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Determinants of Foreign Direct Investment in the Maldives: A Multiple Regression Analysis

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ABSTRACT *This main objective of this study is to investigate the determinants of foreign direct investment (FDI) based on selected variables in the Maldives. Multiple regression analysis was performed on data collected from the World Bank, the Maldives Monetary Authority, and the International Monetary Fund (IMF), covering the period from 1991 to 2022. The study employs a multiple regression model with FDI as the dependent variable, and the exchange rate, merchandise account, current account balance, and tourist arrivals as independent variables. The results reveal that tourist arrivals and current account balance significantly impact FDI, indicating that these two factors play a key role in attracting FDI to the Maldives. The findings have important implications for policymakers, investors, and stakeholders focused on attracting foreign investment, which could contribute to economic growth in the Maldives.*

Keywords: FDI, Maldives, Small Island Developing States (SIDS) developing countries, economic growth, Tourism.

Introduction

Foreign Direct Investment (FDI) serves as an important catalyst in transferring knowledge to developing countries (Al-Kasasbeh et al., 2022). Countries have benefited from external resources such as job opportunities, technological advancements, and capacity building (Al-Kasasbeh et al., 2022). Many experts in the field believe that promoting FDI in developing countries is an effective way to address socioeconomic issues faced within host countries to a certain level (Samimi et al., 2011). FDI can significantly boost the economy in multiple ways, providing numerous benefits for governments that adopt policies, regulations, and laws encouraging foreign investments (Meivitawanli, 2021). These benefits could be particularly significant for a developing country like the Maldives.

Although FDI is viewed as a substantial economic growth option, several researchers have emphasised the need to examine its determinants. Numerous studies have shown revealed that FDI act as a catalyst for sustainable development, significantly reducing economic inequality and improving environmental quality across the globe (Ridzuan et al., 2018). This demonstrates that FDI plays a key role in boosting the economy. Despite its recognised importance, there has been limited research on the determinants of FDI, particularly in the Maldives. The

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Maldives, being one of the largest recipients of FDI among Small Island Developing States due to its rich hospitality and tourism sector, makes it crucial to examine the determinants of FDI in the Maldives. This paper aims to examine the determinants of FDI in the Maldives using selected variables. The findings will provide valuable insights for policymakers to develop strategies to attract more FDI to the country.

The Maldives receives a significant amount of FDI, particularly from the private sector, which greatly boosting its economy. However, collecting accurate data on private capital inflow remains a significant challenge for the Maldives due to limited mechanisms, complicating the data collection process (Shahud, 2022). This poses a major problem as the data provide valuable insights into where FDI is being directed. Another key issue is the limited research on the determinants of FDI in the Maldives. Supporting this, studies such as Teulon and Guesmi (2013) noted that very little research has been conducted on FDI in the SAARC region, largely due to a lack of data from most countries. As a SAARC member, the Maldives also faces the issue of insufficient data to determine the factors influencing FDI. Despite these challenges, the Maldives does collect data on FDI inflow to the country.

The study aims to address the knowledge gap by investigating the determinants of FDI in the Maldives. The findings will assist the government, policymakers, and private sector firms in understanding these determinants. This understanding will help these key stakeholders formulate evidence-based policies using the identified variables and methods to attract FDI. Additionally, the study will provide the government and relevant stakeholders with strategies to address FDI-related challenges and offer solutions to mitigate these issues using the research variables.

Research Objectives

The primary focus of this research is to examine the determinants of FDI based on selected variables using data from the period 1991 to 2022. To support these research objectives, several sub-objectives are outlined below:

1. Determine which of the selected variables impact FDI in the Maldives.
2. Address the existing knowledge gap on the determinants of FDI in the Maldives by using the selected variables as key catalysts.

Theories of FDI

The growth in the cause and effect of foreign direct investment (FDI) has let to the development of multiple theories that focus on the determining factors influencing FDI (Mudiyanselage & Epuran, 2022). According to Faeth (2009), the first explanation of FDI was based on the models put forward by Heckscher-Ohlin (1933) and MacDougall-Kemp model (Assunção et al., 2013). The model explains the driving forces behind increased growth, lower labour costs, and reduced exchange risks in international markets (Assunção et al., 2013).

Although the MacDougall-Kemp model was the first method used to explain FDI, the eclectic paradigm has held its position for more than two decades as the predominant analytical framework for accommodating a range of operationally testable economic theories for the determinants of FDI (Dunning, 2000). The eclectic paradigm states that the interaction of three sets of independent variables, which themselves constitute the components of three sub-paradigms, determines the amount, geographic distribution, and industrial makeup of international production (Dunning, 1988). The eclectic approach is also known as the "OLI paradigm." The OLI paradigm model explains outward FDI. It suggests that a multinational enterprise (MNE) develops a competitive Ownership (O) advantage in the host country and then transfers this advantage to a specific country depending on the Location (L) advantage in the form of FDI, which allows the MNE to internalise the O advantage (Rugman, 2010).

Unlike the OLI paradigm, the Production Cycle Theory, created by Vernon in 1966, was adapted to explain certain types of FDI made by U.S. companies in Western countries by the end of the Second World War (Makoni, 2015). According to Vernon, the production cycle goes through four stages: innovation, development, maturity, and decline (Makoni, 2015). Other theories, such as the Internalisation Theory, describe the development of multinational corporations and the driving forces behind attracting FDI (Denisia, 2010). The theory was first introduced by Coase in a national context in 1937 and by Hymer in an international context in 1976. In his doctoral dissertation, Hymer identified two key factors of FDI: the elimination of rivalry and the advantages that certain businesses possess in a particular activity (Denisia, 2010).

Literature review

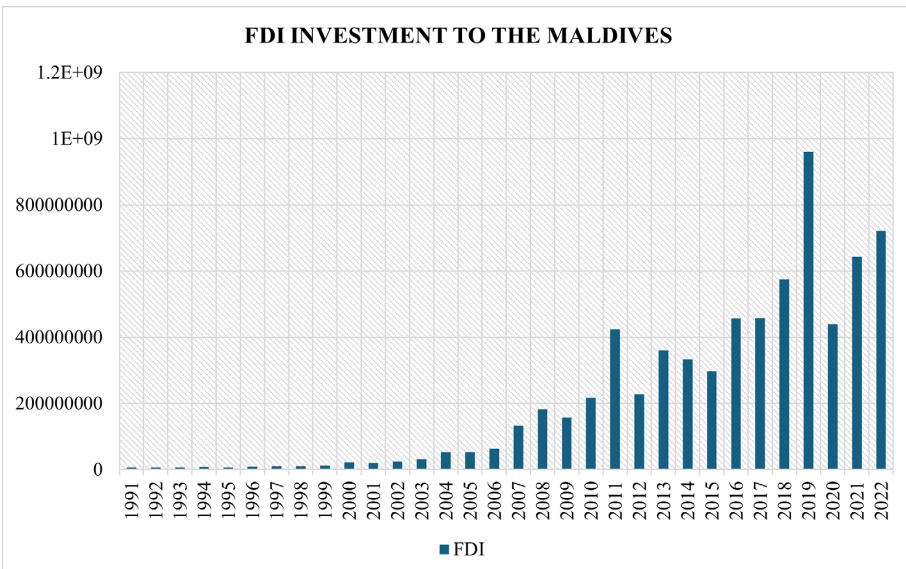
Foreign direct investment in the Maldives

Foreign direct investment (FDI) has played a key role in driving economic growth in numerous developing countries, including the Maldives. FDI involves moving capital from one country to another as a form of investment to maximise profits, expand business activities, transfer technologies, mitigate risks, and for other reasons (Nguyen, 2021). FDI is of immense importance to the Maldives, where tourism is the largest contributor to FDI, and foreign exchange is a key source of revenue for the country (Lloyds Bank, 2024). The Maldives has a long history when it comes to FDI with the mid-late 1970's seeing a significant boost in fisheries and telecommunication investment (Najeeb, 2020). The foundational growth for FDI in the Maldives began after the enactment of Foreign Investment Act in 1979 which boosted foreign direct investment (Najeeb, 2020). After this development, foreign investment boomed during 1980s and 1990s, when foreign companies first setup garment or apparel facilities with the aim of reaching European and United states markets under a Multi-Fiber agreement through a quota system (Najeeb, 2020).

The government later introduced economic reforms in 1989 through private sector exports and relaxtion of import quotas, which boosted the economy (Haneef, 2010). This had led to various companies from the hospitality and tourism sector to invest in the Maldives. This is evident from an online report released by Lloyds Bank in 2023, which revealed that multinational hotel chains such as Hilton, Marriott, and Four Seasons have made significant investments in the country. Recent data also revealed that FDI in the tourism industry plays a major role in the Maldives, with 80% of total greenfield investments accounted for by the tourism industry (Ministry of Tourism, 2023).

In addition to the significant contribution of FDI to the tourism industry, FDI has seen a substantial increase over time, with a total of US$443.5 million as of 2021, showing a marginal increase from the previous year's US$440.7 million recorded in 2020 (Ministry of Tourism, 2023). Nevertheless, this figure, compared to the three-year average, remains largely the same, despite the COVID-19 pandemic disrupting the flow of FDI. Despite this, the Maldives remains among the top five countries within Small Island Developing States (SIDS) to receive FDI, with a 12% rise in FDI totalling US$772 million as of 2023 (United Nations Conference on Trade and Development [UNCTAD], 2023).

Graph 1: Shows the amount of FDI that Maldives received during the period 1991 to 2022 (Data Source: World Bank)



The Maldives has maintained clear regulatory mechanisms for FDI and fosters an open trade environment, guaranteeing security for both local and foreign investors. Despite these significant guarantees, foreign investors face several challenges. Maldivian law imposes several restrictions on foreign investors, reserving certain sectors for local entrepreneurs, such as photography, retail businesses, travel agencies, and more (Ministry of Economic Development, 2019). Foreign investors are also restricted in key industries like fisheries within the Maldivian Exclusive Economic Zone (Ministry of Economic Development, 2019). Another major issue for foreign investors is unclear legislation, the political influence of local firms, and codified restrictions (United States Department of State, 2021).

While these issues are important, a major challenge is the accuracy of data and the lack of mechanisms for collecting it, making it difficult for policymakers to make informed decisions. Despite these challenges, the Maldives remains a top tourism investment option for many foreign investors.

The most recent studies of FDI in the Maldives have shown notable increases in FDI and its contribution to the Maldivian economy. Scholars, including Najeeb (2020), have explored the impact of FDI on the Maldivian economy, emphasising its crucial role in the nation's progress. However, research gaps still exist, as highlighted in studies such as the one carried out by Pradhan and Saha (2011). This study by Pradhan and Saha (2011) examined the factors influencing FDI in SAARC countries, such as exchange rates, inflation, labour force, and GDP per capita, shedding light on their impact on FDI in the Maldives. However, these studies do not investigate other important variables, such as tourist arrival numbers in relation to the key tourism sector, nor do they focus specifically on the Maldives.

Methodology

This research adopts a quantitative methodology, using time series data and a multivariate regression model to examine the determinants of FDI in the Maldives. The study utilises several variables from a previous study by Pradhan and Saha (2011). In addition to these variables, tourist arrivals have been included as an additional variable to tailor the study specifically to the Maldives.

Data Description

The data covering the period from 1991 to 2022, has been gathered from the open databases of the World Bank, the International Monetary Fund, and the Maldives Monetary Authority. The variables used in the study are measured in US dollars. The independent variables include the exchange rate, measured in Maldivian Rufiyaa per US dollar; the merchandise account balance, which represents the balance of merchandise trade; the current account balance, expressed as a percentage of GDP; and tourist arrivals, based on the number of tourists arriving in the Maldives.

$$\mathbf{FDI} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\,(\boldsymbol{Exchange\ Rate}) + \boldsymbol{\beta_2}\,(\boldsymbol{Merchandise\ Account}) + \boldsymbol{\beta_3}\,(\boldsymbol{Current\ Account\ Balance}) + \boldsymbol{\beta_4}\,(\boldsymbol{Tourist\ arrival}) + \epsilon$$

Model Specification

The model aims to examine the relationship between FDI and the independent variables. The study uses the following multiple regression model:

The variables are defined as follows:

- FDI: Dependent variable.
- Exchange Rate, Merchandise Account, Current Account Balance, Tourist arrival - ndependent variables.
- Ꜫ: a Error Term.

Model Specification

The study employs multiple linear regression analysis to estimate the coefficients of the model. Prior to running the test, the data was standardised using z-scores to ensure meaningful results. Additionally, panel data regression analysis is used to estimate the coefficients of the model, with fixed effects model applied to account for unobserved heterogeneity across countries. Diagnostic tests will be conducted to assess the presence of multicollinearity, and normality tests will also be conducted.

Test of Normality

Table 1 shows the normality test. The Shapiro-Wilk test statistic is 0.935, indicating that the residuals are likely to come from a normal distribution. With 32 degrees of freedom and a p-value of 0.053, there is no strong evidence to reject the assumption of normality for the residuals. In other words, the tests indicate that the residuals are normally distributed.

Table 1. Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardised Residual	.101	32	.200*	.935	32	.053
Standardised Residual	.101	32	.200*	.935	32	.053
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Results

The VIF values for all variables are below 5, indicating no significant multicollinearity issues. Specifically, "z_ER" has a VIF of 1.154, "z_MA" has a VIF of 2.067, "z_CurrentAB" has a VIF of 1.181, and "z_TouristA" has a VIF of 2.092, suggesting relatively low to moderate levels of multicollinearity. This section presents the findings and discussion based on the regression analysis, which examined the relationship between FDI and other variables. The variables for the research were standardised using z-scores. Through this regression analysis, unstandardised and standardised coefficients, significance levels, t-values, and confidence intervals for the coefficients were obtained. These results provided a comprehensive analysis of the strength and direction of the relationships between FDI and the other variables, revealing the determinants of FDI in the Maldives.

Before reporting the regression analysis, the multicollinearity issue needs to be addressed. The VIF values for all variables are below 5, indicating no significant multicollinearity issues. Specifically, "z_ER" has a VIF of 1.154, "z_MA" has a VIF of 2.067, "z_CurrentAB" has a VIF of 1.181, and "z_TouristA" has a VIF of 2.092, suggesting relatively low to moderate levels of multicollinearity.

The results from the regression analysis based on the data extracted from open data sources, indicate the relationships between the independent variables (z_ER, z_MA, z_CurrentAB, and z_TouristA) and the dependent variable (z_FDI). The regression model is intended to forecast z_FDI. The constant term is -8.576E-7, representing the expected value of z_FDI when there are no independent variables, with a 95% confidence interval ranging from -0.133 to 0.133.

For z_ER, the coefficient is 0.007, indicating a 0.007 unit rise in z_FDI for every unit increase in z_ER. However, this coefficient is not statistically significant ($t = 0.093$, $p > 0.05$), with a 95% confidence interval from -0.139 to 0.152. The coefficient for z_MA is 0.056, indicating a 0.056 unit rise in z_FDI for every unit increase in z_MA, but it is also not statistically significant ($t = 0.592$, $p > 0.05$), with a 95% confidence interval from -0.138 to 0.251.

The coefficient for z_CurrentAB is -0.208, indicating an inverse relationship between z_CurrentAB and z_FDI, where a one-unit increase in z_CurrentAB results in a 0.208 unit drop in z_FDI. This relationship is statistically significant ($t = -2.899$, $p < 0.05$), with a 95% confidence interval from -0.355 to -0.061. The coefficient for z_TouristA is 0.880, indicating that an increase of one unit in z_TouristA is correlated with an increase of 0.880 units in z_FDI. This coefficient is highly statistically significant ($t = 9.229$, $p < 0.001$), with a 95% confidence interval from 0.685 to 1.076.

Table 2 presents the summary of the regression analysis. The independent variables z_CurrentAB and z_TouristA have a statistically significant effect on z_ FDI. Higher values of z_TouristA are associated with higher z_FDI values, while higher values of z_CurrentAB are associated with lower z_FDI values. The non-statistical significance of the coefficients for z_ER and z_MA indicates that these variables may not have a significant effect on z_FDI in this model.

Table 2. Regression Analysis Results

Coefficients[a]								
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-8.576E-7	.065		.000	1.000	-.133	.133
	z_ER	.007	.071	.007	.093	.927	-.139	.152
	z_MA	.056	.095	.056	.592	.559	-.138	.251
	z_CurrentAB	-.208	.072	-.208	-2.899	.007	-.355	-.061
	z_TouristA	.880	.095	.880	9.229	.000	.685	1.076
a. Dependent Variable: z_FDI								

Discussion

The analysis results show that the current account balance and tourist arrivals have a significant impact on FDI, highlighting their importance in attracting foreign direct investment. FDI is negatively correlated with the current account balance, meaning that an increase in the current account balance leads to a decrease in FDI. Conversely, FDI is positively correlated with tourist arrivals, indicating that an increase in tourist arrivals leads to an increase in FDI. These results imply that measures intended to enhance the current account balance and encourage tourism may increase foreign direct investment inflows.

However, it is important to note that the effects of economic growth, the exchange rate, and the merchandise account balance on FDI were not statistically significant. Although the coefficients of these variables are positive, indicating a potential positive relationship, the lack of statistical significance suggests that their influence on FDI may be weak compared to the current account balance and tourist arrivals.

While the findings provide significant insight into the determinants of FDI, it is important to approach the application cautiously, as they depend on the specific dataset. Further research is needed to verify these results and explore other factors that might influence foreign direct investment, considering a wider range of variables and factors to provide a deeper understanding of FDI. This information could be used to create a targeted plan for attracting and maintaining foreign investment in the Maldives.

Conclusion, Limitations, and Recommendations

This study examined the factors that influence foreign direct investment (FDI) in the Maldives, with a particular emphasis on the current account balance, tourist arrivals, the exchange rate, and the merchandise account balance. The results emphasise that FDI inflows are significantly influenced by the current account balance and tourist arrivals, with the former exhibiting a negative correlation and the latter a positive correlation. These findings indicate that the Maldives may be able to attract additional foreign direct investment by promoting tourism and improving the current account balance. In contrast, the research determined that the impact of economic growth, the exchange rate, and the merchandise account balance on FDI was not statistically significant. Although these variables may seem significant intuitively, their impact on FDI in the Maldives appears to be less significant than that of the current account balance and tourist arrivals.

The research on the determinants of FDI in the Maldives, despite its potential contributions, has several limitations. One major limitation is the lack of reliable national data sources to accurately capture accurately data on private capital within the Maldives. This insufficiency might limit the comprehensive nature of the data used in the analysis. Another limitation is the relatively short period of data available for additional variables that could have been included in the study. A longer period and more variables could have provided greater insight. The study also lacks industry-targeted analysis, as much of the relevant data was not available from any sources. Furthermore, the findings of the study are specific to the Maldives and lack regional data that could have been used for a more comprehensive analysis. Despite these limitations, the study provides critical insights into the determinants of FDI within the Maldives and highlights various areas of interest that address existing knowledge gaps.

Several research directions could be explored on FDI related to the Maldives in future studies. Key areas include long-term effectiveness, industry-specific analysis, global patterns affecting FDI, and the impact of technological development on FDI. Examining the long-term consequences of FDI could provide clear insights into how it affects the Maldivian economy, with a focus on industries related to FDI inflow. Studies on global patterns and technological advancements in FDI research could provide key insights into the changes the Maldives needs to attract more foreign direct investment. Other research areas could use qualitative approaches to understand the reasons behind FDI in the Maldives. Additionally, analysing the ethical and sustainability aspects of FDI can help understand the balance between the advantages and drawbacks of FDI in meeting sustainable development objectives. Further research could also explore why foreign direct investment exists in the Maldives.

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