

Macroeconomic Determinants of Trade Openness in Mauritania: Empirical Study during the period (1991-2020)

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Abstract:

This study examines the macroeconomic determinants of trade openness in Mauritania during the period 1991–2020 using the ARDL model. Annual data from the World Bank and the National Office of Statistics are used to analyze the short-run and long-run relationships among the variables. However, much of the empirical literature has focused solely on the relationship between it and economic growth, rather than on its determinants.

The results confirm the existence of a long-run equilibrium relationship between trade openness and its macroeconomic determinants. Foreign direct investment and financial development have positive and significant effects on trade openness, while inflation, market size, and labor force negatively influence it. The error correction mechanism confirms the gradual adjustment toward long-run equilibrium, with diagnostic tests validating the stability and reliability of the model. The study recommends promoting FDI, strengthening financial development, improving infrastructure, and maintaining macroeconomic stability to enhance Mauritania's trade openness.

Keywords Trade openness, Macroeconomics, determinants, Mauritania.

Classification JEL: F1 F13 E6 F11

Paper type: Empirical Research

1. Introduction

The topic of trade openness as an engine of growth has been studied and analyzed since the work of classical economists, as Adam Smith (1776) showed that trade openness positively affects growth by expanding the scope of market size and creating opportunities to benefit from increased returns on scale through the distribution of labor and specialization. In this context, benefiting from trade openness for a country requires attention to the production of goods in which it has an absolute advantage.

While Ricardo (1772-1823) showed that differences in production techniques create a kind of specialization for a country in the production of goods in which it has a comparative advantage, regardless of increasing the returns on its production, thus limiting it to fixed returns for each production process (Ricardo, 1817).

Thus, it is generally agreed among classical economists that the benefits of trade openness are determined by each country's specialization in producing its least expensive commodity compared to the rest of the world. According to Samuel Wilson's theory, Trade liberalization increases the real income of the abundant factor and decreases that of the scarce factor (Samuelson 1941). Meaning that a price differential of the factors of production (labor and capital) is the primary determinant of trade openness, justifying the positive relationship between commodity prices and the prices of the factors used in their production.

Others believe that the reasons for trade liberalization between countries with similar factors of production lie primarily in the increasing improvement of returns and imperfect competition (Krugman, 1979; Helpman & Krugman, 1985).

This idea stems from the close link between cognitive and technological development and the gains achieved through trade openness.

Based on these theoretical foundations, many researchers have addressed the topic of trade openness through a series of empirical studies to verify the validity of these approaches.

In this context, Dollar (1992), Sachs and Warner (1995), Harrison (1995), Edwards (1998), Frankel and Romer (1999), Ezeani (2013), Tahir and Khan (2014), and Tahir and Azid (2015) all agreed on the existence of a positive relationship between trade openness and economic growth, while others (such as Rodriguez and Rodrick (2000) and Fiestas (2005)) expressed reservations about the existence of this relationship at all.

On the other hand, Andersen and Babula (2009) doubted the ability of developing countries to achieve growth through their trade openness.

Existing empirical studies have primarily focused on the relationship between trade openness and economic growth, while giving comparatively little attention to the influence of macroeconomic variables on trade openness.

However, some researchers have addressed the topic by relying on panel data :Naz and al (2023) aim to examine the macroeconomic determinants of trade openness in developing countries using panel data covering the period from 1996 to 2020, The empirical findings indicate that GDP growth (GDPG) and foreign direct investment (FDI) have positive and statistically significant effects on trade openness. In contrast, political stability (PSI), control of corruption (CC), lending interest rates (LIR), and population (Pop) are found to exert negative effects on trade openness. While Guttmann and Richards (2006) examined the determinants of trade openness in Australia and concluded that the country's relatively low level of trade openness is largely attributable to its vast geographic size and its considerable distance from major global markets.

It is worth noting here that this topic has not been exhaustively researched, particularly regarding the use of time-series data (case study). This lends significance to the case study of Mauritania.

Mauritania's trade openness index experienced significant fluctuations between 1991 and 2020, reaching its highest value in 2013 and its lowest in 1992. To understand the reasons for these fluctuations, this raises the question of the macroeconomic determinants of trade openness in Mauritania, with the aim of reaching certain conclusions and reinvigorating the discussion on the subject.

this paper focuses on the macroeconomic determinants of trade openness in Mauritania during the period 1991 to 2020, comprising the following sections after Introduction: Literature Review, Research Methodology, Results and discussion, and Conclusion.

2. Literature Review

Naz and al (2023) aim to examine the macroeconomic determinants of trade openness in developing countries using panel data covering the period from 1996 to 2020. Given the unbalanced nature of the panel dataset, the Im–Pesaran unit root test is employed to assess the stationarity of the variables and fixed effects and random effects have been used. The empirical findings indicate that GDP growth (GDPG) and foreign direct investment (FDI) have positive and statistically significant effects on trade openness. In contrast, political stability (PSI), control of corruption (CC), lending interest rates (LIR), and population (Pop) are found to exert negative effects on trade openness. The results further suggest that GDP growth and FDI play a crucial role in enhancing trade openness and stimulating economic performance in developing countries. Accordingly, the study recommends that governments pursue trade liberalization policies and promote FDI inflows to achieve their economic development objectives.

Ngouhouo and al, (2021), examine the determinants of trade openness in Sub-Saharan African (SSA) countries, with particular emphasis on the role of domestic institutions. To achieve this objective, the Generalized Method of Moments (GMM) estimator is applied to panel data from 36 SSA countries covering the period 1996–2017. The estimation results indicate that domestic institutions, measured as a composite index, significantly promote trade openness, which is measured using the composite trade openness index developed by Squalli and Wilson (2011). Furthermore, government effectiveness, regulatory quality, and the rule of law each exert a positive and significant influence on trade openness.

In addition, access to the sea, foreign direct investment (FDI), and the one-period lag of trade openness are found to be positive and statistically significant determinants of trade openness. As a robustness check, trade share is used as an alternative measure of trade openness. Under this specification, inflation and population growth also emerge as significant determinants of trade openness, while GDP per capita has a positive and significant effect on trade openness. These findings remain robust when alternative measures of institutional quality are employed but are somewhat sensitive to the selection of countries and sample periods. The policy implications of the study suggest that SSA governments should prioritize strengthening the quality of domestic institutions when designing and implementing international trade policies. Puntoun and al, (2020) investigate the effects of macroeconomic factors on trade openness using panel regression with heterogeneous time trends to examine the causal relationship between macroeconomic variables and trade openness. The analysis is based on a panel of 85 countries covering the period from 1990 to 2017. The sample is divided into three sub-panels according to per capita income classifications: low-income, middle-income, and high-income countries. Several panel regression models are evaluated, with the time fixed-effects model identified as the most appropriate specification for all income groups. The findings indicate that GDP per capita has a consistently positive and significant effect on trade openness across all income categories.

Mbogela (2019) examined the determinants of trade openness in African countries during the period (1989-2009), used fixed effect model and found that population size, per capita income, and geographic location are the primary factors promoting trade openness.

From a country-specific perspective, Tahir et al. (2018) investigated the influence of macroeconomic variables on trade openness in the South Asian Association for Regional Cooperation (SAARC) region during the period (1971-2011) and applied the Techniques and two Stages Least Square method (TSLS). Their findings showed that investments in both physical and human capital, together with GDP per capita, positively influence trade openness. In contrast, labor force size and the exchange rate were found to exert negative effects.

In a related study, Tahir et al. (2016) recommended that policymakers in the SAARC region pursue greater trade openness to support sustained long-term economic growth. Likewise, Guesmi and Teulon (2014) provided empirical evidence that trade openness, economic growth, exchange rates, and economic instability have significant long-run effects on foreign direct investment (FDI) inflows in SAARC countries. Similarly, Srinivasan et al. (2011) found a long-run bidirectional causal relationship between GDP and FDI across SAARC economies, with the exception of India.

Finally, Guttmann and Richards (2006) examined the determinants of trade openness in Australia and concluded that the country's relatively low level of trade openness is largely attributable to its vast geographic size and its considerable distance from major global markets. On the basis of results of previous empirical studies, the following hypotheses can be formulated:

The First hypotheses: There is a significant effect of foreign direct investment and market size on trade openness in Mauritania

The Second hypotheses: There is a significant effect of labor force and infrastructure on trade openness in Mauritania

The Third hypotheses: There is a significant effect of inflation and financial development on trade openness in Mauritania

3. Research Methodology

To test the validity of the aforementioned hypotheses, it is necessary to define the variables included in the study and examine their order of stationarity. This step is essential to avoid spurious results and ensure the reliability of the estimated model. The procedures adopted for this purpose are presented in the following sections.

3.1.Data base

Annual time-series data were selected based on data quality and availability. Accordingly, data obtained from the World Bank and the National Office of Statistics for the period 1991–2020 were used, as presented in the following table.

Table 1 Data Base and its resources

Variable	Proxy	Code	Resource
Trade openness	Total exports and imports as a percentage of the gross domestic product	OP	World bank database (1991-2020)
Market Size	growth rate	CR	World bank database (1991-2020)
Foreign Direct Investment	Foreign direct investment inflows as a percentage of the gross domestic product	FDI	World bank database (1991-2020)
Infrastructure	public spending as a percentage of the gross domestic product	DP	World bank database (1991-2020)
Inflation	Inflation Rate	INF	World bank database (1991-2020)
Labor force	Enrollment rate in secondary education	LF	national statistics office database (1991-2020)
Financial development	money supply as a percentage of the gross domestic product	M2	World bank database (1991-2020)

Source: world Bank and National office of statistic (1991-2020)

3.2. Model Specification

This study employs the Autoregressive Distributed Lag (ARDL) approach developed by Pesaran. (2015), after confirming that all of its underlying assumptions are satisfied. The ARDL methodology is used to examine both the short-run and long-run relationships among the variables and to identify the key macroeconomic determinants of trade openness in Mauritania over the period 1991–2020. Accordingly, the following model is estimated:

$$ARDL(P, q_1, q_2, q_3, q_4, q_5, q_6) : \\ OP_t = \alpha_0 + \sum_{j=1}^p \lambda_j OP_{t-j} + \sum_{i=0}^{q_2} \beta_{2i} FDI_{t-i} + \sum_{i=0}^{q_3} \beta_{3i} DP_{t-i} + \sum_{i=0}^{q_4} \beta_{4i} CR_{t-i} + \sum_{i=0}^{q_5} \beta_{5i} INF_{t-i} + \sum_{i=0}^{q_6} \beta_{6i} LF_{t-i} + \sum_{i=0}^{q_7} \beta_{7i} M2_{t-i} + E_t$$

where (p) denotes the optimal lag length of the dependent variable (OP), while ($q_1, q_2, q_3, q_4, q_5, q_6$) denote the optimal lag lengths of the independent variables (FDI, DP, CR, INF, LF, M2). Furthermore, (α_0) represents the constant term and (E_t) denotes the error term

4. Results and discussion

The estimation of the ARDL model requires the analysis of several diagnostic and specification tests, which are discussed below.

4.1. Descriptive Statistic, correlation and Stationarity Tests

Before estimating the ARDL model, it is necessary to verify that the required assumptions are satisfied by conducting a series of preliminary tests.

- **Statistic Descriptive**

Table 2 Statistic Descriptive

	OP	FDI	DP	CR	INF	LF	M2
Mean	76.00224	5.436103	24.75358	3.288723	5.302714	27.30109	24.73183
Median	81.64936	3.866886	24.84542	3.911996	4.698101	25.70465	25.73000
Maximum	110.7881	27.65204	38.22335	18.33320	12.12565	49.81000	35.42909
Minimum	42.32792	-11.19897	14.44496	-4.044697	1.486007	14.09297	14.17000
Std. Dev.	18.64028	7.529122	5.689282	4.556540	2.666505	9.925347	5.764448
Skewness	-0.180612	0.940911	-0.010359	0.927871	0.852797	0.485141	-0.104841
Kurtosis	1.881534	4.579151	2.774858	5.251147	3.076004	2.230903	2.032800
Jarque-Bera	1.726812	7.543714	0.063898	10.63931	3.643534	1.916196	1.224304
Probability	0.421723	0.023009	0.968556	0.004884	0.161740	0.383622	0.542183
Sum	2280.067	163.0831	742.6074	98.66170	159.0814	819.0327	741.9548
Sum Sq. Dev.	10076.34	1643.943	938.6700	6020996	206.1972	2856.863	963.6369
Observations	30	30	30	30	30	30	30

Source: Eviews2012 results

The table above presents the descriptive statistics of the variables used in the study, including measures of central tendency, measures of dispersion, as well as the skewness and kurtosis coefficients.

- **Correlation test**

Table 3 Correlation Matrix

	FDI	CR	DP	OP	INF	LF	M2
FDI	1						
CR	0.18	1					
DP	0.45	0.19	1				
OP	0.49	0.18	0.28	1			
INF	0.53	0.33	0.06	0.18	1		
LF	0.16	0.06	0.01	-0.08	-0.18	1	
M2	0.19	-0.05	0.33	-0.14	0.10	0.20	1

Source: Eviews2012 result

As shown in the previous table, the correlation coefficients among the explanatory variables do not exceed 0.53, indicating the absence of a strong correlation and suggesting that multi-collinearity is not a concern in the model.

- **Stationarity test**

Table 4 Stationarity test

Variable	Probability at level I(0)			Probability at first difference I(1)			Stationarity level
	I	IT	N	I	IT	N	
Trade openness	0.5517	0.4863	0.7740	0.0010	0.0050	0.0001	I(1)
Economic growth rate	0.0008	0.0020	0.0003	-	-	-	I(0)
Infrastructure	0.5861	0.7420	0.2042	0.0000	0.0016	0.0006	I(1)
Inflation Rate	0.0004	0.0396	0.0083	-	-	-	I(0)
labor force	0.0294	0.3006	0.2314	0.0001	0.0030	0.0157	I(1)
Financial development	0.0005	0.0089	0.0255				I(0)

Source: Eviews2012 result

The unit root test results indicate that the variables INF, M2, FDI, and CR are stationary at levels, I (0), whereas the variables DP, OP, and LF become stationary after first differencing, I(1). Since none of the variables is integrated of order two, I (2), the use of the Autoregressive Distributed Lag (ARDL) approach is appropriate.

4.2. Estimation and Quality Model

After confirming that the assumptions required for applying the ARDL model are satisfied, the model is estimated to examine the nature of the relationships among the variables and to assess the reliability of the estimated results through the following analyses.

Table 5 Model Estimation

Dependent Variable: OP				
Selected Model: ARDL(1, 3, 2, 3, 2, 2, 3)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
OP(-1)	0.839383	0.060513	13.87109	0.0002
CR	-0.532348	0.230138	-2.313166	0.0817
CR(-1)	-2.406179	0.298802	-8.052751	0.0013
CR(-2)	-0.638229	0.250521	-2.547610	0.0635
CR(-3)	-1.101311	0.150718	-7.307076	0.0019
FDI	1.080566	0.212631	5.081892	0.0071
FDI(-1)	-0.529383	0.140843	-3.758685	0.0198
FDI(-2)	0.944462	0.279033	3.384773	0.0277
DP	-0.848629	0.245631	-3.454887	0.0259
DP(-1)	1.856296	0.309646	5.994905	0.0039
DP(-2)	-1.506692	0.234605	-6.422246	0.0030
DP(-3)	0.229116	0.338357	0.677142	0.5355
INFT	0.080436	0.762006	0.105559	0.9210
INFT(-1)	0.145623	0.398680	0.365262	0.7334
INFT(-2)	0.883829	0.542588	1.628912	0.1787
LFT	-1.378853	0.253828	-5.432244	0.0056
LFT(-1)	0.357371	0.373564	0.956652	0.3929
LFT(-2)	0.558589	0.350958	1.591610	0.1867
M2T	0.034597	0.401884	0.086088	0.9355
M2T(-1)	-1.400853	0.316325	-4.428522	0.0114
M2T(-2)	1.240632	0.244562	5.072878	0.0071
M2T(-3)	2.543997	0.341648	7.446253	0.0017
C	27.10525	7.985419	3.394342	0.0274

Source: Eviews2012 result

The estimation results indicate that the first lag of economic openness has a positive and statistically significant effect on economic openness in Mauritania over the period 1991–2020. The first and third lags of market size exert a statistically significant negative effect on trade openness, this result differed from the findings reached by both Naz and al (2023), Ngouhouo and al, (2021), Puntoun and al, (2020) and Tahir et al. (2018), This can be explained by the fact that increased economic growth may lead to higher incomes, thereby boosting the purchase of domestically produced consumer goods and reducing imports from abroad.. Foreign direct investment and its second lag have a positive and statistically significant impact on trade openness, whereas the first lag of foreign direct investment has a statistically significant negative effect. this result agreed from the findings reached by both Naz and al (2023) and Ngouhouo and al, (2021). Infrastructure and its second lag have statistically significant negative effects on trade openness, while the first lag of infrastructure has a statistically significant positive effect. Furthermore, the labor force has a statistically significant negative impact on trade openness. The first lag of financial development also has a statistically significant negative effect on trade openness, whereas the second and third lags of financial development exert positive effects.

Table 6 Model Quality

R-squared	0.998653	Mean dependent var	79.10541
Adjusted R-squared	0.991245	S.D. dependent var	16.84701
S.E. of regression	1.576357	Akaike info criterion	3.542271
Sum squared resid	9.939600	Schwarz criterion	4.646132
Log likelihood	-24.82065	Hannan-Quinn criter.	3.870506
F-statistic	134.8038	Durbin-Watson stat	2.790327
Prob(F-statistic)	0.000119		

Source: Eviews2012 result

The results presented in the table below show that the coefficient of determination (R-squared) and the adjusted coefficient of determination (Adjusted R-squared) are 0.998653 and 0.991245, respectively. These values are very close to one, indicating that the model explains a substantial proportion of the variation in the dependent variable. In addition, the probability value of the Fisher statistic is 0.000119, confirming the overall significance and strong explanatory power of the model at the 1% significance level. Furthermore, the Durbin–Watson (DW) statistic is 2.790327, suggesting the absence of autocorrelation among the model errors.

4.3. Diagnostic Coefficients

Table 7 ARDL Long Run Form

ARDL Long Run Form and Bounds Test				
Dependent Variable: D(OP)				
Selected Model: ARDL(1, 3, 2, 3, 2, 2, 3)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CR	-29.12565	14.33614	-2.031624	0.1120
FDI	9.311887	1.888793	4.930074	0.0079
DP	-1.680453	1.654728	-1.015547	0.3673
INFT	6.910166	11.01544	0.627316	0.5645
LFT	-2.881980	3.873094	-0.744103	0.4982
M2T	15.05679	4.973519	3.027392	0.0389
C	168.7573	53.01212	3.183372	0.0334

Source: Eviews2012 result

The estimation results indicate that foreign direct investment and financial development both exert a positive and statistically significant effect on trade openness.

The results of the Fisher Bounds Test, presented in the table above, support the rejection of the null hypothesis of no long-run relationship. The calculated F-statistic is 31.85953, which

exceeds the upper critical bound value of 3.99 at the 1% significance level. This finding confirms the existence of a long-run equilibrium relationship between the selected determinants and trade openness in Mauritania over the period 1991–2020

Table 8 Bounds Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	31.85953	10%	1.99	2.94
K	6	5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

Source: EvIEWS2012 result

Table Short-Run relationship and ECM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CR)	-0.532348	0.075664	-7.035731	0.0022
D(CR(-1))	1.739540	0.076561	22.72105	0.0000
D(CR(-2))	1.101311	0.054741	20.11868	0.0000
D(FDI)	1.080566	0.045838	23.57374	0.0000
D(FDI(-1))	-0.944462	0.061548	-15.34509	0.0001
D(DP)	-0.848629	0.084900	-9.995627	0.0006
D(DP(-1))	1.277576	0.076542	16.69110	0.0001
D(DP(-2))	-0.229116	0.080005	-2.863771	0.0458
D(INFT)	0.080436	0.169057	0.475795	0.6590
D(INFT(-1))	-0.883829	0.145980	-6.054460	0.0038
D(LFT)	-1.378853	0.079410	-17.36379	0.0001
D(LFT(-1))	-0.558589	0.083884	-6.659079	0.0026
D(M2T)	0.034597	0.105435	0.328138	0.7593
D(M2T(-1))	-3.784629	0.120788	-31.33275	0.0000
D(M2T(-2))	-2.543997	0.152100	-16.72582	0.0001
CointEq(-1)*	-0.160617	0.006067	-26.47470	0.0000

Source: EvIEWS2012 result

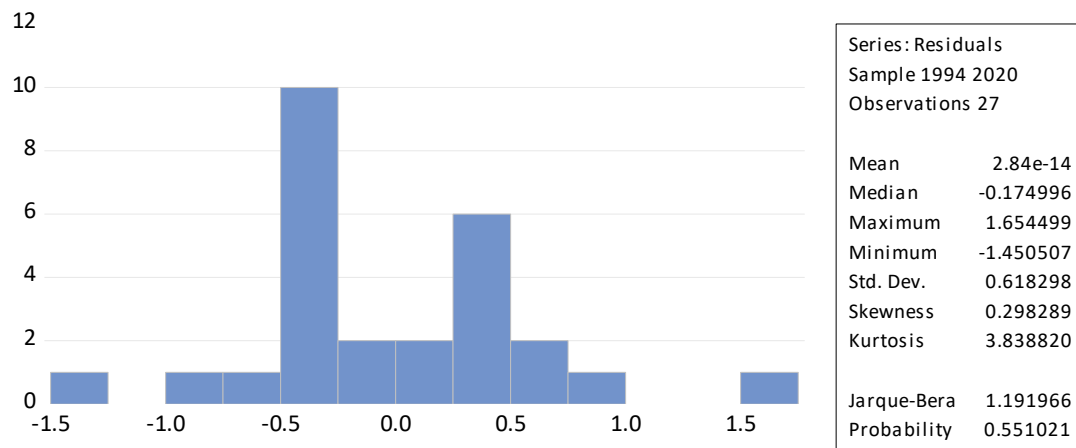
The short-run estimation results reveal that market size has a statistically significant negative effect on trade openness, while its first and second lagged values also exert negative effects. Foreign direct investment has a statistically significant positive impact on trade openness, whereas its first lag has a negative effect. Infrastructure and its second lag have statistically significant negative effects on trade openness, while its first lag has a positive effect. The inflation rate has a statistically significant negative impact on trade openness. Similarly, the labor force and its first lag have statistically significant negative effects on trade openness. In addition, the first and second lags of financial development exert statistically significant negative effects on trade openness.

Regarding the error correction mechanism, the estimated error correction term (ECT) coefficient is negative and statistically significant at the 1% level ($\lambda = -0.160617$). This result confirms the existence of a stable long-run equilibrium relationship among the variables and supports the validity of the error correction mechanism. The estimated coefficient implies that approximately 16.06% of any short-run disequilibrium in trade openness is corrected each year, indicating that the model gradually converges toward its long-run equilibrium path.

4.4.Residuals Tests

The Jarque–Bera normality test (**Fig.1**) shows a probability value of 0.55, which exceeds the 5% significance level. Therefore, the null hypothesis of normally distributed residuals cannot be rejected, indicating that the model residuals follow a normal distribution.

Fig.1. Normality Test



Source: Eviews2012 result

Table 9 Serial Correlation LM Test:

Breusch-Godfrey Serial Correlation LM Test:			
Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	1.703741	Prob. F(2,2)	0.3699
Obs*R-squared	17.01384	Prob. Chi-Square(2)	0.0002

Source: Eviews2012 result

The Breusch–Godfrey serial correlation test reports a probability value of 0.3699, which is greater than 5%. Accordingly, the null hypothesis of no serial correlation cannot be rejected, confirming that the residuals are free from autocorrelation.

Table 10 Heteroskedasticity Test

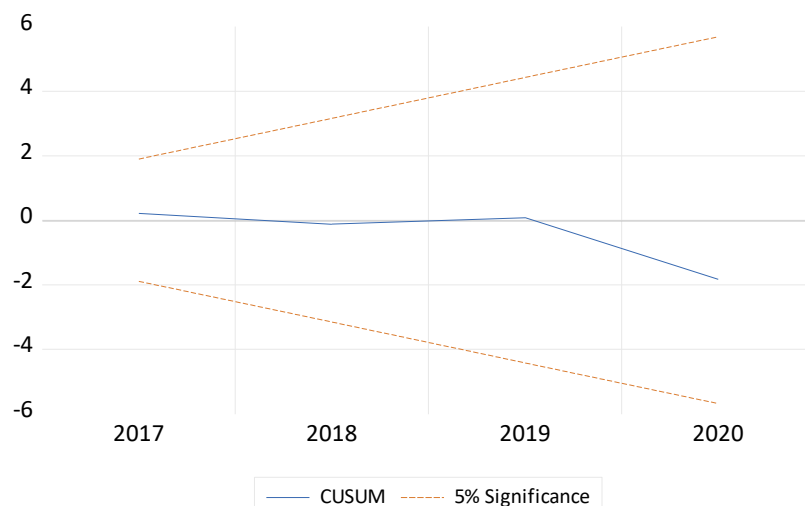
Heteroskedasticity Test: ARCH			
F-statistic	3.929293	Prob. F(1,24)	0.0590
Obs*R-squared	3.657866	Prob. Chi-Square(1)	0.0558

Source: Eviews2012 result

The heteroscedasticity test produces a probability value of 0.0590, which is greater than the 5% significance level. This result indicates that the null hypothesis of homoscedasticity cannot be rejected, suggesting that the variance of the error terms is constant.

4.5. Model Stability

Fig.2. Normality Test



Source: Eviews2012 result

Finally, the CUSUM stability test (**Fig.2.**) indicates that the cumulative sum of recursive residuals (the blue curve) remains within the 5% critical bounds throughout the sample period. This finding confirms the stability of the estimated model and indicates that the short-run and long-run coefficient estimates remain stable and consistent over the study period.

5. Conclusion

This study examined the macroeconomic determinants of trade openness in Mauritania over the period 1991–2020 using the Autoregressive Distributed Lag (ARDL) Model. After confirming the stationarity properties of the variables and the suitability of the ARDL methodology, the empirical analysis identified both the short-run and long-run factors influencing trade openness. The findings reveal the existence of a stable long-run equilibrium relationship between trade openness and its macroeconomic determinants. In particular, foreign direct investment (FDI) and financial development emerge as key drivers of trade openness in the long run, highlighting the importance of Foreign Direct Investment inflows and a well-functioning financial Development in promoting trade openness. Conversely, market size, labor force, and inflation are found to have negative effects on trade openness, especially in the short run, suggesting that structural constraints and macroeconomic instability may hinder Mauritania's integration into global markets. The error correction mechanism further confirms that short-run deviations from the long-run equilibrium are gradually corrected, with approximately 16% of disequilibrium adjusted each year.

The diagnostic and stability tests indicate that the estimated model is statistically robust, with normally distributed residuals, no evidence of serial correlation or heteroscedasticity, and stable parameter estimates over the sample period. These results provide confidence in the reliability of the empirical findings.

From a policy perspective, the study suggests that Mauritania should continue implementing policies that attract foreign direct investment, strengthen financial sector development, and improve the business environment to enhance trade openness. In addition, efforts to improve infrastructure quality, maintain macroeconomic stability, and increase productivity through human capital development and economic diversification would further support the country's integration into international markets. Future research could extend this analysis by incorporating institutional quality, exchange rate volatility, trade policy reforms, and regional integration indicators, as well as using more recent data to capture the effects of recent global economic developments.

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