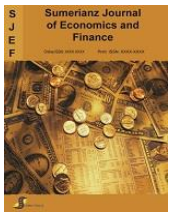
Sumerianz Journal of Economics and Finance, 2023, Vol. 6, No. 4, pp. 73-86
ISSN(e): 2617-6947, ISSN(p): 2617-7641
Website: https://www.sumerianz.com
DOI: https://doi.org/10.47752/sjef.64.73.86



Original Article Open Access

Analyzing the Determining Factors for Export-Oriented Growth Strategy in East Africa: A Comprehensive Empirical Research

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Article History

Received: 25 August, 2023

Revised: 5 November, 2023

Accepted: 7 November, 2023

Published: 11 November, 2023

How to Cite

Tilahun A. Aboye, (2023). Analyzing the Determining Factors for Export-Oriented Growth Strategy in East Africa: A Comprehensive Empirical Research. *Sumerianz Journal of Economics and Finance*, 6(4): 73-86.

Abstract

International trade mainly Exports have a substantial impact on the country's economy, employment, and balance of payments. Despite trade policy reforms, East African nations have a limited share in global exports. The region's trade balance has been in deficit for multiple years, and its export-driven growth remains poor. This study analyzed data from selected East African countries over a twenty-year period using a panel-autoregressive distributive lag (ARDL) econometric model. The descriptive findings show that exports have been weak with a persistent trade deficit, industrial items dominated imports while primary items were overlooked in the export basket. The results from the empirical study (pooled mean group-PMG) reveal those determining factors such as foreign direct investment, per capita gross domestic product, inflation rate, real effective exchange rate, terms of trade, and industrialization have a significant influence on export performance in the long run. Further to this, the study suggests that the exchange rate, inflation rate, and foreign direct investment inflows negatively affect the performance of exports in the region. To this end, the outcomes of the study highlight the need to revise export-oriented strategies so as to boost export and overall economic development in East Africa.

Keywords: East Africa; Export-oriented growth strategy; Determining factors; Panel data; PMG/ARDL.

1. Introduction

1.1. General Background

Exports play a critical role in enabling countries to harness the benefits of international trade. International trade is widely recognized as a catalyst for economic growth and development, while also serving as a significant source of foreign currency. The importance of trade and investment in driving economic growth, development, and prosperity has been acknowledged for centuries, with export-oriented growth strategies or policies gaining prominence in the 1950s and 1960s. Countries like Germany, Japan, and the four Asian Tigers experienced notable export-oriented booms that drove their economies forward. China also joined this trend following its economic reform in 1978, inspiring other countries to pursue export promotions as a means to achieve financial stability and economic growth (Johnson, 2016).

Export-oriented growth is not only seen as a mechanism for economic development but also as a pivotal source of globalization and foreign relations for nations (Jordaan and Eita, 2007; Udoidem *et al.*, 2017). The expansion of exports can lead to various benefits, including employment generation, improved production efficiency, economies of scale, better resource allocation, and increased capital formation (Njikam, 2018; Shahid, 2013; United Nations Conference on Trade and Development UNCTAD, 2016). The contrast between the failure of import substitution industrialization (ISI) strategies in many developing nations, particularly in Africa and Latin America, and the success of export-oriented industrialization (EOI) strategies in several East Asian countries sparked global trade policy reforms early in the 1980s. Many developing countries, including those in East Africa, embraced structural adjustment programs (SAP) sponsored by the World Bank and IMF and gradually liberalized their economies. As a result, they shifted their focus from ISI to EOS strategies (Gebreyesus and Kebede, 2017). The reform policies aimed

to encourage export growth involved the removal of import restrictions, actual exchange rates, and the provision of implicit subsidies (East African Observatory EAM, 2020).

East Africa, consisting of thirteen diverse nations, experienced robust economic growth in recent years, making it the fastest-growing region in Africa (East African Observatory EAM, 2020). Looking specifically at macroeconomic variables in East African nations, inflation rates were projected to remain relatively high at 14.2 percent in 2020, slightly above the 13.5 percent recorded in 2019. The worst-case scenario with COVID-19 could push inflation rates up to 18 percent, while the baseline projection stood at 17.3 percent. The fiscal deficit of these countries, despite being relatively stable in recent years, is expected to increase significantly due to the economic repercussions of the pandemic. Government borrowing, represented by public debt, has surpassed the IMF's threshold limit of 40% for developing economies, standing at 59.2% of global nominal GDP. This high level of borrowing is both a cause and a consequence of seeking additional resources to strengthen infrastructure and address the socioeconomic impact of COVID-19. The risk of debt distress has decreased in Ethiopia, Kenya, Eritrea, Sudan, and South Sudan. However, the current account deficit for the region is projected to widen in 2020 due to the pandemic, impacting overall economic growth and potentially exacerbating poverty, inequality, and unemployment (Outlook, 2020; World Bank WB, 2020).

In the region, particularly in Ethiopia, rainfed husbandry is vulnerable to natural fluctuations, weak import performance, heavy reliance on agricultural commodity exports, and a precarious exchange rate. Rwanda, Uganda, and Tanzania also heavily rely on primary commodities and rainfed agriculture for exports, exposing them to risks associated with global commodity prices and climate change. Kenya faces challenges such as slow credit uptake by the private sector, inadequate external resources leading to a fiscal deficit, and a lack of coordination between fiscal and monetary policies. Similarly, countries like Kenya, Ethiopia, and Rwanda have current account deficits ranging from 5 to 10 percent due to excessive imports compared to exports, primarily driven by internal deficiencies in saving and investment imbalance (AfDB, 2019).

Recent studies show that two main factors contribute to sustained current account deficits in the region. Firstly, the reliance on primary goods for exports exposes many countries to declining global commodity prices, resulting in persistent deficits in their current accounts. For example, Africa's trade terms declined from 193 in 2012 to 168.7 in 2017, leading to worsening primary commodity costs. Secondly, the pursuit of rapid economic growth through high investment, exceeding domestic savings, further exacerbates the current account deficit. Investments with significant import content and inelastic demands contribute to this imbalance. Additionally, except for Seychelles, the ratio of debt to exports in East African countries exceeds one hundred percent, placing a heavy burden on limited foreign exchange earnings. Debt service is particularly challenging for Ethiopia, Kenya, and Burundi, as their foreign exchange earnings struggle to meet repayment obligations (World Bank, 2018a).

Export-oriented growth strategies have been extensively studied in the region, with a focus on export trade policy and the global economy. Although African countries heavily rely on exports, the region's export presence in international markets is not significant (Morrissey and Mold, 2006). In East Africa, empirical studies have been conducted to understand the export-oriented development approach (Babatunde, 2009; World Integrated Trade Solution WITS, 2020). Notably, raw resources account for 75% of the region's exports, compared to the 8% world average (Iizuka & Mulu, 2011; Anyanwu, 2014; as cited in Geyer (2019)). However, there is a lack of literature analyzing factors influencing export performance, with previous studies in the region, focusing mainly on supply-side variables and specific commodities such as coffee, horticultural crops, and oilseeds. The demand-side macroeconomic variables have been largely ignored. Consequently, there is no consensus among researchers regarding the critical determinants of export performance. Recognizing the dynamic nature of the world, there is a need to update and consider the dynamism in studying exports. Furthermore, while studies have focused on Asia and other parts of Africa, there is a lack of attention and knowledge about the situation in East Africa.

Above all, limited scholars have demonstrated the challenges of export-oriented economic growth or export performance in the study areas. For example, prior research has provided some insights into the determining factors or factors influencing export performance. However, these studies have several shortcomings that undermine their credibility. Firstly, these studies lack consistency in identifying the significant determinants of export success. Different studies have proposed varying factors, making it difficult to establish a clear understanding of what drives export performance. Secondly, some previous research employed cross-country analysis, which may oversimplify conclusions relevant to unique national settings. Additionally, other studies used specific country data that cannot be generalized to other countries, limiting their applicability. Thirdly, previous studies examined overall export performance without considering disaggregated sectors. It is essential to recognize that different sectors may have diverse reactions to export performance (Johnson, 2016).

To address these issues, this study, therefore, aims to analyze the key determining factors influencing export-oriented growth strategy in nine selected East African countries. The literature review indicates that current research has limitations regarding focus, scope, time, methods, data, questions, and theory. Understanding and investigating the key factors that significantly affect export in the study countries will facilitate the development of strategies to boost performance and overall economic growth. Therefore, this study aims to fill the research gaps by conducting an in-depth analysis to gain a better understanding and propose different thoughts for policy initiatives.

1.2. Aim and Objectives

The main purpose of this research is to analyze the significant macroeconomic factors that impact export performance in East African countries. To accomplish this, the research explicitly addresses the key research question: "How and to what extent do macroeconomic elements such as FDI inflows, GDP per capita, real effective

exchange rates, inflation rate, terms of trade, and industrialization impact export performance in the study countries?"

Specifically, the study aims to achieve the following objectives:

- To examine the relationship between per capita gross domestic product and export performance in East African countries.
- To scrutinize the effect of terms of trade on export performance in East African countries.
- To determine the extent to which real effective exchange rates and inflation rates influence export performance in East African countries.
- Inspect the effect of foreign direct investment inflows and industrialization on the performance of exports in the study countries.

2. Methodology

2.1. Econometric Model and Estimation Technique

The choice of using panel data in this study is based on its relevance to the research objective, as it incorporates techniques necessary for handling inter-temporal dynamic behavior and heterogeneity among the studied nations. Panel data helps correct for heterogeneity bias caused by time-invariant variables missing from the econometric model or hidden factors (Zhu *et al.*, 2016). The research combines time-series and cross-sectional data from nine East African countries, covering the years 2001 to 2020. Consequently, a "macro panel data" analysis is employed where the number of observation periods (twenty years) exceeds the number of countries (nine), denoted as t>n.

Furthermore, scholars argue that panel data provides more information and better evaluation efficiency compared to single-country analysis (Zhu *et al.*, 2016). Previous studies examining export performance, such as Giles and Williams (2000); Thida *et al.* (2019); Grenier *et al.* (2005); Jongwanich (2007); Babatunde (2009); Anagaw and Demissie (2011/2), have identified six determining factors: inflation rate (INF), interest rate (INT), real exchange rate (REER), gross domestic product GDPP), and foreign direct investment (FDI).

Based on these factors, the basic model for this research is formulated as follows:

$$EXP=f(GDP,\ FDI,\ IND,\ INF,\ REER,\ TOT) \quad \ldots\ldots (1)$$

Following this, the long-run connection that the researcher intends to study in this concept is based on the following equation:

$$lnEXPit = \alpha 0+\alpha 1 lnGDPit + \alpha 2 lnFDIit + \alpha 3 lnINDit + \alpha 4 lnINFit + \alpha 5 lnREERit + \alpha 6 lnTOTit + \varepsilon it \quad \ldots\ldots (2)$$

2.2. The ARDL Model

The autoregressive distributed lag (ARDL) model offers several benefits. One notable advantage is its capability to incorporate intricate dynamics while effectively dealing with multicollinearity (Verbeek, 2017). Complex dynamics refer to causal relationships that extend over multiple time periods, and the ARDL model accommodates changes in explanatory variables over time. Additionally, this model is capable of estimating both short-term and long-term associations simultaneously (Boutabba, 2014). Following the approach of previous scholars (Baek, 2016; Blackburne and Frank, 2007; Mert and Bölük, 2016; Rafindadi *et al.*, 2018), the generalized ARDL model is described as:

$$y_{it} = \mu_i + \sum_{j=1}^{p} \lambda_i y_{i,t-j} + \sum_{j=0}^{q} \delta'_{ij} X_{it-j} + \varepsilon_{it} \quad \ldots\ldots (3)$$

where *y*it represents the dependent variable (i.e., export performance), *X′*ij is a kx1 vector of explanatory variables, *λ*ij represents coefficients of lagged dependent variables, *δ*ij signifies coefficient vectors, *u*it denotes the error term and p, q denotes optimal lag orders. If a cointegration connection exists, the model must include an error correction mechanism:

$$\varphi_i \ (lnEXP_{it-1} - \Theta_{\theta i} - \Theta'_i X_{it}) \quad \ldots\ldots (4)$$

With

$$\varphi_i = -(1 - \sum_{j=1}^{p} \lambda_{ij}) \qquad \Theta_i = -(\sum_{j=0}^{q} \delta_{ij}/\varphi_i) \qquad \Theta_{\theta i} = -(\mu i/\varphi i)$$

Here, the error correction term is given by the residuals within the brackets. Θi represents a vector containing long-run coefficients of all independent variables.

2.3. Pooled Mean Group (PMG) Estimator

The Pooled Mean Group (PMG) estimator combines pooling and averaging, allowing intercepts, short-run coefficients, and error variances to freely differ across groups while keeping the long-run coefficients constrained to be the same (Baek, 2016; Blackburne and Frank, 2007; Mert and Bölük, 2016; Rafindadi *et al.*, 2018). This assumption is justified as it predicts similar long-run equilibrium relationships between variables across groups.

To achieve consistent estimates, the error-correction modeling format of the ARDL model is defined as follows:

$$\Delta lnEXP_{it} = \mu_i + \varphi_i \left(lnEXP_{it-1} - \Theta_{\theta i} - \Theta'_i X_{it}\right) + \sum_{j=1}^{p-1} \lambda^*_{ij} \Delta lnEXP_{it-j} + \sum_{j=0}^{q-1} \delta'^*_{ij} \Delta X_{it-j} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots \quad (5)$$

With

$$\varphi_i = -\left(1 - \sum_{j=1}^{p} \lambda ij\right) \qquad \Theta_i = -\left(\sum_{j=0}^{q} \delta ij/\varphi i\right) \qquad \Theta_{\theta i} = -(\mu i/\varphi i)$$

$$\lambda^*_{ij} = -\sum_{m=j+1}^{p} \lambda_{im} \quad j = 1,2, \ldots, p-1 \qquad \delta^*_{ij} = -\sum_{m=j+1}^{q} \delta_{im} \quad j = 1,2, \ldots, q-1$$

This research adopts equation (5) as the base for estimating panel ARDL using the Pooled Mean Group approach. The error correction term is represented by equation (4) in the original ARDL model. The variables are forecasted in non-stationary levels, implying that both the dependent & independent variables are in first differences. Lag lengths for the dependent and independent variables are denoted as p and q, respectively, while the number of time lags is represented by j. $\boldsymbol{X}$it indicates a k-vector of explanatory variables, with $\delta' ij$ and λij as short-run effect coefficients. The lagged error correction component represents the long-term effects. Moreover, μi denotes the fixed influence of each country, and ϵit denotes the error term, which is randomly distributed across the independent variables i & t.

2.4. Data and Techniques

This section aims to provide a comprehensive overview of the methods employed in conducting the trials and other measures, with the findings to be discussed further in Section 3. The section initiates by outlining the unit root tests and cointegration tests utilized, along with the specific hypothesis being evaluated in this study. Furthermore, detailed information regarding the variables incorporated in the research, the selected countries within this panel, and the study's time frame will be presented. To perform the econometric analysis, EViews 11 and Stata software are employed as guiding tools across various stages of the analysis process. A summarized overview of the different phases can be seen in Figure 2.1 below.

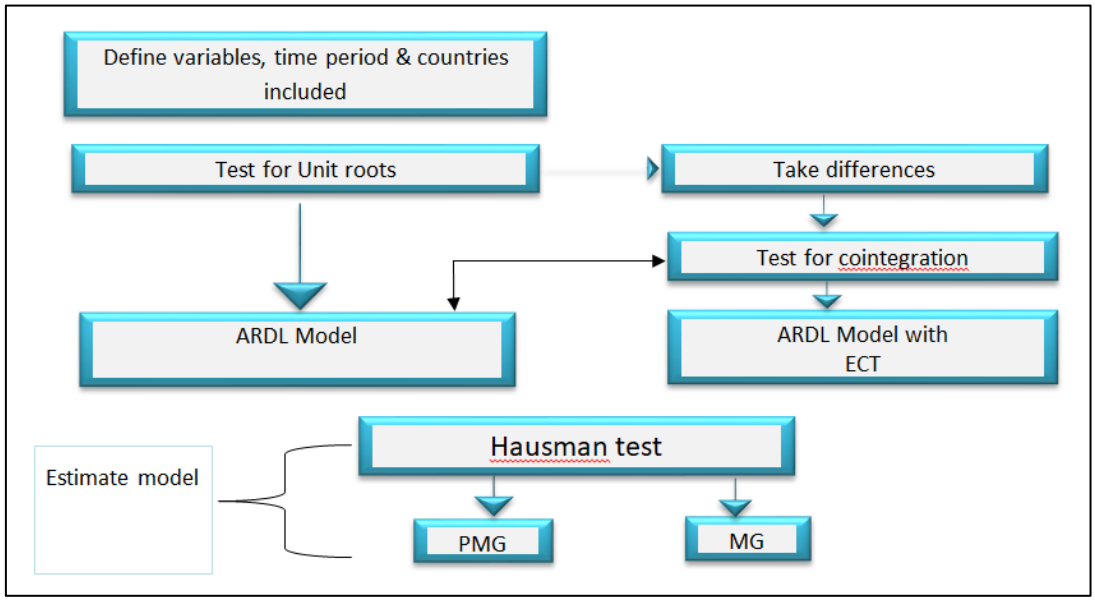

Figure-2.1. A diagram depicting the process of the Econometric analysis

2.5. The Variables, the Study Countries, and the Time Period

This study used panel analysis with data from nine East African countries over a span of 20 years. Panel data offers two advantages: it provides additional information and improves estimate efficiency, and it allows for a larger sample size while being less sensitive to model choice. The analysis incorporated Ethiopia, Burundi, Mozambique, Kenya, Uganda, Rwanda, Zimbabwe, Zambia, and Tanzania. These countries were selected based on data availability from 2001 to 2020, considering different income levels and economic growth rates.

2.5.1. The Dependent Variable (Export Performance)

Exports are products and services produced in one country and bought by people in another country. This includes the cost of goods, insurance, transportation, as well as fees for licensing and royalties. It also includes various services like government services, construction, business, information, financial, and telecommunication Uysal and Mohamoud (2018) & Trans (2020). The value of exports is measured in terms of the total worth of these goods and services, as it is more convenient to quantify them in value rather than using other metrics.

2.5.2. The Independent Variables

In this paper, we discuss the expected sign and definitions of six macroeconomic factors (independent variables) as follows:

a. **Foreign direct investment inflow (FDI):** The value of FDI is calculated using its accumulated capital stock. Empirical studies have shown that the role of FDI in export promotion is mixed. Some studies find a positive influence on exports, while others deem it insignificant. Further research also highlights the impact of FDI dependency on labor and capital intensity (Empirical studies on FDI and export promotion). Consequently, FDI is projected to have various favorable effects on exports, including increased access to foreign financing, technology transfer, and improved marketing skills.
b. **Gross domestic product (GDP):** The producer's capacity has an impact on export supply. Hence, an increase in domestic supply, measured by GDP per capita, is expected to positively influence export performance when all other variables remain constant. The value of locally produced goods and services plays a crucial role in measuring exports. Therefore, GDP is considered the most essential factor for assessing the long-term sustainability of production levels (Impact of GDP on export performance). Consequently, GDP is anticipated to have a beneficial effect on export growth.
c. **Real effective exchange rate (REER):** REER, as defined by the International Monetary Fund (IMF), refers to the price of a local currency in relation to a foreign currency. It is commonly used to assess a country's relative pricing advantage over its competitors. When the relative local prices decrease due to exchange rate depreciation, exports become cheaper in foreign markets, leading to increased export demand (IMF Handbook on real exchange rate). Hence, a negative effect of REER on export growth is expected.
d. **Terms of trade (TOT):** TOT is calculated as the ratio between a country's export price index and import price index. It reflects the prices received for exports compared to the prices paid for imports. It determines whether a country exports more to benefit from improved terms of trade or exports less to meet revenue targets (Carbaugh, 2013), on calculation and impact of TOT. Hence, this research predicts a negative effect of TOT on export performance.
e. **Inflation rate (INF):** Inflation and economic growth are two parallel lines that never meet. Inflation can be measured in two ways: (i) by the annual percentage change in consumer prices, using the Consumer Price Index (CPI); and (ii) by the annual percentage change in the GDP deflator. Increasing inflation devalues the money, making it more difficult to purchase goods and services. Consequently, fewer goods are produced and exported (Al-Mutairi *et al.*, 2020) on the measurement of inflation; Alam and Alam (2016), on CPI definition). This study, therefore, anticipates a negative impact of inflation on exports.
f. **Industrialization (IND):** Industrialization initiates the process of import substitution, reducing dependence on imported goods. It encompasses sectors such as mining, manufacturing, construction, power, water, and gas value-added. The net output of a sector is calculated by summing all outputs and subtracting any intermediate inputs, without considering depreciation of manufactured assets or natural resource depletion (World Bank UK, 2020), on industrialization and its impact on exports). Therefore, industrialization is expected to have a beneficial influence on export expectations.

In general, the summary of the variables and expected signs are displayed below in Table-2.1.

Table-2.1. Operational Variables Summary

Variables	Abbreviation	Variable definition/Formula	Types of variables	Expected sign
Export performance	EXP	EXP=log (Export Value-US$)	Dependent	
Real Effective Exchange Rate	REER	REER=log (real exchange rate)	Independent	(-)
Inflation Rate	INF	INF= Log (inflation rate)	Independent	(-)
FDI net inflow	FDI	Log (foreign direct investment)	Independent	(+)
GDP per capita	GDP	GDP=log(C+I+S+G)	Independent	(+)
Terms of Trade	TOT	TOT=log (terms of trade)	Independent	(-)
Industrialization	IND	IND=log (industrialization)	Independent	(+)

3. Empirical Analysis (Results and Discussions)

This section provides an empirical analysis of the results, interpretation, and discussions related to the model focusing on econometric outcomes and essential test results pertaining to the determining factor of the export performance of nine East African countries. The analysis utilizes a panel dataset covering a period of 20 years (2001-2020), encompassing all relevant variables for each cross-section and time period. The section includes descriptive statistics and a summary of the variables, correlation analysis, determination of optimal lags, cointegration test, diagnostics, and Hausman test to determine the appropriate model for the study. Furthermore, it conducts a comprehensive discussion of the results, comparing them with existing empirical literature.

Throughout this econometric analysis, two important concepts—statistical significance level and p-values—are crucial and will be explained early on. Each test conducted and each estimated parameter generates a test statistic and corresponding p-value. These p-values determine whether the null hypothesis should be rejected (i.e., alternative assumptions may be accepted or considered if possible). The significance threshold, typically set at 0.05, is used, wherein the null hypothesis can only be rejected if the p-value is less than 5% (<0.05). If the p-value is greater than the significance threshold, the null hypothesis cannot be rejected.

Furthermore, while the panel mean group (PMG) and mean group (MG) estimators are employed to calculate the variable coefficients, the null hypothesis states whether the parameter's coefficient (H0: coefficient = 0) is non-zero. If the p-value is less than 0.05, the null assumption is rejected, indicating that the variable significantly impacts

the dependent or controlled variable. The section will delve into the panel unit root tests, lag duration calculation, and panel cointegration test findings, providing a thorough discussion of their implications.

3.1. Summary & Descriptive Statistics of the Variables

In the previous section, we discussed the model specification of this study, i.e., the panel-ARDL model. In this model, there are 10 important steps to estimations, as identified by econometricians: 1) specifying the model; 2) describing the data; 3) performing correlation analysis; 4) conducting unit root tests; 5) determining the optimal lags for the model; 6) performing the Hausman test; 7) optional cointegration test; 8) estimating the model(s); 9) optional causality tests; and 10) optional diagnostics. In this chapter, we will delve into each of these steps.

Now, before conferring the empirical results, it is essential to examine the characteristics and distributional patterns of the variables included in the model. This comprehensive analysis provides a holistic understanding of the variables under study. Various evaluation measures can be employed in this regard. For example, (Gebreeyesus and Demile (2017)) proposed three principal evaluation strategies, as mentioned in, which involve summarizing the variables in the model's summary statistics. These statistics encompass variables' median, mean, skewness, standard deviation, kurtosis, maximum, and minimum values.

Table 3.1 below displays the descriptive statistics of the variables, both dependent variables (EXP) and independent variables (FDI, GDP, IND, INF, REER, and TOT) for a total of 180 observations. The maximum & minimum values of each variable represent the highest and lowest values across the countries examined in this study. As well, the mean values represent the average values of all sampled countries for each variable. Skewness & kurtosis indicate the normality of the data, with skewness measuring the deviation from a standard normal distribution and kurtosis indicating the peakedness of the data distribution. The standard deviation is a measure of variation in the data, and its magnitude allows us to explore the extent of variations in the variables.

Table 3.1. Summary statistics for the variables

	EXP	FDI	GDP	IND	INF	REER	TOT
Mean	4.18E+09	3.903829	692.8787	20.67296	14.35944	116.7512	117.9261
Median	3.91E+09	2.617174	584.7928	19.36648	7.441959	114.7193	106.9831
Maximum	1.16E+10	39.45620	1878.347	42.73594	610.0000	196.0000	197.4470
Minimum	38676370	-0.001305	111.9272	9.435128	-5.755335	67.82277	82.02154
Std. Dev.	3.21E+09	5.690712	427.3673	6.356968	52.62277	23.14635	29.57312
Skewness	0.540356	3.752264	0.845047	0.563446	9.610309	0.949742	1.134522
Kurtosis	2.348265	19.10444	2.985444	3.102604	101.5688	4.395828	3.105022
Jarque-Bera	11.94524	2367.531	21.42473	9.603116	75639.25	41.67280	38.69689
Probability	0.002548	0.000000	0.000022	0.008217	0.000000	0.000000	0.000000
Sum	7.53E+11	702.6893	124718.2	3721.133	2584.699	21015.21	21226.69
Observations	180	180	180	180	180	180	180

Source: Author's computation from the output of E-Views11, WB, UNTCAD, 2022

Based on Table 3.1, the average value of the export of services and goods in East African countries is found to be 4.18e+09, with a standard deviation of 3.21e+09. The minimum and maximum values recorded are 38676370 and 1.16e+10 respectively, indicating a wide range in export performance between 2001 and 2020. It is worth noting that the distribution of export percentages appears to be approximately normal, as evidenced by a skewness value of 0.540356 and a kurtosis of 2.348265.

3.2. Correlation Analysis

Correlation analysis is essential for identifying the absence of perfect or precise linear relationships between regressors (i.e., avoiding multicollinearity). It helps investigate the correlation between variables using the correlation coefficient, which ranges from 0 to 1 and indicates the strength of the relationship. The correlation coefficient can be positive or negative, reflecting the nature of the relationship between variables. A high positive correlation, indicated by a positive sign and a high correlation coefficient, suggests a strong positive relationship between the variables and the dependent variable.

Multicollinearity occurs when study variables exhibit a very strong correlation, typically above 0.80 or 0.90. To address this, tolerance values should not exceed 0.10, and the variance inflation factor (VIF) should not exceed ten (10), as suggested by Cameron and Trivedi (2010). Heteroscedasticity tests revealed no issues in the models. In order to enhance the normality of the dataset, a log transformation was applied to all the research variables. This approach aligns with prior research by, Zheng (2013), Okafor (2014), which recommended using logarithms to improve both the linearity and normality of the data series. The following is the correlation of variables (as shown in the Stata outputs).

Based on Table 3.2, all cases show that the correlation coefficient is consistently less than 0.8 which suggests the lack of multicollinearity between the variables. Additionally, the correlation analysis reveals the existence of a linear relationship between the independent and dependent variables, providing evidence of their linear connection.

Table 3.2: A correlation of variables

```
. correlate EXP GDP FDI ToT INF IND REER
(obs=180)

             |      EXP      GDP      FDI      ToT      INF      IND     REER
-------------+---------------------------------------------------------------
         EXP |   1.0000
         GDP |   0.7227   1.0000
         FDI |   0.1204   0.0211   1.0000
         ToT |   0.0173   0.3093  -0.0804   1.0000
         INF |  -0.0372   0.1095  -0.0553  -0.0211   1.0000
         IND |   0.3463   0.5090   0.0701   0.1835  -0.0943   1.0000
        REER |   0.2861   0.3509  -0.3015   0.3114   0.0796  -0.1423   1.0000
```

3.3. The Panel Unit Root Tests (PURTs)

The analysis conducted in Table 3.3 examines the relationship between macroeconomic factors and export performance. Specifically, it investigates the impact of independent variables on export performance, analyzing whether any second-order variables (i.e., variables of order two or I(2)) are incorporated. To evaluate stationarity and long-run equilibrium, panel unit root and cointegration tests were conducted using the E-views software program. Two-panel unit root tests were employed: one by Levin, Lin, and Chu, assuming homogeneous slopes, and the other by Im, Pesaran, and Shin, assuming heterogeneous slopes. These tests offer more robustness compared to the first-generation test developed by Levin and Lin (1993), as they account for heterogeneity in the autoregressive coefficient (EE, 2016).

Table-3.3 The Results of PURTs

Test Method	**Im, Pesaran and Shin W-stat (IPS)**		**Levin, Lin & Chu t* (LLC)**		
Variables	Level	1st Difference	Level	1st Difference	Conclusion
EXP	0.92557 (0.8227)	-5.16041 (0.0000) *	-1.59515 (0.0553)	-3.30940 (0.0005) *	I(1)
FDI	-0.65503 (0.2562)	-5.57342 (0.0000) *	-0.80579 (0.2102)	-5.41208 (0.0000) *	I(1)
GDP	1.13656 (0.8721)	-3.58079 (0.0002) *	-1.20629 (0.1139)	-3.90620 (0.0000) *	I(1)
IND	0.95415 (0.8300)	-5.59358 (0.0000) *	-0.04669 (0.4814)	-4.20029 (0.0000) *	I(1)
INF	-3.18855 (0.0007) *	-	-2.88790 (0.0019) **	-	I(0)
REER	0.02981 (0.5119)	-4.79420 (0.0000) *	0.19350 (0.5767)	-5.94370 (0.0000) *	I(1)
TOT	-0.58289 (0.2800)	-6.51020 (0.0000) *	-2.38481 (0.0085) **	-7.17173 (0.0000) *	I(1)

Source: Author's computation as of the output of STATA. **Notes:** The stars ***, **, and *, label significance levels at 1%, 5% & 10% respectively. The values in braces ( ) represent the p-values.

In this empirical research, LLC (2002) and IPS (2003) used various PURTs techniques, leading to multiple unit-root tests. The results show that the null hypothesis can only be rejected for the inflation rate (inf) variable. This is supported by p-values below the 5% threshold. By accepting the alternative hypothesis for inf, it indicates that this variable is not unit-root and the chi-square findings of previous authors suggest substantial stationarity. Conversely, if the p-values exceed 5%, the null hypothesis must be accepted as the determinant figures contain unit roots at the level. Consequently, first-differencing is necessary for the other variables.

To conduct this empirical study, IPS (2003) and LLC (2002) employ various panel unit-root assessment techniques. These techniques confirm that only one variable, the inflation rate (INF), rejects the null assumption. This is due to the low p-values, indicating its lack of unit root. Additionally, the chi-square results from previous authors strongly suggest stationarity for this variable and others. However, if the p-values exceed 5%, the null hypothesis should be accepted as the determinant data set includes the unit root at the level. Thus, the first difference should be applied to the remaining variables.

In summary, the empirical study reveals that only the inflation rate variable is stationary at the level, while all other variables become stationary after the first difference. This suggests that the variables used in this study have integration orders of i(0) and i(1). The integration order offers the possibility of employing the ARDL estimation approach (Pesaran *et al.*, 1997; Pesaran *et al.*, 2001; Phillips and Perron, 1988). With most variables integrated at order one, i(1), there is a high likelihood of a long-run relationship.

3.4. Optimal Lag Selection for the Model and Variables

After analyzing the variables' stationarity, the optimal lag length can be determined for model selection. Economic theory does not guide this choice, so additional criteria are used to select statistically viable models. One strategy is to choose lags based on a Wald test, assessing the importance of adding more lag to the model. The AIC (Akaike Information Criterion) and BIC (Schwarz Bayesian Criterion) information criteria are commonly used reduction techniques. In this paper, the AIC is used for model choice. Alternatively, the lag duration can also be manually selected using EViews11 or chosen automatically. The software's output suggests an AIC lag of no more than one for each variable. When T is sufficiently large, the choice of lag is not critical for robustness. The results can be seen in Table 3.4 below.

Table-3.4. Optimal lag order selection criteria

Model Selection Criteria Table					
Dependent Variable: EXP Included observations: 166					
Model	LogL	AIC*	BIC	HQ	Specification
1	672.089702	-7.868738	-6.310143	-7.235556	ARDL (1, 1, 1, 1, 1, 1, 1)

Source: Author's computation from the output of E-Views 11.

3.5. The Panel Co-Integration Test

The co-integration concept relates to the existence of long-run equilibrium in an economic system over time (Sumiyati, 2020). Cointegration tests are used to verify this theory and determine if there is a stable relationship between variables (Ekananda and Suryanto, 2018). In this study, the application of cointegration approaches is based on the understanding that macroeconomic information exhibits certain behavior (Ekananda and Suryanto, 2018). The pooled mean group (PMG/ARDL) form of the cointegration test assumes that the long-run relationship between variables remains stable across nations. The study confirmed that the panel estimation of residuals should be stationary to establish a cointegrated aggregate of variables in the panel model (Kao, 1999). The study utilized the Kao residual cointegration test and Pedroni's advanced panel cointegration checks (Pedroni, 2004) to address issues of small sample sizes and variability in intercepts and slopes of the cointegrating equation. The study employed "within dimension" and "between dimension" panel tests, which yielded eleven test statistics indicating cointegration (Pedroni, 2004). The cointegration test results can be found in Table 3.5.

Table-3.5. Panel Co-integration Test Results (Pedroni & Kao Residuals)

Pedroni Residual Cointegration Test					
Series: EXP01 FDI GDP IND INF REER TOT					
Sample: 2001 2020					
Included observations: 180					
Cross-sections included: 9					
Null Hypothesis: No cointegration					
Automatic lag length selection based on AIC with lags from 1 to 2					
The alternative hypothesis: common AR coefs. (within-dimension)					
				Weighted	
		Statistic	Prob.	Statistic	Prob.
Panel v-Statistic		-0.974546	0.8351	-0.843665	0.8006
Panel rho-Statistic		3.019008	0.9987	3.648622	0.9999
Panel PP-Statistic		-4.234355	0.0000***	-1.818363	0.0345**
Panel ADF-Statistic		-3.787363	0.0001***	-1.726195	0.0422**
Alternative hypothesis: individual AR coefs. (between-dimension)					
		Statistic	Prob.		
Group rho-Statistic		4.207031	1.0000		
Group PP-Statistic		-4.597060	0.0000***		
Group ADF-Statistic		-2.836922	0.0023***		
Kao Residual Cointegration Test					
Series: EXP01 FDI GDP IND INF REER TOT					
Null Hypothesis: No cointegration					
Trend assumption: No deterministic trend					
				t-Statistic	Prob.
ADF				-2.400957***	0.0082
Residual variance				6.61E-05	
HAC variance				7.00E-05	
Augmented Dickey-Fuller Test Equation					

Dependent Variable: D(RESID)				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID(-1)	-0.302669	0.069032	-4.384452	0.0000
D(RESID(-1))	-0.142316	0.083791	-1.698474	0.0917
R-squared	0.173308	Mean dependent var		0.000809
Adjusted R-squared	0.167185	S.D. dependent var		0.009296
S.E. of regression	0.008484	Akaike info criterion		-6.686868
Log-likelihood	460.0505	Hannan-Quinn criter.		-6.669545
Durbin-Watson stat	1.944680			

Source: Author's computation from the output of E-Views11. **Note:** *** and ** labels rejection of null hypothesis at 1% and 5% significance level respectively.

Based on Table 3.5, the presence of co-integration among variables was tested using (Pedroni, 2004) co-integration tests through seven-panel assessments. The results of both tests (within-dimension and between-dimension) indicated rejection of the null hypothesis (no-cointegration) at significance levels of 5% and 1%, as shown by asterisks in the table. This suggests that the variables studied have a cointegrating connection. Additionally, the cointegration tests provide robust evidence for the presence of long-run relationships between the dependent variable and influencing factor variables such as GDP, FDI, INF, IND, REER, and TOT in East African countries. The study also utilized panel unit root tests and panel co-integration findings to estimate a long-run panel-ARDL model.

3.6. Estimation of the Models

A comparison between the MG and PMG estimation models was conducted to determine the appropriate model for this study, based on the results of the Hausman test. Table 3.6 presents the outcome of this analysis.

Table-3.6. Estimation for MG or PMG model

```
. hausman mg pmg, sigmamore

                 ---- Coefficients ----
                    (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
                     mg          pmg         Difference          S.E.
-------------------------------------------------------------------------------
         GDP     7685577      1455905        6229672        4567289
         FDI    -2.37e+07    -4.40e+08       4.16e+08       4.40e+08
         ToT    -1.57e+07     5.46e+07      -7.02e+07       4.17e+07
         INF     2.44e+07    -1.42e+07       3.86e+07       1.52e+08
         IND     5.60e+07     3.23e+08      -2.67e+08       6.13e+08
        REER    -3.00e+07    -6.98e+07       3.98e+07       2.50e+07
-------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtpmg
                B = inconsistent under Ha, efficient under Ho; obtained from xtpmg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       11.20
                Prob>chi2 =      0.0824
```

Source: Author's computation from the output of Stata, World Bank (2022)

To differentiate the MG and PMG estimations, a Hausman test was conducted to assess their consistency and performance. The test results showed that the null assumption of long-run heterogeneity was not rejected, indicating that the PMG estimate is more reliable and efficient than the MG estimation. Therefore, the PMG estimate was used to interpret the longer-term influence of independent factors on the dependent variable in this study. The results of the Hausman test indicated that the probability value (Prob.>chi2 = 0.0824) was higher than 0.05 or 5%, leading to the rejection of the null assumption. Consequently, PMG has deemed the most appropriate and efficient model for this study.

3.7. Estimation of PMG/ARDL Model

Identified three key assumptions of the PMG estimator: (i) serially uncorrelated error terms, (ii) the existence of long-run relationships between dependent and independent variables, and (iii) consistency of long-term variables across countries. In this study, the PMG-ARDL econometric approach is considered suitable for analyzing the relationship between export performance and its determinants in East African countries, as it captures both short and long-term relations. The researcher chose PMG estimations based on the results of the Hausman test, which confirmed homogeneous cointegrating vector slopes. The PMG estimate requires uniformity in the long-run slope coefficients despite allowing for variation in short-run coefficients, intercepts, long-run equilibrium values, and error variances across countries. Besides, a fascinating feature of the panel-ARDL technique is its ability to handle mixed

integration orders of variables (i.e., i(0), i(1), or both) (Kollie, 2020). Consequently, Table 3.7 presents the results of PMG-ARDL model estimations, including long-run and short-run equations, based on the EViews datasets.

Table-3.7. Estimation Result for PMG model

Dependent Variable: Export (EXP)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
	Long Run Equation			
FDI	-4.07E+08**	1.55E+08	-2.622520	0.0100
GDP	3.728186***	1282097.	2.907881	0.0044
IND	2.34E+08***	77519528	3.017562	0.0032
INF	-8.3965939***	26131278	-3.213235	0.0017
REER	-5.2099665***	19631836	-2.653836	0.0091
TOT	2.9816275*	16158309	1.845260	0.0677
	Short Run Equation			
COINTEQ01	-0.494485***	0.067169	-1.406671	0.0043
D(FDI)	-23652892	26089394	-0.906609	0.3666
D(GDP)	4.410409***	1610914.	2.737831	0.0072
D(IND)	-31747200	41622545	-0.762740	0.4472
D(INF)	5524725.	13622230	0.405567	0.6858
D(REER)	5338966.	9112093.	-0.146944	0.8834
D(TOT)	6313601.	8494157.	0.743288	0.4589
C	0.230233**	0.031653	0.955146	0.0342
Root MSE	3.52E+08	Mean dependent var		2.25E+08
S.D. dependent var	6.88E+08	S.E. of regression		4.48E+08
Akaike info criterion	40.28376	Sum squared resid		2.22E+19
Schwarz criterion	41.50772	Log-likelihood		-3556.538
Hannan-Quinn criter.	40.78002			

Source: Author's computation from the output of E-Views11 & STATA, WB, UNTCAD, 2022. **Note:** ***, **, * is statistically different from zero at 1%, 5% &10% significance level respectively. **Method:** PMG/ARDL Model **Designated Model**: ARDL (1, 1, 1, 1, 1, 1, 1) and **selection method**: Akaike info criterion (AIC).

The above, table 3.7 shows the results of the panel PMG-ARDL econometric model. It reveals that all variables included are statistically significant in the long run. However, only one variable is found to be important, at least at the 10% level of significance in the short run. Specifically, foreign direct investment (FDI) inflows, per capita GDP, inflation rate (INF), the real effective exchange rate (REER), terms of trade (TOT), and industrialization (IND) significantly influence exports in the long run. However, in East African nations, the short-term performance of exports is primarily influenced by per capita GDP.

According to the Model's result, only GDP had a significant relationship in the short-run (p-value 0.0072), while all other variables had an inverted and insignificant relationship. The lack of significance in the short run could be attributed to differences in policy and economic lags among the study countries regarding exports and macroeconomic factors. For instance, the econometric model revealed a significant negative relationship between export performance and REER in the long run, but this relationship was inverted and insignificant in the short run.

The most significant outcome of the short-run PMG-ARDL computation is the Error Correction Term (ECT) and its negative sign. It indicates that the macroeconomic factors or independent variables collectively impact the dependent variable (export performance). The negative coefficient suggests long-run convergence to equilibrium. Besides, the ECT (represented by COINTEQ01) falls within the appropriate range (-1 to 0), is statistically significant at a 1% level (p-value = 0.0043), and aligns with the error-correcting scenario for a stable error correction system as described by Asongu (2014). The range of EC ranges from zero (no adjustment) to one (complete adjustment).

Subsequently, the EC coefficient (COINTEQ01) for export performance is -0.494485. This means that each year, 49.5% of the deviation from the long-run equilibrium is adjusted. It takes approximately 2.0223 years for the system to fully converge to the long-run equilibrium. Therefore, the speed of adjustment from short-run to long-run equilibrium is not slow, as it is almost 2 years. In other words, the significant long-run cointegration in the EC indicates that all independent variables have a joint association with the dependent variable in the long run.

According to Table 3.7, increasing the GDP of exporting countries by 1% leads to a long-run increase in export performance of approximately 3.73%. Similarly, a 1% rise in GDP enhances short-run export performance by around 4.41% for East African nations. This variable has a significant impact on economic theory, as expanding the production volume of the economy increases the supply of exports. The study's findings show that GDP has a statistically positive effect on export performance in both the short and long runs. This could be because East African countries mainly use their agricultural and local products domestically rather than selling them in international markets. In other words, GDP has a positive impact on export performance in East African countries, both in the short and long terms. This implies that a country's GDP plays a crucial role in its ability to export. A higher GDP indicates greater production capacity, leading to a higher potential for export (supply-side). Therefore, the governments of these countries should focus on promoting the competitiveness of the export sector. This can be achieved by efficiently and effectively allocating government expenditure to increase the value-added of the sector.

Additionally, to minimize the effects of exchange rate depreciation, the government should strengthen the sector's backward linkages to reduce its reliance on imported inputs.

Besides, for this study, significant and positive results of GDP on export performance also consistence with the previous findings (e.g., (Majed and Ahmad, 2006) Babatunde (2009); Gebreeyesus and Demile (2017); Oo *et al.* (2019); Ahmad *et al.* (2015); and Sumiyati (2020) who sued to the per capita GDP has a significant effect on Export performance. They maintained that, in exchange for a certain amount of global market access, countries with stronger production capacity should be expected to export more. However, the result of this study differs from that of, which indicated GDP was found to be statistically insignificant and does not affect the export performance at a significance level of 5% in East Africa. However, the findings of Uysal and Mohamoud (2018) differ, as they found that GDP was statistically insignificant and did not affect export performance in East Africa at a significance level of 5%.

As to Table 3.7, Industrialization (IND) significantly affects the value of exports in the long run. A 1% increase in industrialization corresponds to a 23% increase in export value, highlighting the importance of industrial development in East African countries. This finding aligns with previous studies by Zalk (2014), which emphasize that no countries have achieved rapid and sustained economic growth or high-income levels without industrialization.

The findings from Table 3.7 indicate that the long-term coefficient of FDI is significantly negative at the 5% significance level, while the short-term coefficient is negligible. This suggests that there is a deceptive significant negative correlation between export performance and FDI, which contradicts the hypothesis of this study that predicted a positive significant correlation. This unexpected result implies that FDI inflows in East African nations have not led to the intended growth in exports. This finding contradicts previous research that found a significant positive effect of FDI on export value in other countries(Okechukwu *et al.*, 2018; Uysal and Mohamoud, 2018);. However, there are other studies that support the idea that the effect of FDI on exports depends on the investment incentives and goals. Some studies show a positive relationship between FDI and exports, while others indicate a negative relationship. (Musti and Mallum, 2020) also suggest that the mode and motive of entry for FDI can influence its impact on exports. In the case of East African countries, it appears that foreign investors mainly come to capture the local market rather than for export purposes. Therefore, the effect of FDI inflows on export performance remains unclear in the literature.

What's more, the negative results of foreign direct investment (FDI) in this study may be attributed to the high concentration of FDI in the manufacturing, construction, and services sectors in the studied countries. Recent data from the EAC Trade and Investment report reveals a 15.9% decline in FDI inflows to East African nations, with Tanzania experiencing a 2.3% increase while Rwanda and Burundi saw declines of 76.8% and 11.5% respectively in 2018. FDI inflows into Uganda and Kenya also dropped by 51.8% and 32.4% respectively (EAC, 2018). This suggests that the majority of FDI inflows into the region were directed toward the construction, service, and manufacturing industries. While FDI can positively impact economic growth and development by providing capital, technology, and skills for export performance, the unfavorable average level of FDI inflows to East Africa raises concerns about its impact on export development. Consequently, policymakers in the region should focus on implementing policies and legislation to attract more significant FDI inflows.

According to the econometric model in this study, the real effective exchange rate (REER) has a negative and significant coefficient, as expected. Table 3.7 shows that a 1% depreciation in REER leads to a 5.2099665% increase in export performance in East African countries. This indicates that the depreciation of REER enhances the attractiveness of East African exports in international markets by making them more affordable relative to domestic costs. This result aligns with economic theory, which suggests that currency devaluation is a key policy measure for export growth. Moreover, depreciation also improves the profitability of the tradable sector and increases the share of tradable in domestic value-added. It is widely recognized that fluctuations in exchange rates (REER) are a significant source of macroeconomic uncertainty. The negative correlation coefficient of -5.21 between REER and export performance confirms that currency depreciation hampers the export performance of the studied countries. Therefore, advanced econometric methodologies are needed to accurately examine the impact of REER on export performance. Similar findings have been reported in other studies, such as the negative impact of REER on exports in Malaysian exports to OIC countries and the export determinants of SSA countries. These results are also consistent with the findings of researchers. However, contrasting results showing the insignificant effect of REER on export performance have been reported by Melesse (2011), Menji (2010), and Nyeadi et al. (2014).

Based on our econometric model (see Table 3.7), found that a one percent increase in terms of trade leads to a 2.9816275% improvement in long-run export performance in the region. This suggests a positive and significant relationship between TOT and exports in East Africa, indicating that enhancing terms of trade is beneficial for export development. Therefore, implementing measures to improve a country's terms of trade is crucial for boosting its economic growth. Trade-enhancing terms have various benefits, such as allowing a higher quantity of imported goods to be purchased for each unit of exports sold. However, if a country experiences a trade imbalance where imports exceed exports, it results in a net outflow of foreign currency, leading to currency devaluation and deterioration of terms of trade in the long run. In the context of East African countries, a positive association between TOT and export performance implies that improving terms of trade promotes economic expansion. Two key factors influencing terms of trade are exchange rates and trade balance. Depreciation of the currency and a negative trade balance (more imports than exports) can lead to a decline in terms of trade. Thus, implementing strategies to reform terms of trade can facilitate export growth in East African countries.

Lastly, the econometrics model shows that inflation has a significant negative impact on export performance (EXP) in East African countries in the long run. The coefficient value for inflation is -8.396593, indicating that a one

percent increase in inflation decreases export volume by 8.4 billion US dollars. Rising prices due to inflation create competition between local and foreign goods, affecting pricing policies. Inflation also leads to higher input prices, reducing firm productivity and diminishing a country's competitiveness compared to others. States that inflation increases production costs and real currency appreciation, discouraging firms from the manufacturing sector and hampering international competitiveness. Moreover, high inflation rates slow down economic growth. Previous research supports the negative effect of inflation on exports and emphasizes the need for government controls to stabilize inflation rates. However, Oo *et al.* (2019) found a positive effect of inflation on exports, while Ahmad *et al.* (2015) did not find any significant impact. These findings align with previous studies by (Uysal and Mohamoud, 2018) that highlight the detrimental effects of inflation on exports.

4. Conclusion and Recommendations

4.1. Concluding Remark

This study focused on analyzing the macroeconomic factors that determine the performance of export-oriented growth strategies in East African countries. It uses panel-data techniques to analyze the impact of variables such as FDI, GDP, exchange rates, terms of trade, inflation rate, and industrialization on export performance. The study acknowledges the limitations of the chosen sample and its representativeness for other developing nations. However, the researcher emphasizes that the findings are still valid and reliable, although the exact effects of the macroeconomic variables may have been underestimated or overestimated. The study uses a panel-ARDL econometric model with error correction systems to forecast both the short and long-run impacts. The model is considered suitable for evaluating export performance, as it can estimate variables that are stationary or integrated. The research also takes into account unit roots, lag lengths, and co-integration tests using statistical software like E-Views and Stata.

The econometric model uses MG and PMG estimators, determined through the Hausmann test. Unit root tests show that the inflation rate is stationary at the i(0) level, while other variables are stationary at either i(0) or i(1) levels. All variables are stationary in initial differences or levels, allowing the use of the ARDL model. Variables being included in order one (i(1)) suggest potential long-run relationships. The Pedroni co-integration test offers ambiguous results. An error correction term (ECT) is included to account for co-integration and confirm its presence. The ECT confirms co-integration and thus the model includes it. Finally, the Hausman test determines that the PMG estimator is the most suitable for this study.

The main finding of the model is that, apart from GDP, all variables have an insignificant and reversed relationship in the short run. This is likely due to differences in policies and economic lags among the studied countries. Another important conclusion is the negative coefficient of the error correction term (ETC) in the short-run estimation, indicating that the macroeconomic factors in the model collectively influence export performance. As well, the negative coefficient suggests long-term convergence toward equilibrium. GDP has a positive impact on export performance in East African countries in both the short and long runs, confirming theoretical expectations. This suggests that a country's GDP plays a critical role in determining its export capacity. Unpredictably, however, the impact of FDI inflows on a country's economy is remarkable and negative in the long run, but insignificant in the short run. Apparently, FDI can contribute positively to economic development by providing capital, technology, and skills that improve export performance. However, the effects on export performance vary depending on the purpose of FDI, whether it is for domestic market capture or export market expansion. One possible explanation for this is that the average FDI inflows in East Africa do not promote export growth as intended.

In summary, the empirical results of the PMG-ARDL econometric regression confirm that key macroeconomic variables (FDI, GDP, TOT, INF, REER, and IND) have a substantial long-term impact on export performance, contributing to sustainable development in East African economies. However, further research is needed to better understand the effects of export-oriented growth strategies on total export performance. In a nutshell, macroeconomic factors significantly influence export performance in East African countries, indicating their importance in achieving long-term economic growth.

4.2. The Contribution & Limitation

This research is imperative for East Africa and other developing countries. It contributes to the literature by examining the influence of the key determining factors on export performance in East Africa— an area that has been less explored. The study shows that variables such as FDI inflows impact host countries' export performance unfavorably. It also compares the impact of macroeconomic elements on export performance within and between East African countries through improving noticeably in this area. Understanding these factors can lead to improved trade policy and export performance, contributing to economic growth. Identifying drivers of export-oriented growth strategy informs legislators on policies to influence sector growth and the economy as a whole. Besides, the study's implications are important for policymakers, investors, and academics. To this end, while this research provided valuable insights, it also had limitations. Limitations are inherent weaknesses that researchers cannot control and no study is exempt from them. In this case, the research was limited by the lack of previous research inputs specific to the chosen study countries. Moreover, data collection from developing countries like East Africa, particularly through World Bank Development Indicators (WDI), suffered from significant delays. Besides, the data quality in developing countries can be questionable.

4.2. Recommendations

Based on the study findings, here are the suggested points:

- Develop effective export-oriented strategies for each product or service by setting clear goals and actionable plans.
- The governments of the study countries must boost export sector competitiveness by using effective government expenditure and enhancing value-added. They should also establish a collaborative system with stakeholders.
- Policymakers in the study region should implement favorable policies to attract and sustain significant foreign direct investments (FDI) inflows, considering their strong negative impact.
- Industrial development is crucial for achieving rapid and sustained economic growth, high incomes, and successful exports in any country. Hence, the government should prioritize and enhance the significance of industrialization in East African countries.
- High inflation hampers economic growth, but moderate and steady inflation can support a country's development and exports. Governments should control the overall inflation level for this reason. Thus, Central Banks in East African countries must work closely with the government to manage inflation effectively.
- The study found that exchange rate and trade balance are the main factors impacting terms of trade. A trade imbalance with more imports than exports leads to a decrease in the currency rate, which worsens the terms of trade. Therefore, adopting a strategy to improve terms of trade can stimulate export growth in East African countries.
- Policy scholars should proactively engage with the legislature by employing innovative scientific methods. They should conduct research and policy analysis, provide feedback, and offer timely recommendations.

In conclusion, this study found that several macroeconomic factors including per capita GDP, exchange rate, inflation rate, FDI inflows, terms of trade, and industrialization have a significant long-term impact on the performance of exports in the examined countries. Nevertheless, these factors alone are not sufficient predictors. Future research should explore more variables and conduct comparative studies to boost the export sectors and prompt international trade development in East Africa.

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