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Economic Effect of Globalization on Island of Mauritius: ARDL Bounds Testing Approach

(Research Article)

The Causality Relationship Between R&D Expenditure, Efficiency Levels and Total Factor Productivity of Firms (A Review on Firms Operating in BIST)

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ABSTRACT

This study analyzes the effect of economic globalization on Mauritius from 1981 to 2019 using the ARDL approach. Due to their distinct economic characteristics, isolated island economies react differently to globalization than other countries. Our study investigates whether Mauritius's global trade and foreign direct investment (FDI) inflows have an impact on the country's GDP growth. The findings suggest that in the short run, FDI inflows are an impetus for the growth of GDP, while in the long term, the opposite occurs. Likewise, the long-term relationship between global trade and GDP growth concluded with the same result. In the light of our findings, the Government of Mauritius needs to focus on encouraging global FDI using various economic administrative measures and taking initiatives for enhancing the country's global trade.

Anahtar kelimeler:
Ekonomik Küreselleşme, Uluslararası Ticaret, DYY, ARDL, Morityus Adası

ÖZET

Bu çalışma, 1981'den 2019'a kadar ekonomik küreselleşmenin Morityus üzerindeki etkisini ARDL yaklaşımı kullanarak analiz etmektedir. Ayrı ekonomik özellikleri nedeniyle, izole ada ekonomileri küreselleşmeye diğer ülkelerden farklı tepki verir. Çalışmamız Morityus'un küresel ticaret ve doğrudan yabancı yatırım (DYY) girişlerinin ülkenin GSYİH büyümesi üzerinde bir etkisi olup olmadığını araştırıyor. Bulgular, kısa vadede DYY girişlerinin GSYİH'nın büyümesi için bir itici güç olduğunu, uzun vadede ise bunun tersinin gerçekleştiğini göstermektedir. Aynı şekilde, küresel ticaret ile GSYİH büyümesi arasındaki uzun vadeli ilişki de aynı sonuçla sonuçlandı. Bulgularımız ışığında, Morityus Hükümeti'nin çeşitli ekonomik idari önlemler yoluyla küresel DYY'yi teşvik etmeye ve ülkenin küresel ticaretini geliştirmek için girişimlerde bulunmaya odaklanması gerekmektedir.

1. INTRODUCTION

With the continuous advancements in communication, technology, and logistics, interconnection among countries has intensified worldwide. The increasing mobility of financial tools and production factors across borders has paved the way for globalization. On the international scale, the intensification of economic integration allowed the flow of resources at larger volumes and increased interdependence among countries (OECD, 2005). According to Kwanashie (1998), globalization somehow integrates the economic decision-making process of investments, consumption, and savings. In other words, globalization is transforming the whole world into a single market with worldwide connections through the mobility of goods, capital, people, information, and ideas.

The effect of globalization on a country's economy is not limited only by its development level or volume. Its extent may also depend on other factors such as government policies, population growth, and institutional setting (Greenway et al., 2002; Kemal et al., 2002; Almas, 2003; Mutascu & Fleischer, 2011).

Globalization transforms the economies, social and political structures of individual countries. As reported by Keohane & Nye (2000), globalization develops the flow of goods, capital and services, and communication and technology infrastructures to ensure the institutionalization of the world market. Even though it is possible to witness the significance of globalization's political and social aspects, the economic aspect remains at the core of globalization because it facilitates all aspects of globalization ideas, culture, and lifestyle through trade, banking, and technology (Obadan, 2010).

From the point of country development classification, globalization has recently been perceived as a double-edged phenomenon. While it exhibits positive impacts such as increasing GDP and employment for developed and developing countries (e.g., China, Japan, and Korea in Eastern Asia), the otherwise impacts such as income disparity, migration of skilled workers, capital and structural economic divergence were reported with underdeveloped countries (Roud & Whalley, 2002; Atif et al., 2012). Even though the disparity mentioned above has been studied comprehensively in the literature, its relevance with the Small Island Developing States (SIDS) has not been addressed adequately, especially in connection with the objectives of the present study on Mauritius.

Despite its small size and geographical disadvantage, Mauritius is strongly reliant on global trade and FDI for sustaining its development and economic welfare. Hence, the objective of this study is to investigate the effects of economic globalization on the Mauritian economy.

The remainder of this paper is organized as follows. Section 2 provides the literature review. Section 3 describes the model and data used in this research paper. Section 4 presents the econometrics methodology and summarizes the findings. Finally, section 5 reviews the conclusion.

2. LITERATURE

2.1. Approaches to Globalization

As globalization gains greater interest in literature, various perspectives have emerged regarding its benefits to individual countries. The hyper-globalists believe that globalization contributes to economic growth and prosperity in democracy. However, this requires adopting neo-liberal economic policies in which governments promote free trade by eliminating customs barriers (Thomas Friedman, 2000). With the institutionalization of the International Monetary

Fund (IMF), the World Trade Organization (WTO), and the World Bank, globalization has gained pace owing to facilitated and diversified financial transactions, which led to relevant advantages to be gained by local economies beyond their borders.

On the other hand, the skeptics claim that globalization has simply been a natural trend of internationalization as it could be seen in history in the light of advancements in technology. Chang (2005) argues that neo-liberal policies allow western companies to exploit underdeveloped countries and that the IMF and WTO obligate developing countries to open their markets for international competition by adopting free trade policies. Consequently, developed countries dominate a substantial portion of world trade. As explained by Immanuel Wallenstein (1974), the world has been divided into the following essential country groups; core countries (developed countries with intensive capital), semi-periphery, and periphery countries (less-developed countries with labor-intensive oriented economies. As the globalist perspective has dominated the world economy, developed countries, e.g., the US, have gained hegemony over others. Due to their superior productivity, and commercial and financial dominance, core developed countries have managed to sustain their commercial independence while peripheral and semi-peripheral countries had to sustain their existence under the commercial shades of the core countries. Accordingly, skeptics reject the idea of globalization.

Between the hyper-globalists and the skeptics, some transformationalists and postmodernists claim that globalization introduces specific downside effects. However, these negative effects could be remedied through the appropriate measures. For example, even though countries have lost their cultural authenticity because of the Western influence imposed by globalization (termed as *"detraditionalization"* by Anthony Giddens (1999)), these countries could still benefit from a larger variety of consumer products and a new group of global consumers.

According to Beck (1992), the risk concept introduced by globalization needs to be addressed, and certain consciousness is required to be gained by society because as the world gets more interrelated with global issues affecting individuals from different countries, different ways could arise. Consequently, governments are required to take appropriate domestic measures to curb the drawbacks of globalization while they exploit its benefits in the meantime.

2.2. Determinants of Economic Globalization

International economic integration could be noticed in the increasing volume of cross-border movement of goods and services as well as the increasing scale of financial flows facilitated by the advancement in technology and communication. In the second edition of *"the Indicators of Economic Globalization"* published by OECD in 2010, it is reported that the intensity of economic globalization could be measured by the factors of international trade and investment; transfer of technology and knowledge; the role of multinational companies (MNCs) and the global value chains.

One of the main contributors to economic globalization is the increasing share of imports and exports of individual countries. In our contemporary world, country economies have become more interdependent to keep their economies afloat.

Concerning economic globalization, macroeconomic indices such as trade to GDP rate and FDI are regarded as indicators of globalization rate for individual countries. As defined by the United Nations, FDI is the "investment made to acquire lasting interest in enterprises operating outside of the economy of the investor." FDI can occur when a company builds a new facility abroad or merges or acquires an existing foreign company (Thompson, 2000).

Additionally, technology diffusion results from advancements in communication and information; and it accelerates the country's growth (Stiglitz, 2003). However, the information technology gap between countries negatively affects the less industrialized countries and hinders their economic growth. Fortunately, MNCs contribute to knowledge sharing, nourishment, and sustainability of international economic relations and global value chains.

2.3. Determinants of Foreign Direct Investment

FDI has become an important development tool for host countries as a result of the globalization of production (Vadlamannati et al., 2009; Wang, 2009). Global FDI has been sparked by the opportunity to finance investments in fast-growing markets at a low-interest rate (Ohlin, 1933). According to Pradhan (2008) and Smith (1997), FDI contributes to a host country's development in three ways: (1) it provides adequate capital for domestic investment; (2) it provides foreign currency through initial investments; and (3) it contributes to countries' tax revenues by enhancing economic activities. Likewise, if there is imperfect competition in a market, such as product differentiation, and/or in a factor market, MNCs may prefer direct investment and the utilization of patent and proprietary knowledge to gain an advantage in internal and external economies of scale (Hymer, 1960).

FDI is in favor of both the investor and the host country parties in various ways. Feestra & Markusen (1994) report that FDI enables host countries to implement better administrative policies and improve their labor competency. Capital accumulation would also encourage the use of advanced technologies, which thus increases the country’s productivity (De Mello, 1997: 1999).

In this regard, the location for potential FDI gains significance for both investors and host countries. According to Dunning (1982, 2015), investors could prefer an investment location according to a country's economic, institutional, and political advantages. Shatz & Venables (2000) distinguished between two location advantages: horizontal or market seeking. That is, investors prefer nearer locations for lower logistics costs and tariffs, for minimization of vertical or production costs. Finally, certain commercial advantages are linked to foreign affiliates (Dunning, 1982: 2015).

A more open and liberalized economy, as predicted by growth theory, would attract more significant foreign capital, ensuring long-term growth. Borensztein and Lee (1995) demonstrate the impact of FDI-induced technological diffusion on long-run growth. Wang (1990) also shows that FDI affects long-run growth through the accumulation of physical capital and productivity growth. Borensztein, De Gregorio, and Lee (1998) claim that adopting new technologies through FDI and providing adequate human capital in the host country will boost economic growth.

However, as stated by Balasubramanyam et al. (1996), the advantages of FDI may also be dependent on factors such as trade and investment policies, the openness of the host country, and other government policies.

2.4. Determinants of Trade

Trade has been identified as a significant determinant of economic growth. Trade liberalization is described as an "engine of growth" by Nurkse (1961) and a "handmaiden of growth" by Kravis (1970). Trade expands the country's access to a wider range of goods and services, as well as knowledge and technology sharing; it also helps to develop local markets, attract

investment, and create jobs. Trade is also regarded as one of the most important sources of growth convergence (Jin, 2000; Wacziarg, 2001; Greenaway et al., 2002).

Greenaway, Morgan, and Wright (1999) go into greater detail about the importance of export composition and growth in terms of GDP growth. Because of foreign competition, the manufacturing industry has higher externalities and uses horizontal diversification (Matthee & Naudé, 2008). According to Levin and Raut (1997), a country's export composition that is primarily made up of manufacturing products has a positive impact on its growth.

Furthermore, the impact of trade on growth is dependent on the stage of development of the country. For more-developed economies, Michaely (1977) provides empirical evidence suggesting a positive relationship between trade openness and economic growth. For the least-developed countries, however, there is no evidence. Finally, the positive impact of trade on economic growth depends on the country's level of development.

2.5. Globalization in Islands and Non-island Economies

The economic and financial integration with a reduction in trade barriers has allowed countries to become more interconnected. However, since countries' economic, geographic and physical aspects differ, the impact of globalization varies. According to J. Stiglitz (2006), globalization leads to a higher level of living standards, better access to markets both domestically and internationally, and the acquisition of expertise and knowledge.

Nevertheless, developed countries benefit more from globalization than the least developed countries (LDCs). They adapt quickly to changes in trends and technology, allowing them to have access to a larger market and satisfy more demands. On the other hand, LDCs rely on developed countries to enhance their economy. As explained by the Prebisch–Singer hypothesis, LDCs lag due to their dependence on industrial countries to provide a market for their primary products. The demand for primary products has been declining as a result of the shift toward the service sector, heavy industries (such as chemicals), and the introduction of man-made materials. LDCs can overcome the adverse raw material demand effect by improving corporate governance and strengthening trade alliances with other countries.

Furthermore, the effects of globalization on islands vary. The islands are small and isolated. As a result of the high transportation costs, it is assumed that they are not active participants in globalization. However, with the advent of e-commerce and ongoing technological advancements, location and distance have become insignificant. Moreover, they have a comparative advantage in the tourism industry, which encourages them to be globally open. Similarly, to gain greater market access, they impose low trade barriers and form strong alliances with their trading partners. Consequently, with continuous investment in technology and training, and the implementation of sustainable economic practices, their disadvantages will no longer impede their economic development.

2.6. Globalization in Mauritius

Globalization irreversibly affects all countries to some extent. This effect and its intensity vary from one country to another. On the small island of Mauritius, the effects of globalization are quite visible. Mauritius is cited as one of the most prosperous countries in terms of establishing economic integration with the global market among African countries (Koop, 2004). This success is mainly due to the policies implemented in the country. The economic administration adopted a liberal trade policy and openness to FDI (Subramanian, 2001). To attract foreign investors, Mauritius offers a wide range of conveniences and opportunities, such as lenient

regulations on international trade. The country has also been a member of international economic forums and adjusted the policies of global institutions such as the IMF, WTO, and the World Bank (Suntoo, 2012). This attitude has brought the country to higher positions in the globalization index, as illustrated in Figure 1.

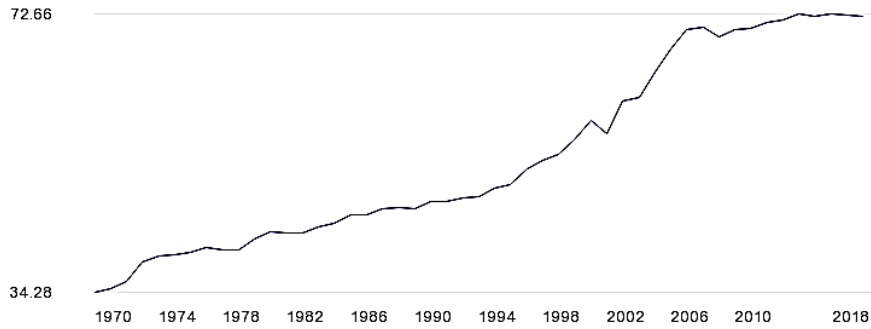

Figure 1. Globalization Index of Mauritius, 1970 – 2018
Source: *KOF Swiss Economic Institution*

The globalization index scores range from 0 to 100, with 0 representing the worst performance and 100 representing the best. Figure 1 shows that Mauritius has improved its position in the globalization index over time. In 1970, it had the lowest score of 34.28. By 2018, Mauritius' score had risen to 72.66, indicating that the country had made progress in the globalization process.

2.7. FDI and trade in Mauritius

Mauritius has had remarkable economic performance over the years despite its small size and remote location. Mauritius was a mono-crop, sugar-based economy in the late 1960s. The country has now evolved into a high-income, multi-industry nation (World Bank). Mauritius was named the best-performing economy in Africa in the 19th edition of the "World Economic Forum Global Competitiveness Report". The country's exports have been heavily reliant on the ocean fishing and tourism industries.

The Export Processing Zone (EPZ) Bill was enforced by the Mauritius government in 1970 to attract Asian investors by developing the textile industry. According to UNCTAD (2001), the government initiative resulted in higher levels of FDI and more intensive technology diffusion beyond expectations. As a result, domestic investors quickly gained access to foreign expertise and developed domestic industries.

Furthermore, EPZ Act drastically elevated the trade openness of the country. It provided a window of opportunity as a member of the Indian Ocean Commission (COI) in 1982, the Southern African Development Community (SADC) in 1992, the World Trade Organization (WTO) in 1995, and the Common Market of Eastern and Southern Africa (COMESA) in 2009.

With its open-door policy, Mauritius has become more appealing to investors looking to expand its export industry. As shown in Figure 2, the increase in FDI inflows remained constant until 1999 since FDI was initially in the form of technological knowledge transfer (UNCTAD, 2001). Then, from 1999 to 2000, FDI inflows increased at a rate that was nearly identical to GDP growth. The drop in FDI inflows in 2001 was mirrored by a similar drop in GDP growth until the next FDI increase.

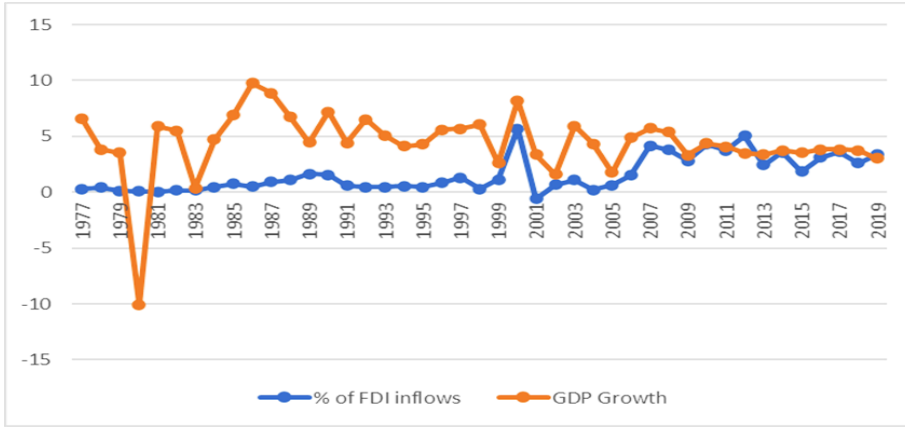

Figure 2. Trends in FDI inflows and growth of Mauritius, 1977 – 2019

Source: *World Bank Estimates*

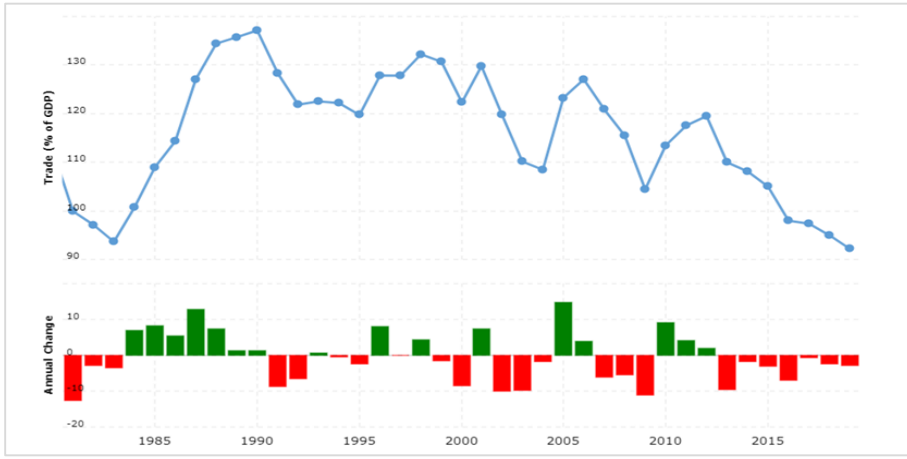

Figure 3. Trend in Trade of Mauritius, 1981 – 2019

Source: *Macrotrends*

Mauritius adopted a dual trade regime from 1979 to 1990, encouraging domestic companies to expand their exports while imposing strict import regulations. Mauritius Export Development and Investment Authority (MEDIA) was established in 1984 to encourage foreign investment in EPZs. In addition, an Export Credit Guarantee Scheme and a Development Certificate Scheme (to encourage the development of import-substituting industries) were launched. The country's global trade volume increased significantly during this time, as shown in Figure 2. All export taxes were abolished in 1993. Between 1994 and 2001, the import levy was abolished, and excise duties on a variety of imported goods (tobacco, wine, and cigarettes) were imposed. Following that, Mauritius joined other trade blocs such as COMESA, allowing it to access larger foreign market zones. However, Mauritius' imports have outpaced its exports in recent years, resulting in a downward trend.

3. MODEL AND DATA

The present study empirically analyses the effect of economic globalization on the Republic of Mauritius covered the period between 1981 and 2019. Data for the concerned period were collected from the World Development Indicators. In the analysis step, the following econometric model denoted in Equation (1) was employed:

$$\ln GDP_t = \alpha_0 + \alpha_1 FDI_t + \alpha_2 \ln TRA_t + u_t \quad (1)$$

Where, $\ln GDP_t$: Gross Domestic Product annual percentage growth, in period t (logged),

FDI_t: Inflows of Foreign Direct Investment as a percentage of GDP, in period t,

$\ln TRA_t$: Trade as a percentage of GDP, in period t (logged),

u_t: Error term within the specified period,

$\alpha_0, \alpha_1, \alpha_2$: Coefficient of the variables (parameters).

In the further analysis of the collected data, several econometric tests were run through the Eviews 12 statistical software.

4. METHODOLOGY

The Autoregressive Distributed Lag (ARDL) / bounds testing co-integration approach (Pesaran et al., 2001) was employed in our study based on the following considerations. Firstly, since the variables were integrated of different orders, that is, I(0), I(1), or a combination of both, the ARDL model was preferred because it did not require pretesting for unit root (Pesaran et al., 2001), especially for small sample size. Moreover, the method could simultaneously investigate the short-run and long-run dynamic interactions among the variables (Bahmani-Oskooee et al., 2014; Lee, 2010; Narayan, 2005). Furthermore, according to Harris (2003), Inder (1993), and Pesaran (1997), even if the regressors are endogenous, it would yield unbiased long-run model estimates and valid t-statistics. Thus, with the inclusion of dynamics, the endogeneity bias is eliminated.

Regarding the bound test procedure, the ARDL conditional error correction model was presented in Equation (2) below:

$$\Delta \ln GDP_t = \alpha_0 + \sum_{j=1}^{n} \delta_j \Delta \ln GDP_{t-j} + \sum_{j=0}^{n} \psi_j \Delta FDI_{t-j} + \sum_{j=0}^{n} \beta_j \Delta \ln TRA_{t-j} + \phi_1 \ln GDP_{t-1} + \phi_2 FDI_{t-1} + \phi_3 \ln TRA_{t-1} + u_t \quad (2)$$

Where, α_0 is a drift component; and u_t is the white noise error.

The first step in the ARDL approach was to estimate Equation (2) by the Ordinary Least Square (OLS) to investigate the existence of a long-run relationship among the variables by means of an F-test with asymptotic non-standard distribution for all the estimated coefficients of the lagged levels of the variables, that is,

$H_0: \phi_1 = \phi_2 = 0$ against the alternative

$H_i: \phi_1 \neq \phi_2 \neq 0$

When the independent variables are *I(d),* with $0 \leq I(d) \leq 1$, two asymptotic critical value bounds provided a test for co-integration. The upper bound of critical values assumes all the variables are *I(1),* while the lower bound of critical values assumes that all the variables are *I(0)* (Pesaran

& Shin, 1999; Pesaran *et al*., 2001). If the computed F-statistics fall above the upper bound of critical values, the null hypothesis of no co-integration is rejected. It implies that a long-run relationship among the variables exists. On the other hand, if the F-statistics fall below the lower bound of critical values, the null hypothesis is accepted. However, if the F-statistics fall in between the bounds, the result would be inconclusive.

Once the confirmation of the existence of co-integration among the variables has been obtained, the long-run and short-run models are derived using the information criteria such as Akaike information criteria and Schwartz information criteria.

Alongside, the error correction term ($\hat{\varepsilon}_t$) is obtained by OLS. To obtain the restricted error correction model (Equation 3), the linear combination of lagged levels variables in Equation (2) is replaced by the lagged error correction term ($\hat{\varepsilon}_{t-1}$).

$$\Delta \ln GDP_t = \alpha_0 + \sum_{j=1}^{n} \delta_j \Delta \ln GDP_{t-j} + \sum_{j=0}^{n} \Psi_j \Delta FDI_{t-j} + \sum_{j=0}^{n} \beta_j \Delta \ln TRA_{t-j} + \lambda \hat{\varepsilon}_{t-1} + u_t \quad (3)$$

If the sign of $\hat{\varepsilon}_{t-1}$ the coefficient is negative and statistically significant. It implies that there is additional evidence of co-integration among the variables. That is, the long-run disequilibrium among the variables will converge back to long-run equilibrium.

A series of diagnostic tests were performed on the predicted model's remnants for checking normality, heteroscedasticity testing, and autocorrelation testing. To check for misidentification of the model, the Ramsey RESET test is used, and both cumulative sums (CUSUM) and squares of cumulative sums (CUSUMSQ) are used to check the stability of the parameters.

Even though the ARDL approach does not require the pretesting of the variables for unit root, in the presence of an order of integration greater than 1, the method would crash. Thus, invalidating the critical bounds provided by Pesaran *et al.* (2001), which are computed on the basis that the variables are *I(0)* or *I(1).* Consequently, it is necessary to test for a unit root to ensure that all the variables satisfy the underlying ARDL assumption.

4.1. Unit Root Tests

A time series is considered stationary when its mean, variance, and covariance are constant and independent of time. The stochastic process $y_t$is considered stationary if mean: $E(y_t) = \mu$, variance: $E\big(y_t - E(y_t)\big)^2 = \sigma^2$, and covariance: $E[(y_t - \mu)(y_{t+k} - \mu)] = y_k$

Hence, the Augmented Dickey-Fuller (ADF) test (Dickey and Fuller, 1979) and the Phillips-Perron (PP) test (Phillips and Perron, 1988) can be used to verify the presence of unit root in a time series. The hypotheses will be as follows:

$H_0: \sigma = 0$ (Presence of unit root – non-stationary)

$H_1: \sigma \neq 0$ (No unit root – stationary)

Subsequently, the variables (lnGDP, FDI, and lnTRA) were tested for unit roots; and the results were exhibited in Table 1 below. Our results indicated that lnGDP and FDI were integrated at the order I(0) while lnTRA was I(1). Since the variables have a mixed order of integration, the ARDL model has been used.

Table 1. Results of ADF and PP Unit Root Tests

Variables	ADF		PP		Stationarity
	t-statistics	p-values	t-statistics	p-values	
lnGDP					
Constant	-4.253***	0.0019	-5.810***	0.0000	Stationary
Constant and Trend	-4.740***	0.0027	-5.881***	0.0001	Stationary
FDI					
Constant	-3.495**	0.0135	-3.574**	0.0111	Stationary
Constant and Trend	-5.290***	0.0006	-5.304***	0.0006	Stationary
lnTRA					
Level					
Constant	-1.189	0.6691	-1.189	0.6691	Non-stationary
Constant and Trend	-1.669	0.7450	-1.162	0.9041	Non-stationary
First Difference					
Constant	-4.703***	0.0005	-4.655***	0.0006	Stationary
Constant and Trend	-5.162***	0.0009	-5.706***	0.0002	Stationary

Notes: ** and *** indicates the null hypothesis is rejected at 5% and 1% level, respectively.

4.2. Bound Test Approach

After the unit root test was verified, the next step was to check the long-run relationship between the variables through the ARDL approach.

Table 2 exhibits the results of the bound test looking for the existence of a long-run relationship among the variables. Akaike Information Criteria (AIC) was used to determine the appropriate lag length. The F-statistics were found above the 5% critical bound (Pesaran et al., 2001), implying that the null hypothesis of no co-integration was rejected. Hence, it was concluded that a long-run correlation existed among the variables. Likewise, Table 3 shows the results of the long-run estimates. It could be inferred that FDI inflows negatively affect GDP growth; this was found statistically significant at 5% level. Trade was also found to have a negative effect on GDP growth. However, it was nearly marginally significant.

To investigate the short-run dynamics, an error correction model (ECM) was utilized, and the results are exhibited in Table 4 below. According to Table 4, the R^2 was estimated as 0.74, indicating that the error correction model fitted the data reasonably well. Moreover, the error correction coefficient was found to be highly significant with a negative sign as expected, reinforcing the existence of a long-run relationship among the variables.

The results in Table 4 also suggested that FDI was positively effective on GDP growth; and remained marginally significant. The effect of trade was negative and statistically insignificant on the dependent variable. The error correction coefficient estimate of -0.97 was highly significant, and it had the correct sign. Accordingly, it suggested the existence of a high-speed adjustment from short-run deviation to long-run equilibrium. It could be remarked that approximately 97% of the previous year's disequilibrium would converge back to the long-run equilibrium in the current year. The ARDL model also incurred the diagnostic tests presented

in Table 5. Our results demonstrated a normally distributed model with no serial correlation and no heteroscedasticity.

Table 2. Results of Bound Test

Model	$LnGDP_t = f(FDI_t, lnTRA_t)$	
Lag Order	(1,4,2)	
F-statistics	10.36723	
Critical Values	**I(0)**	**I(1)**
10%	3.17	4.14
5%	3.79	4.85
1%	5.15	6.36

Table 3. Estimates of the Long Run Coefficients: ARDL (1,2,4)

Variables	**Coefficients**	**t-statistics**	**p-values**
FDI	-0.124	-2.347	0.0271
LnTRA	-1.042	-1.358	0.1864
Constant	6.490	1.839	0.0778

Table 4. Estimates of the ECM

Variables	**Coefficients**	**t-statistics**	**p-values**
Dconstant	6.490	5.753	0.0000
dFDI	0.056	1.348	0.1895
dlnTRA	-0.090	-0.096	0.9242
ecm(-1)	-0.970	-5.795	0.0000

Table 5. Results of Residual Diagnostic Test

Jarque–Bera normality test	6.088 (0.050)	The residuals are normally distributed
Serial correlation LM test	0.337 (0.6075)	No serial correlation
Heteroskedasticity Test	0.685 (0.6447)	No heteroskedasticity
Ramsey Reset test	0.764 (0.5600)	Correct specification

4.3. Stability Tests

The Cumulative Sum (CUSUM) and the Cumulative Sum of Squares (CUSUMSQ), which uses the cumulative sum of recursive residuals and the cumulative sum of the squared recursive residuals respectively, are tests for determining structural breaks that may exist in the model (Brown *et al*., 1975). These tests are based on the first *n* observations updated recursively and plotted against a break point.

If the plotted CUSUM and CUSUMSQ lines remain within the 5% critical bound, the null hypothesis of parameter stability is accepted. On the other hand, if the lines pass over the limits, the null hypothesis is rejected; that is, coefficients are deemed unstable.

According to Figure 5 and Figure 6, it was clearly seen that the CUSUM and CUSUMSQ lines remained within the 5% critical bound. Hence, this finding provided evidence that all model parameters were stable over the concerned period of the study.

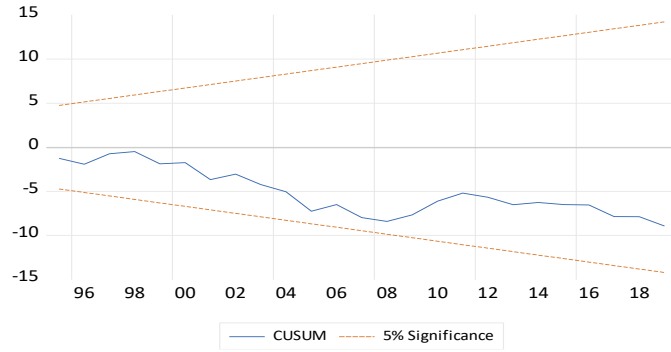

Figure 5. Plot of Cumulative Sum of Recursive Residuals

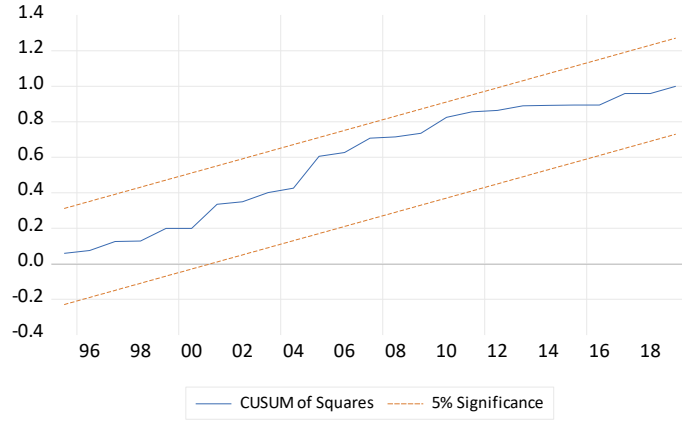

Figure 6. Plot of Cumulative Sum of Squares of Recursive Residuals

5. CONCLUSIONS

Even though small island economies are found to be more vulnerable to outside shocks because of their inherent economic characteristics, there is a limited number of studies on these economies in the literature. Thus, in light of contributing to the existing literature and gaining a better understanding of the effect of economic globalization on relatively isolated small island economies, this paper investigates the relationship between FDI, global trade, and GDP growth data of Mauritius for the period from 1981 to 2019.

Whereas the dependent variable, economic globalization, was represented by the GDP, global economic indices of FDI and global trade were regarded as our independent variables in our model. In further analysis of these variables, several econometric tests were employed to analyze the relationships for the concerned period, in which the Autoregressive Distributed Lag (ARDL)/bounds testing cointegration approach was adopted.

Several conclusions were reached in this paper. First of all, variables were bound together in the long run. Additionally, FDI inflows displayed a negative statistically significant effect on GDP growth. Similarly, global trade displayed a negative effect but with weaker significance. Then, the error correction model indicated that FDI had a positive impact on GDP while trade was still exhibiting the opposite. However, the speed of the adjustment was high. The disequilibrium would converge back to equilibrium in the current fiscal year.

Within the scope of the small island economy of Mauritius depended mainly on tourism and ocean industries, our findings revealed similar results in parallel with the findings of Gutiérrez de Piñeres & Ferrantino (1997), who report that Mauritius's economy with a gradually diversifying export capacity through learning-by-doing and mimicking practices of developed countries developed its global trade which affected country GDP positively (Gutiérrez de Piñeres & Ferrantino, 1997). Additionally, our findings are supported by Hammouda et al. (2006), who argue that African countries are required to implement non-conservative fiscal policies and improve their governance to encourage FDI. The authors also remark that research and development activities need to be prioritized to foster the competency of domestic companies in the global trade area.

As a result of the findings, the Mauritian government is required to take appropriate measures to eliminate the obstacles before global trade and FDI. The necessary emphasis needs to be placed on the transition from the island's traditional sectors to more value-added industries, encouraging FDI in target industries to increase Mauritius's GDP.

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