

## FORECASTING FOREIGN DIRECT INVESTMENT (FDI) IN SRI LANKA FOR THE PERIOD OF 2014-2023

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Foreign Direct Investment (FDI) is direct investment into production or business in a country by an individual or company of another country. FDI is strongly related to economic growth of developing countries. There are many variables associated with defining a country's FDI index and identifying those variables and the relationships among the variables will assist policy makers to draft better-quality macroeconomic policies. The general objective of this study is to forecast the volume of FDI in Sri Lanka for the next 10 years using time series analysis and Artificial Neural Network analysis. This study employed GARCH analysis, multiple regression analysis and Artificial Neural Network analysis to identify the relationships among variables. Required data are collected from the Central Bank of Sri Lanka and the Department of Statistics through their annual reports from 1960 to 2013. The study confirms the distribution of the annual FDI following Student's t distribution, Exports following Power Function, GDP following Burr (4P) and Imports following Johnson SB. FDI is highly positively interrelated indicating a positive correlation between GDP, Exports and Imports. Imports have shown highly bidirectional relationship to the FDI volume and unidirectional causality to GDP and Exports. According to the Augmented Dickey-Fuller Test, Sri Lankan FDI data is stationary. Applying Box-Jenkins models the study selected the ARIMA (1, 1, 5) model, which had the minimum AIC value. For the model validation, the predicted results were compared with the actual value for the year 2013 and both are within 95 percent confidence interval. The total volume of expected FDI for the next ten years (2014-2023) for Sri Lanka is LKR1088744 million according to ARIMA (1, 1, 5) model and LKR 11073781 million according to Artificial Neural Network model. ARCH and GARCH models are used to identify the relationships among the variables and finally selected GARCH (1, 1) process to reach the research objectives. Multiple regression model is also used as an alternative approach to the GARCH model to establish the relationships among the GDP, Exports and Imports. This study confirmed that FDI and imports in Sri Lanka have a high positive relationship.

**Keywords:** Foreign Direct Investment, Forecasting, Stationary, Time series, ARIMA, GARCH, Regression, Artificial Neural Network.