International Journal of Management, Finance and Accounting

Attracting Foreign Direct Investment (FDI) in Madani Economy: What factors matter?

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Abstract

Foreign Direct Investment (FDI) has long been acknowledged as a vital driver of economic development, and Southeast Asia stands out as a prime destination for such investments. However, Malaysia's share of FDI in the region has been diminishing, signalling a loss of competitiveness. In response, the Malaysian government has prioritized enhancing competitive strength in its recent development framework, Madani Economy. This study aims to shed light on the factors that require greater attention to achieve these objectives. Utilizing the Autoregressive Distributed Lag (ARDL) approach and monthly data spanning from 2010 to 2019, the findings underscore the importance of growing market size and currency appreciation in attracting FDI inflows to Malaysia, indicative of the predominance of market-seeking FDI in the nation's economy. Meanwhile, a negative relationship between population growth and FDI inflows is observed, likely due to concerns about rising unemployment and dampening economic growth resulting from a growing population. These findings imply that to attract FDI inflows successfully, greater emphasis should be placed on developing the domestic market, given the significant role of market-seeking FDI in Malaysia. Additionally, it suggests the necessity for Malaysia to prioritize the development of environmentally friendly production approaches, as the burgeoning population places greater strain on resources, potentially reducing availability for multinational enterprises. Coincidentally, this aligns with the increasing global consciousness surrounding sustainable development, as evidenced by growing concerns regarding energy production and water

International Journal of Management, Finance and Accounting
Vol. 5, Issue 2 (2024) https://doi.org/10.33093/ijomfa.2024.5.2.11

Published by MMU PRESS. URL https://journals.mmupress.com/ijomfa

supply, epitomized by initiatives like the Sustainable Development Goals (SDGs). These efforts indirectly foster long-term economic development by prioritizing environmental sustainability alongside economic prosperity.

Keywords: Foreign Direct Investment, Malaysia, Macroeconomics, Autoregressive Distributed Lag (ARDL)

Received on 5 May 2024, Accepted on 6 June 2024, Published on 30 August 2024.

1.0 Introduction

Foreign Direct Investment (FDI), which involves investors from one country making investments in enterprises located in another economy, is often seen as more than just capital investment. It is associated with significant positive impacts for the host countries, including job creation, human capital development, technology spillovers, and enhanced competition in local markets (Calimanu, 2023). FDI has also proven to be resilient, even during financial crises (Loungani & Razin, 2001).

As a result, markets are actively seeking to attract FDI inflows to reap these benefits. In fact, as of 2022, approximately 70% of investment policies worldwide are favorable towards attracting investment, with developing countries being major contributors to this trend (UN Trade and Development, 2023). Southeast Asian countries, in particular, have become increasingly popular destinations for FDI inflows in recent years. The share of world FDI inflows to the region has dramatically increased from 10% in 2019 to 17% in 2022, as illustrated in Figure 1.

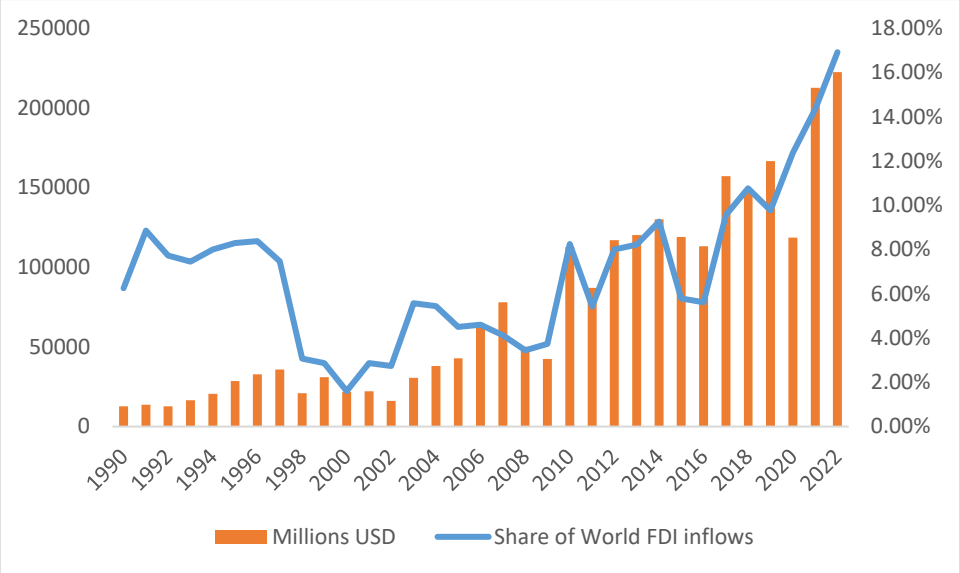

Figure 1: FDI inflows in Southeast Asian countries

Source: UN Trade and Development Statistics (UNCTADStat)

This can largely be attributed to the fact that these countries are situated in the heart of the world's most dynamic economic region and have made impressive progress in both labour force size and productivity gains. With a combined population of over 600 million, Southeast Asian countries boast a larger populace than either the European Union or North America. Moreover, they possess the world's third-largest labour force, trailing only China and India, while their youthful demographic profile offers a demographic dividend. Notably, nearly 60 percent of total growth since 1990 has stemmed from productivity gains, as sectors such as manufacturing, retail, telecommunications, and transportation continue to enhance efficiency (Vinayak et al., 2014).

Furthermore, amid increasing trade barriers worldwide, particularly among developed nations, due to concerns related to national security (UN Trade and Development, 2023), multinational corporations are seeking alternative production centres. These centres must not only offer economic advantages but also mitigate supply chain and political risks. It is anticipated that the region will continue to benefit from its privileged geopolitical position as competition between the US and China intensifies and both superpowers seek to strengthen their regional ties (ASEAN, 2023a). As a result, given the region's competitive wage levels, improving business regulations and infrastructure, growing domestic demand, and political neutrality, an increasing number of multinationals are turning to Southeast Asia as alternative production hubs (ASEAN, 2021, 2023b, and 2023c).

Malaysia has long recognized the pivotal role of FDI in driving its economic development as a member of the region (U.S. Department of State, 2023). Its traditionally favorable investment climate is further bolstered by strategic factors such as its prime location and access to Southeast Asian markets, abundant land and natural resources, highly developed information and communications technology (ICT) infrastructure, a skilled English-speaking workforce, and a robust ecosystem of manufacturers and suppliers across key sectors like medical devices, semiconductors, and solar panels.

The Malaysian economy began its efforts to attract FDI as early as the 1970s with policy reforms and continued in the 1980s with more open policies. These efforts contributed significantly to economic growth and the success of industrialization in

Malaysia. FDI is widely recognized as a crucial factor behind Malaysian growth and development, particularly during the East Asian Miracle period (Kinuthia and Murshed, 2015).

However, while FDI inflows into Malaysia have been increasing in absolute terms, they have played a diminishing role in driving economic growth since the Asian Financial Crisis (OECD, 2013). A declining trend has also been observed following the Global Financial Crisis (Nambiar, 2009). With the reduced impact of private investment on growth, the importance of FDI in filling the gap and serving as a driver of growth has garnered increased attention in the economy (U.S. Department of State, 2019).

On one hand, Southeast Asian countries' increasing prominence in attracting FDI globally is impacting Malaysia as well. FDI inflows into Malaysia have shown an upward trend since 2000. On the other hand, the country's competitive edge has been diminishing compared to other major FDI recipients in the region (Athukorala, 2024). Despite representing 30% of Southeast Asian FDI inflows in 1991, Malaysia's share dropped significantly to just 8% by 2022, as illustrated in Figure 2.

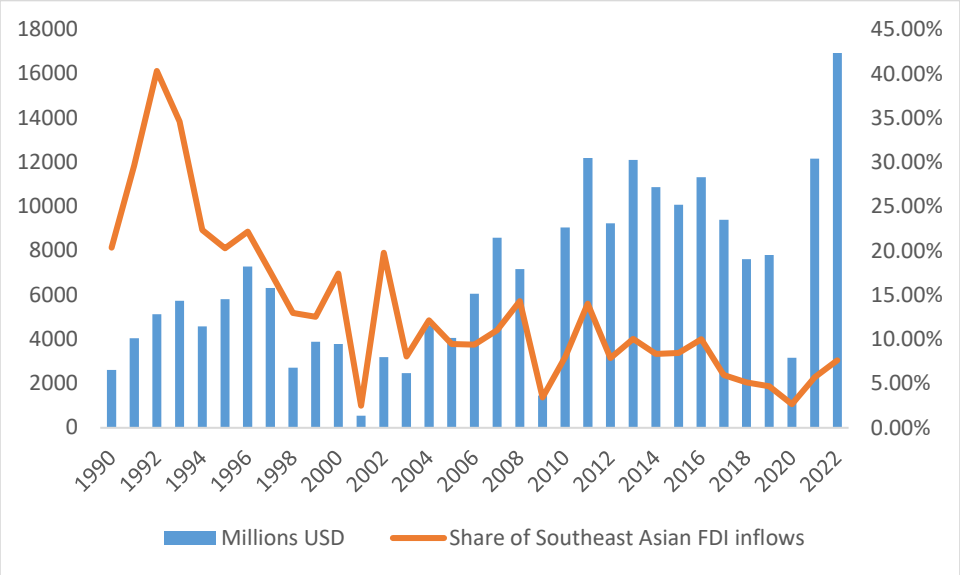

Figure 2: FDI inflows in Malaysia

Source: UN Trade and Development Statistics (UNCTADStat)

This raises an alarm for the Malaysian economy, as FDI is considered a significant growth driver in many empirical studies. For instance, FDI is found to promote growth through input-driven mechanisms (Ahmed, 2012), increasing domestic capital (Anwar & Sun, 2011), integrating with human capital (Fadhil & Almsafir, 2015), and creating employment (Mun et al., 2009), among many others. Thus, the Malaysian government has actively implemented significant reform policies to address this issue (OECD, 2013). These efforts include the removal of Foreign Investment Agencies' approval requirements for acquisitions, mergers, and takeovers of local companies by foreign parties in 2003, the gradual liberalization of foreign participation in selected industries, particularly after 2009, and the establishment of the Digital Free Trade Zone in 2017 (U.S. Department of State, 2019). Additionally, a series of laws have been introduced to encourage commercial activities, including the Companies Act, the Malaysia Aviation Commission Act, and amendments to Food Regulations (WTO, 2018).

The Malaysian government continues its effort to promote the FDI in 2020s with the latest economic development framework, known as the Madani Economy, FDI has been given even greater emphasis, with initiatives aimed at strengthening Malaysia's position as a premier investment destination (Prime Minister's Office, 2023). Malaysia's investment-friendly policies have been instrumental in buffering its economy against the volatile global economic environment of 2023 and 2024 (Prime Minister's Office, 2024a and 2024b), with historically high levels of approved investment recorded in 2023 (Prime Minister's Office, 2024) where FDI serving as a primary driver of this growth.

Given the projected slowdown in global growth over the next five years, particularly in emerging and developing markets (IMF, 2024a), maintaining competitiveness in FDI inflows is imperative for sustaining Malaysia's economic performance. Indeed, while improving the nation's world competitiveness ranking is a key target outlined in Madani Economy, with a range of efforts delineated in the framework, the country's declining position in attracting such investments underscores the urgency of addressing key factors to regain competitiveness.

Against the backdrop of the current global economic environment, this study aims to investigate the determinants influencing Malaysia's attractiveness to FDI. There is an

extensive body of literature on the determinants of FDI, including currency stability (Ayomitunde et al., 2020; Ogbonna, 2019; Zakari, 2017), population (Aziz & Makkawi, 2012; Dang & Nguyen, 2021; Nyoni & Bonga, 2017), market size (Aziz & Mishra, 2015; Khachoo & Khan, 2013; Ranjan & Agrawal, 2011), and human capital (Akın & Vlad, 2011; Cleeve et al., 2015; He et al., 2023), to name a few. However, the limited fiscal resources of the Malaysian government, evidenced by an increase in the federal debt-to-GDP ratio from 60% in 2022 to 62% in 2023 (Ministry of Finance, 2023), restrict its ability to explore all these potential determinants to successfully implement the Madani Economy.

Additionally, Malaysia is projected to experience relatively slower GDP growth (e.g., 4.3% in 2024) compared to the regional average for the same period, which includes developing and emerging Asian countries and ASEAN-5 countries, with growth rates of 5.2% and 4.7%, respectively (IMF, 2024b). Both resource and time constraints necessitate that the Malaysian government adopt effective policies that can rapidly impact the economy by focusing on the most critical factors in promoting FDI inflows.

This study aims to contribute to this effort by examining Malaysia's experience in attracting FDI inflows through active policies over the past decade, providing insights into the factors the Malaysian government should prioritize. It is expected that the findings will enhance the efficiency of resource allocation in the economy, better preparing Malaysia to navigate fluctuations in the current global economic landscape while contributing to the success of the recent Madani Economy Framework.

Using the Autoregressive Distributed Lag (ARDL) model and monthly data spanning from 2010 to 2019, the study seeks to enhance understanding of the factors that policymakers should prioritize to attract FDI in the near future based on experiences from the past decade. This study is expected to address empirical gaps in the literature, as recent studies on FDI determinants that include Malaysia are mainly based on panel analyses for the region, such as selected countries in ASEAN (Raksong & Sombatthira, 2021), ASEAN-7 (Dang et al., 2021), and ASEAN-5, China, and India (Othman et al., 2018). By examining FDI determinants based on Malaysia's past experience, the findings from this study will provide more specific insights based on Malaysia's own experience

rather than aggregate regional analyses. The estimations are expected to offer more accurate recommendations for policymakers regarding which factors to focus on.

The remainder of this study is organized as follows: Section 2 reviews the related literature. Section 3 discusses the data and methodology, while Section 4 presents the findings. Finally, Section 5 includes a summary and implications.

2.0 Literature Review and Hypotheses Development

A substantial body of literature has extensively examined the manifold benefits of Foreign Direct Investment (FDI), providing a solid foundation for economies to craft policies aimed at attracting greater FDI inflows. Many studies have provided empirical evidence for the consistent nexus between FDI and economic growth in Malaysia. For instance, Mun et al. (2008) found that FDI creates employment, which is crucial for economic growth. Anwar and Sun (2011) demonstrated that FDI increases domestic capital and economic growth. Ahmed (2012) suggested that FDI promotes growth through input-driven mechanisms, while Fadhil and Almsafir (2015) found that FDI integrates with human capital to promote growth.

Among all of these, Giroud (2007) demonstrated that FDI contributes significantly to the economic growth of host countries, primarily through the introduction of new technologies by multinational enterprises (MNEs). It is believed that MNEs often impart technical assistance, training, and valuable information to local industries, facilitating their modernization and efficiency enhancement. This serves as a significant channel through which FDI impacts the Malaysian economy. For instance, LOTTE EM Malaysia Sdn. Bhd. is set to launch a new product, lithium-ion batteries, by introducing electro-deposited copper foil with an investment worth RM3 billion (Shahril, 2023), which will enhance the performance of the electric mobility industry.

Moreover, MNEs frequently assist local suppliers in sourcing raw materials and intermediate products, further bolstering their capabilities (Aziz & Makkawi, 2012). The infusion of new technical knowledge by MNEs not only reduces production costs but also stimulates productivity and business expansion (Crespo & Fontoura, 2006). For example, an approved investment of RM2.1 billion in Malaysia's mining sub-sector is

expected to demonstrate the ability to acquire and utilize precious minerals from the country's resource-rich environment (Shahril, 2023). Importantly, these benefits extend beyond the immediate firm and positively impact other entities within the market, which commonly refer to the spillover effect.

In addition to technological advancements, FDI plays a pivotal role in fostering human capital development, as MNEs typically offer extensive training and skill development opportunities to local labour forces. Empirical evidence, as well as anecdotal accounts, suggest that MNEs tend to invest more in human capital development compared to domestic firms, thereby contributing to the overall enhancement of workforce skills and capabilities (Buckley et al., 2007). This influx of human capital not only benefits individual employees but also catalyzes the growth and development of local industries, as skilled workers often transition from foreign firms to domestic enterprises after gaining valuable training and experience. Moreover, beyond employees, employers themselves stand to gain from FDI, as they have the opportunity to acquire new management skills and insights into corporate governance practices (Loungani & Razin, 2001).

Consequently, many countries, especially developing countries, are fiercely competing to attract FDI, recognizing it as a potent mechanism to bridge the gap with developed nations—a phenomenon commonly referred to as the "latecomer's advantage." Malaysia is not immune to this trend. Despite experiencing a remarkable transformation from a low to a middle-income status, the nation has been grappling with the middle-income trap for a considerable period, hindering its progress toward becoming a high-income country (Cherif & Hasanov, 2015). The Malaysian government has made concerted efforts to address this challenge, evident in policies outlined in the recent development framework known as the Madani Economy (Prime Minister’s Office, 2023). FDI recognized as a key driver of Malaysia's growth (Chowdhury & Mavrotas, 2006), features prominently in this framework, with initiatives aimed at enhancing the nation's world competitiveness ranking to signal its attractiveness to investors and businesses. This underscores the need to identify the factors contributing to the government's success in attracting FDI.

Extensive literature provides empirical evidence of the key factors associated with FDI inflows. For example, some studies suggest that exchange rate stability directly impacts imports and exports (Zakari, 2017), thereby affecting FDI growth. Both positive and negative effects of exchange rates on FDI are found in the literature. On the one hand, Tan et al. (2021) and Ahmad et al. (2019) found that the depreciation of the host country's currency is conducive to FDI inflow. This is because a stable or depreciating host currency against foreign currencies decreases investors' costs (Hasli et al., 2019). On the other hand, Ogbonna (2019) and Ayomitunde et al. (2020) argue that the relationship between exchange rates and FDI inflow is positively related. This could be because the appreciation of the domestic currency is believed to increase FDI inflows by boosting investors' revenue (Shahrudin et al., 2011).

Further research in this area has revealed varying relationships across different markets. Khandare (2016) found a negative relationship in China but a positive relationship in India. These conflicting findings can be attributed to the different purposes of FDI (Lily et al., 2014). If FDI aims to re-export goods or is export-oriented, a depreciating local currency may increase FDI inflows due to lower capital costs and greater competitiveness in the international market. Conversely, if FDI aims to serve the host country or is market-seeking, the appreciation of the local currency may increase FDI inflows as the domestic market gains greater purchasing power.

Moreover, many scholars suggest that a country's population plays a significant role in attracting FDI inflows, with both positive and negative effects (Aziz & Makkawi, 2012; Dang & Nguyen, 2021). Billington (1999) proposed that foreign companies consider the workforce they intend to employ in the host area when making FDI decisions. The factors they consider include costs, availability, and productivity. On the one hand, a larger population size and growth rate indicate lower labour costs and increased output from production as the labour force expands (Nyoni and Bonga, 2017). These factors are favourable for economic development and help attract FDI inflows. On the other hand, a large population could potentially hinder economic progress, leading to higher unemployment rates when job opportunities do not grow at the same pace (Asongu, 2013), thereby undermining investor confidence (Aziz & Makkawi, 2012). This phenomenon is more prevalent among developing countries, where population

growth may hinder development (Peterson, 2017). Thus, the relationship could vary among countries. Among all indicators, the mid-year population is one of the most used metrics to represent the population for empirical estimation (Majeed & Ahmad, 2008; Stevan, 2017).

Market size is another major determinant of FDI, as proposed in the literature. Numerous studies, including Khachoo and Khan (2013) and Aziz and Mishra (2015), among many others, suggest that a positive relationship is presented between market size and FDI inflows. The main reason is that a large market size is considered as favourable by foreign investors because indicating that the host country has more potential for consumption and brings more opportunities to business (Ranjan & Agrawal, 2011), especially in the market seeking FDI. Market size is commonly measured in several ways, including Gross Domestic Product (GDP) and GDP per capita. Root and Ahmed (1979) argue that the absolute size of GDP can better reflect market size than GDP per capita. This is further supported by Korsah et al. (2022), as higher GDP represents a larger market size, which tends to be attractive to foreign investors seeking a larger customer base and stable economics.

In addition to the macroeconomic determinants mentioned above, human capital has long been recognized for its impact on FDI inflows (Akın & Vlad, 2011). This can be attributed to foreign investors' confidence in the socio-economic performance, as efficiency-seeking FDI requires various inputs, including a skilled workforce (Cleeve et al., 2015). Given that many investors are shifting from resource-seeking to efficiency-seeking strategies in developing countries, the role of human capital becomes even more significant (He et al., 2023). Moreover, greater human capital improves labour productivity and reduces communication barriers, which is favourable for foreign investors (Majeed & Ahmad, 2008).

Although many factors could contribute to improving the human capital, the size, and efficiency of the host country's government's resource allocation play a pivotal role in shaping this socio-economic performance. Cleeve et al. (2015), Mohammed (2021), and Villela and Paredes (2022) proposed the use of government expenditure on education as a proxy for human capital based on the rationale that skill level and knowledge base directly depend on government spending on education. Recent research suggests that

government expenditure on education is even more effective in attracting FDI inflows than infrastructure expenditure (He et al., 2023), and it is often considered a reliable proxy for human capital, representing government efforts in promoting a productive and competitive economic environment.

3.0 Methodology and Data

While a vast amount of literature provides theoretical frameworks and empirical evidence for FDI determinants, the Dunning eclectic paradigm, based on the Ownership-Location-Internalization (OLI) model developed by Dunning (1980), is considered the most comprehensive framework (Kinuthia & Murshed, 2015). This paradigm allows for explanatory variables from a wide range of social and economic costs (Dang et al., 2024). The theory operates on the assumption that MNEs invest in host countries based on differences in transaction costs between their home and host countries. Thus, this study adopts the suggestion made by Othman et al. (2018) by using the OLI model as its theoretical basis. The location advantages in the host country significantly attract FDI inflows, and related macroeconomic variables are included to represent these location advantages, which act as significant pull factors for FDI inflows. A base model based on existing literature is established as equation (1):

$$lnFDI_t = \alpha + \beta_1 lnER_t + \beta_2 lnPOP_t + \beta_3 lnGDP_t + \beta_4 lnGOV_t + \varepsilon_t \quad (1)$$

In the proposed model, FDI represents the inflows of foreign direct investment into Malaysia. Additionally, ER denotes the exchange rate, POP stands for the population of Malaysia, GDP signifies Malaysia's Gross Domestic Product, reflecting the country's market size, and GOV represents Malaysia’s government expenditure on education.

To enhance the suitability of the data for analysis, all variables are transformed using the natural logarithm, as recommended by Hasli et al. (2017). This transformation method is advantageous as it effectively normalizes highly skewed variables, rendering them more approximately normal and facilitating more reliable statistical analyses.

All these explanatory variables are anticipated to yield positive coefficients. Firstly, currency appreciation is expected to drive FDI inflows upward, as it boosts

investor revenue by increasing the value of domestic currency (Hasli, 2019; Khandare, 2016; Lily et al., 2014). Additionally, a larger population is likely to attract more FDI, as it correlates with increased consumer demand (Asongu, 2013; Aziz & Makkawi, 2012). A growing market size presents more favourable conditions for foreign investors, thereby enhancing FDI prospects (Aziz & Mishra, 2015; Ranjan & Agrawal, 2011). Lastly, government expenditure on education is positively associated with FDI inflows, as higher education levels are indicative of greater productivity (Akin & Vlad, 2014; Majeed & Ahmad, 2008).

This study employs the Autoregressive Distributed Lag (ARDL) approach to estimate the relationship between FDI and all independent variables (exchange rate, population, market size, government expenditure on education). It incorporates econometric modeling using the bounds testing approach for cointegration and the Error Correction Model (ECM) based on ARDL for causality tests.

As proposed by Pesaran et al. (2001), this approach offers several advantages in testing for a long-run relationship between two or more variables. Notably, it is adept at handling non-stationary data, a common issue in time series data analysis. Endogeneity is also less likely a problem with the ARDL model, thus enabling estimation even if the variables are endogenous (Tee et al., 2021). Additionally, the ARDL error correction model regression is valuable for capturing the speed at which variables return to their long-run equilibrium following a shock. This test relies on the notion that the error correction term will be significant if the variables exhibit a long-run relationship (Channa, 2023).

Firstly, time series data is collected and subjected to unit root tests to ensure its suitability for the ARDL approach. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests are employed to assess stationarity and determine the order of integration of the series variables before conducting the cointegration test. Unlike the ADF test, the PP test allows for the residuals to be serially correlated. The PP test necessitates the adjustment of the t-statistic using a long-run variance estimation, which is implemented using a Newey-West covariance estimator (Hasanov, 2020). Following confirmation of data stationarity, the model is transformed into Equation (2) below:

$$\Delta lnFDI_t = \alpha + \sum_{i=0}^{n} \beta_1 \Delta lnER_t + \sum_{i=0}^{n} \beta_2 ln\Delta POP_t + \sum_{i=0}^{n} \beta_3 ln\Delta GDP_t + \sum_{i=0}^{n} \beta_4 ln\Delta GOV_t + ln\gamma_1 ER_t + ln\gamma_2 POP_t + ln\gamma_3 GDP_t + ln\gamma_4 GOV_t + \varepsilon_t \quad (2)$$

The Ordinary Least Squares (OLS) method is utilized to estimate Equation (2) as the initial step in the ARDL bounds testing strategy. To ascertain the presence of any long-term correlations between the variables, the F-test is employed. This test assesses whether the null hypothesis, where all coefficients equal zero (implying no long-run relationship), is rejected in favour of the alternative hypothesis, where at least one coefficient is non-zero. The computed F-statistic value is compared against two sets of critical values proposed by Pesaran et al. (2001). If the computed F-statistic exceeds the upper critical value, the null hypothesis of no cointegration is rejected. Conversely, if it falls below the lower critical value, the null hypothesis is accepted. If it falls within the critical value range, no definitive conclusion can be drawn.

In the second step, the presence of a long-run relationship is explored using the selected ARDL model, typically assessed through the Akaike Information Criterion (AIC). When a long-run relationship exists among the variables, an error correction representation emerges. Consequently, the following error correction model, as depicted in Equation (3) below, is estimated in the third step:

$$\Delta lnFDI_t = \alpha + \sum_{i=0}^{n} \theta_1 \Delta lnER_t + \sum_{i=0}^{n} \theta_2 \Delta lnPOP_t + \sum_{i=0}^{n} \theta_3 \Delta lnGDP_t + \sum_{i=0}^{n} \theta_4 \Delta lnGOV_t + \delta ECM_t + \varepsilon_t \quad (3)$$

where θ_n indicates the short-run dynamics, ECT is the error correction term measuring the speed of adjustment each period toward equilibrium after a shock, and δ is the corresponding parameter that gives this measure. The expected value of the corresponding parameter of ECT ranges from −1 to 0, where 0 implies no convergence toward equilibrium and − 1 implies perfect convergence, that is, any shock in this period is perfectly adjusted for the next period if the value is −1 (Sarker & Khan, 2020).

To ensure the robustness of the findings, several diagnostic tests will be conducted following these estimations. These tests encompass the Breusch-Godfrey Serial Correlation LM Test, which safeguards against serial correlation in the findings (Breusch, 1978; Godfrey, 1978). Subsequently, the Breusch-Pagan-Godfrey Test for heteroscedasticity will be employed to ensure the homoscedasticity of the model.

Ramsey's RESET test will then be applied to assess the appropriateness of the regression's functional form (Ramsey, 1969). Additionally, the CUSUM and CUSUM square tests will be conducted to identify structural breaks in the intercept of the regression equation and the mean of the regression coefficients, respectively. The CUSUMSQ test is specifically tailored to identify structural breaks in the slope coefficients or the variance of the error term (Turner, 2010).

All data were collected monthly from 2010 to 2019, comprising a total of 120 monthly data points. This timeframe was selected to mitigate the statistical disruptions caused by the Global Financial Crisis of the late 2000s and the COVID-19 pandemic in the early 2020s. By utilizing data from the sample period, it is expected that the findings will provide insights into the Madani Economy framework based on the outcomes of the Malaysian government's series of efforts from the previous decade. The data sources are detailed in Table 1.

Table 1: Data Source

Variable	Measurement	Source
FDI	Foreign direct investment, net inflow (US Dollars, Millions)	International Monetary Fund
ER	Monthly average Exchange Rate against USD (MYR/USD)	International Monetary Fund
POP	Mid-year Population (People, Millions)	Department of Statistics Malaysia
GDP	Nominal Gross Domestic Product (US Dollars, Millions)	International Monetary Fund
GOV	Government expenditure on education (US Dollars, Millions)	Bank Negara Malaysia

4.0 Results and Discussion

The descriptive statistics outlined in Table 2 highlight notable patterns within the dataset. The substantial fluctuations primarily stem from FDI inflows and GDP, as evidenced by

their higher standard deviations. Conversely, the remaining variables exhibit comparatively steadier trends, with the exchange rate particularly showcasing remarkable stability.

Table 2: Descriptive Statistics

	Mean	Standard Deviation	Max	Min
FDI	8495.903	1298.286	12967.41	6176.623
ER	3.629951	0.504816	4.457300	2.982400
GOV	1932.887	779.6570	3887.167	836.2639
GDP	79457.28	8160.980	95207.34	58356.58
POP	30.78303	1.337320	32.52300	28.58860

While the ARDL technique is versatile, accommodating variables of various integration orders, it's crucial to confirm that none exceed an order of I(1). Therefore, unit root tests, particularly the ADF and PP tests, are applied to ascertain stationarity prior to estimations. Table 3 displays the results after the data are transformed into natural logarithm format, indicating that all variables are either I(1) at a 1% confidence level according to the Augmented Dickey-Fuller (ADF) or Phillips-Perron (PP) tests, validating their suitability for ARDL estimation.

Subsequently, a bound test is executed to assess the presence of cointegration within the model. Table 4 illustrates that the F-statistic exceeds the upper critical bound, suggesting a cointegration relationship exists. This leads to the presentation of long-run coefficients for the explanatory variables in Table 5.

Table 3: Unit Root Tests

	ADF		PP	
	Intercept	**Trend and Intercept**	**Intercept**	**Trend and Intercept**
Level				
lnFDI	-3.8062***	-3.8081**	-4.3875***	-4.3581***
lnER	-0.8300	-0.8300	-0.6863	-2.3205
lnGOV	-1.8249	-1.0939	-1.8175	-0.9976
lnGDP	-2.3355	-2.5348	-2.3345	-2.5415
lnPOP	-1.9931	0.4666	-1.3977	-2.5613
First Difference				
lnFDI	-9.0473***	-9.1000***	-30.4633***	-32.4586***
lnER	-7.3616***	-7.3601***	-7.3166***	-7.3170***
lnGOV	-10.8084***	-10.9726***	-10.8114***	-11.0526***
lnGDP	-11.1064***	-11.1251***	-11.1038***	-11.1288***
LnPOP	-0.5639	-1.9421	-14.8996***	-14.5509***

Note: *** and ** indicate 1% and 5% significance levels, respectively.

Table 4: Bounds Test

F-statistic	7.1729	
	Lower Bound	**Upper Bound**
1% significance level	2.303	3.220
5% significance level	2.688	3.698

The results show that the exchange rate, GDP, and population variables are statistically significant, at least at the 5% confidence level. The analysis reveals that both the exchange rate and GDP positively influence FDI inflows, whereas a negative relationship between population to FDI inflows is observed. However, government

expenditure on education appears to be an insignificant factor, indicating it likely plays a minor role in attracting FDI to Malaysia.

Furthermore, the estimation successfully passes all diagnostic tests, indicating the absence of heteroskedasticity and serial autocorrelation issues. Additionally, normal distribution and correct functional form are confirmed. Figures 3 and 4 display the CUSUM and CUSUM square tests, respectively, affirming the stability of the estimation. These comprehensive tests collectively bolster the reliability of the estimation results.

Table 5: Long-Run Estimation

	Coefficient	**t-statistic**	**p-value**
lnER	1.1386**	0.0238	0.0238
lnGOV	-0.1344	-1.9190	0.0579
lnGDP	1.5094***	3.1197	0.0024
lnPOP	-5.7863**	2.3742	0.0195
Diagnostic tests			
Jarque-Bera		2.139557	
Breusch-Pagan-Godfrey		1.217314	
Breusch-Godfrey Serial Correlation LM		0.282633	
Ramsey RESET		0.948317	

Note: ER, GOV, GDP, and POP represent exchange rate, government expenditure on education, gross domestic product, and population, respectively. *** and ** indicate 1% and 5% significance levels, respectively.

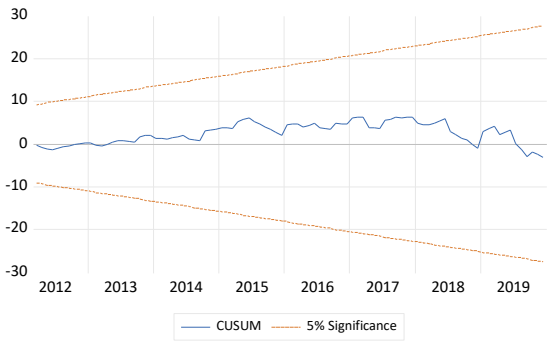

Figure 3: CUSUM

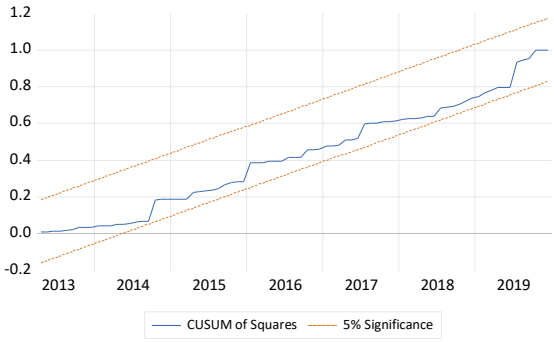

Figure 4: CUSUM Square

The discussion now transitions to the short-run estimation model, with the results detailed in Table 6. Notably, the coefficient of the cointegration equation is negative and statistically significant at 1% confidence level. This finding suggests the presence of short-run adjustment dynamics for FDI inflows where it implies a rapid adjustment process towards long-term equilibrium, indicating the responsiveness of FDI inflows to short-term changes in the explanatory variables. Specifically, the estimated Error Correction Term (ECT) coefficient lagged one suggests that the dependent variable's short-run adjustment towards the equilibrium mean is approximately 65.91% per month, holding all other variables constant.

Table 6: Error Correction Model

	Coefficient	t-statistic
lnER	-0.9180	-1.6623
lnGOV	0.2077	1.7199
lnGDP	1.3821***	3.1433
lnPOP	0.7817	0.3214
ECT(-1)	-0.6591***	-6.7255

Note: *** and ** indicate 1% and 5% significance levels, respectively.

In summary, the findings reveal intriguing insights. Surprisingly, government expenditure on education, serving as a proxy for human capital, proves insignificant in both short and long-run models. This suggests that foreign investors may not prioritize the quality of the labour force in Malaysia when deciding to invest. One potential explanation is Malaysia's reliance on low-skilled labour, reducing the significance of skilled labour in the decision-making processes of multinational enterprises (Ng et al., 2019).

Moreover, the positive relationships observed between the exchange rate and GDP in the long-run estimation reflect fundamental drivers of FDI inflows in Malaysia. Currency appreciation and economic growth enhance purchasing power in the domestic market, fostering increased spending and rendering the economy more attractive to FDI-seeking markets. Consequently, this suggests that the Malaysian economy is particularly adept at attracting market-seeking FDI rather than export-oriented FDI. Notably, this

pattern persists in the short-run model, albeit with only GDP maintaining its significance level at 1% confidence level.

The long-run model uncovers a surprising negative relationship between population and FDI inflows, counter to the conventional expectation that a larger population signifies a greater production capacity, which typically attracts FDI. This unexpected finding can be attributed to several factors. Firstly, it may reflect concerns within the labour market. While population growth could potentially attract FDI, the relationship becomes complex when the economy is significantly burdened by unemployment (Alharti et al., 2024). A growing population without sufficient job opportunities could lead to high unemployment rates, which erode foreign investors' confidence (Asongu, 2013; Aziz & Makkawi, 2012), particularly in a market-seeking FDI environment like Malaysia's. Additionally, the positive relationship is mainly observed among developed countries, whereas developing countries like Malaysia might experience different dynamics, where population growth dampens economic growth (Peterson, 2017) and, consequently, the attractiveness of FDI (Dang et al., 2021). Recent studies also suggest another potential explanation to this phenomenon by linking population growth with environmental challenges. The demand for resources like water and energy increases together with the population (Arain et al., 2019), posing significant challenges to supply adequacy and sustainability, thereby potentially deterring FDI inflows. These results highlight the importance of the development of sustainable and environmentally friendly frameworks by the Malaysian government is playing a crucial role in ensuring an adequate supply of resources for multinational enterprises operating in the market.

5.0 Conclusion and Future Research

FDI has long been recognized as a crucial resource for the development of host nations, offering vary benefits such as technological advancement, human capital development, job creation, and spillover effects that benefit the entire domestic market. Many economies, particularly developing countries facing resource constraints, actively seek effective policies to attract FDI inflows.

While Malaysia is no exception, it grapples with a critical challenge in this regard, experiencing a diminishing competitive edge evidenced by its declining share of FDI inflows in Southeast Asia, a region highly sought after for FDI. Recognizing this issue, the Malaysian government has prioritized efforts to improve its position in FDI inflows, notably through initiatives outlined in the recent development framework, Madani Economy.

This study aims to contribute insights into factors that should be emphasized in government policy design to enhance FDI attractiveness. Given the constraints of fiscal resources and the urgency for the Malaysian government to design effective policies, this study aims to provide insights into the success of the recent Madani Economy framework by drawing from the experience of active policies implemented in the previous decade. By employing the ARDL approach with monthly data spanning from 2010 to 2019, the study reveals that both exchange rate and GDP exert positive impacts on FDI inflows, underscoring the significant role of market-seeking FDI in the Malaysian market.

Moreover, the study highlights the deterrent effect of a growing population on FDI inflows in Malaysia. This phenomenon stems from pressure on the labour market, potentially eroding the economic growth that is crucial for market-seeking FDI, and the strain on resources as the population expands.

The findings suggest that sustaining FDI inflows in the Malaysian economy over the long term necessitates greater focus on developing the domestic market to enhance purchasing power, particularly given the significant role of market-seeking FDI. Additionally, addressing potential unemployment resulting from population growth is crucial for maintaining Malaysia's competitive strength, especially in attracting market-seeking FDI. Tackling the increasing resource demands of a growing population through the adoption of environmentally friendly production approaches acts as a potential solution to mitigate the resource pressures. Coincidently, this aligns with the growing global awareness of environmental concerns in fostering economic growth. Initiatives like the Sustainable Development Goals (SDGs) promoted by the United Nations emphasize the importance of sustainable growth, energy availability, and access to sufficient water supply. By integrating these environmental considerations into its development strategies, Malaysia can not only enhance its attractiveness to FDI but also

contribute to broader sustainability objectives and future-proof its economy against environmental challenges.

While this study tries to include potential determinants of FDI inflows based on available knowledge and data, there are limitations that future research could address. A notable constraint is the changing dynamics of world trade relationships and geopolitical structures in recent years, which influence the investment objectives of MNEs. However, the data availability constrained this study to provide an estimation from this aspect.

Besides, the literature also suggests that spillovers do not take effect automatically without effort from host countries (Sultang & Turkina, 2020). Absorptive capacities such as economic freedom (Tee et al., 2015), infrastructure, human capital, economic development, and openness (Yu et al., 2020) are considered important for host countries to benefit from FDI inflows. Without taking into consideration the absorptive capacity of the host country, it might be insufficient to examine whether the Malaysian economy is able to benefit from FDI inflows. Future research could address these limitations by utilizing more comprehensive and recent datasets to yield more statistically meaningful results.

Author Contribution Statement: Conceptualization: Y.S.C, C.L.T; Writing – original draft: Y.S.C, C.L.T; Writing – review and editing: Y.S.C, C.L.T; Methodology: Y.S.C; Data Curation: Y.S.C; Formal analysis: Y.S.C; Validation: C.L.T.

Funding Statement: No funding was received to assist with the preparation of this manuscript.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data are available from the corresponding author upon request.

Acknowledgement: The authors would like to express sincere gratitude to the editors and anonymous reviewers for their valuable comments and insightful inputs, which have significantly contributed to the improvement of this study. Their expertise and constructive feedback have been instrumental in enhancing the quality and rigor of the work.

Conflict of Interest Statement: The authors have no competing interests to declare that are relevant to the content of this study.

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