (Tun Wai and Wong, 1982), and (Blejer and Khan, 1984).

The coefficient of interest rate differential and foreign direct investment has a positive relationship. Investment shifts from low-interest rates to high-interest rate countries by the investors as it incentivizes foreign investors to seek higher returns; hence, a high-interest rate differential can lead to increased FDI. The difference in interest rates has frequently been seen as a key factor influencing capital flows to emerging market economies. The advanced nations' loose monetary policies and the quest for yield have encouraged significant capital inflows to emerging economies and have been an important push factor. Chakrabarti (2001) identified a strong connection between the interest rate differential and FDI in India. According to Hannan (2017), interest rate differentials usually positively influence net capital inflows. According to Mody, Taylor, and Kim (2001), capital flows to most emerging economies were significantly impacted by fluctuations in US interest rates. It has been discovered that normal capital flows respond to changes in the interest rate differential by Fedderke, J.W., and W. Liu (2002). FDI and interest rate differential were positively related by Jaffri and Ahmad (2010) and Chakrabarti (2001). Contrary
to these results, Taylor and Sarno (1997) found that Latin American countries interest rates are a more significant determinant of portfolio flows than Asian countries. According to Verma and Prakash (2011), most FDI inflows are long-term and not very sensitive to interest rates.

Private investment is negatively impacted by interest rates, as indicated by the interest rate's negative coefficient. The private investment decreases due to high-interest rates, increasing the capital's cost. Kennedy (2021) and Green and Villanueva (1991) concluded that interest rates negatively impact private investment, although there is little flexibility.

**Short Run Results**

Foreign direct investment is the dependent variable in the first equation, and the error correction term is negative (-0.2577), representing that as a result of a shock disequilibrium in the previous period is corrected by 25% per annum in the present period. In the short run, the FDI is positively impacted by political instability due to rent-seeking activities. In contrast to the long term, the difference in interest rates becomes negligible. The $R^2$ shows the explained variations by the model out of the total variations. The adjusted $R^2$ value of 0.722410 demonstrates that the model explains around 72% of variations after considering the degree of freedom. Private investment is the dependent variable in the second equation, and the feedback coefficient is -0.53, implying that around 0.53 percent of the previous year's disequilibrium is corrected in the current year. Short-term trade openness, inflation, and real GDP positively relate to private investment, but the interest rate is inversely related. The R-square shows the explained variations by the model out of the total variations. The value of adjusted $R^2$ 0.880735 shows that a good fit is indicated when the independent variable presents around 88% of variations by considering the degree of freedom.

4.5. Diagnostic Tests
To test the model's reliability, the study employs several diagnostic tests, the results of which are displayed in Table 7. Our model may be well-fitted, given that it passed all diagnostic tests. The null hypothesis is contrasted with the alternative, which claims that serial correlation, heteroscedasticity, and functional form misspecification do not exist. We are unable to disprove the null hypothesis in each case. According to the Breusch Godfrey LM test, there are no serial correlation issues in the model. The Breusch-Pagan-Godfrey test results show that there is no heteroscedasticity. The results of the Ramsey RESET test show that the model is not incorrectly specified.

**Table 07**

*Diagnostic Statistics*

<table>
<thead>
<tr>
<th>Diagnostic tests statistics</th>
<th>$\chi^2$ P values equation I</th>
<th>$\chi^2$ P values equation II</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch Godfrey test</td>
<td>0.4150</td>
<td>0.6123</td>
<td>Serial correlation does not exist.</td>
</tr>
<tr>
<td>B-P-Godfrey test</td>
<td>0.3122</td>
<td>0.1728</td>
<td>No heteroscedasticity exists.</td>
</tr>
<tr>
<td>Ramsey RESET test</td>
<td>0.4924</td>
<td>0.1529</td>
<td>The model is specified correctly.</td>
</tr>
</tbody>
</table>

**Impulse Response Plots**

The DARDL model shows and predicts the subsequent value of a regressed variable in response to a regressor cetris Paribus using impulse response functions. In this study, we project how local and foreign investments will alter in response to a 10% decline in political stability and an increase in political stability. Confidence intervals of 75%, 90%, and 95% are depicted by the deep blue to light blue lines, respectively, while the dots reflect the expected value. Each figure is described below.
The connection between FDI and political stability is seen in Fig. 1. The FDI rises for every 10% improvement in political stability. In contrast, every ten percent decline in political stability reduces the FDI. The association between political stability and domestic investment is seen in Fig. 2. Impulse response plot shows that each ten-percent upsurge in political stability increases the domestic investment of the private sector. In contrast, every ten-percent decline in political stability provides the reverse finding.

5. Conclusion and Policy Recommendations
A recap of the previous part is given in this section, which specifies the study's objectives, data and methodology, description of the variables and results, and discussion. Finally, we also offer some significant policy recommendations supported by empirical research, limitations, and future research directions.

In Pakistan, the investment climate, both foreign and domestic, despite tremendous resources, is badly damaged because of political instability. The country's political leadership needs to gain competency and efficiency, manifested in the lousy management of the economy and government and political instability. The current study was carried out in Pakistan between 1990 and 2019. This study's two objectives are to analyze how foreign direct investment is affected by political instability and to examine how political unrest affects domestic private investment. The study's essential contribution is to analyze the dynamic link between political instability and investment (domestic and foreign) in Pakistan using a novel dynamic ARDL simulation framework. FDI and private investment are used as independent variables. Control variables include interest rates, differential differential, real GDP, trade openness, and inflation. Private investment is represented by the private sector's gross capital formation, and annual percentage inflows represent FDI. We have measured political instability using ICRG political stability measure. This means that the relationships found (positive) are the inverse of the relationship with which we are concerned. The share in GDP of the combined value of exports and imports shows trade openness. The country's real GDP measures both the size of its market and its level of development. The weighted average price change of a basket of products and services people buy demonstrates inflation. The difference in the consumer price index has been used to measure inflation. Interest rate is indicated by the money market rate at home and in foreign (US).
To see that no normality issue exists in the data, as the first step, we give descriptive statistics as part of empirical analysis. We assess the linear dependency between independent variables using the correlation matrix for further analysis. The findings demonstrate the absence of linear dependence. The variables integration is ascertained using the structural break unit root test. Additionally, we used a recently developed novel dynamic ARDL simulation analysis. The null hypothesis of no cointegration against the alternatives in both equations is rejected using the bound test. Later, the short and long-term outcomes for both equations are shown.

Regarding our first objective first, we describe the long-run results of the dynamic ARDL model. We see the effect of political instability on FDI while income, trade openness, inflation, and interest rate differential are our control variables. The findings indicate that FDI and political instability are not positively related. A politically stable country attracts greater investment than a country with an unstable political climate. The case of high political instability forces multinational corporations (MNCs) to move to less risky countries and avoid FDI. Trade openness, income, and the difference in interest rates among our control variables favorably impact FDI inflows, while inflation remains insignificant in attracting foreign direct investment. Higher openness positively impacts economic activity and output level, attracting foreign investors. A higher real GDP indicates a country's well-being or development level and ultimately encourages investors to select that nation over others. A higher interest rate differential provides higher returns to foreign investors, leading to higher FDI. Political instability boosts the FDI inflows in the short run. Interest rate differential contains its sign over the short term as well.

Over the short period, many variables become insignificant. Short-run results show that the adjustment speed is around 25%. In case of shifting away from the equilibrium, about 25% of FDI has adjusted every year as the variable advances toward reestablishing equilibrium. According to
adjusted $R^2$, the model explains 72% of the variations in the FDI after considering the degree of freedom, which shows a good fit. The Durbin-Watson statistic shows the non-existence of first-order autocorrelation.

As for as our second objective is concerned, the long-run results of the dynamic ARDL demonstrate that political instability negatively affects private investment. A higher political instability lowers the level of investment undertaken because of uncertainty and the risk of expropriation. Trade openness and income, our control variables, show a positive association with private investment. The interest rate is inversely related to private investment. Inflation remains insignificant in affecting private investment. In larger markets, investors are encouraged to invest more through trade. A higher Real GDP attracts private investors and leads to large private investments. Interest rates that discourage private investment raise the real cost of capital. Over the short-term, trade openness, inflation, and real GDP positively contribute to private investment. Interest rate contains its sign over the short period.

5.1. Policy Recommendations

Based on our empirical findings, we conclude that political instability harms foreign and domestic private investment. The government must create a favorable climate for both domestic and foreign investment. Strong governance, higher institutional standards, and political stability will increase investor trust. In Pakistan, the political system's irregularity and instability are most detrimental to economic progress. Long-term economic policies are required for increased economic growth. The government should reduce political uncertainty and promote foreign and domestic investment for Pakistan's economic prosperity. The government of Pakistan should apply democratic principles and strengthen political institutions to promote political stability. GDP is an important predictor of FDI since growing GDP indicates greater market possibilities for offshore
investors seeking higher returns. As a result, efforts should be undertaken to boost GDP growth rates to attract international investment. Finally, higher incentives should be offered to foreign investors to encourage FDI inflows into Pakistan. Furthermore, the government should ensure effective service delivery and greater productivity of public investment.

5.2. Limitations and Prospects for Future Research

The present study concentrates on the time series analysis merely. For improved outcomes in the future, we can include a panel of developing and developed nations for better results and a comparison between both. Moreover, we can also use some other measures of political instability used in the empirical literature.

References


