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Trends and Factors of Economic Growth from a Macroeconomic Perspective: An Analysis of Ethiopian Development Dynamics

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Abstract. A key macroeconomic objective for any economy is price stability and economic growth, although unpredictable growth can have a detrimental effect on a country's economic performance. By examining trends and the causal relationships between macroeconomic indicators — GDP per capita growth, FDI inflows, exports, imports, inflation, and unemployment — this study addresses Ethiopia's economic growth challenges. The study hypothesizes that through addressing all factors contributing to Ethiopia's economic growth, it is likely to reverse the country's declining trend in economic growth. The study utilized descriptive and the ARDL approach to analyze economic growth dynamics from 2000 to 2022, focusing on trend analysis and causal linkage among macroeconomic variables. The findings demonstrate that Ethiopia's economy underwent various growth phases, with an average GDP per capita growth rate of 6.40 % and real GDP growth of 8.70 %. While exports and FDI inflows have both short- and long-term benefits, unemployment has a detrimental influence on the growth of the country's GDP per capita. Despite their substantial short-term positive effects, imports have had a long-term detrimental effect on the GDP per capita growth. It has been shown that inflation has a significant short-term negative effect on the nation's growth. There are multiple ways to assess the effectiveness of the approach, including promoting FDI inflows, encouraging predictable inflation, maintaining the current account balance, and creating more job opportunities. In light of this, the study established the importance of policies in attracting foreign investment, job creation, and preserving moderate inflation in the country.

Key words: Ethiopia; growth trend; **ec**onomic growth; macroeconomic factors; development dynamics; ARDL approach.

JEL E01, O11, O40, O47, O55

1. Introduction

Growth continues to be a major factor in determining a nation's socioeconomic standing and influences the dynamics of its economic activities. To better comprehend economic growth, recent research, beginning with Simon Kuznets' work, highlights the significance of using GDP as a quantitative term. Economic development is the improvement of the economic and social conditions of people through expansion of macroeconomic indicators. Growth involves an outward shift in the production frontier, enabling the production of more goods without reducing the output of other goods [1].

Hence, it is reasonable to argue that economic activity is a deliberate action that has to be measured using a common growth phenomenon meter. GDP,

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commonly expressed in terms of real GDP growth rate or GDP per capita, is highlighted in modern theories as a crucial indicator for assessing how well an economy is performing in terms of its total size and productivity over a certain period, usually a year or quarter [2]. Positive economic growth is observed when annual average rates of macroeconomic indicators, especially GDP, surpass average population growth rates. However, unpredictable economic growth can significantly impact the performance of the economy by causing certain shocks [3].

The Issue of economic growth becomes a top priority for countries like Ethiopia since it is challenging for such economies to improve their economic potential to serve their expanding population. For instance, Ethiopia's real GDP decreased from 13.58 % in 2004 to 5.32 % in 2022. However, it is still higher than East Africa's average[1]. Despite its potential and expanding economy, the country has experienced severe economic crises since the 1970s as a result of internal and external challenges. The challenges include geopolitical tensions, global economic recession, commodity and oil prices, trade policy issues, exchange rate issues, internal conflicts, political instability, macroeconomic imbalances, institutional inefficiency, and climate change factors. The country is among the most indebted nations in the region. Furthermore, the nation's inflation rate, which peaked at 44.4 % in 2008, 33 % in 2011, and around 34 % in 2022, has grown to be a significant macroeconomic issue. Other issues facing the country include low HDI scores, high unemployment, and inadequate infrastructure development[2].

Although there have been some studies on the dynamics of economic growth, the findings about the precise determinants driving Ethiopia's economic growth have been conflicting and inconclusive, leaving a research gap unfilled. Additionally, the variables influencing the Ethiopian economy have not been thoroughly researched. Thus, by examining the trends and causal relationships among macroeconomic indicators, the current study seeks to fill in the knowledge gaps regarding Ethiopian economic growth dynamics.

The following *research questions* were formulated during the study:

RQ1: What are the key characteristics of the Ethiopian economy between the period 2000 and 2022?

RQ2: Which macroeconomic variables have a major impact on Ethiopia's economy?

RQ3: What courses of action are recommended to help the nation carry out an effective macroeconomic strategy?

In general, answering these questions is crucial for establishing a strategy for economic advancement and reversing the country's existing downward economic trends.

The purpose of this study is to examine trends and macroeconomic factors that influenced Ethiopia's economic growth from the sample period 2000 to 2022. In

[1] IMF: https://www.imf.org/external/pubs/ft/ar/2022/ (date of access: 14.02.2025).

[2] AFDD: https://oe.cd/AFDD-2022 (date of access: 14.02.2025).

this case, describing Ethiopia's economic growth trends, investigating short- and long-term drivers of economic growth, and coming up with possible policy recommendations for the effective macroeconomic policy implementation are some of the crucial tasks that need to be accomplished.

The study posits that a thorough examination of the fundamental macroeconomic variables affecting economic growth may result in conditions that can reverse the current deteriorating economic trends and possibly enable Ethiopia to see stronger economic growth. Throughout the study, the following *hypothesis* was explicitly addressed:

H1: With a dynamic economy, issues originating in neighboring regions eventually spread to other areas. It is therefore expected that more FDI inflows stimulate economic growth in Ethiopia through knowledge and technology transfer, higher capital formation, and the creation of new job opportunities.

H2: By trading goods, countries may expand their markets and acquire goods and services from across the world that would not be available domestically. Exporting goods is therefore expected to increase economic growth in Ethiopia and allow the country to benefit from its comparative advantages.

H3: The country's current accounting imbalance is expected to worsen as a result of increased imports of finished goods and services.

H4: Price stability is a crucial macroeconomic indicator since higher inflation typically correlates with greater financial crises and slower national growth. Therefore, it is anticipated that rising inflation will have a detrimental effect on Ethiopia's economic expansion.

H5: It's critical that all nations maintain a greater level of employment since workers are the economy's biggest resource. Consequently, it is hypothesized that rising unemployment retards economic growth in Ethiopia.

The remainder of the article is divided into five sections: A summary of the study's theoretical and empirical literature review is provided in the second section, while the information basis, data description, and econometric approach are explained in the third section. Section 4 presents the results. The discussion components are presented in Section 5, while Section 6 provides the conclusion.

2. Theoretical Review

2.1. Theoretical Literature

Both economic theory and practices are unable to pinpoint the precise causes of countries' fast development, even though economic growth is commonly used as a macroeconomic management tool. It is more challenging to identify the specific factor that has the highest impact on a country's growth since economic growth is a more complicated process. Furthermore, the influence of various factors on a nation's growth varies over time, regions, and countries [1]. Classical, neoclassical, and modern growth theorists propose a number of factors that determine a nation's growth. Throughout the 20th century, the primary forces behind a nation's growth were labor productivity, energy, and land [3].

Hence, global development was profoundly influenced by the Green Revolution and agricultural mechanization, which resulted in the mass manufacture of interchangeable components. Automation, the development of transportation infrastructures, and power sources all increased production during the Second Industrial Revolution. However, mass production led to overproduction and the Great Depression of the 1930s. Due to the rising demand for products, including automobiles, phones, radios, electricity, and home appliances, economic recovery returned after the Great Depression [4].

Prominent economists like Solow have regarded productivity factors as well as physical and human capital development as significant macroeconomic drivers. According to Solow [5], physical capital accumulation drives short-term growth, while technical innovation propels long-term growth. Human capital, which includes literacy, the number of books produced per person, and formal education, also reflects a country's development. Keynesians place emphasis on how a nation's growth is affected by investment, savings, macroeconomic stability, geography, and population increase. The product cycle model suggests that trade between nations boosts economic growth [6].

As to the theory put forward by Fisher [7], macroeconomic factors such as population growth, inflation, exchange rate stability, and international trade have an impact on a nation's growth. He emphasizes the importance of macroeconomic stability, arguing that policy uncertainty hinders market mechanisms' ability to respond to market forces. For instance, the economy may suffer significantly if the rising inflation, government spending, interest rates, exchange rates, and population growth are not regulated. Keynesians illustrate the inflation-growth relationship using the aggregate demand and aggregate supply curves. The AS_AD model indicates a positive correlation between moderate inflation and economic growth, suggesting that robust economic activity, including investment, consumption, and government spending, can lead to inflation [8].

Additionally, the Phillips Curve theory suggests that inflation may contribute to economic growth by lowering unemployment. In contrast, it is widely accepted that higher inflation would be bad for the economy. Gordon's cost-push theory suggests that inflation is primarily caused by the rising production costs, leading to higher product prices [9]. In fact, a number of contemporary scholars consider that moderate inflation is preferable to two-digit rates since double-digit rates are more likely to hinder economic growth. Higher inflation could lead consumers with fixed incomes or wages to leave the market [2]. It can have a detrimental impact on investor confidence and saving incentives [10].

The influence of population expansion on a nation's growth is a topic of controversy among theorists. Malthus [11] demonstrated that population expansion negatively affects people's standard of life. He predicts the population to grow geometrically, doubling every 30 to 40 years, but food supply to expand arithmetically. He suggests population control to keep population growth and food supply in balance.

Similarly, Solow [5] contends that population growth has a detrimental effect on a nation's growth because capital stock does not increase in tandem with population increase. In contrast, Romer suggests that population growth influences productivity and human capital development through promoting the rise of scientists and innovators. Moreover, endogenous growth models suggest population growth as a key factor in economic expansion, highlighting its impact on labor productivity.

Numerous FDI theories emphasize the role that FDI plays in the economic development of developing countries, with FDI boosting domestic economies. According to Ricardo's theory of comparative advantage, the main source of FDI in developing countries is natural resource endowments. Heckscher-Ohlin extended Ricardo's theory, proposing that countries should export items that optimize their abundant and less expensive production components and import goods that maximize their limited resources [12]. According to Solow [5], FDI strengthens industrial efficiency, facilitates technology transfer, develops human capital, and provides foreign exchange. FDI boosts exports, as many FDI-produced items are sold globally, aiding investors to produce export-oriented products. FDI stimulates growth in emerging economies by breaking local monopolies, establishing competitive markets, and generating government revenue. Conversely, scholars argue that FDI can have a detrimental effect on developing economies, as excessive FDI inflow hurts developing economies by increasing the risk of Dutch disease through increasing child labor, reducing export competitiveness, overvaluing REER, and distorting the current account balance in Uganda [13].

There is a lack of agreement about the relationship between unemployment and economic growth, as evidenced by a variety of viewpoints. Keynesians argue that a lack of aggregate demand, particularly during recessions, hinders the creation of employment. Okun maintains that GDP gaps are correlated with higher unemployment levels; however, the case of technologically advanced industries could make the claim irrelevant. Theories like the pool of savings effect, creative destruction effect, and capitalization effect are used to explain how unemployment and a nation's growth are related. If the cost of implementing new technology is lower than the cost of generating jobs, the capitalization effect theory holds that stronger economic growth is associated with lower unemployment. Moreover, the pool of saving effect theory emphasizes that increased unemployment slows growth by reducing savings and capital accumulation [14].

However, the creative destruction effect theory proposes that the introduction of new technologies into the production system may result in economic destruction, workforce replacement, and unemployment. Accordingly, introducing more digital machines, which replace the existing work positions, might result in job losses, particularly in developing countries [15].

For low-income countries, financial borrowing from international lenders such as the World Bank and IMF is essential because of their cheap rates and

flexible payback terms. According to the twin deficit theory, prudent borrowings can help close two gaps: the difference in foreign exchange rates between industrialized and developing countries and the lack of domestic savings for investment requirements [16].

Sloboda & Sissoko [17] suggest that because a sizable amount of revenue is used to pay off debt, excessive debt makes the situation difficult to invest in welfare positions, infrastructures, and education.

2.2. Empirical Literature

Numerous empirical studies have explored economic growth factors using various methods, but a research gap remains unresolved. The study by Oladipo et al. [18] used the ARDL approach to analyze macroeconomic variables affecting Nigeria's growth, confirming a strong positive relationship between FDI inflows and economic growth. The ARDL model shows a positive impact of FDI inflows on the North American Countries' growth [19], while the GMM approach validates the negative association between FDI inflows and GDP per capita growth in East African countries [20].

A study by Thaddeus et al. [21] used the ARDL model to examine how macroeconomic factors affect Cameroon's economic growth and discovered a significant negative effect of FDI inflows on economic growth. Similarly, a study in Somalia found a negative correlation between FDI inflows and economic growth, exposing the country to foreign firm exploitation, resource misuse, and workforce misuse [22].

The study by Madurapperuma [2] utilized the VECM approach to examine the influence of inflation on Sri Lanka's economic growth, revealing a significant negative long run and short run correlation. Likewise, Ahmad [23] found that higher inflation exacerbates financial crises in Pakistan. Conversely, Mukit [24] examined Bangladesh's GDP using the VAR model. The results show that inflation and economic growth are positively associated. Moreover, Ezako [25] investigated the relationship between inflation and economic growth in Burundi. The results verified that inflation and economic growth are positively correlated. Additionally, there exists a strong positive correlation between inflation and growth in EU Countries [26].

Countries promote their markets by obtaining goods and services through producing domestically and trading internationally [27]. However, there is disagreement on the effect of exports and imports. Using the pooled OLS model, research by Saleh [28] examined the macroeconomic variables affecting economic growth in the Middle East and North Africa and found that exports support regional expansion. However, research by Aden & Shire [22] found that exports hurt Somalia's economy. In reality, importing intermediate products and capital may increase the productivity of manufacturing sectors [29].

According to research by Ezako [25], imports have the potential to promote the growth of East African nations. Using a dynamic panel method, a study by

Hadush et al. [20] investigated the possible factors driving economic growth in East African countries and found a negative association between regional growth and the final product's import. A study by Denano et al. [30] found a negative correlation between Ethiopia's imports and economic growth, indicating a causal relationship between the two factors. The study by Tenzin [31] utilized the ARDL technique to examine the correlation between Bhutan's economic growth and unemployment, revealing a strong negative correlation.

In contrast, a study by Mose [32] in Kenya suggests a positive link between unemployment and the country's economic growth. Similarly, a study by Oluwafemi & Laseinde [33] on the macroeconomic and social elements affecting economic growth in South Asian nations found a substantial positive relationship between economic growth and unemployment.

Hence, the contradictory results motivate the current study to fill up the knowledge gaps in the Ethiopian economy through investigating the growth trends and causal relationships between various macroeconomic indicator variables and the country's economic growth.

3. Materials and Methods

3.1. Data source

The study employs a dynamic data framework to analyze Ethiopia's economy's growth trends and factors from 2000 to 2022. The study uses GDP per capita growth at year *t* as an outcome variable to measure improvements in people's average living standards. Moreover, the model's independent variables were chosen.

First, the study hypothesized that increased foreign direct investment (FDI) boosts the economy's investment and job creation and improves living standards by influencing the neighboring effect.

Second, the study incorporated exports at year *t* as an explanatory variable, expressing them as a percentage of merchandise exports' value in the total GDP [34]. The inflation rate at year *t*, expressed as the consumer price index, is a crucial macroeconomic measure, as higher inflation affects consumer spending, weakens investor confidence, and reduces saving incentives [2]. The model considers the share of imports at year *t*, which represents a country's GDP derived from imported goods, and hypothesizes that increased imports of finished goods would worsen the country's current account deficit [30]. Unemployment at year *t*, as a percentage of the employed population, was also included as an explanatory variable, as higher unemployment is linked to GDP gaps [14].

The model variables were sourced from the Africa Development Bank[1] and World Development Indicators databases[2], and missing values were replaced using median imputation to lessen outlier sensitivity.

[1] Retrieved from ADB: https://oe.cd/AFDD-2022 (date of access: 14.03.2025).

[2] Retrieved from WDI: https://data.worldbank.org/indicator (date of access: 14.03.2025).

3.2. Model Specification

The use of the dynamic model approach was taken into account. The study used the ARDL technique to examine the short- and long-term relationships between variables. The ARDL approach was selected because of its ability to capture the short- and long-term correlations, its ability to adjust for any endogeneity in the regressors, and its flexibility in situations when variables are not integrated of the same order. Reliable results may be obtained using the model even with a small sample set [35]. The econometric model was used in the investigation in accordance with formula:

$$GDPCG = f\left(INF, FDI, EXPO, MPO, UNEMP\right). \quad (1)$$

In addition, taking into account the effect of external factors, the standard ARDL model is summed up in the following equation:

$$GDPCG_t = \beta_0 + \beta_1 INF_t + \beta_2 FDI_t + \beta_3 EXPO_t + \beta_4 IMPO_t + \beta_5 UNEMP_t + \mu_t. \quad (2)$$

Where μ_t is the error term and $\beta_i' s$ represent the estimated parameters in time *t*, which measures the sensitivity of variables to the economic growth; $GDPCG_t$ is the GDP per capita growth; INF_t is the annual inflation rate, measured by a consumer price index; FDI_t is the foreign direct investment inflows; $EXPO_t$ is the percentage share of exports; $IMPO_t$ is the proportion of total GDP that comes from imports; *UNEMPt* is the country's unemployment rate.

Moreover, the error correction representation of the ARDL model specification for the above equation (2) is given by:

$$\begin{aligned}\Delta \mathrm{GDPCG_t} = \alpha_0 + \sum_{i=1}^{K}\beta_1 \Delta GDPCG_{t-i} + \sum_{i=1}^{K}\beta_2 \Delta INF_{t-i} + \sum_{i=1}^{K}\beta_3 \Delta FDI_{t-i} + \\ + \sum_{i=1}^{K}\beta_4 \Delta EXPO_{t-i} + \sum_{i=1}^{K}\beta_5 \Delta IMPO_{t-i} + \sum_{i=1}^{K}\beta_6 \Delta UNEMP_{t-i} + \delta_1 GDPCG_{t-1} + \\ + \delta_2 INF_{t-1} + \delta_3 FDI_{t-1} + \delta_4 EXPO_{t-1} + \delta_5 IMPO_{t-1} + \delta_6 UNEMP_{t-1} + \mu_t.\end{aligned} \quad (3)$$

Where Δ denotes the first difference operator, δ_i is the drift component, and μ_t is the usual white noise residual. The variables $GDPCG_t$, INF_t, FDI_t, $EXPO_t$, $IMPO_t$ and $UNEMP_t$ are as defined earlier.

4. Results

4.1. Pre-estimation Tests

4.1.1. Unit root tests

We began our analysis by testing the stationarity conditions of the variables. Stationarity tests usually check whether there is any kind of trend in the data set or not. A data set is said to be stationary if its mean value plus variance and covariance are equal to zero. In order to avoid inaccuracies in the model outputs, it

is crucial that stationarity among the model variables be established before any dynamic analysis.

We apply for the Augmented Dickey-Fuller (ADF) unit root test and/or the Phillips-Perron test. The series is stationary at I(0) if it is stationary without any differences. The series is integrated of order I(1) if it is integrated immediately after taking the first difference. It is stationary at order I(2) if the series becomes stationary after the second differentiation [36]. To detect the stationary condition, we suppose the following relationship to exist (4):

$$Y_t = \rho Y_{t-1} + \mu_t. \tag{4}$$

Where μ_t is a white noise error term and ρ ranges from -1 to 1. When the value of ρ equals 1, the process is a unit root cause, and the equation transforms into a non-stationary stochastic process known as a random walk model without drifting. We next regress Y_t on its one period lagged value, Y_{t-1}, to see if ρ is equal to 1 or not. Y_t is non-stationary if ρ is statistically equal to 1. We perform the following to check stationarity in the above relationship:

$$Y_t - Y_{t-1} = \rho Y_{t-1} - Y_{t-1} + \mu_t. \tag{5}$$

This can also be rewritten as:

$$\begin{cases} Y_t - Y_{t-1} = \rho Y_{t-1} - Y_{t-1} + U_t \\ \Delta Y_t = \delta Y_{t-1} + \mu_t \end{cases}, \tag{6}$$

Where the first difference operator is represented by Δ and $\delta = (\rho - 1)$; we can assess the null hypothesis of $\delta = 0$ and estimate the equation above. We have a unit root, indicating non-stationary time-series data, if $\delta = 0$ and $\rho = 1$. The idea of the ADF test is to check if $\delta = 0$ and to apply the same critical values by following the same asymptotic distribution as the ADF statistics.

The standard ADF test equation takes the form of equation (7):

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-i} + \sum_{i=1}^{m} \alpha \Delta Y_t + \mu_i. \tag{7}$$

Where U_i represents a pure white noise error term, and $\Delta Y_{t-1} = (Y_{t-1} - Y_{t-2})$; $\Delta Y_{t-2} = (Y_{t-2} - Y_{t-3})$, and so on.

Hence, we rely on the test results of the ADF unit root test. The approach was chosen because it consistently maintains a mean value over time. When applying for the ADF test, the selected 5 % significance level is taken into account. If the absolute value of the test statistic is greater than the chosen 5 % critical, we reject the null hypothesis. The results of stationary properties of the variables are presented in Table 1.

Table 1. **ADF unit root test result**

Variables	Unit Root Test Results (ADF)			
	t-statistic	5 % critical	P > |t|	Decision
GDPCG	–4.91	–3.60	0.00	I(1)
FDI	–2.92	–1.74	0.00	I(1)
EXPO	–3.67	–1.74	0.00	I(1)
IMPO	–2.92	–1.74	0.00	I(1)
INF	–2.85	–1.73	0.00	I(0)
UNEMP	–3.10	–1.74	0.00	I(1)

Source: compiled by the authors.

Based on test results, *INF* is found to be stationary at level, while other variables such as *GDPCG, FDI, EXPO, IMPO,* and *UNEMP* are stationary after their first difference.

4.1.2. Lag length selection criterion

Since greater lags may result in residuals resembling white noise processes, the choice of appropriate lag length becomes a crucial step. When determining the appropriate level of lag lengths, the ARDL model employs (p+1) k regressions, where p is the maximum number of lags and k is the number of variables. The ARDL model is typically created using lag length selection criteria such as FPE, AIC, SIC, HQ, and LR.

In order to establish the optimum lag length, this particular study utilized the AIC technique, as it permits a greater probability of obtaining a large number of lags. The model will be better if the value of the AIC is lower [35]. We compute the following system statistics for every lag to apply the AIC criterion:

$$AIC = \log|\Sigma| + \frac{2g}{n}. \quad (8)$$

Where the cause of the variance-covariance matrix of the system's residuals is represented by $\log|\Sigma|$ the number of observations is signified by n, and the total number of parameters evaluated in all equations is represented by the symbol g.

The optimum lag length for the model is presented in Table 2. As can be seen, three lags showed an appropriate number of lags obtained, and the optimal model is represented by the ARDL (1, 1, 2, 2, 1, 3).

4.1.3. Co-integration Test

The co-integration test is a crucial step in determining the long-term connections between model variables. There are several approaches to detect long-term relationships. The ARDL bounds test, and the Johansen co-integration test are the two alternative approaches that we can use to check the long-term co-integration among

Table 2. **Optimum lag length selection criteria**

Lag	LL	LR	Df	P	FPE	AIC	SC	HQ
0	–8.79				0.16	1.03	1.04	1.08
1	–1.13	15.32	18	0.00	0.08	0.33	0.37	0.47
2	–0.57	2.14	18	0.00	0.09	0.39	0.42	0.59
3	0.61	0.72*	18	0.00	0.06*	0.33*	0.35*	0.43*
4	1.47	2.33	18	0.00	0.09	0.37	0.41	0.62

Source: compiled by the authors.

variables. When the model variables have a mixed nature of integration of either I(0) or I(1), the bounds co-integration test is employed, while if all of the model variables have the same order of integration of either I(0) or I(1), the Johansen co-integration test is employed. Given the mixed nature of the integration of order I(0) and I(1), the Bounds co-integration test technique was employed in this study. Greater flexibility is the advantage of the ARDL-bound approach over the other techniques.

The approach gives two critical values: the lower bound and the upper bound values. We compare the calculated F-statistic value with the critical upper bound value. In the event that the computed F-statistic value exceeds the selected upper bound of 5 % crucial, we accept the $\left[H1:\beta_i \neq 0\right]$ that suggests some co-integration among variables. However, the result is inconclusive if the calculated F-statistic value falls between the upper bound and lower bound values [35].

Table 3 displays the co-integration test results. Since the F-statistic value is more than the chosen upper bound 5 % critical value, we deduce that there is a long-term co-integration among the model variables. As a result, we can utilize the ECM approach to find the long-term coefficients.

Table 3. **The results of the ARDL Bounds Test**

Pesaran/Shin/Smith (2001) ARDL bounds test F-statistic = 19.502, t-statistic = –7.824				
	Pesaran et al. [35]		Narayan [36]	
Significance level	I(0)	I(1)	I(0)	I(1)
10 %	2.26	3.35	–2.57	–3.86
5 %	2.62	3.79	–2.86	–4.19
2.5 %	2.96	4.18	–3.13	–4.46
1 %	3.41	4.68	–3.43	–4.79

Source: compiled by the authors.

4.2. Descriptive Statistical Analysis

The study starts with a descriptive statistical analysis, and Table 4 shows the mean, median, maximum, minimum, and standard deviation values. The standard deviation figures highlight the extent to which the data diverge from the true mean value.

Accordingly, the country's growth, represented by *GDP* per capita, ranged from a minimum of 2.67 % to a maximum of 10.36 % with an average growth rate of 6.40 %. In terms of the real *GDP* growth, it ranged from 1.52 % to 13.57 % with an average rate of 8.70 %. The *FDI* inflows ranged from 0.41 % to 5.74 % with an average share of 2.94 %. The percentage share of exports ranged from 7.61 % to 17.44 %, with an average share of 12.11 %. Imports ranged from 16.65 % to 52.39 %, with an average share of 32.73 %.

Table 4. **Summary statistics**

Variables	GDPCG	RGDP	FDI	EXPO	IMPO	INF	UNEMP
Mean	6.39	8.70	2.94	12.11	32.73	14.95	2.73
Median	6.62	9.43	2.75	12.56	30.22	10.68	2.50
Minimum	2.67	1.51	0.41	7.61	16.65	3.23	2.24
Maximum	10.35	13.57	5.74	17.44	52.39	44.35	3.93
Std. deviation	2.16	3.12	1.61	3.41	11.42	10.80	0.53

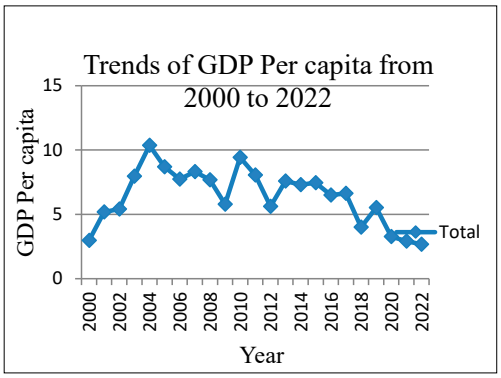
Source: compiled by the authors.

The inflation, measured by a consumer price index, ranged from 3.23 % to 44.35 %, with an average rate of 14.95 %. Lastly, a nation's average unemployment rate was 2.73 %, with a range of 2.24 % to 3.93 %. In summary, Ethiopia's economy increased by 6.40 % (*GDPCG*) and 8.70 % (RGDP) on average. *EXPO*, *IMPO*, *INF*, *UNEMP*, and *FDI* growth averaged 2.94 %, 12.11 %, 32.73 %, 14.95 %, and 2.73 %, respectively.

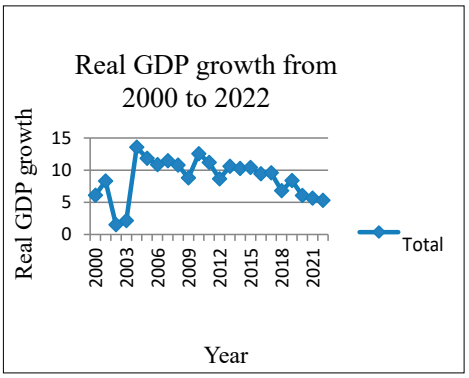
Looking at the growth patterns, Ethiopia's economy went through various growth phases, including the expansionary and recessionary trends. Figure 1 illustrates the growth trends of the economy over the study periods.

First, from 2000 to 2004, the economy experienced a significant expansion, with *GDP* per capita increasing to 10.36 % and *RGDP* to 13.57 %. The primary drivers of this economic growth may be linked to declines in *INF* and increases in macroeconomic indicators such as *FDI*, *EXPO*, and *IMPO*. *FDI* inflows rose from 1.65 % in 2000 to 5.39 % in 2004. Between 2000 and 2004, the percentage share of exports increased from 12.19 % to 17.23 %. In the same way, imports rose from 24.20 % in 2000 to 50 % in 2004. Figure 2 shows that the rate of inflation dropped from 13.67 % to 3.33 %.

Next, the economy then saw a recessionary growth pattern from 2004 to 2009, as seen by the *GDPCG* falling from 10.36 % in 2004 to 5.79 % in 2009



Panel (A): GDP per capita growth



Panel (B): Real GDP growth

Figure 1. The growth trends of the Ethiopian economy over the study period

Source: compiled by the authors based on WDI data.

and the *RGDP* dropping from 13.57 % in 2004 to 8.80 % in 2009. Both the rise in *INF* and the fall in *FDI* and *EXPO* may be the cause of this economic downturn. *FDI* inflows decreased from 2.38 % in 2004 to 0.77 % in 2009. Likewise, *EXPO's* share dropped from 17.23 % in 2004 to 15.17 % in 2009. Inflation rose from 3.33 % in 2004 to 44.36 % in 2008.

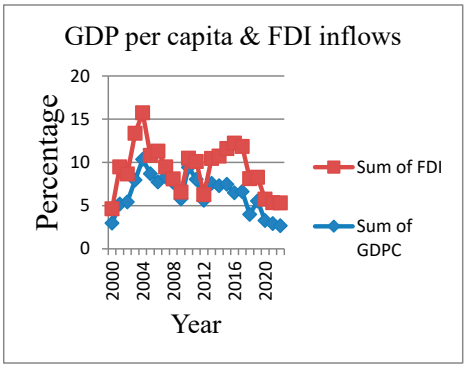
The nation's economy grew rapidly in 2010, as seen by the *GDPCG* rising from 5.79 % in 2009 to 9.42 % in 2010 and the *RGDP* rising from 8.80 % in 2009 to 12.55 % in 2010. Improvements in *FDI*, *EXPO*, and *IMPO* may be linked to this economic boom. *FDI* inflows rose from 0.77 % in 2009 to 1.07 % in 2010. *EXPO's* percentage increased from 15.17 percent in 2009 to 16.68 percent in 2010. Furthermore, *IMPO's* percentage share rose from 40.34 % in 2009 to 47.54 % in 2010.

The economy continued to have severe recessionary growth tendencies from 2010 to 2022. The decrease in *EXPO* and increase in *INF* may be the cause of this economic downturn. In this case, *EXPO's* percentage share dropped from 16.68 % in 2010 to 8.12 % in 2022. The INF also demonstrated a consistent upward trend, ranging from 8.15 % in 2010 to 33.89 % in 2022.

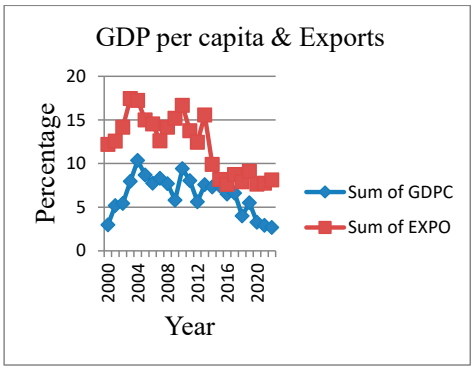
4.3. Empirical Findings and Interpretations

4.3.1. Estimated Short-run Coefficients

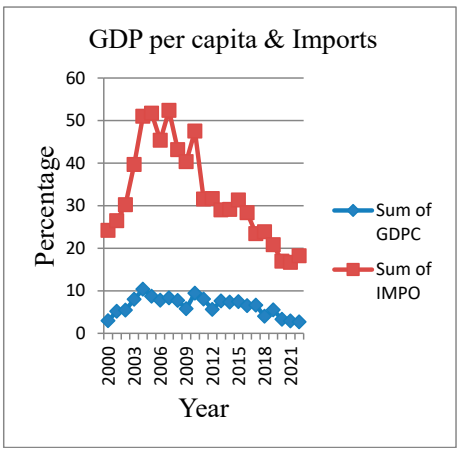
It is well recognized that the short-term deviations from long-term equilibrium can result from shocks. The dynamic adjustment to its long-term equilibrium is shown by each short-term coefficient. The rate at which the dynamic model's disturbance can be corrected to return to its equilibrium might be evaluated using the error correction term (ECT). The ECT that is highly significant and negative indicates a stable long-term relationship. The short-run ARDL model estimate results are shown in Table 5.



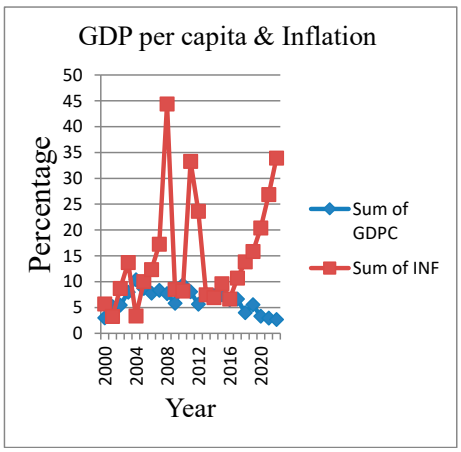
(a) GDP per capita Vs FDI



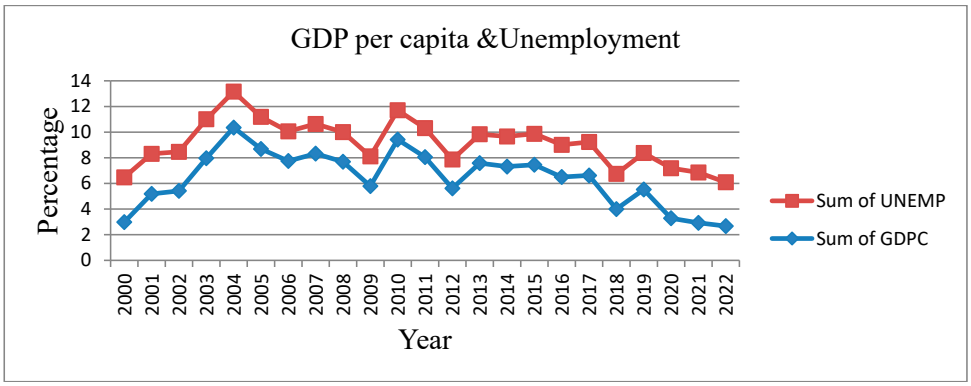
(b) GDP per capita Vs EXPO



(c) GDP per capita growth Vs IMPO



(d) GDP per capita growth Vs INF



(e) GDP per capita growth Vs UNEMP

Figure 2. Growth trends of Ethiopia's economy in relation to FDI, EXPO, IMPO, INF, and UNEMP

Source: compiled by the authors based on WDI data.

The result shows that the computed ECT coefficient expected has an expected negative sign and is statistically significant. Accordingly, the system has been rapidly correcting its previous period disequilibrium at an annual rate of 59 % to achieve the long-run equilibrium steady-state position. The short-run ARDL model results show a positive correlation of economic growth with *FDI*, *EXPO*, and *IMPO*. The economy showed a 0.64 % rise in *GDPCG* as a result of a 1 % increase in the current *FDI* inflows and a 0.71 % rise due to a 1 % increase in the first lag period *FDI* inflows. The result is theoretically supported by Solow, who suggests *FDI* to greatly aid in boosting a nation's growth through creating jobs, technology transfer, human capital development, and foreign exchange provision [5]. Empirically, Ali et al. [38] established a similar conclusion that *FDI* significantly contributes to the revenue in Southern African Development Community (SADC) member countries.

The results further reveal a strong positive association between short-term economic growth and *EXPO*, with a 1 % increase in the percentage share of *EXPO* resulting in a 0.33 % rise in the *GDP* per capita. Theoretically, Heckscher-Ohlin's theory supports the result, maintaining a view that countries can improve their current account balance by acquiring commodities internationally. As explained by Rahman [12] exporting goods that maximize the plentiful and affordable manufacturing components is a good idea for nations. Empirically, Iballi et al. [27] supports this finding, suggesting countries should open their economy to promote their markets by trading globally. The result is comparable with the empirical studies by Saleh [28].

Similarly, the positive coefficient of *IMPO* indicates that a 1 % increase in the share of *IMPO* leads to a 0.15 % economic expansion in the short term. A likely explanation for this result could be attributed to the fact that importing productive assets improves productivity over time. The Heckscher-Ohlin theory also holds that since imports are cost-effective, countries should concentrate on importing products that maximize their limited resources. Empirically, Jawaid & Waheed [29] concludes that the import of capital goods boosts the manufacturing sector's productivity. In a similar vein, a study conducted by Ezako [25] suggests a positive link between growth and imports.

Additionally, the short-term model results show a statistically significant negative correlation between economic growth and inflation and unemployment, with a 1 % increase in the inflation rate causing the short-term growth to reduce by 1.34 %. The result is consistent with the study by Madurapperuma [2], which contends that inflation, has a considerable detrimental impact on a nation's growth leading the poor to cut their current consumption. Similarly, a study by Becha et al. [10] suggests a detrimental impact of higher inflation on households by reducing their purchasing power and weakening investment confidence.

The short-term growth was reduced by 3.30 % due to a 1 % rise in the current period unemployment and by 1.82 % due to a 1 % rise in the first lagged period unemployment. In support of this, the result corroborated by Gordon & Clark [14]

Table 5. **Estimated coefficients for short-run relationships**

Variables		Coeff.	Std. error	t-statistic	Prob > /t/
INF	*INF*	–1.34	0.46	–2.92	0.03
	Δ*INF*(–1)	–0.02	0.02	–0.99	0.39
FDI	*FDI*	0.64	0.16	4.05	0.01
	Δ*FDI*(–1)	0.71	0.17	4.28	0.00
	Δ*FDI*(–2)	–0.22	0.15	–1.47	0.21
EXPO	*EXPO*	0.33	0.08	4.08	0.01
	Δ*EXPO*(–1)	0.19	0.09	2.02	0.11
	Δ*EXPO*(–2)	0.21	0.13	1.54	0.19
IMPO	*IMPO*	0.15	0.04	3.40	0.02
	Δ*IMPO*(–1)	0.03	0.03	1.13	0.32
UNEMP	*UNEMP*	–3.30	1.15	–2.87	0.04
	Δ*UNEMP*(–1)	–1.82	0.73	–2.48	0.05
	Δ*UNEMP*(–2)	1.48	0.63	2.32	0.08
	Δ*UNEMP*(–3)	0.55	0.64	0.87	0.44
ECT(–1)		–0.59	0.33	–4.71	0.00

Source: compiled by the authors.

contends that *GDP* gaps are attributed to the higher unemployment rates. The pool of saving effect theory also highlights that higher unemployment reduces a nation's savings. Empirically, the conclusions by Oluwafemi & Laseinde [33] and Saleh [28] support the result.

4.3.2. Estimated Long-run Coefficients

Table 7 is a tabulation of the long-term model results. Accordingly, the percentage share of exports and the coefficients of *FDI* inflows were positive, but unemployment and the share of imports were negative. The *GDP* per capita growth increases by 0.56 % for every 1 % rise in *FDI* inflows. Theoretically, Solow [5] supports the outcome by arguing that *FDI* facilitates the transfer of advanced technologies and management practices. The theory further highlights that *FDI* contributes to the creation of employment, which in turn increases the nation's income. Empirically, a conclusion by Ali et al. [38] is comparable to this result, arguing that *FDI* inflow improves the revenue generation potential in developing countries.

Similarly, the long-term model results reported a significant positive correlation between the *GDP* per capita growth and exports, with a 0.37 % increase of *GDP* per capita for every 1 % rise in the percentage share of exports. Theoretically, the result is supported by Heckscher-Ohlin's theory, which suggests countries obtain commodities that are locally unavailable through trading internationally.

Table 6. **Estimated coefficients for long-run relationships**

Variables	Coeff.	Std. error	t-statistic	Prob. > |t|
INF	0.01	0.02	0.50	0.67
FDI	0.56	0.09	6.22	0.00
EXPO	0.37	0.05	7.40	0.00
IMPO	–0.14	0.04	–3.50	0.02
UNEMP	–1.55	0.32	–4.84	0.00
C	2.61	1.46	1.78	0.15

Note: Despite its positive long-term correlation with *GDP* per capita growth, inflation is statistically insignificant in Ethiopia

Source: compiled by the authors.

Empirically, a conclusion by Iballi et al. [27] supports the finding, suggesting countries open their economy to interact internationally.

Moreover, the model reveals a negative long-term influence of unemployment and imports on the country's growth, with a 1.55 % *GDP* per capita growth reduction due to a 1 % increase in the unemployment level. The result is confirmed by the pool of savings effect theory, which reinforces the belief that higher unemployment reduces the nation's ability to save [9]. Empirically, the result is comparable with the conclusion by Tenzin [31] in Bhutan, which suggests a strong inverse relationship between a nation's growth and unemployment.

Moreover, Saleh [28] established a substantial negative correlation between increased unemployment and a country's growth in the Middle East Africa. Similarly, a 1 % increase in the share of imports results in a 0.14 % reduction in the long-term *GDP* per capita growth, validating a significant negative long-term association between imports and the country's growth. In theory, the outcome is similar to the Heckscher-Ohlin hypothesis, which argues that a country's trade balance may be distorted by excessive imports of final items. The conclusion of Hadush et al. [20] is empirically supported by the findings. Moreover, study in Bangladesh by Mukit [24] supported the finding that imports hurt long-term growth.

4.4. Diagnostic Tests

To make sure that the model appropriately reflects the data set, we have to test the model's validity, robustness, and applicability.

4.4.1. Autocorrelation Test

The ARDL model requires no serial correlation, which can be confirmed using the Breusch-Godfrey LM test or Durbin-Watson statistics, with the null hypothesis accepted if the probability value is greater than 0.05. The test results of serial correlation are tabulated in Table 7. Finally, since the d-statistic of 1.97 is

nearly equal to 2 and the Breusch-Godfrey LM test probability value of 0.99 is higher than the selected 0.05, we accept the null hypothesis that serial correlation does not exist.

Table 7. **Serial correlation test results**

Assumption	Test methods	Test results
Autocorrelation	Breusch-Godfrey LM test	Prob > chi2 = 0.99
	Durbin-Watson d-statistic	d = 1.97

Source: compile*Source*: compiled by the authors.

4.4.2. Heteroscedasticity Test

The heteroscedasticity test checks if the variances of the disturbances and the mean values remain constant over time or not. We apply the Breusch-Pagan/Cook-Weisberg test. As a general rule, we accept the null hypothesis if the probability value is greater than the chosen 0.05. Table 8 presents the test results of heteroscedasticity, concluding that the variance is homoscedastic.

Table 8. **Heteroscedasticity Test**

Assumption	Test method	Test result
Heteroscedasticity	Breusch-Pagan/Cook-Weisberg test	Prob. chi2 = 0.425

Source: compiled by the authors.

4.4.3. Multicollinearity Test

The Issue of multicollinearity becomes a big deal if there is a strong correlation among explanatory variables, usually 0.80 or greater. To inspect the nature of the relationship between variables, we implemented the correlation matrix and mean VIF. The high mean VIF value, usually > 5, suggests a strong multicollinearity Issue in the model [37]. As a remedy, we omit a variable that is strongly correlated but needs attention to not drop a theoretically sound variable. Table 9 presents the VIF test results, while Table 10 reports the results of the correlation matrix. As can be seen, given the lower mean VIF value and no variable with a high correlation coefficient, we accept the null hypothesis and confirm that the model is free from multicollinearity issues.

Table 9. **Variance Inflation Factor**

Variable	VIF	1/VIF
GDP per capita growth L1	12.01	0.083
Imports	9.15	0.109
Exports	5.53	0.181

End of table 9

Variable	VIF	1/VIF
Imports D1	4.18	0.239
Unemployment	3.91	0.255
FDI inflows	3.79	0.264
Export D1	2.96	0.337
FDI D1	2.69	0.371
Inflation	2.60	0.385
Unemployment	1.92	0.522
Mean VIF	4.87	

Source: compiled by the authors.

Table 10. **Correlation matrix results**

Variables						
GDPCG	1.00					
INF	–0.22	1.00				
FDI	0.12	–0.47	1.00			
EXPO	0.65	–0.18	–0.19	1.00		
IMPO	0.83	–0.15	–0.17	0.45	1.00	
UNEMP	–0.73	0.09	0.14	–0.39	–0.56	1.00

Source: compiled by the authors.

4.4.4. Normality Test

Understanding the underlying distribution of data is essential in statistical analysis. The normal distribution is commonly used with most of the data grouped around the mean. The mean and median of a normal distribution are thought to be almost equal. To assess the normality assumption, a variety of statistical tests, including the Jarque-Bera test, the Shapiro-Francia test, and the Skewness/Kurtosis test, can be employed. The Jarque-Bera test compares the data's skewness and kurtosis to what would be predicted from a normal distribution. Kurtosis measures how peaked the distribution is, whereas skewness measures how asymmetrical the series' distribution is around the mean [37]. We accept the null hypothesis if the computed probability value exceeds the chosen 5 % significance level. Table 11 and Table 12 present the test results of skewness/kurtosis. As evidenced by the sign of coefficients, the *FDI*, *INF*, *IMPO*, and *UNEMP* are likely to be leptokurtic (positively skewed), indicating the mean values are peaked relative to the normal, while the *GDPCG* and *EXPO* are platykurtic (negatively skewed), implying the distribution produces more outliers (Table 11).

Table 11. **Skewness/Kurtosis test results**

Variables	GDPCG	RGDP	FDI	EXPO	IMPO	INF	UNEMP
Skewness	–0.25	–0.74	0.17	–0.03	0.38	1.25	1.01
Kurtosis	2.16	3.04	1.99	1.58	1.94	3.76	2.89

Source: compiled by the authors.

The residuals of all the individual variables are found to be normally distributed because their computed probability values are greater than 0.05. Likewise, looking at the joint probability chi-squared value of 0.34, we also conclude that the residuals are normally distributed (Table 12).

Table 12. **Skewness/Kurtosis tests for normality**

Variables	Obs.	Pr (Skewness)	Pr (Kurtosis)	———- joint ———	
				adj chi2(2)	Prob > chi2
GDPCG	23	0.55	0.39	1.17	0.55
FDI	23	0.68	0.21	1.94	0.38
EXPO	23	0.94	0.01	6.87	0.06
IMPO	23	0.37	0.15	3.14	0.21
INF	23	0.01	0.17	7.50	0.09
UNEMP	23	0.03	0.66	4.91	0.11
Residuals	23	0.16	0.94	2.13	0.34

Source: compiled by the authors.

4.4.5. Model Adequacy Test

A model to be reliable must be well specified and accurate with appropriate lag lengths. To test a model for its reliability, we use a Ramsey RESET test. As a general rule, we accept the null hypothesis if the computed probability value is greater than 0.05. The test results of the Ramsey RESET test are tabulated in Table 13. The probability value of 0.24 confirms the model is accurately specified.

Table 13. **Model specification test results**

Assumptions	Test method	Test result	Decision
Model adequacy	Ramsey RESET test	Prob.chi2 = 0.24	free of specification issue

Source: compiled by the authors.

4.4.6. Model Stability Test

To ascertain if the long-term coefficients are stable to external shocks, we applied the CUSUMSQ approach. We accept the null hypothesis if the plot line of residuals' distribution lies within the chosen 5 % critical boundaries.

Figure 3 presents the CUSUMSQ test results. The test graph provides clear evidence that the estimated ARDL parameters are structurally stable and reliable because the estimated plot line lies within the critical boundaries.

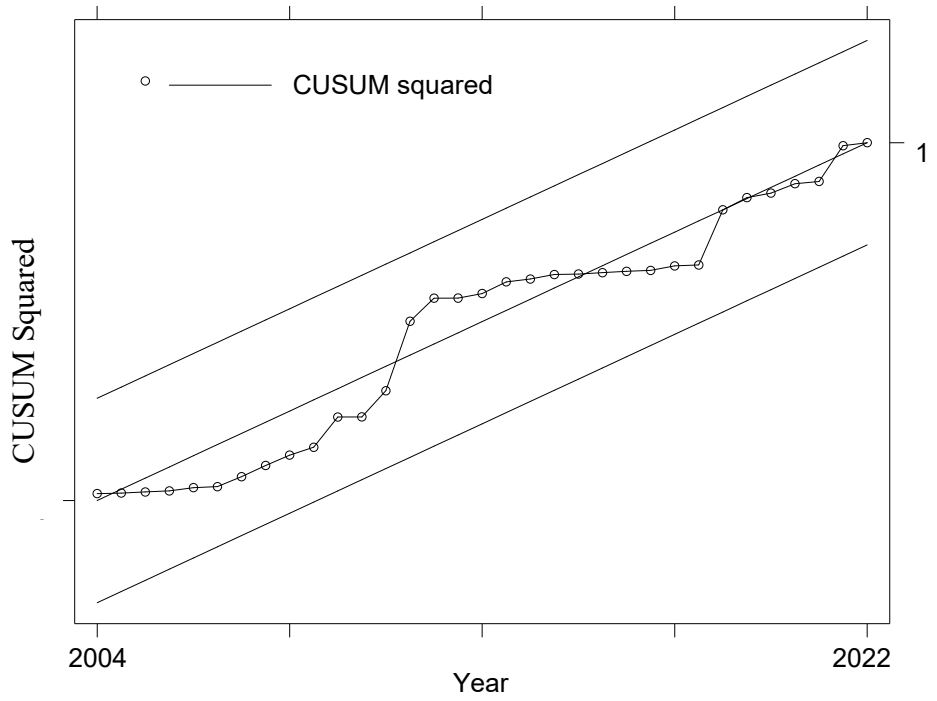


Figure 3. Plot of cumulative sum of squares (CUSUMSQ) stability test

Source: compiled by the authors based on WDI data.

5. Discussion

Analyzing economic growth trends, investigating growth factors, and developing successful macroeconomic policies are crucial for achieving rapid and sustained economic growth and price stability in Ethiopia. The study utilized a descriptive approach and the ARDL approach to analyze economic growth dynamics, focusing on *GDP* per capita growth, *FDI* inflows, exports, imports, inflation, and unemployment. To check the stationary conditions, we employed the ADF unit root test; to find the optimal lag length, we used the AIC approach; and to evaluate the short- and long-term co-integration among variables, we applied the ARDL bounds co-integration test. Post-estimation diagnostic techniques such as the Breusch-Godfrey LM, Breusch-Pagan/Cook-Weisberg, VIF test, Skewness/Kurtosis, Ramsey RESET, and CUSUMQ square approach were used to evaluate the model's validity and reliability.

The results confirmed that the model was free of serial correlation, heteroscedasticity, multicollinearity, normality, and model specification issues. After validating the model assumptions, we specifically addressed the following research questions: how to characterize the Ethiopian economy's key features, what factors influence the country's growth, and what policy measures need to be considered for effective policy recommendations that assist the country in attaining an efficient economic position in the long term. In general, we made the following conclusions using the calculations that were obtained.

According to Table 4's descriptive analysis, the average real *GDP* has grown by 8.70 %, while the average *GDP* per capita increased by 6.40 percent annually. The growth trends during the periods analyzed are displayed in Figure 1. As can be seen, the economy had a range of growth phases, including expansionary growth periods and recessionary trends. Between 2000 and 2004, the economy expanded dramatically, with *RGDP* reaching 13.57 % and *GDP* per capita hitting 10.36 %. The main drivers of this growth were reduced *INF* and higher *FDI*, *EXPO*, and *IMPO*. Then, between 2004 and 2009, the *RGDP* decreased from 13.57 % to 8.80 %, and the *GDP* per capita growth decreased from 10.36 % to 5.79 %, demonstrating recessionary growth trends.

This economic slowdown may have been exacerbated by the rise in INF and the fall in *FDI* and *EXPO*. Improvements in *FDI*, *EXPO*, and *IMPO* were major factors in the country's economy's notable growth in 2010, which saw *GDP* per capita increase from 5.79 % to 9.42 % and real *GDP* rise from 8.80 % to 12.75 %. The *GDP* per capita growth rate declined from 9.4 % to 2.67 %, and the *RGDP* from 12.55 % to 5.31 % during the severe recessionary growth that occurred in the economy between 2010 and 2022. The decrease in *EXPO* and the increase in *INF* was attributed to this economic downturn.

The basic study question, "Which macroeconomic factors significantly contribute to the Ethiopian economy?" is addressed by the ARDL model analysis. The empirical results of the investigation show substantial support for the suggested research hypotheses. In this regard, we utilized the error correction term (ECT) to assess the rate at which the disturbance in the dynamic model may be corrected to return to equilibrium. Table 5 shows that in order to reach the long-run equilibrium steady-state position, the system has been rapidly correcting its prior period disequilibrium at an annual rate of 59 %.

The first hypothesis (*H1*), which maintains that increased *FDI* inflows boost Ethiopia's economic growth by promoting knowledge transfer, boosting capital formation, and generating new job possibilities, is supported by empirical evidence. In this regard, the results of the ARDL model analysis show that larger *FDI* inflows are consistently associated with stronger economic growth over both the short and long terms, suggesting that *FDI* inflows have a significant positive influence on Ethiopia's economic growth. For instance, the country's *GDP* per capita rises by 0.64 % in the short term and by 0.56 % in the long term for every 1 % increase in *FDI* inflows.

Likewise, the evidence for the second hypothesis (*H2*) shows that Ethiopia can use its comparative advantages since in this particular study the country's economic growth and increased exports are positively correlated. The model's results confirm that increased exports positively correlated with both short- and long-term economic growth, with a 1 % increase in exports resulting in a 0.33 % short-term and a 0.37 % long-term increase in GDP per capita.

According to the evidence supporting the third hypothesis (*H3*), Ethiopia's current account imbalance is made worse by rising finished product imports, which are inversely correlated with economic growth in the nation. In this instance, the long-run ARDL model supports this theory, estimating that a 1 % increase in final goods imports would result in a 0.14 % decline in *GDP* per capita. But in the short-run, the results show that increased imports are positively correlated with the nation's economic growth, contradicting the stated hypothesis. In this instance, for every 1 % increase in the percentage share of imports, the *GDP* per capita of the nation rises by 0.15 %. The fact that importing productive assets progressively boosts production could account for the outcome [15].

The fourth hypothesis (*H4*), which contends that growing inflation worsens the nation's financial crises and hurts the country's economic performance, is also supported by the findings. The short-term *GDP* per capita growth decline of 1.34 % that follows a 1 % increase in inflation supports the theoretical prediction that rising inflation could lead to the poor cutting back on their consumption.

Lastly, the study confirms the fifth hypothesis (*H5*), stating that higher unemployment hinders a nation's growth, with a 1 % increase causing a 3.30 % short-term and 1.55 % long-term GDP per capita decline.

The conclusions have significant policy implications for Ethiopia's economic growth since they call for comprehensive fiscal reforms, economic stimulus strategies, and employment creation programs. Efforts to improve the macroeconomic factors that are identified to be substantially influencing the nation's economic growth therefore enable the establishment of a growth rate for per capita *GDP* that is reasonably comfortable. The study suggests Ethiopia can achieve rapid economic growth and price stability through increased *FDI* inflows, a balanced current account, predictable inflation promotion, and expanded employment opportunities.

The following policy areas should be addressed in order to achieve the designated economic growth goals:

1. Encouraging export-led policies and lowering reliance on the imported final goods through offering export subsidies and tax incentives to manufacturers and businesses.
2. The implementation of policies designed to promote foreign investment while generating employment opportunities.
3. The adoption of strict monetary policy instruments to maintain a single-digit inflation rate.
4. Developing suitable economic policy reforms that foster the generation of new employment opportunities by investing in industries with high labor absorption.

Notwithstanding its contributions, the study has certain shortcomings. First, the study's scope is limited to one economy, which may limit the applicability of its conclusions to other economies. In this setting, a cross-country or regional comparison may be useful in order to better understand how the proposed variables influence economic growth in different economic contexts. Second, the study's focus on macroeconomic indicators may restrict its comprehensiveness and generalizability, as it ignores key areas, including political, institutional, and environmental aspects. Third, exogenous shocks, such as fluctuations in global oil prices or other macroeconomic variables, such as the exchange rate, are also not considered. As a result, the reliability of the findings may be undermined, as these aspects may also have a significant impact on the country's economic advancement. Fourth, the model also yielded contradictory results for a few variables, including imports and inflation.

The study's shortcomings generally point to the need for further investigation and impartial analysis of the dynamics of economic growth, particularly when extending the findings to other economies and employing varying methodologies.

6. Conclusion

We investigated the growth trends and factors affecting Ethiopia's economy over the period 2000–2022. The ARDL approach was employed to estimate the short- and long-term coefficients. On the basis of growth trend analysis, the economy went through various growth phases, with an average growth rate of 6.40 %.

According to the ARDL model outcomes, FDI inflows and exports have a consistent and substantial positive influence, while unemployment has a substantial negative influence on economic growth over the short and long-terms. Moreover, the short-term economic growth is positively influenced by imports, while it has a substantial detrimental long-term effect on growth. Inflation has a significant negative short-term effect and a positive but insignificant effect on long-term growth.

The study's findings have significant policy implications for the country's economic growth. We provide specific policy recommendations that promote a balanced current account, higher FDI inflows, moderate and predictable inflation, and greater employment creation in the country.

First, the findings indicate that exports have a considerable positive influence on the country's growth over both the short and long-terms, whereas imports have a short-term positive influence but a long-term negative effect. Hence, working to maintain the current account balance requires the state to focus on the implementation of export-led policies while reducing the reliance on imported commodities. In this case, it is advised that the government should provide export subsidies and tax incentives to domestic industries and manufacturers.

Second, FDI inflows have shown a positive influence in the short and long-terms. Thus, the state should adopt policies that promote foreign investments to allow the transfer of knowledge and technologies and capital creation in the country.

Third, the results showed a significant and detrimental short-term effect of inflation on the country's growth. Hence, to keep the inflation rate at a single digit, the central bank should adopt tight monetary policy instruments.

Fourth, unemployment has shown a significant detrimental influence on the country's growth over the short- and long-terms. Thus, it is advised that the state should design policies that promote the creation of new jobs by promoting investments in high-labor absorption sectors like manufacturing, tourism, and agriculture and expanding mega projects.

To sum up, our work is backed by well-known "neoclassical and Keynesian growth theorists," like Solow and Keynes, who contend that macroeconomic variables and stability factors, like trade with other nations, inflation, FDI inflows, exchange rate stability, and population growth, significantly influence a nation's economic growth. The study's conclusions are also confirmed by several previous studies.

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Тенденции и факторы экономического роста с макроэкономической точки зрения: анализ динамики развития Эфиопии

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Аннотация. Ключевыми макроэкономическими целями для любой экономики являются ценовая стабильность и экономический рост, хотя непредсказуемый рост может оказывать пагубное влияние на экономические показатели страны. Изучая тенденции и причинно-следственные связи между макроэкономическими показателями — ростом ВВП на душу населения, притоком прямых иностранных инвестиций, экспортом, импортом, инфляцией и безработицей, это исследование рассматривает проблемы экономического роста Эфиопии. В исследовании выдвигается гипотеза, что путем устранения всех факторов, способствующих экономическому росту Эфиопии, вероятно, удастся обратить вспять тенденцию к снижению экономического роста страны. В исследовании использовались описательный и ARDL-подходы для анализа динамики экономического роста с 2000 по 2022 год, с упором на анализ тенденций и причинно-следственных связей между макроэкономическими переменными. Результаты показывают, что экономика Эфиопии прошла различные фазы роста со средним темпом роста ВВП на душу населения 6,40 % и реальным ростом ВВП 8,70 %. Хотя экспорт и приток прямых иностранных инвестиций (ПИИ) приносят как краткосрочные, так и долгосрочные выгоды, безработица отрицательно влияет на рост ВВП на душу населения. Несмотря на существенный краткосрочный положительный эффект, импорт оказывает долгосрочное негативное влияние на рост ВВП на душу населения. Было показано, что инфляция оказывает значительное краткосрочное негативное влияние на экономический рост страны. Существует несколько способов оценки эффективности этого подхода, включая стимулирование притока прямых иностранных инвестиций (ПИИ), поощрение предсказуемой инфляции, поддержание баланса текущего счета и создание новых рабочих мест. В свете этого исследование выявило важность политики привлечения иностранных инвестиций, создания рабочих мест и поддержания умеренного уровня инфляции в стране.

Ключевые слова: Эфиопия; тенденция роста; экономический рост; макроэкономические факторы; динамика развития; подход ARDL.

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