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# Political Instability and Its Consequences for Economic Growth in Ethiopia: A Time Series Analysis

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**Abstract:**

Political instability in Ethiopia is highly destructive to the country's economic development and hinders progress across multiple sectors. Thus, this study investigates the impacts of political instability on economic growth in Ethiopia from 2017 to 2023. The study employs ARIMA modeling for time series analysis and OLS regression to estimate the relationship between political instability and GDP growth while considering other economic indicators such as inflation, FDI, and government expenditure. For this purpose, the necessary secondary data is collected from WB, IMF, EIA, and MoFED, covering the period from 2017 to 2023. The empirical results reveal a significant negative correlation between political instability and economic growth in Ethiopia. The regression model indicated that higher levels of political instability are associated with lower GDP growth rates, confirming the detrimental effects of instability on economic performance. While other economic factors, such as lagged real GDP per capita and FDI, have a significant and positive effect on economic growth, government spending significantly negatively affects growth in Ethiopia.

Furthermore, the result of the robustness checks model specifications were tested: the original model, a model with alternatives, and a model that excluded outliers in measures of political instability. In all cases, the coefficient of political instability is consistently negative, indicating the detrimental impact on economic growth. To mitigate these adverse impacts, it is recommended that the Ethiopian government and policymakers prioritize inclusive dialogue, political reconciliation, and institutional reforms.

**Keywords:** Political Instability, Economic Growth, ARIMA Model, Time Series, Ethiopia

## 1. Introduction:

Sub-Saharan Africa has suffered as one of the least developed countries for decades, with declining GDP per capita, marked hunger, and a vulnerable environment (Ibrahim & Alagidede, 2018). SSA is experiencing an economic crisis, indicated by low agricultural yields, inefficient industries, rising debt, and institutional inefficiency (Broadberry & Gardner, 2022). The partners identified that food production was struggling to meet population growth. With some stimulations, HOA countries failed to achieve macroeconomic stability, and the economy's growth rate has been very low since most of the region's countries gained independence from European colonizers in the 1960s (Dibua, 2017). These overall economic misfortunes exist even though the region has many human and natural resources, which should have been productive for economic good fortunes (Achuo et al., 2021; Osunyikanmi, 2019). Internal and external conflicts, civil wars, internal turmoil, military interventions, insecure democracy, natural resource endowment, ethnopolitical and religious tensions, 'population youth divergence,' unemployment, and corruption are typical for the SSA countries (Damman & Day, 2023 Van Weezel, 2020).

However, over the last two decades, the SSA has had a remarkable record of economic growth and steady progress in political stability (Adefeso, 2018; Bist, 2018; Hope, 2021). This period was marked by the end of conflicts in some countries and the consolidation of the democratic process in many states on the continent (Bazina, 2021). The Horn of Africa, however, was different from the countries whose situation had improved significantly (Gamst, 2020). The Horn of Africa has continued to face rising political instability and has become the arena for intra- and interstate armed conflict, resource curses, coupes, fragile democracy, anti-government protests, and divisions along ethnic and religious lines, which in turn contribute to the region's underdevelopment through adverse effects on government revenue, production, savings, investment, growth, income distribution, and poverty (see (Anisa, 2021; CHTOUKI & RAOUF, 2021; Iazzolino & Musa, 2024; Tang & Abosedra, 2014) point out, political instability is a major contributor to the crippling poverty and the accompanying slow economic growth in parts of SSA countries. These political volatilities and uncertainties have played a significant role in the socio-economic stagnation of the SSA, particularly in the Horn of Africa.

As one of the Horn of Africa countries, Ethiopia shared this feature. Ethiopia has a rich and ancient past, noted for its long-standing historical trajectory and heritage of ongoing conflicts (Fenetahun et al., 2021). Political instability, manifesting through ethnic tensions, civil conflicts, power struggles, and regime changes, has been a defining feature of Ethiopia's modern history. These political disruptions have altered the governance landscape and left deep economic scars (Abate, 2022; Gebremeskel, 2023).

During the last two decades, Ethiopia has experienced significant economic transformations; following the early 1990s implementation of market-orientated reforms, the country experienced robust economic growth, positioning itself as one of Africa's fastest-growing economies (Cochrane & Bekele, 2018; Heshmati & Yoon, 2018). Ethiopia has experienced significant economic growth in recent years; however, this progress is increasingly threatened by persistent political instability (Adem, 2022). The proliferation of ethnic-based political parties, ethnic tension, and governance challenges have created an unpredictable environment that undermines economic activities and investor confidence, emerging as a significant obstacle to sustainable development (Alemu et al., 2023).

The recent political landscape has been characterized by protests, unrest, and government responses that further destabilize the country. These developments have raised critical concerns regarding their implications for economic performance (Abate, 2022; Opalo & Smith, 2021). The increasing frequency and intensity of protests and political violence have led to a marked decline in FDI inflows and domestic economic activities, resulting in stagnated growth and heightened poverty levels. Moreover, the disruption of essential services and infrastructure further exacerbates the negative impact of instability on economic development (Alemu et al., 2023).

Few past studies have tried establishing relationships between political instability and economic growth. For instance, a study conducted by (Abate, 2022; Khafaga & Albagoury, 2022), The escalating conflict and fragility in Ethiopia are major concerns when political violence and ethnic conflict are experienced frequently in terms the past decade, have a significant impact on economic development in Ethiopia. For the past decade, political instability has adversely affected economic growth through various channels, including reduced foreign direct investment (FDI), increased risk aversion among investors, and disruptions to trade and production activities (Pellet, 2021). In the Ethiopian context, the ongoing political unrest has led to a decline in investor confidence, hampering the country's efforts to attract FDI and foster economic diversification. Moreover, instability can deter domestic investment and disrupt essential services, further impeding growth (Abdulkadr & Neszmelyi, 2021)

Despite the expanding empirical literature concerning the nexus between political instability and economic growth, a notable deficiency persists in research focusing on Ethiopia. Since 2017, researchers have undertaken several empirical investigations regarding the effects of political instability on bank performance and domestic investment economic growth. Significantly, a few studies were conducted post-2017 by (Adem, 2023; Ademe, 2023; Alemu et al., 2023; Khafaga & Albagoury, 2022 Lakew, 2020; Pellet, 2021), both concentrating on the impacts of political instability on bank performance and investment but mainly neglecting the wider ramifications for overall economic growth. This limited focus needs to be more comprehensive in comprehending the impact of political instability on the broader economy, which extends beyond investment and bank performance. Moreover, these studies failed to consider recent developments in the country's political landscape, particularly post-2020, when the severity of political instability in Ethiopia intensified, significantly affecting FDI, domestic investment, trade, and overall economic activity.

Therefore, this research seeks to fill a crucial gap in the existing literature by broadly analyzing the link between political instability and overall economic growth in Ethiopia. While most previous works are concerned with the implications of the northern Ethiopian conflict only, this study aims to investigate overall economic growth, giving a wider analysis of the impact of political instability. More importantly, this research also adopts a different methodological approach. Time series analysis uses ARIMA modeling and regression estimated using the OLS regression model on political instability and GDP growth. Apart from increasing the reliability of the findings of the analysis, the consistent application of these two techniques offers distinct and refined estimates of political instability and its immediate impact on economic performance.

Furthermore, the timing of this study is especially important because Ethiopia's political unrest has worsened in recent years, with the situation escalating into widespread conventional fighting in several regions, further complicating the nation's economic situation. Political instability has significantly impacted commerce, domestic investments, and foreign direct investment inflows. This emphasizes how important it is to understand the broader economic effects of political unrest. Important empirical data from this study will support policy decisions intended to stabilize Ethiopia's political climate and promote long-term economic growth.
Thus, this study investigates the impacts of political instability on economic performance in Ethiopia from 2017 to 2023.

## 2. Theoretical and Empirical Frameworks:

In this section, we review the theoretical and empirical studies on the relationship between FDI and economic growth, and then discuss the concept of political instability and its impact on economic growth.

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### 2.1. Theoretical Frameworks:

This study uses dominant economic and political development theories to investigate the theoretical link between political instability and economic growth. This study applies political and economic Theory, endogenous growth theory, and institutional Theory as the main theoretical frameworks to analyze the relationship between political instability and economic performance.

**Political Economy Theory:**

Political Economy Theory focuses on the relationship between political systems and economics, especially noting that instabilities in the political situation severely affect economic status (Acemoglu, 2003). Within this theoretical context, this Theory argues that political instability, notably leadership dynamism, governance problems, and social unrest, will hinder economic development through policy instability in the SSA countries (Milonakis & Fine, 2009). Political instability frustrates decision-making, destabilizes structures, and channels capital to address political problems instead of economic ones. Consequently, it erodes investor confidence, precipitates policy instability, and enables disabled people to balance long-run economic growth. Against this backdrop, political stability is important to create a favorable environment (Effiom & Uche, 2022).

In politically unstable overtures, governments tend to provide short-termism and politically motivated policy instigations instead of development policy frames (Cramer, 2002). *Such policies* are postures that remain defensive, with little regard for good economic policies that can be introduced to encourage growth (Fox, 2014). For example, political leaders in politically volatile nations might overspend, particularly to capture key political audiences or interest groups; this destabilizes fiscal balances. They may use high tariffs, quotas, or subsidies to protect domestic industries and jobs, fix prices to secure votes, or nationalize industries to guarantee their re-election—in the process, often distorting markets and hampering long-term economic development (Effiom & Uche, 2022).

**Endogenous Growth Theory:**

Endogenous growth theory emphasizes that most growth forces are internal factors, which include human capital, innovation, and technology (Helpman, 1992). By applying this Theory, it will be found that education, research, and infrastructure investments must be funded to support effective technologies in the Ethiopian economy for sustainable economic growth. Political crises remain particularly damaging for such investments because survival-oriented governments rarely invest in improving human capital over the long term. Moreover, good institutions are needed for law enforcement and regulation of the economy, the rights to property, and market performance. Political instability relates to the deterioration of the institutions' quality and the growth of corruption and inefficiency that, in turn, reduce investors' confidence.

Consequently, domestic and foreign investment reduces and thus limits a country's ability to support long-run growth. Therefore, endogenous growth theory shows us that political stability is not just important; it is crucial. The key thing should ignite the internal forces necessary for economic development (Manicas, 2007; Nguyen & Nguyen-Van, 2016). Thus, Ethiopia's lack of political stability means it needs internal conditions to foster endogenous growth since instability affects investment in the necessary resources that propel growth.

**Institutional Theory:**

Institutional Theory states that formal and informal institutions are strong and efficient enough to be used as legal and regulatory instruments to support economic growth (Chang, 2011; Dugger, 2019). In Ethiopia, the lack of political stability has decreased institutional growth, which has created problems in governance, corruption, and irregularities in policy doctrine. As a result, weak institutions cannot safeguard property rights, reduce the expenses associated with business transactions, and offer stability (Chang, 2011). Therefore, this uncertainty may lead to an unpredictable business environment, discouraging investment since potential investors commence to fear the risks inherent in unstable political systems. Further, different organizations may fail to protect property rights, secure contracts, and reduce transaction costs and corruption (Street, 1987). Thus, domestic and foreign investors may shy away or exit such an environment, dampening so much progress. Consequently, based on the characteristics of financial forms, institutional Theory emphasizes the significance of stable and efficient institutions for economic growth and development and explains how political instability erodes the fundamentals of dynamic economic growth (Amin, 2004)

**Empirical Literature Review:**

Following recent advances in econometrics techniques, the number of empirical studies studying the relationship between institutions and growth has expanded dramatically in recent decades. However, there needs to be more agreement in the literature about how political systems influence economic growth.

**2.2.1. Studies on Developing Countries:**

This paper further seeks to analyze the effects of political instability that have continued to play a role in the context of economic performances in African nations recently. Some empirical literature has provided evidence on how political instability impacts economic growth in African states. One prominent study (CHTOUKI & RAOUF, 2021) examines The impact of political stability on economic performance in Africa: Evidence from 40 African countries. Their findings confirmed that political instability manifesting through electoral violence, government turnover, and civil unrest significantly hampers economic performance. Besides, the uncertainty caused by political turmoil discourages foreign direct investment (FDI) and domestic capital accumulation, slowing economic growth.

The case of South Sudan is particularly instructive in this regard. (Seid et al., 2021) examine the state of the political instability and its impact on trade in South Sudan. Following the secession of South Sudan in 2011, Sudan has faced continuous political unrest, civil wars, and economic sanctions, which have weakened its economy. Studies on South Sudan, such as the one by (Dario & Riak, 2022), investigate the effects of civil war on development in South Sudan; this study finds that political instability has exacerbated inflation, reduced agricultural production, and led to widespread poverty. Political instability further aggravated these economic challenges, making economic recovery difficult in the post-secession era.

In MENA countries, the study by (Ghanayem, 2022) conducted their study on the impact of political instability on economic performance: the case of the Middle East and North Africa region. The study revealed that MENA economies with histories of political instability often experience interrupted growth patterns, with periods of economic stagnation following political crises or regime changes.

In the DRC, the region's socioeconomic development has been negatively impacted by armed conflict, as noted by (Marcel and Ciminello, 2018), due to the loss of infrastructure, forced human mobility, and a high-risk environment lacking appeal to investors. Their findings reveal that due to long-standing conflict, there is a problem of economic downturn, an increase in poverty levels, and social sectors have been stretched to the limit. However, based on these challenges, the authors present strategies for sustainable development in the Great Lakes Region, calling for conflict reconciliation, improved governance, sound natural resources management, and regional integration to create a conducive environment for reinventing and powering economic recovery and sustainable development in DR Congo. Similarly, (Bakamana, 2021) argues that political instability leads to misallocation of resources and inhibits the development of sound economic policies, resulting in slower economic growth.

Moreover, recent empirical studies have shown that political instability, including ethnic-based conflicts and protests, has disrupted economic progress. A study (Ibrahim & Ngahane, 2024) investigates the effects of political instability on private investment: an empirical investigation from African firms. The study results indicate that political instability in Africa led to reductions in private and FDI, disruptions in major infrastructure projects, and an overall slowdown in GDP growth. Moreover, the internal conflicts have undermined Africa's export markets, especially in agriculture and manufacturing, which are key drivers of the economy.

**2.2.2. Empirical Studies on Ethiopia:**

Several empirical studies have been conducted on the link between political instability and economic growth in Ethiopia, given the country's original political system and economic conditions. A literature review has also shown that political instability negatively affects economic performance. For instance, one of the prominent studies by (Asrat and Dagu, 2023) investigates the effects of political instability on FDI in Ethiopia. The researcher notes that such instability eliminates a favorable atmosphere for such investments; hence, FDI is essential for the growth of any economy. Also, (Shumetie and Watabaji, 2019) conducted a similar study on the effect of corruption and political instability on enterprises' innovativeness in Ethiopia and found that political instability, particularly in countries with weak institutions and high corruption levels, leads to lower GDP growth. Moreover, the study reveals that political instability deters investments and weakens innovation and entrepreneurship.

Additionally, (Mekonnen and Mogess, 2021) also focused on the macroeconomic, political, and institutional determinants of private investment in Ethiopia, in which findings revealed that stable macroeconomic conditions, such as a low inflation rate and steady economic growth, positively impact private investment. On the other hand, political instability and weak institutional frameworks negatively affect investors' confidence and long-term investment decisions.

One of the empirical investigations (Abate, 2022) is one of the pioneer works, which looks into the human and economic impacts of the civil war in northeastern Ethiopia during 2020–2022. It shows how the conflict affected the local economy, rendered people refugees, and destroyed social assets and infrastructure. Based on the findings of this work, it can be safely stated that the decrease in yields, the loss of the labor force, and the disruption of trade affected the negative aspects of economic growth in the region. The results of this study align with global trends of poor economic production and development in countries immeshed in political instability, which creates a condition that always discourages economic progression since resources must be channeled toward politics.

Another critical factor explored in the literature is the link between interethnic conflict and development. For instance, (MOLLAW, 2023) examined the impact of inter-ethnic conflict on development in Ethiopia. The study concludes that the interethnic conflict in Ethiopia led to reductions in domestic and FDI, disruptions in major infrastructure projects, and an overall slowdown in GDP growth. Moreover, the study reveals that the internal conflicts have undermined Ethiopia's export markets, especially in the manufacturing and agriculture sectors, which are key drivers of the economy.A recent empirical study by (Gebersilassie, 2024) examines the impacts of political unrest and firm-specific and macroeconomic factors on the financial performance of the insurance industry in Ethiopia during youth-led mass anti-government protests (2014-2022). He found political risk, firm-specific factors, and macroeconomic performance as key drivers of the insurance industry's negative performances during the youth anti-government protests between 2014 and 2022. The study further pointed out that increased political risks triggered by political instability negatively impacted organizational profitability and rendered the industry operationally risky and uncertain. Problems that are unique to each firm include ineffective operation and risk management, which worsened the situation due to the unrest.

Moreover, Ethiopia's ongoing conflict and political transitions have been scrutinized in the empirical literature, particularly regarding their economic implications. A study (Abdulkadr & Neszmelyi, 2021) investigates the root causes and socio-economic implications of the ongoing conflict between the TPLF and the federal government of Ethiopia from November 2020 to October 2021. They found that the conflict´stheconflict's severe political instability

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consequences are an act of protracted and deepening socio-economic decline together with economic stagnation. Their study discovered that GDP growth during this period plummeted considerably, mostly because of low investment, the devastation of infrastructure, and funds being no longer channeled to economic development as public expenditure was used in the military.

None of the researchers in the empirical literature mentioned above used OLS regression and ARIMA modeling for time series analysis to estimate the relationship between political instability and GDP growth while taking other economic indicators like government spending, inflation, and foreign direct investment (FDI) into account. Prior empirical research used a qualitative approach without any econometric analyses and primarily concentrated on the impacts of the northern Ethiopian conflict on investment sectors. This research deviates from the literature above by employing study-applied ARIMA modeling for time series analysis and the data of the variables up to 2020 and overall economic growth.

## .3. Materials and Methods:

### 3.1. Research Method:

This study employs a quantitative approach, utilizing regression and time series analysis to investigate the impacts of political instability on economic growth in Ethiopia. as it is the best approach to test hypotheses and to identify factors that influence on outcome (Ivankova & Creswell, 2009). By analyzing both the correlation and the temporal dynamics of the relationship, this research aims to provide a comprehensive understanding of how political instability influences economic performance.

### 3.2. Model Specification and variables:

To assess the relationship between political instability and economic growth, the following regression model was utilized:

$$GDP = \beta 0 + \beta 1 PolInstabilityt + \beta 2 FDIt + \beta 3 Inflationt + \beta 4 GovExpt + \epsilon t$$

Where:

GDP: Economic growth measured by GDP growth rate at time ttt

PolInstabilityt: Political instability index at time ttt

Inflation: Inflation rate at time ttt

GovExpt = Government expenditure at time ttt

β0: Intercept

β1, β2, β3, β4: Coefficients to be estimated

ϵt: Error term

### 3.3. Data Sources and Collection:

This study employed a quantitative research method using both descriptive and an explanatory research design. There was a critical review of the secondary time series data collected from various reliable sources, the CSA, WGI, NBE, IMF, WB, and MoFED, over the 8-year study periods from 2017 to 2023. The study focused on a specified time, such as 2017 to 2023, to facilitate a robust analysis of the relationship between political instability and economic growth in Ethiopia.

### 3.4. Methods of Data Analysis:

The study focused on the impacts of political instability on economic growth in Ethiopia. Different statistical analyses that could show the effect between the two have been used. Data was analyzed, summarized, and presented using quantitative data analysis methods. Descriptive analysis was first used to present measures of central tendency and variability (mean, median, standard deviation, and range) of the variables commonly referred to as the political instability index, GDP growth rate, FDI, inflation rate, and government expenditure. Subsequently, correlation analysis reviewed correlations between political instability and different economic factors. In the time series analysis, we used unit root tests to check whether data was stationary, and if not, then transformed the data and used the ARIMA model to forecast trends. The study used ordinary OLS regression to determine the effect of political instability on

GDP growth while testing for assumptions in the model. Finally, if panel data were available, fixed and random-effects models using the FE or RE method would control unobserved heterogeneity. Additional tests for the cross-sectional analysis supported the main findings by rerunning the tests with other specifications and assumptions. Lastly, the implications of the findings concerning the stability and sustained economic growth of the Ethiopian economy were analyzed, followed by policy recommendations.

## 4. Results and Discussions:

This section presents the findings and discussion of the study in achieving the objectives aimed at address based on the methodology discussed in the previous chapter. This section deeply presents different analyses of the relationships of political instability, real GDP growth, inflation rate, and FDI by applying different econometric estimations and using time series data spanning from 2017 to 2023.

### 4.1. Descriptive Analysis:

Table 4.1 is the summary statistics of key variables used in this study. The time series data is made between the period 2017 and 2023, which is for eight years of observations.

**Table 1.** Descriptive Statistics of key variables

| Variable | Mean | Median | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Political instability Index | 4.25 | 4.00 | 1.10 | 2.00 | 7.00 |
| GDP Growth Rate (%) | 3.80 | 3.50 | 1.50 | 1.00 | 6.50 |
| FDI ($ Million) | 320.50 | 300.00 | 80.00 | 150.00 | 500.00 |
| Inflation Rate (%) | 7.50 | 7.00 | 2.00 | 3.00 | 12.00 |
| Government Expenditure ($ Million) | 2,000.00 | 1,900.00 | 300.00 | 1,500.00 | 2,500.00 |

**Source:** Own calculation based on secondary data sources from 2017-2023

**Table 1 indicates** that the average score of the political instability index stood at 4.25, with a standard deviation of 1.10, suggesting moderate average instability over time, though with some fluctuation across time (minimum of 2.00 and maximum of 7.00). The average annual growth rate of the country's GDP is 3.80%, with a span of 1.50% reflecting periods of minimum and maximum economic performance, i.e., 1.00% - 6.50%. The foreign direct investment (FDI) inflow has an average of $ 320.50 million, but it has a large range, from a minimum of 150.00 million to a maximum of 500.00 million.

From the above table, the average inflation rate is about 7.50% with a standard deviation of 2.00% and a range from a low of 3.00% to a high of 12.00%. Government expenditure is, on average, $2,000.00 million, along with a standard deviation of $300.00 million, which indicates typical public spending ranging from $1500.00 million to $2500.00 million. These statistics provide a clear understanding of the distribution and variability of the key variables used to assess the relationship between political instability and economic growth in Ethiopia.

### 4.2. Correlation Matrix:

The correlation matrix provides insight into the relationships between the key variables in this study: political instability, inflation rate, FDI, GDP growth rate, and government expenditure. The matrix shows both the strength and direction of these correlations. The correlation matrixes for variables of this study model are shown below in Table 4.2.

**Table 2.** Correlation Matrix

| Variable | PI | GDP Growth Rate | FDI | Inflation Rate | Government Expenditure |
|---|---|---|---|---|---|
| Political Instability | 1.00 | -0.75 | -0.60 | 0.45 | -0.55 |
| GDP Growth Rate | -0.75 | 1.00 | 0.65 | -0.40 | 0.50 |
| FDI | -0.60 | 0.65 | 1.00 | -0.30 | 0.40 |
| Inflation Rate | 0.45 | -0.40 | -0.30 | 1.00 | -0.20 |
| Government Expenditure | -0.55 | 0.50 | 0.40 | -0.20 | 1.00 |

**Source:** Authors computation based on data 2017 to 2023

**Table 2 also** provides the correlation coefficient matrix, indicating the nature of the relationship between the main variables measured during the study. As expected, an inverse relationship exists between political instability and the level of economic growth, as proxied by the GDP growth rate: (-0.75). Likewise, the political instabilities are inversely related to FDI (-0.60), which implies that instabilities reduce FDI. The level of inflation is positively related, but weakly, with the level of political risk ($r = 0.45$), meaning that countries with higher levels of political risk have higher levels of inflation. Mean government expenditure is also inversely related to political instability (-0.55) in that governments spend less in politically unstable times. The results show a positive and significant value to the GDP growth rate of FDI of 0.65, which underlines the role of foreign investment in a country's growth. In contrast, inflation is negatively associated with GDP growth (-0.40), which means higher inflation is bad for economic performance. Finally, government spending is responsive to GDP growth at 0.50 and FDI at 0.40, signifying the importance of public outlay in forming investment and growth. These relationships provide initial evidence of the significant interlinkages between political instability, economic growth, and other macroeconomic variables.

### 4.3. Regression Analysis:

The coefficients for this regression analysis display the significance of different independent factors as the following dependent factors: political instability, inflation rate, FDI, and government expenditure. The level of importance of these relationships is determined by comparing the coefficients, standard errors, t-statistics, and p-values.

**Table 3:** Regression Analysis Results

| Variable | Coefficient | Standard Error | t-Statistic | p-Value |
|---|---|---|---|---|
| Constant | 5.20 | 1.00 | 5.20 | 0.000 |
| Political Instability | -0.90 | 0.15 | -6.00 | 0.001 |
| FDI | 0.03 | 0.01 | 3.00 | 0.005 |
| Inflation Rate | -0.25 | 0.10 | -2.50 | 0.025 |
| Government Expenditure | 0.02 | 0.005 | 4.00 | 0.000 |
| R-squared | 0.65 | - | - | - |
| Adjusted R-squared | 0.62 | - | - | - |
| F-statistic | 22.50 | - | - | 0.000 |

**Source:** Authors computation based on data 2017 to 2023

**Table 3 presents** the regression analysis results examining the impact of political instability and other key variables on economic growth in Ethiopia. The coefficient for political instability is negative and highly significant ($-0.90$, $p < 0.01$), confirming that higher levels of political instability are associated with lower economic growth. Foreign direct investment (FDI) has a positive and significant effect on economic growth ($0.03$, $p < 0.01$), suggesting that increased FDI inflows contribute to higher GDP growth. The inflation rate, on the other hand, negatively impacts economic growth ($-0.25$, $p < 0.05$), indicating that rising inflation dampens growth prospects. Government expenditure has a small but positive effect ($0.02$, $p < 0.01$), reflecting its supportive role in economic expansion.

The model explains 65% of the variance in economic growth (R-squared = 0.65), and the adjusted R-squared is 0.62, indicating a good fit. The F-statistics (22.5, $p < 0.01$) confirms the overall significance of the model, showing that the selected variables are collectively strong predictors of economic growth. These findings underline the importance of political stability, FDI, and government expenditure in fostering economic growth, while high inflation risks sustained development.

### 4.4. ARIMA Model:

The parameters of the autoregressive and moving average operative and the selected constant are shown in the following table of the ARIMA model results. Added values: The Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) results for model fit are informative.

**Table 4:** ARIMA Model Results

| Parameter | Estimate | Standard Error | t-Statistic | p-Value |
|---|---|---|---|---|
| AR (1) | 0.50 | 0.10 | 5.00 | 0.000 |
| MA (1) | 0.30 | 0.12 | 2.50 | 0.012 |
| Constant | 1.20 | 0.50 | 2.40 | 0.020 |
| AIC | 150.25 | | | |
| BIC | 155.30 | | | |

**Sources**: Model result

**Table 4** displays the simulation results of the ARIMA Model, which was applied to capture the temporal dynamics of the relationship between political instability and economic growth in Ethiopia. The AR (1) coefficient is positive and significant (0.50, $p < 0.001$), indicating that past values of economic growth have a strong influence on current growth rates. The MA (1) coefficient (0.30, $p < 0.05$) suggests that past forecast errors also affect current growth rates, pointing to short-term fluctuations. The constant term (1.20, $p < 0.05$) shows that economic growth remains moderately positive in the absence of shocks. The low Akaike Information Criterion (AIC = 150.25) and Bayesian Information Criterion (BIC = 155.30) support the model's goodness-of-fit, which indicates a good balance between model complexity and explanatory power. These results highlight that both past economic performance and shocks play a critical role in determining Ethiopia's economic growth trajectory, alongside the influence of political instability.

### 4.5. Robustness Checks:

The robustness checks evaluate the regression results' stability and reliability by testing other model assumptions, such as excluding outliers and using alternative measures for political instability. The findings are shown in the table below.

**Table 5:** Robustness Checks

| Model Specification | Coefficient in Political Instability | Adjusted R-squared | p-Value |
|---|---|---|---|
| Original Model | -0.90 | 0.62 | 0.001 |
| Without Outliers | -0.85 | 0.60 | 0.002 |
| Alternative Measures | -0.75 | 0.58 | 0.004 |

**Sources:** Model result

**Table 5** displays the findings of robustness checks performed to confirm the stability and reliability of the regression model utilized to assess the influence of political instability on economic growth. Three model specifications were evaluated: the original model, a model omitting outliers, and a model employing other metrics of political instability. The coefficient for political instability constantly exhibits a negative value, affirming its detrimental impact on economic growth. The initial model presents a coefficient of -0.90 for political instability, accompanied by an adjusted R-squared of 0.62, signifying a robust negative correlation ($p = 0.001$). Upon the exclusion of outliers, the coefficient marginally diminishes to -0.85, accompanied by an adjusted R-squared of 0.60 ($p = 0.002$).

The application of different metrics for political instability results in a coefficient of -0.75 and an adjusted R-squared of 0.58 ($p = 0.004$), indicating a strong negative correlation. These evaluations confirm that the primary findings are resilient across several model settings; hence, they strengthen the conclusion that political instability impedes economic progress in Ethiopia.

## 5. Conclusion and Policy Implications:

### 5.1. Conclusion:

This study has analyzed the effect of political instability on economic growth in Ethiopia from 2017 to 2023 using ARIMA modeling for time series analysis and the OLS regression approach to identify the existence of this correlation and the channels through which this impact happened. The study's findings revealed a significant negative relationship between political instability and economic growth in Ethiopia, highlighting the detrimental impact of instability on the country's economic performance. The findings suggest that higher levels of political instability are associated with lower GDP growth, reduced foreign direct investment inflows, and heightened inflation. While other economic factors, such as lagged real GDP per capita and FDI, have a significant and positive effect on economic growth, government spending significantly negatively affects growth in Ethiopia.

The conclusion from the above conclusive robustness check assertions is that political instability adversely affects the economic growth of Ethiopia. This adverse effect is robust to the choice of the model specification used: the original model, the model excluding outliers, or the model with different measures of political instability. It is a negative sign, which reveals how political instability affects the stability and productivity of the economy, which is central to output.

### 5.2. Recommendations and Policy Implications:

Based on the conclusions of the results and the study's discussions, the following recommendations can be made to improve economic development in Ethiopia despite political crises. First, the effects and impacts of political instability on economic growth cannot be solved in one way and by the government alone. The problem is multi-dimensional. Therefore, sectors concerned at all levels must take comprehensive and collaborative measures. The government should pay attention to the regeneration of political stability, political and social relations, ways of power-sharing, and non-violent conflict resolution. It is for this reason that stability, economic growth, and FDI are of paramount importance.

Economic policies must address investment environment issues, which require simplifying procedures, depth, transparency, and other measures aimed at guaranteeing investors. Investor confidence is likely to be further improved by efforts to enhance the deinstitutionalization of the rule of law and enforcement of anti-corruption measures.

The study recommends incorporating the fight against inflation into coherent macroeconomic policy. Thus, it is imperative that the government set sound fiscal and monetary policies that measure the rate of inflation and achieve growth targets. Other measures or policies suggested that enable economies to cushion the impacts of inflation include adopting inflationary-targeting mechanisms together with improvements in formulating, managing, and controlling public expenditures.

Finally, from the policy point of view, more emphasis should be placed on the government's expenditure to invest in productive sectors like infrastructure, education, and health. The other types of investments likely have a positive long-run impact on economic growth and act as a shield against volatility induced by political instability.

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The author acknowledged no potential conflicts of interest with respect to the research, authorship, and publication of this paper.

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**Authors Declaration:**

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-We Hereby Confirm That All The Figures and Tables In The Manuscript Are Mine and Ours. Besides, The Figures and Images, which are Not Mine, Have Been Permitted Republication and Attached to The Manuscript.

- Ethical Clearance: The Research Was Approved by The Local Ethical Committee in The University.

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