

Uganda's External Sector Stability: Does Export Composition Matter?

Arineitwe Killian¹; Arinaitwe Anthony Henry²; Dr. Asiimwe Enock³

¹Consultant, Universal Technology and Management University (UTAMU),

²Academic Registrar, Ibanda University

³Lecturer, Bishop Stuart University (BSU)

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Abstract: This study examines the effect of export composition on external sector stability in Uganda over the period 1995–2025. Despite sustained export growth, Uganda continues to experience persistent external sector challenges, including balance of payments deficits, exchange rate volatility, and low foreign reserve adequacy. The study specifically investigates the effect of fuel exports, food exports, ores and metals exports, insurance and financial services exports, and ICT goods exports on external sector stability, while controlling for exchange rate, inflation, and foreign direct investment. Using annual time series data, the study employed the Auto-Regressive Distributed Lag (ARDL) bounds testing approach. Stationarity was confirmed through the Augmented Dickey-Fuller (ADF) test, while model adequacy was validated using diagnostic tests for autocorrelation, heteroskedasticity, normality, specification, and parameter stability (CUSUM squared). The findings revealed that fuel exports exert a statistically significant negative effect on external sector stability in both the short run and long run, implying that dependence on fuel exports increases Uganda's vulnerability to external shocks and commodity price fluctuations. In contrast, food exports were found to have a statistically significant positive effect on external sector stability, indicating their important role in generating stable foreign exchange earnings and improving the balance of payments position. However, ores and metals exports, insurance and financial services exports, and ICT goods exports were found to be statistically insignificant. The Error Correction Term (ECT) was negative and statistically significant, confirming the existence of a stable long-run equilibrium relationship among the variables and indicating a relatively fast adjustment toward equilibrium following short-run shocks. The study concludes that export composition significantly influences external sector stability in Uganda, although the effects differ across export categories. The study recommends strengthening agricultural export competitiveness, promoting value addition, and accelerating export diversification into higher-value manufacturing, ICT, and service sectors in order to enhance Uganda's external resilience and macroeconomic stability.

Keywords: *Export Composition, Exports, External Sector Stability, ARDL, BoP, and Uganda.*

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I. INTRODUCTION

➤ *Background to the Study:*

Exports have historically played a central role in promoting macroeconomic growth, foreign exchange accumulation, balance of payments sustainability, and external sector stability (Reuters, 2024). Since the emergence of globalization and trade liberalization during the late 20th century, countries increasingly integrated into the global economy through international trade, with exports becoming a major source of forex earnings and economic resilience (Balassa, 1978; WTO, 2024). Classical and neoclassical trade theories such as comparative advantage theory emphasized that countries benefit from specializing in the production and export of goods for which they possess relative efficiency advantages. Similarly, Export-Led Growth (ELG) theory argues that sustained export expansion stimulates

industrialization, productivity growth, technological advancement, and macroeconomic stability (Romer, 1990; WTO, 2024).

Over time, empirical evidence demonstrated that countries with diversified and value-added export structures experienced relatively stronger external sector performance compared to economies heavily dependent on primary commodity exports (WTO, 2024). Advanced economies and emerging Asian economies such as China, South Korea, and Singapore strengthened their balance of payments positions through export diversification, manufacturing expansion, and services trade development (Slesman, Zakaria, & Shabbir, 2023). However, countries highly dependent on a narrow range of primary commodity exports often experience external instability due to fluctuations in global commodity prices, exchange rate volatility, and declining terms of trade

(Arineitwe, Abigaba, & Olyanga, 2025). Consequently, economists emphasize export diversification as a chief strategy for improving forex stability, reducing current account imbalances, and enhancing resilience to external shocks.

In recent decades, the rapid growth of service exports, digital trade, tourism, financial services, and ICT-enabled services further transformed the structure of global exports (AfDB, 2024b). Developing countries are encouraged to diversify exports away from traditional agricultural commodities toward manufacturing and modern service sectors in order to strengthen external sector stability (WorldBank, 2024a; WTO, 2024). Within Sub-Saharan Africa, export performance remains heavily dominated by primary commodities such as agricultural products, minerals, oil, and raw materials (PACEID, 2023). Many African economies continue to face persistent balance of payments deficits, exchange rate instability, and foreign reserve constraints due to excessive dependence on volatile commodity exports (AfDB, 2024c).

During the post-independence period, many African countries adopted import substitution industrialization strategies aimed at reducing dependence on imports (World Bank, 2022). However, weak industrial capacity, low technological development, and external debt crises limited the success of these strategies (Mumbere, 2025). Beginning in the 1980s and 1990s, Structural Adjustment Programmes (SAPs) promoted by the IMF and World Bank encouraged trade liberalization, export promotion, and market-oriented reforms across Africa (Collier & Gunning, 1999). Countries such as Kenya, South Africa, Mauritius, and Rwanda gradually diversified into manufacturing and service exports, thereby improving export earnings and external sector performance. Nevertheless, many African economies remain vulnerable to external shocks arising from fluctuating commodity prices, declining export competitiveness, and dependence on a few export commodities (Mumbere, 2025; AfDB, 2024b).

In East Africa, export structures are still dominated by coffee, tea, tobacco, fish products, minerals, and recently oil-related products (UNCTAD, 2022). The East African Community (EAC) integration process further increased regional trade flows and export opportunities (AfDB, 2024a). However, the region continues to face persistent current account deficits, exchange rate pressures, and external debt accumulation largely due to limited export diversification and low value addition (AfDB, 2024a).

Nationally, Uganda's export sector has undergone significant transformation since the implementation of economic liberalization reforms during the late 1980s and early 1990s (Arineitwe, Abigaba, & Olyanga, 2025). Following years of political instability and economic collapse during the 1970s and early 1980s, the Government of Uganda adopted Structural Adjustment Programmes aimed at stabilizing the economy, liberalizing trade, and promoting export-led growth (WorldBank, 2024a). Historically, Uganda's export sector was heavily dependent on traditional

agricultural exports, particularly coffee, which for decades constituted the country's leading foreign exchange earner. Other agricultural exports such as tea, cotton, tobacco, fish products, and maize later emerged as important contributors to export earnings.

Over time, Uganda has experienced gradual diversification toward manufactured exports, mineral exports, fuel-related exports, and service exports including tourism, transport, ICT services, and financial services. The discovery of oil reserves and increased regional trade integration further influenced the country's export structure and foreign exchange dynamics (MEMD, 2022). Despite these developments, Uganda continues to experience persistent external sector challenges characterized by trade deficits, exchange rate depreciation, low foreign reserve accumulation, and high import dependence (Reuters, 2024). The country's export base remains relatively narrow and vulnerable to international commodity price fluctuations, climatic shocks, and global demand instability (PACEID, 2023).

Periods of declining coffee prices, disruptions in tourism revenues such as during the COVID-19 pandemic, and global fuel price shocks have frequently affected Uganda's BoP and exchange rate stability (Mumbere, 2025). Meanwhile, manufactured exports and service exports have increasingly emerged as important alternative sources of foreign exchange earnings (Reuters, 2024). Uganda's export earnings significantly expanded, although the composition of exports continued to shift across agricultural products, manufactured goods, fuel products, and services (WTO, 2024; PACEID, 2023). This changing export structure raises important policy questions about whether Uganda's export composition promotes external sector stability (Mumbere, 2025), a core inspiration for this study.

➤ *Statement of the Problem:*

Uganda continues to experience persistent external sector instability characterized by recurrent BoP deficits, exchange rate volatility, declining foreign reserve adequacy, and increasing dependence on external borrowing despite sustained export growth over the years (PACEID, 2023). Although the country has implemented trade liberalization policies and export promotion strategies aimed at strengthening foreign exchange earnings, the external sector remains highly vulnerable to global commodity price fluctuations, import dependency, and external shocks (AfDB, 2024b; UIA, 2025a; UIA, 2025b).

The fundamental problem is that Uganda's export structure remains insufficiently diversified and heavily concentrated in a limited range of primary commodity exports whose earnings are unstable and susceptible to international market volatility (Reuters, 2024). While agricultural exports continue to dominate export earnings, fluctuations in coffee prices, climatic changes, and global demand uncertainties frequently undermine foreign exchange stability (UNCTAD, 2022). The contribution of manufactured exports, fuel exports, and service exports toward improving external sector sustainability remains inadequately understood (Mumbere,

2025). Consequently, Uganda continues to experience exchange rate pressures, current account imbalances, and external vulnerability despite increased export activity. If this structural export imbalance remains unaddressed, the country risks continued external instability, rising foreign debt burdens, and weakened macroeconomic resilience (Mumbere, 2025).

Although several studies have examined exports and economic growth in Uganda, limited empirical attention has been directed toward examining how different components of export composition influence external sector stability using comprehensive time-series analysis. Therefore, an empirical investigation is required to analyze the effect of export composition on external sector stability in Uganda from 1995 to 2025.

➤ *Objectives:*

This study examined the effect of export composition on external sector stability in Uganda over the period 1995–2025 using annual time series data. Specifically, the study investigated the effects of fuel exports, food exports, ores and metals exports, insurance and financial services exports, and ICT goods exports on external sector stability, while controlling for exchange rate, inflation, and foreign direct investment (FDI).

➤ *Theoretical Framework:*

This study is anchored on the Export-Led Growth (ELG) theory and the Balance of Payments (BoP) theory. The Export-Led Growth Theory argues that expansion and diversification of exports enhance economic performance through increased foreign exchange earnings, productivity growth, and macroeconomic stability (Balassa, 1978). The BoP theory explains that export earnings are a major source of forex required to finance imports, stabilize exchange rates, and maintain external balance (Krugman & Obstfeld, 2009; Mocan, 1987). Food exports, fuel exports, manufactured exports, and service exports such as ICT and insurance services are expected to influence external sector stability through their contribution to export earnings and foreign exchange accumulation. However, excessive dependence on

primary commodity exports may expose the economy to external shocks, commodity price fluctuations, and BoP instability (Todaro & Smith, 2015). It further recognizes that exchange rate movements, inflation, and FDI act as important transmission mechanisms linking export composition to external sector stability (Nguyen, 2022).

II. RESEARCH METHODOLOGY

This study employed a longitudinal time series research design. Secondary data were obtained from the Bank of Uganda and the World Bank Development Indicators. The study employed the Auto-Regressive Distributed Lag (ARDL) because the variables exhibited mixed orders of integration, with some variables stationary at levels I(0) and others at first difference I(1), as confirmed by the Augmented Dickey-Fuller (ADF) unit root test (Pesaran, Shin, & Smith, 2001). Prior to estimation, descriptive statistics, correlation analysis, multicollinearity tests using the Variance Inflation Factor (VIF), lag length selection criteria, and Bounds tests for cointegration were conducted to ascertain the suitability of the data for ARDL estimation.

The optimal lag length was selected based on the Akaike Information Criterion (AIC), Final Prediction Error (FPE), Hannan-Quinn Information Criterion (HQIC), and Likelihood Ratio (LR) tests. The ARDL model was then estimated to capture both the short-run and long-run dynamics between export composition and external sector stability. Post-estimation diagnostic tests, including the Breusch-Godfrey test for autocorrelation, Breusch-Pagan test for heteroskedasticity, Jarque-Bera normality test, Ramsey RESET test for model specification, and CUSUM stability test, were further conducted to confirm the reliability, validity, and stability of the estimated model. All analyses were performed using Stata version 17.

➤ *Findings:*

The descriptive statistics presented in Table 1 below provide a summary of the characteristics and distribution of the study variables over the study period.

Table 1 Descriptive Analysis of the Study Variables Original Units of Measurement)

Variable	n	Mean	Std. Dev.	Min	Max	Coefficient of Variation (CV)(%)
XM	46	5.991003	2.862781	1.000002	13.43336	47.78
FUEL	46	1.711606	1.873001	.007584	6.618809	109.43
FOOD	46	70.79509	18.78304	37.53358	93.20834	26.53
ORES	46	.9498715	.9540178	.10709	4.451969	100.44
INSUR	46	2.223447	1.489605	.816637	5.53499	67.00
ICT	46	1.174783	2.021425	.12	6.77	172.07
EXC	46	1972.076	1063.329	968.9167	3757.262	53.92
INF	46	91.58001	59.93042	42.31822	216.9082	65.44
FDI	46	6.87e+08	8.64e+08	1.21e+08	3.26e+09	125.76

Source: Author’s Compilation

External sector stability (XM) recorded a mean value of 5.99 with a standard deviation of 2.86, implying moderate fluctuations over the study period. The coefficient of variation (47.78%) suggests a moderate degree of dispersion

in export composition. The minimum and maximum values of 1.00 and 13.43 respectively further indicate that export composition changed considerably across time. Fuel exports (FUEL) had a mean of 1.71 and a relatively high standard

deviation of 1.87. The coefficient of variation of 109.43% indicates very high volatility in fuel exports, implying substantial fluctuations during the study period. This may reflect instability in international fuel prices and export volumes.

Food exports (FOOD) registered the highest mean among the export variables at 70.80 with a standard deviation of 18.78. The CV of 26.53% suggests relatively low variability, indicating that food exports remained comparatively stable over time which reflects the importance of agricultural exports in Uganda’s export structure. Ores and metals exports (ORES) had a mean of 0.95 and a standard deviation of 0.95, with a coefficient of variation of 100.44%, indicating considerable volatility. This suggests that mineral exports fluctuated significantly over the study period, possibly due to changes in global commodity demand and production capacity.

Insurance services exports (INSUR) recorded a mean of 2.22 and a standard deviation of 1.49. The CV of 67.00% indicates moderate variability, implying that insurance exports experienced noticeable fluctuations over time. ICT exports (ICT) exhibited the highest variability among the variables, with a CV of 172.07%. Despite a relatively low mean of 1.17, the large standard deviation of 2.02 and maximum value of 6.77 suggest substantial fluctuations in

ICT exports. This reflects the emerging and unstable nature of the ICT sector within Uganda’s export economy.

The exchange rate (EXC) as a control variable had a mean value of 1972.08 and a standard deviation of 1063.33, indicating considerable exchange rate movements during the study period. The CV of 53.92% confirms moderate volatility in the exchange rate. Inflation (INF) recorded a mean of 91.58 with a standard deviation of 59.93 and a CV of 65.44%, indicating substantial fluctuations in the general price level over time. FDI as another control variable had a very high mean of approximately 687 million and a large standard deviation of approximately 864 million. The CV of 125.76% indicates extremely high volatility in FDI inflows, suggesting that foreign investment inflows were highly unstable during the study period. The descriptive statistics reveal that most variables experienced substantial variability over the study period, particularly ICT exports, FDI, fuel exports, and ores exports. In contrast, food exports exhibited relative stability, highlighting their consistent contribution to Uganda’s export sector.

Table 2 below presents the results of the Augmented Dickey-Fuller (ADF) unit root tests conducted to determine the stationarity properties of the study variables before estimation of the ARDL model.

Table 2 Augmented Dickey-Fuller Unit Root Test Results for the Series

Variable	ADF	Prob	ADF (1st Difference)	Prob	Order of Integration
XM	-2.982	0.0366			I(0)
FUEL	-3.487	0.0083			I(0)
FOOD	-1.189	0.6781	-7.863	0.0000	I(1)
ORES	-3.158	0.0225			I(0)
INSUR	-2.006	0.2838	-7.719	0.0000	I(1)
ICT	-1.703	0.4297	-4.954	0.0000	I(1)
EXC	0.775	0.9912	-5.227	0.0000	I(1)
INF	4.496	1.0000	-2.946	0.0402	I(1)
FDI	1.616	0.9979	-5.321	0.0000	I(1)

Source: Author’s Compilation

Testing for stationarity was necessary to avoid spurious regression results and to determine the appropriate estimation technique for the study (Wooldridge, 2020). The ARDL methodology requires variables to be integrated of either order zero, I(0), or order one, I(1), but not order two, I(2). Specifically, export composition (XM), fuel exports (FUEL), and ores and metals exports (ORES) were found to be stationary at levels since their P-values were less than 0.05. On the other hand, food exports (FOOD), insurance services exports (INSUR), ICT exports (ICT), exchange rate (EXC), inflation (INF), and foreign direct investment (FDI) were non-stationary at levels because their P-values exceeded the

5% significance level. However, after first differencing, they became stationary as evidenced by their significant ADF statistics and probability values below 0.05. These variables were therefore integrated of order one, I(1).

Table 3 below presents the correlation matrix showing the degree and direction of association among the study variables (Hair, Black, Babin, & Anderson, 2019). The correlation coefficients range between -1 and +1, where values close to +1 indicate a strong positive relationship, values close to -1 indicate a strong negative relationship, and values near zero indicate a weak relationship (Field, 2018).

Table 3 Correlation Matrix

Variable	XM	FUEL	FOOD	ORES	INSUR	ICT	EXC	INF	FDI
XM	1.0000								
FUEL	-0.4186	1.0000							
FOOD	-0.0070	-0.1782	1.0000						
ORES	-0.2013	0.4244	0.0397	1.0000					

INSUR	0.0508	0.2384	-0.0988	0.0183	1.0000				
ICT	0.2037	0.1780	-0.3072	0.1631	-0.0442	1.0000			
EXC	-0.1301	0.1597	-0.0804	0.1724	-0.0563	0.0458	1.0000		
INF	-0.4357	0.5999	-0.1605	0.2168	-0.1655	-0.0643	0.4129	1.0000	
FDI	-0.2852	0.5208	0.1914	0.0988	0.0508	0.1371	-0.1443	0.4456	1.0000

Source: Author’s Compilation

The results indicate the presence of weak to moderate correlations among the explanatory variables. External sector stability (XM) exhibited moderate negative relationships with fuel exports (FUEL), inflation (INF), and foreign direct investment (FDI), while weak positive relationships were observed with insurance services exports (INSUR) and ICT exports (ICT). Fuel exports were moderately positively correlated with inflation and FDI, whereas most other variables showed relatively weak associations. None of the

correlation coefficients exceeded the threshold of 0.80, suggesting the absence of severe multicollinearity. Therefore, all variables were considered suitable for inclusion in the econometric model (Cohen, 1988).

Table 4 below presents the Variance Inflation Factor (VIF) results used to assess the presence of multicollinearity among the explanatory variables in the regression model (Alam & Singla, 2024).

Table 4 Variance Inflation Factor Test Results

Variable	VIF	I/VIF
dINF	3.22	0.310767
fuel	2.81	0.355416
dFDI	2.31	0.432801
dEXC	1.59	0.628016
dFOOD	1.59	0.628050
dICT	1.49	0.669061
dINSUR	1.40	0.715505
ores	1.36	0.734075
Mean VIF	1.97	

Source: Author’s Compilation

All variables had VIF values below the commonly accepted threshold of 10, with values ranging from 1.36 to 3.22 and a mean VIF of 1.97. This suggests that multicollinearity was not a serious problem in the model. Among the variables, inflation (dINF) recorded the highest VIF value of 3.22, followed by fuel exports (fuel) with 2.81 and FDI (dFDI) with 2.31. However, these values remain well below critical levels, implying that the explanatory variables were not highly correlated with one another (Alam & Singla,

2024). Therefore, all variables were retained for further econometric analysis (Field, 2018; Wooldridge, 2020).

Table 5 presents the lag length selection criteria used to determine the optimal lag structure for the ARDL model (Alam & Singla, 2024). The selection was based on several information criteria, including the Akaike Information Criterion (AIC), Hannan-Quinn Information Criterion (HQIC), Final Prediction Error (FPE), and the Likelihood Ratio (LR) test (Schober, Boer, & Schwarte, 2018).

Table 5 Lag Order Selection Criteria for ARDL Model

Lag	LL	LR	df	p	FPE	AIC	HQIC	INF
0	-1672.79		81		3.4e+24	82.0386	82.1756	82.4148
1	-1559.55	226.49	81	0.000	7.8e+23	80.4658	81.8355	84.2273
2	-1406.84	305.42	81	0.000	4.3e+22	76.9677	79.5701	84.1145
3	-359.284	2095.1*	81	0.000	1104.97	29.8187*	33.654*	40.3509*
4	.	.	81		-2.e-146*	.		

Source: Author’s Compilation

The results indicate that lag 3 was selected as the optimal lag length because it recorded the lowest AIC value (29.8187), lowest HQIC value (33.6540), and lowest FPE value (1104.97). In addition, the LR statistic at lag 3 was statistically significant. The asterisks (*) further confirm that most of the selection criteria favored lag 3. Therefore, lag 3 was adopted for the ARDL estimation since it provides the

best balance between model fit and parsimony (Schober, Boer, & Schwarte, 2018).

The Bounds test for cointegration was conducted to ascertain the existence of a long-run relationship among the study variables as shown in Table 6 below (Turney, 2024).

Table 6 Bounds Test for Cointegration

F-statistic	3.320	K = 8
Critical value bounds		
Significance	I(0) Bound	I(1) Bound
10%	2.184	3.493
5%	2.595	4.067
1%	3.577	5.429

Source: Author’s Compilation from Stata Output Based on Pesaran, Shin, and Smith (2001) and Kripfganz and Schneider (2020) Critical Values.

The computed F-statistic of 3.320 is greater than the lower bound critical values at the 10% and 5% significance levels but lower than the corresponding upper bound critical values. This implies that the Bounds test results are inconclusive regarding the existence of a long-run relationship among the variables (Kripfganz & Schneider, 2020). Therefore, the null hypothesis of no level relationship cannot be conclusively rejected. However, the relatively high F-statistic suggests some evidence of long-run association among the variables, although not strong enough to confirm

cointegration at conventional significance levels (Pesaran, Shin, & Smith, 2001; Wisniewski & Brannan, 2024).

Based on the unit root test results and the existence of a long-run relationship among the variables, the study estimated an Auto-Regressive Distributed Lag (ARDL) model to examine the effect of export composition on external sector stability in Uganda as illustrated in Table 7 below.

Table 7 The ARDL Regression Estimates

Agpdcvty	Coef.		P-value	Sig
Long-run Estimates				
FUEL	-0.4016407		0.000	***
FOOD	0.0402773		0.032	**
ORES	-0.7348314		0.295	
INSUR	0.2651884		0.645	
ICT	-0.0031168		0.993	
Short-run Estimates				
FUEL	-0.2729964		0.000	***
FOOD	0.0273773		0.002	**
ORES	-0.4995178		0.295	
INSUR	0.1802707		0.645	
ICT	-0.0021186		0.993	
ECT	-0.6797451		0.000	***

Source: Author’s Compilation *** $p < .01$, ** $p < .05$, * $p < .1$

The results in Table 7 show that, in the long run, fuel exports have a statistically significant negative effect on external sector stability ($\beta = -0.4016$, $P = 0.000$), implying that higher dependence on fuel exports tends to weaken external sector stability over time. Similarly, food exports exhibit a statistically significant positive effect ($\beta = 0.0403$, $P = 0.032$), suggesting that increased food exports contribute to improved external sector stability, likely due to their role in enhancing export earnings and reducing external imbalances. In contrast, ores and metals, insurance and financial services, and ICT goods exports are statistically insignificant, indicating that their long-run effects on external sector stability are not strong enough to be distinguished from zero within the study period.

In the short run, the results remain broadly consistent. Fuel exports continue to exert a significant negative effect ($\beta = -0.2730$, $P = 0.000$), while food exports maintain a positive

and significant influence ($\beta = 0.0274$, $P = 0.002$), reinforcing their stabilising role even in the short term. The remaining export categories (ores and metals, insurance and financial services, and ICT goods) remain statistically insignificant, suggesting limited immediate impact on external sector stability. The Error Correction Term (ECT) is negative and statistically significant ($\beta = -0.6797$, $P = 0.000$), confirming the existence of a stable long-run equilibrium relationship among the variables. The magnitude of the ECT indicates a relatively fast adjustment speed, meaning that about 67.9% of any short-run disequilibrium in external sector stability is corrected within one year, highlighting strong convergence toward long-run equilibrium

Table 8 presents the results of the Breusch-Godfrey test for autocorrelation used to examine whether serial correlation existed in the residuals of the estimated model.

Table 8 Breusch-Godfrey Test for Autocorrelation

Chi2	Prob>chi2
0.379	0.5384

Source: Author’s Compilation

The results indicate a chi-square statistic of 0.379 with a P value of 0.5384, which is greater than the 5% significance level. This implies that the residuals were free from serial correlation, suggesting that the model was correctly specified and the estimated coefficients were reliable for inference (Nkoro & Uko, 2016).

Table 9 presents the results of the Breusch–Pagan test for heteroskedasticity, which was conducted to assess whether the variance of the residuals was constant across observations. The null hypothesis of the test states that the error terms are homoscedastic.

Table 9 Breusch–Pagan Test for Heteroscedasticity

Chi2(1)	P-value
3.38	0.0660

Source: Author’s Compilation

The results show a chi-square value of 3.38 with a P-value of 0.0660. Since the P-value is greater than the 5% significance level, the null hypothesis cannot be rejected. This implies that there is no strong evidence of heteroskedasticity in the model, and the residuals are approximately

homoskedastic. Therefore, the estimated coefficients are efficient and suitable for inference (Wooldridge, 2020).

Table 10 below presents the results of the Jarque–Bera test for normality used to assess whether the residuals of the estimated model are normally distributed (Lütkepohl, 2022).

Table 10 Jarque–Bera Test for Normality

Variable	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Resid	0.0009	0.0111	13.75	0.0710

Source: Author’s Compilation

The results show that the adjusted chi-square statistic is 13.75 with a P- value of 0.0710. Since the P-value is greater than the 5% significance level, the null hypothesis of normality cannot be rejected. This implies that the residuals are approximately normally distributed, indicating that the

model satisfies the normality assumption required for valid statistical inference (Enders, 2022).

Table 11 below presents the results of the Ramsey RESET test used to ascertain whether the econometric model is correctly specified.

Table 11 Ramsey RESET Test for Model Specification

F	P-value
2.40	0.0857

Source: Author’s Compilation

The results show an F-statistic of 2.40 with a P-value of 0.0857. Since the P-value is greater than the 5% significance level, the null hypothesis cannot be rejected. This implies that there is no strong evidence of model misspecification, suggesting that the functional form of the model is appropriate and that no important variables were omitted (Jordan & Philips, 2018).

The CUSUM of squares test was used to ascertain if the estimated model parameters were generally stable over the study period as illustrated in Figure 1 below.

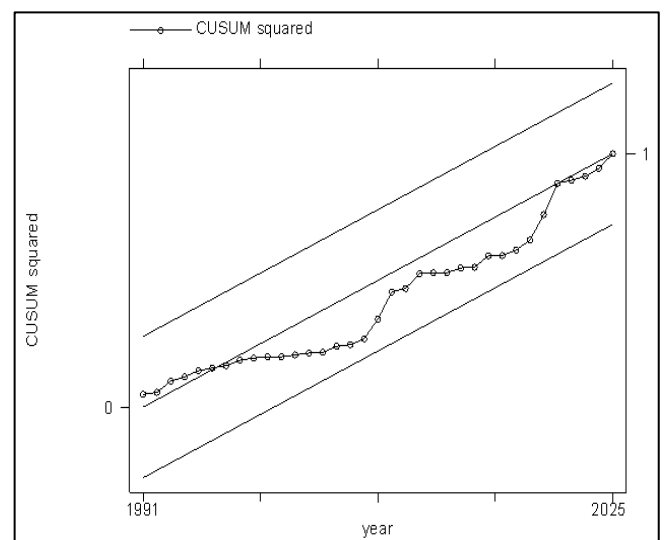


Fig 1 CUSUM Squared Test for Parameter Stability

The CUSUM of squares plot indicates that the model parameters remain stable over the study period, as the cumulative sum of squared residuals remains within the 5% critical bounds. Although there is a gradual upward trend toward the end of the sample period, the test does not show any structural break, implying that the model is stable and reliable for inference (Hassler & Wolters, 2021).

III. DISCUSSION OF RESULTS

➤ *Fuel Exports and External Sector Stability:*

Fuel exports were found to exert a statistically significant negative effect on external sector stability in both the short and long run. Ideally, this suggests that Uganda's reliance on fuel exports may be associated with greater external vulnerability, potentially due to price volatility in global energy markets, limited value addition, and a narrow export base. This is consistent with dependency theory, which argues that economies heavily reliant on primary or externally determined commodities are more exposed to external shocks and structural imbalances (Prebisch, 1950; Frank, 1967). It also aligns with BoP theory, which emphasizes that export concentration in volatile commodities can undermine long-term external stability by increasing fluctuations in foreign exchange earnings (Krugman & Obstfeld, 2018).

Empirically, this result is supported by evidence from developing economies where fuel or oil-related exports have been linked to external instability due to global price swings and demand uncertainty. For example, Arezki and Brückner (2012) show that commodity price volatility significantly affects external balances in resource-dependent economies, while Sachs and Warner (2001) highlight how overreliance on primary commodities can weaken macroeconomic stability over time. In Uganda's context, this may reflect limited downstream processing of fuel-related exports and exposure to imported fuel price transmission effects, which reduce the stabilizing capacity of the external sector (BoU, 2023). However, some studies argue that in economies with strong stabilization funds and diversified fiscal buffers, fuel exports can enhance external stability by generating large foreign exchange inflows (Van der Ploeg, 2011). The divergence suggests that the effect of fuel exports is highly conditional on macroeconomic management and diversification strategies (Sachs & Warner, 2001; Arezki & Brückner, 2012).

➤ *Food Exports and External Sector Stability:*

Food exports were found to have a statistically significant positive effect on external sector stability in both the short and long run. Ideally, this implies that increasing Uganda's food export capacity strengthens the external sector by generating stable foreign exchange earnings, improving trade balances, and reducing reliance on external borrowing. This result is consistent with structural transformation theory, which emphasizes the role of agricultural commercialization in supporting external balance and economic diversification (Lewis, 1954; Timmer, 2009). It also aligns with export-led growth theory, which posits that expanding export-oriented production enhances macroeconomic stability through improved foreign exchange availability (Balassa, 1978).

Empirical literature strongly supports this finding. In Sub-Saharan Africa, agricultural export diversification has been shown to improve external resilience by reducing exposure to single-commodity shocks (FAO, 2022; World Bank, 2022). In Uganda specifically, UCDA (2021) reports that food-related exports, particularly coffee and horticultural products, have consistently contributed to foreign exchange inflows and helped stabilize the current account. Similarly, Nyoro & Ndirangu (2018) find that countries with diversified agricultural export baskets tend to experience more stable external positions. However, some studies caution that overdependence on food exports can still expose economies to climate risks, price fluctuations, and supply shocks (Barrett, Reardon, Swinnen, & Zilberman, 2017). This suggests that while food exports are stabilizing, their long-term effectiveness depends on productivity improvements, value addition, and climate resilience strategies (Nyoro & Ndirangu, 2018).

➤ *Ores and Metals Exports and External Sector Stability:*

Ores and metals exports were found to have a statistically insignificant effect on external sector stability in both the short and long run. Ideally, this suggests that the contribution of mineral exports to Uganda's external position is not strong enough to produce a measurable stabilizing or destabilizing effect during the study period. From a theoretical perspective, this may reflect weak integration of the mining sector into the broader export structure, consistent with enclave economy theory, which argues that extractive sectors often operate with limited linkages to the domestic economy (Auty, 1993).

Empirically, the insignificance aligns with findings that mineral-exporting developing economies often fail to translate resource wealth into macroeconomic stability due to limited value addition and export concentration risks (Humphreys, Sachs, & Stiglitz, 2007). In Uganda, the mining sector remains underdeveloped relative to agriculture, with limited processing and export diversification (MEMD, 2022). However, contrasting evidence from resource-rich economies suggests that well-managed mineral exports can significantly strengthen external stability through forex accumulation and sovereign wealth funds (Collier & Venables, 2011). The insignificant effect in this study therefore likely reflects Uganda's current stage of mineral sector development rather than the inherent potential of ores and metals exports.

➤ *Insurance and Financial Services Exports and External Sector Stability:*

Insurance and financial services exports were found to have a statistically insignificant effect on external sector stability in both the short and long run. This suggests that Uganda's financial service export sector is not yet large or competitive enough to meaningfully influence external sector performance. From a theoretical standpoint, this aligns with services-led trade theory, which emphasizes that financial services contribute to external stability only when economies achieve sufficient financial deepening and cross-border integration (Goldsmith, 1969; Levine, 2005).

Empirical evidence indicates that in many developing economies, financial services exports remain too small to generate measurable macroeconomic effects compared to goods exports (UNCTAD, 2022). In Uganda, the financial sector is still largely domestically oriented, with limited international insurance and banking service exports (BoU, 2023). However, in more advanced economies, financial services exports are a major source of stable forex earnings and external balance support (Milesi-Ferretti & Lane, 2011). The insignificance reflects structural limitations in Uganda's financial services export capacity rather than theoretical irrelevance.

➤ *ICT Goods Exports and External Sector Stability:*

ICT goods exports were also found to be statistically insignificant in both the short and long run. This suggests that ICT goods exports have not yet reached a scale sufficient to influence Uganda's external sector stability. From a theoretical perspective, this aligns with endogenous growth theory, which argues that ICT-driven export gains depend on technological absorption capacity, infrastructure, and human capital development (Romer, 1990; Aghion & Howitt, 2009).

Empirical evidence from developing economies shows that ICT exports significantly contribute to external stability only when countries achieve scale, competitiveness, and integration into global value chains (World Bank, 2023). In Uganda, ICT goods exports remain limited compared to services and traditional commodities, which may explain the lack of statistical significance (NITA-U, 2023). However, studies from emerging Asian economies show that ICT exports can become a major stabilizing force once structural investments in innovation ecosystems are sustained (UNCTAD, 2021). This implies that Uganda's ICT export sector may have future potential, but its current impact remains marginal.

IV. CONCLUSION

The study shows that export composition plays a differentiated role in shaping external sector stability in Uganda. Fuel exports negatively affect external stability, highlighting the risks associated with dependence on volatile and low value-added commodities. In contrast, food exports contribute positively to stability, underscoring the importance of agricultural export development in supporting Uganda's external position. Ores and metals, insurance and financial services, and ICT goods exports were found to be statistically insignificant, suggesting that these sectors currently lack sufficient scale or integration to influence external sector outcomes meaningfully.

The Study made the following Policy Recommendations: Strengthen and expand food export competitiveness: Given the positive role of food exports, Uganda should invest in agricultural commercialization, quality standards, and agro-processing to enhance export earnings. Improving logistics, certification systems, and market access will help sustain the stabilizing effect of food exports on the external sector.

➤ *Develop Mineral, ICT, and Financial Service Export Capacity:*

The government should promote investment in mining value addition, digital infrastructure, and financial sector internationalization. This includes supporting ICT innovation hubs, expanding cross-border financial services, and improving regulatory frameworks to enhance competitiveness in these underperforming export categories, thereby increasing their future contribution to external sector stability.

➤ *Areas for Further Research/Inquiry:*

While this study offers important insights into the differential effects of export composition on Uganda's external sector stability, it opens several avenues for future inquiry. Subsequent studies could employ higher-frequency (quarterly or monthly) data, or adopt non-linear models such as NARDL and quantile regression to examine asymmetric effects. Comparative analyses across East African Community countries would provide valuable regional context, and finally, impact evaluations of specific export diversification policies using advanced techniques would offer stronger policy guidance for enhancing external sector resilience in Uganda and similar developing economies.

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