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FDI and Stock Market Performance in Sri Lanka: Short- and Long-Run Effects

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ABSTRACT

Purpose: This study investigates the impact of foreign direct investment (FDI) on stock market performance in Sri Lanka, emphasizing both short-run and long-run dynamics. Given the mixed findings in prior studies, this research provides an updated and detailed analysis.

Design/Methodology/Approach: The study accompanies quarterly data from 2003 to 2023. To analyze long-term and short-term components, it applies Johansen cointegration tests and the Vector Error Correction Model (VECM), with additional dynamic analysis tools including Granger causality tests, variable decomposition and impulse response functions. The empirical analysis is conducted using EViews software, incorporating key economic control variables such as interest rates, inflation, dependent growth, nominal monetary rates and exchange rates.

Findings: The study reveals a significant long-run relationship between FDI and stock market performance, emphasizing the role of FDI in the long-term development of the Colombo Stock Exchange. GDP shows a weak negative connection, while inflation, interest rates and exchange rates have positive long-run relationships with stock market performance. In the short run, FDI does not have a significant impact on stock market performance. However, the analysis shows that over time, FDI has a positive effect on the stock market although its contribution to short-term performance is limited.

Originality: This study provides updated evidence from Sri Lanka showing that FDI is a key driver of long-term stock market development and in the short term the impact is less pronounced. The findings provide valuable implications for policymakers and investors to understand the dynamic role of FDI in Sri Lanka.

KEYWORDS

Cointegration, FDI, Stock Market Performance, Sri Lanka, VECM, Impulse Response Function

JEL CLASSIFICATION

F21, G15

I. Introduction

Foreign direct investment and stock market performance are crucial for a country's economic growth, stability, and global competitiveness (Vuckovic et al., 2020). FDI enables the creation of jobs, increases exports, and reduces imports, and the transfer of know-how and technology stimulates economic growth (De Mello, 1999). The stock market can determine a country's economic prosperity, whereas the stock market reflects the state of mind of investors and may provide businesses with funds for the economy to grow (Chikwira & Mohammed, 2023). With its strategic location and potential to grow, Sri Lanka is a

perfect example for analyzing the relationship between FDI and how the stock market is performing. Sri Lanka can also be a long-term hub for global businesses (International Trade Administration, 2022).

Although the relationship between FDI and stock market performance is widely discussed, empirical findings, globally and locally remain mixed (Khamfula, 2007; Rajapakse, 2018). Some studies document a positive association between FDI and stock market development (Malik & Amjad, 2013; Agyapong & Bedjabeng, 2020; Jeffus, 2005), while others argue that there is a negative relationship (Dunning & Lundan, 2008; MacKenzie, 2004; Musa & Ibrahim,

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2014). This inconsistency is also evident in the Sri Lankan literature. Earlier studies, such as Rajapakse (2018) and Athukorala (2003), report limited or no strong relationship between FDI and Colombo Stock Exchange (CSE) performance. However, more recent research, like Sewwandi & Piyananda (2023) and Rauf (2016), finds evidence that FDI may influence the Sri Lankan share market, indicating that the topic merits deeper and updated investigation.

Contrary to the earlier claim that Sri Lankan research has focused mainly on GDP and stock market performance (Fernando, 2020; Sultanuzzaman et al., 2018). However, GDP alone does not adequately explain stock market performance. Several studies have indeed examined FDI–stock market linkages. Examples include investigations into long-run and short-run dynamics between FDI and the CSE by Sewwandi & Piyananda (2023). While these studies provide valuable insights, they differ widely in methodological rigor, time periods, and control variables used. Additionally, their conclusions remain inconsistent, indicative of a wider international disagreement. This inconsistency underscores the need for a comprehensive empirical assessment that accounts for evolving market conditions and uses a broader set of control variables.

This research contributes by providing a more comprehensive analysis by using both short-run and long-run perspectives of the effects of FDI on Sri Lanka's stock market performance, controlling for several robust macroeconomic variables such as GDP growth, inflation, interest rates, and exchange rates. While most of the previous works in Sri Lanka tend to concentrate either on a particular dimension of the relationship or limited sets of variables, this study approaches the relationships more systematically and logically. Such an approach allows for a clearer understanding of how FDI interacts with broader macroeconomic conditions to shape stock market outcomes.

This research is timely, given Sri Lanka's efforts to attract foreign capital, strengthen investor confidence, and integrate more deeply into global financial markets. The study presents significant implications to policymakers, investors, and business managers, both practically and theoretically. First, the individual study findings show how FDI might cause local firms to enhance competitive advantage and bargaining power and buyers. However, the study is associated with certain limitations, such as the application of secondary data and the specific political, economic, and cultural situation in Sri Lanka. Thus, decisions on a policy level concerning the potential effect of the foreign multinational enterprise presence on a developing country's economy should be based on each country's characteristics.

The rest of the sections are organized into five sections. The second section is the literature review, which thoroughly reviews the previous research on the relationship between FDI and stock market performance. It sums up the main findings of prior studies, which found a positive relationship between FDI and stock market performance, and those that found an inverse relationship. The third section is the methodology, which details the research methods, such as data collection methods, data analysis, and the research design. The fourth section is results and discussion, which reports the data analysis findings logical and structured manner, using tables and graphs. It interprets the findings about the research question and the thesis statement. It compares the findings with the results of other studies and points to similarities and differences with their results. The fifth section is the conclusion and implications, summarizing the study's main result and implications for the research question. The study results give recommendations for policymakers, investors, and business leaders. It suggests future research on the relationship between FDI and the stock market performance in Sri Lanka.

II. Literature Review

Conceptual Background

FDI is defined as the acquisition of voting power in an economic enterprise by any foreign direct investor or investing enterprise, and it corresponds to the case of indirect FDI (Ouanes et al., 1997). Traditional definitions largely focused on capital flows but have evolved to acknowledge the importance of knowledge-based assets (Saggi, 2002). The stock market is a market in which individuals and institutions can buy and sell shares at a price governed by the laws of demand and supply (Ayadi & Williams, 2023). In Sri Lanka, the Colombo Stock Exchange (CSE) is the regulated exchange facilitating such transactions (CSE-Colombo Stock Exchange, 2024).

Factors Influencing Stock Market Performance

The stock market performance is influenced by microeconomic variables such as economic growth, interest rates, inflation, and exchange rates (Chen et al., 2023). For example, high-growth industries with potential demand drivers are often associated with high stock valuations (Longstaff & Piazzesi, 2004). Likewise, low inflation rates encourage business investment and consumer spending, which are ideal conditions for the stock market (Choi & Mertens, 2019). Institutional and policy variables, including fiscal and monetary interventions, may influence the stock market's performance (Tobin, 1969). Concerning the external variables, the market volatility is likely to increase, meaning risk and uncertainty also rise (Longin & Solnik, 2001). This led to fluctuations in the international stock market, affecting the overall market and different industry sectors (Amihud, 2002). Technology may also disrupt different industries, creating new investment possibilities, while fair corporate practices

may improve investor confidence (Brynjolfsson & McAfee, 2011).

Global Evidence on the FDI and Stock Market Relationship

The relationship between foreign direct investment and stock market development is ambiguous and contingent upon the specific country's conditions and the time frame of the analysis. Studies from Pakistan (Al-Delawi et al., 2023) and Ghana (Adabor & Buabeng, 2020) provide strong evidence of a positive effect of FDI on stock market growth in both short-term and long-term perspectives. Political instability was a moderating factor in the relationship between FDI, stock market development, and economic expansion in Bangladesh (Hoque et al., 2018). A Nigerian study established that FDI had an insignificant and negative effect on the economy (Omodero & Ekwe, 2016), while Tite et al. (2022) found no long-run equilibrium relationship between FDI and stock market performance in the country. In Nepal, FDI had a long-term significant positive impact on the development of the stock market and a short-term negative impact, and a one-way causality in the long run from FDI to stock market development and a two-way causality in the short run (Chettri et al., 2022).

Relationship between FDI and Stock Market Performance in Sri Lankan Context

Over the past two decades, several Sri Lankan studies have attempted to examine the relationship between foreign direct investment and stock market performance, but the findings have been mixed and methodologically inconsistent. Early research by Athukorala (2003) utilized time-series data to examine the bidirectional relationships between FDI and stock market growth, and found that FDI has a limited impact on stock market development. While Rajapakse's (2019) also indicated that no long-run relationship existed between the FDI and the performance of the Colombo

Stock Exchange (CSE). However, other recent studies, including Sewwandi and Piyananda (2023), Rauf (2016), research on short - and long-run dynamics, show a different empirical result: initial FDI affects CSE behavior when a specific macroeconomic situation exists. These studies show an increasing academic interest in the subject, but also show some inconsistencies among empirical findings and methodological choices.

Although there are studies from Sri Lanka examining the relationship between FDI–CSE, they differ from other markets in relation to the period under study, macroeconomic variables (such as inflation, interest rates, exchange rates) and econometric model adopted (Rajapakse, 2018; Rauf, 2016; Sewwandi & Piyananda, 2023). Some concentrate on bivariate relationships only (Rajapakse, 2018; Athukorala, 2003) and some ignore the important macroeconomic fundamentals that impact both FDI and stock markets (Rajapakse, 2018; Rauf, 2016). As a result, there is a fragmented and inconclusive body of evidence on this topic. Though there have been a number of Sri Lankan studies, which investigated the linkage between FDI and stock market performance, their results are mixed, due to differences in the sample periods applied data frequency used and model specifications implemented everywhere that considers the short-run and long-run relationships between FDI inflows and stock market performance, particularly about controlling for necessary macroeconomic factors like GDP growth, inflation, interest rates, exchange rates, etc., over a reasonably long sample period. This gap justifies the need for the present study, which adopts a more robust econometric design (including cointegration, Vector Error Correction Model, and impulse-response analysis) to provide an updated and more reliable understanding of the FDI–stock market relationship in Sri Lanka. Accordingly, the study tests the following hypotheses: H1: Foreign direct

investment has a significant long-run relationship with stock market performance in Sri Lanka. H2: Foreign direct investment has a significant short-run effect on stock market performance in Sri Lanka. H3: The stock market performance of Sri Lanka is influenced by macroeconomic variables (GDP growth, inflation, interest rates and exchange rates) in the short run and long run.

III. Methodology

This study focuses on FDI inflows and the performance of the CSE stock market, recognizing the stock market as a vital component of a country's economic system, industrial development, and commercial activity (Aghion & Durlauf, 2005). Governments, companies, and central banks analyze the stock market to determine its economic impact (Habermeier et al., 2011). The study investigates the variables that impact stock market performance, including FDI, while controlling for key macroeconomic variables, namely economic growth, inflation, interest rates, and exchange rates. These variables are widely recognized in the literature as fundamental determinants of stock market behavior. The exchange rate is a critical factor in international trade, regulating the inflow of foreign products and balancing trade and capital. The inflation rate impacts the consumer's purchasing power and corporate profits and plays a significant role in analyzing stocks. The interest rate impacts the acquisition decisions, the cost of lending, and the financial instrument prices. It also influences the stock market through the effect on its NPV. Economic growth is the most significant controlling variable because it combines all variables and influences the economy's overall development and potential.

The study intended to investigate the relationship between FDI and stock market performance in Sri Lanka. Net FDI inflow as a percentage of GDP (Alsamman & Jamil,

2018; Ho, 2019) in the country was measured as the independent variable. In addition, according to previous research, four control variables are determinants of stock market performance. These are inflation to measure macroeconomic stability, the consumer price index (CPI) (Ho, 2019; Olokoyo et al., 2020); GDP per capita (Ouma & Muriu, 2014) for each quarter's end; interest rates (bank lending rate) for Sri Lanka at the end of each quarter; and exchange rates for the end of each quarter, US dollar (USD) to Sri Lankan rupee (LKR) (Balagobei & Bandara, 2022); dependent variables were specified as the All-Share Price Index (ASPI) to capture the performance of the stock market.

The sample focuses on the time series dataset from 2003 to 2023 concerning FDI net inflow as a percentage of GDP, stock market performance, economic growth, inflation rate, exchange rate, and interest rate in Sri Lanka during the same period. The study's data were collected from various sources such as the Department of Census and Statistics of Sri Lanka, the World Bank database, and the Central Bank of Sri Lanka website. The dataset covered the period between 2003 and 2023 and included various economic measures such as net foreign direct investment inflows, interest rate, exchange rate, inflation, and economic growth. The Consumer Price Index (CPI) from DCS measured inflation, while the CEIC Data website provided data on net FDI inflows and nominal GDP growth. The CBSL website was also used to obtain interest and exchange rates. Sri Lankan stock market performance was analyzed based on the quarterly closing values of the All-Share Price Index, which were obtained from the CSE website. The dataset consisted of a broad range of sources and ensured it was complete to cover the entire 21-year study period. As for the FDI and CSE performance nexus, this study has conducted unit root tests, cointegration tests, optimal lag length analysis, Vector Error Correction Model VECM, and Granger causality for all the variables using the EViews econometric

software. Identifying the relationship between stock market performance and FDI is significant. Therefore, Sri Lanka's stock market performance is examined using the following empirical equation:

$$\ln ASPI_t = f(\ln FDI_t) \quad (1)$$

Other variables following the functional relationship were used to examine the relationship between the CSE performance and FDI.

$$\ln ASPI_t = f(\ln FDI_t, \ln GDP_t, \ln CPI_t, \ln EXR_t, \ln INT_t) \quad (2)$$

The relationship between these variables and stock market performance was analyzed using the following linear empirical equation:

$$\ln ASPI_t = \delta_0 + \delta_1 \ln FDI_t + \delta_2 \ln GDP_t + \delta_3 \ln CPI_t + \delta_4 \ln EXR_t + \delta_5 \ln INT_t + \mu_t \quad (3)$$

The unit root is often established in quarterly data series through unit root tests like Augmented Dickey-Fuller (Dickey & Fuller, 1979) and Phillips-Perron (Phillips & Perron, 1988). Leg length is important to ensure that the errors are not correlated when constructing the VAR model. Akaike's and Schwarz's information criteria are the most popular methods for lag length. The model includes all the information in an optimal lag length and presents one independent variable better. Cointegration is used to identify whether there is a long-term equilibrium relationship (Naidu et al., 2017) between CSE performances and FDI. Without cointegration, there is no VEC model; therefore, the VAR model will be used to check for Granger causality (Egbo et al., 2011). If a long-run equilibrium exists, the Granger Causality Test uses restricted VAR or VECM (Egbo et al., 2011). VECM considers the short-run dynamic conditions and is estimated together with lagged values of the differenced variables (Mwaanga & Njebele, 2017). "Apart from the cointegrating vector, it should also include an error correction term that suggests if and how fast variables will converge to long-run

equilibrium after a temporary shock in the short run" (Banumathy & Azhagaiah, 2015).

According to Granger himself, Granger's causality is a statistical technique used to determine whether a one-time series must precede another to be considered a cause (Granger, 1969). The Bivariate Vector Error Correction Model (VECM) is specified and estimated if the variables have one unit root, and a co-integrated Granger causality test between the variables is performed in a VECM framework. Otherwise, if the two series do not have cointegration but have unit roots, then model it using bivariate vector autoregression (Granger, 1969). VECM is a method of capturing Granger causality in which we say one variable causes another. Furthermore, variance decomposition analysis (VDA) and impulse response function (IRF) have been used to investigate how much a shock in an independent and control variable has influenced or affected the dependent variable.

During the first four periods of a ten-period VDA, a significant amount of the forecast error variance is typically associated with recent shocks, as evidenced in the short-run forecast (Ghysels & Marcellino, 2018). However, as the forecast horizon extends beyond the first several periods, five to ten reflect long-term forecasts (Ghysels & Marcellino, 2018). IRF traces the output moving between periods after the impact of spreading the input to the output (Sims, 1980). This method helps to see the direction of causality and the extent and persistence of causality between different variables (Ajmani, 2009).

IV. Findings and Discussion

Descriptive and Correlation Analysis

The descriptive statistics in Table 1 provide overall information about the economic indicators used in the study. The ASPI averages 5154.64, and a large SD of 2609.76 shows a considerable variation in stock market performance between 2003 and 2023. The FDI average is 34.96, and the SD is 217.13, similar to the existing literature (MacNaughton, 2021), indicating that the FDI flows are highly variable. The GDP is expected to grow at a constant rate of 13.80 on average and SD of 9.47, indicating a moderate variation in GDP growth. The CPI averages 121.13, and the SD of the CPI is 50.59, which implies high price variability. EXR has an average exchange rate of 148.69 and an SD of 63.27523, which shows moderate variability concerning the exchange rate. The INT has a mean lending rate of 12.01 and an SD of 4.40, implying a moderate variation in interest rates.

The Pearson correlation matrix in Table 1 shows that FDI and ASPI have a weak positive correlation ($r = 0.038$). This is consistent with the findings of Chutang and Kumara (2011) and Rauf (2016). The ASPI is also weakly negatively correlated with GDP growth ($r = -0.028$), which does not support the findings of Madurapperuma (2023). ASPI is moderately positively related to the CPI ($r = 0.844$). Additionally, the ASPI is highly positively correlated with the EXR ($r = 0.698$) and weakly negatively correlated with the INT ($r = -0.074$), which is consistent with the results found by Chutang and Kumara (2011).

Table 1. Descriptive Statistics and Correlations

	Descriptive statistics					
	ASPI	FDI	GDP	CPI	EXR	INT
Mean	5154.64	34.96	13.80	121.13	148.69	12.01
Median	5899.20	1.05	12.41	122.21	130.29	11.37
Maximum	12226.01	1579	49.84	300.44	366.01	27.24
Minimum	738.95	0.19	-15.20	47.73	95.45	5.75
Std. Dev.	2609.76	217.13	9.47	50.59	63.27	4.40

Skewness	0.13	6.37	0.81	0.80	2.15	1.25
Kurtosis	2.51	42.30	5.70	4.13	7.31	4.65
Jarque-Bera	1.05	5902.95	34.30	13.09	128.46	30.95
Probability	0.59	0.00	0.00	0.00	0.00	0.00
Observations	83	83	83	83	83	83
Correlation						
	ASPI	FDI	GDP	CPI	EXR	INT
ASPI	1					
FDI	0.0375	1				
GDP	-0.0284	0.0934	1			
CPI	0.8439	-0.0116	0.1108	1		
EXR	0.6977	-0.0467	0.2726	0.8944	1	
INT	-0.0741	0.0780	0.6737	0.2176	0.4169	1

Note. Correlation is significant at the 0.05 level (2-tailed). This table presents descriptive statistics (mean, median, maximum, minimum, standard deviation, skewness, kurtosis, Jarque-Bera, and probability values) and a Pearson correlation matrix for all study variables. Correlation coefficients indicate the direction and strength of linear relationships among variables.

Unit Root Test

The results of the augmented ADF and PP test for unit root are presented in Table 2. They confirm that the variables being

analyzed are stationary at the first difference.

Table 2. Unit Root Tests at First Difference

Variables	Augmented Dickey-Fuller		Phillips-Perron	
	t-Statistic	Prob.*	t-Statistic	Prob.*
ASPI	-9.7047	0.0000	-9.7109	0.0000
FDI	-10.4906	0.0001	-30.5242	0.0001
GDP	-7.1606	0.0000	-10.0863	0.0000
CPI	-6.7958	0.0000	-8.4665	0.0000
EXR	-7.2448	0.0000	-7.1053	0.0000
INT	-5.4499	0.0000	-5.6522	0.0000

Note. This table presents the results of Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests for all variables at first difference. Reported values include test statistics and probability values used to determine stationarity.

The Cointegration Tests

Given the series being integrated in order one, the Johansen cointegration test was used to test the cointegration based on equations (1) and (2). The results reported in Table 3 show cointegration among the variables under study. The cointegration test shows a strong long-run relationship between ASPI and FDI when all control

variables are constant. The cointegration test results also suggest that these control variables play a significant role in the long-run association between FDI and ASPI. Specifically, GDP, CPI, and EXR are significantly associated with FDI and ASPI in the long run, and INT displays a significant relationship with FDI. In summary, the cointegration test results reveal that the variables are co-integrated.

Table 3. Johansen Cointegration Test

Hypothesized No. of CE(s)	Trace Statistic	0.05Critical Value	Max-Eigen Statistic	0.05Critical Value
$\ln ASPI_t = f(\ln FDI_t)$				
None *	34.3343	12.3209	33.3686	11.2248
At most 1	0.9656	4.1299	0.9656	4.1299
$\ln ASPI_t = f(\ln FDI_t, GDP_t, \ln CPI_t, \ln EXR_t, \ln INT_t)$				
None *	198.3020	117.7082	68.7593	44.4972
At most 1 *	129.5428	88.8038	55.0442	38.3310
At most 2 *	74.4985	63.8761	34.7251	32.1183
At most 3	39.7734	42.9152	24.0185	25.8232
At most 4	15.7549	25.8721	10.8486	19.3870
At most 5	4.9063	12.5179	4.9063	12.5180

Note: This table reports the Johansen cointegration test results using Trace Statistics and Maximum Eigenvalue Statistics. It is used to determine the existence and number of long-run equilibrium relationships among ASPI, FDI, GDP, CPI, EXR, and INT.

Vector Error Correction Model (VECM)

The VECM results in Table 4 show that FDI and ASPI positively correlate with Sri Lankan content. From the VECM results of the co-integrating equation (CointEq1), it can be interpreted that the FDI has a positive and statistically significant long-run impact on ASPI ($\beta = 10.08$, $t = 2.57$). These findings are consistent with the findings of Malik and Amjad (2013), Olokoyo et al. (2020), Samman and Jamil (2018), and Jeffus (2005). However, the results contradict the findings of Raza and Jawaid (2014).

The analysis indicates that lagged GDP growth is not statistically significant, while

the lagged CPI indicates a strong negative relationship with ASPI. The stocks, therefore, perform worse in periods of high inflation. The results indicate that changes in the exchange rate, as indicated by lagged EXR, may affect the stock infiltration, although the t-statistic of the associated coefficient is statistically insignificant. The lagged interest rate demonstrates a positive relationship with ASPI, indicating favorable borrowing conditions that lead to the enhanced performance of ASPI. This long-run relationship is consistent with the existing literature of Tang et al. (2013) and Baele et al. (2004).

Table 4. Vector Error Correction Estimates

Variable	Coefficient	Standard Error	t-statistic
D(ASPI(-1))	1	(NA)	[NA]
D(FDI(-1))	10.0803	(3.9253)	[2.5680]
D(GDP(-1))	-46.1811	(191.4110)	[-0.2413]
D(CPI(-1))	-1580.1800	(113.4960)	[-13.9227]
D(EXR(-1))	230.5999	(121.9890)	[1.8903]
D(INT(-1))	1514.8730	(743.7720)	[2.0367]

Note: This table presents the estimated long-run coefficients from the Vector Error Correction Model (VECM). Coefficients, standard errors, and t-statistics are reported to assess the long-run impact of FDI and macroeconomic variables on stock market performance (ASPI).

The error correction model analysis results, illustrated in Table 5, indicate a weak adverse effect of FDI lagging by one period

on ASPI, which is statistically insignificant. In contrast, ASPI negatively correlates with GDP growth, and this relationship is

statistically significant. The sign of the coefficient of CPI lagged by one period is positive; however, the short-run correlation between ASPI and the fluctuations in the inflation rate is weak. Regarding exchange rate lag and ASPI, these two demonstrate a positive correlation, consistent with previous studies, although the relationship between the lagged interest rate and ASPI is not statistically significant.

Based on the error correction model (ECM) analysis, Table 5 presents the short-run estimates that FDI lagged by one period and has a negative relationship with ASPI, which shows that the relationship is not statistically significant. This suggests that while FDI may have some short-term impact on the stock market, its influence seems relatively weak during the given period. The short-term weak negative impact of FDI on stock market performance is consistent with the findings of Headey (2009), Ho (2019), and Raza and Jawaid (2014). However, this contradicts the findings of Svaleryd and Vlachos (2002). In contrast, ASPI negatively correlates with GDP growth, and this

relationship is statistically significant. The result is consistent with the findings of Fama and French (1988) and Liu and Zhang (2015). The sign of the coefficient of CPI lagged by one period is positive; however, the short-run correlation between ASPI and the fluctuations in the inflation rate is weak in the short run. This finding is consistent with the findings of Boyd et al. (1997).

Regarding exchange rate lags and ASPI, these two demonstrate a positive correlation, which is consistent with Ho and Odhiambo (2018) and Dube and Shoko (2020), who also found that there is a positive relationship between the exchange rate and stock market performance in the short run. However, the result contradicts the findings of Malik and Amjad (2013) and Ouma and Muriu (2014). There is a positive relationship between the lagged interest rates and ASPI, but the relationship is statistically insignificant because the t-statistic is 0.52280. Interest rate fluctuations may not significantly impact short-run stock market performance during the specified period.

Table 5. Error Correction Estimates

Variable	Coefficient	Standard Error	t-statistic
D(FDI(-1),2)	-0.2420	-0.3360	[-0.7203]
D(GDP(-1),2)	-31.4575	-10.8106	[-2.9099]
D(CPI(-1),2)	11.7736	-11.6963	[1.0066]
D(EXR(-1),2)	23.6384	-9.3909	[2.5172]
D(INT(-1),2)	44.4484	-85.0197	[0.5228]

Note: This table reports the short-run dynamics from the Error Correction Model (ECM), including coefficients, standard errors, and t-statistics of differenced variables. The estimates indicate short-run adjustments in ASPI following changes in FDI and other macroeconomic variables.

VECM Granger Causality

The outcomes of the Granger causality test in Table 6 show that FDI does not cause ASPI, and vice versa. Moreover, there is no significant Granger causality relationship between the lagged values of CPI and the

subsequent ASPI changes. However, ASPI Granger causes CPI, which implies that changes in ASPI lead to and determine changes in CPI. The model also reveals two-way causality between INT and ASPI because INT Granger causes ASPI, and the fluctuations in ASPI follow changes in INT.

Table 6. Pairwise Granger Causality Tests

Null Hypothesis:	F-Statistic	Prob.
D(FDI)_does not Granger Cause D(ASPI)	0.1169	0.9499
D(ASPI)_does not Granger Cause D(FDI)	0.7457	0.5284
D(GDP)_does not Granger Cause D(ASPI)	1.9586	0.1279
D(ASPI)_does not Granger Cause D(GDP)	0.7881	0.5045
D(CPI)_does not Granger Cause D(ASPI)	1.1695	0.3274
D(ASPI)_does not Granger Cause D(CPI)	26.6401	1.00E-11
D(EXR)_does not Granger Cause D(ASPI)	2.7000	0.0520
D(ASPI)_does not Granger Cause D(EXR)	20.7516	9.00E-10
D(INT)_does not Granger Cause D(ASPI)	4.4098	0.0066
D(ASPI)_does not Granger Cause D(INT)	18.4670	5.00E-09

Note: This table presents the results of pairwise Granger causality tests among the study variables. Reported F-statistics and probability values indicate whether past values of one variable help predict another variable.

Variance Decomposition and Impulse Response Function

The outcomes of the VDA in Table 7 show that all variables contribute to the variance of ASPI due to exogenous shocks. In the first period, the variation of ASPI is primarily due to its past values. In most

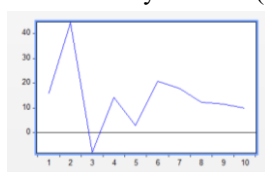
subsequent periods of VDA, FDI contributes very little to the variation of ASPI. In contrast, all other variables, such as GDP, CPI, EXR, and INT, contribute substantially. Therefore, the study argues that all control variables significantly impact the variation of ASPI in different periods.

Table 7. Variance Decomposition of D(ASPI)

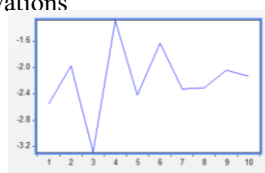
Period	SE.	D(ASPI)	D(FDI)	D(GDP)	D(CPI)	D(EXR)	D(INT)
1	960.2918	100	0	0	0	0	0
2	1151.0810	90.1047	0.0039	1.7953	3.1248	4.6987	0.2725
3	1227.7070	91.0736	0.0371	1.5900	2.7536	4.1637	0.3819
4	1474.7520	92.1954	0.0368	1.5607	1.9156	3.6938	0.5978
5	1583.0560	92.3278	0.0330	1.9959	1.6656	3.4524	0.5253
6	1725.3450	93.2980	0.0337	1.7200	1.4206	3.0292	0.4983
7	1839.9490	93.0538	0.0332	1.8464	1.4269	3.1894	0.4501
8	1926.0190	93.3831	0.0303	1.7446	1.3396	3.0818	0.4206
9	2038.6380	93.6051	0.0321	1.7171	1.2155	3.0320	0.3981
10	2131.3620	93.7641	0.0295	1.7475	1.1266	2.9449	0.3872

Note: This table reports forecast error variance decomposition results for the first-differenced All Share Price Index [D(ASPI)] over multiple periods. It shows the percentage contribution of shocks from ASPI, FDI, GDP, CPI, EXR, and INT to fluctuations in stock market performance over time.

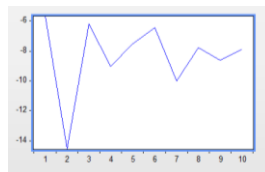
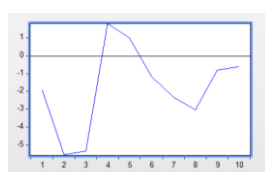
Response to Cholesky One SD (d.f. adjusted) Innovations



A – Response of D(FDI) to D(ASPI)

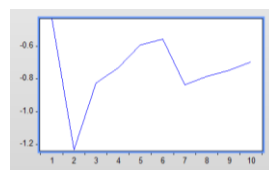


B – Response of D(GDP) to D(ASPI)



C – Response of D(CPI) to D(ASPI)

D – Response of D(EXR) to D(ASPI)



E – Response of D(INT) to D(ASPI)

Figure 1. Impulse Response Function

According to the IRF analysis in the B graph, the impact of GDP on ASPI shows mixed results, which is consistent with the findings of Herath (2020). However, this impact is considerably lower than that of FDI shocks. This result may suggest that while economic growth may impact stock market movements, its effect would be relatively weaker than that of FDI. The impact of the inflation rate on stock market performance also appears to show mixed effects in the C graph. There seem to be marginal reductions in ASPI periods because of CPI shocks in certain periods, but the overall impact is also likely to be relatively small compared to the impact of FDI shocks. Therefore, it can be concluded that fluctuations in inflation rates are also not likely to be significant drivers of the stock market in Sri Lanka (Sandamini et al., 2021).

According to Gooneratne and De Silva's (2022) findings, exchange rate shocks have a negligible effect on stock market performance. Because it can be seen from the impulse responses of the D graph, there is only limited movement of ASPI within the periods followed by EXR. Therefore, we can conclude that fluctuations in the exchange rate may not be significant drivers of the stock market in Sri Lanka during the research periods. The results of the E graph show ASPI movements because of INT changes. This result suggests that varying interest rates may not be significant drivers of stock market performances in Sri Lanka

during periods consistent with the findings of Menike (2010).

V. Conclusion

Conclusion

This paper examined the short and long-run relationship between foreign direct investment (FDI) and stock market performance in Sri Lanka based on quarterly data from 2003 to 2023. Johansen cointegration results a clear long-run equilibrium relationship between FDI and the All-Share Price Index (ASPI) is indicated by the Johansen cointegration result, representing that FDI accounts for a significant factor in long-term stock market growth. VECM results also support that there is a positive influence of FDI on ASPI in the long run, which is consistent with the findings of Malik and Amjad (2013); Olokoyo et al. (2020); Raza et al. (2015); Samman and Jamil (2018) and Jeffus (2005). Interestingly, whereas GDP growth was found to have a weak negative correlation with ASPI in the long run, other things like inflation rate and exchange rate fluctuation seem more important for stock market performance and show a long-run positive relationship with ASPI. In the long run, ASPI and the inflation rate had a strong positive relationship.

In contrast, short-run dynamics reveal a negative but statistically insignificant impact of FDI on stock market performance, which

is consistent with the findings of Headey (2009), Ho (2019), and Raza and Jawaid (2014). Also, there was a negative link between GDP growth and both horizons, while the contribution of inflation and exchange rate changes is mixed across the time periods. While the Granger causality tests find no causal relationship for direction between FDI and ASPI, the variance decomposition & impulse response functions results find that the positive long-run effect seems to persist consistently as caused by FDI shocks on stock market performance. Moreover, there was no significant causal relationship between ASPI and control variables. VDA and IRF further illustrated the relationship dynamics between FDI and ASPI over time, showing how exogenous shocks affect stock market performance. Shocks from FDI were seen continually affecting ASPI positively, whereas the effects of changes in other macroeconomic variables, such as GDP, CPI, EXR, and INT, varied.

Implications

Results reveal that FDI has a significant long-run role in the development of the Sri Lankan stock market, implying that policy makers should focus on macroeconomic stability, and investor protection, and a predictable regulatory regime to attract stable investment. Inflation, stability of exchange rate, and interest rates are also found as significant macroeconomic tools affecting stock market performance.

For investors, the findings highlight the need to incorporate macroeconomic factors such as inflation and exchange rate changes when analyzing stock market trends in Sri Lanka. First, given that short-run responses are distinct from long-run relationships, investors and portfolio managers should use time horizon-oriented strategies.

Contributions

This article makes several contributions to the existing empirical literature on emerging markets:

It fills a crucial void in the literature on Sri Lanka by being one of only few studies to consider the long-run and short-run impact of FDI on stock market performance using an integrated econometric approach. It presents a dual perspective by offering insights into how FDI behaves differently in short-term and long-term contexts with an analytical angle rarely applied in Sri Lankan studies. It provides a framework that can be generalized to other developing economies, specifically those with similar macroeconomic environments, dependence on external capital flows, and developing financial markets. This strengthens the possibility for regional comparison or cross-country analysis across South Asia and other emerging markets. It improves theoretical understanding by displaying that FDI has sustained long-run benefits for stock market growth even when short-run effects appear subdued or unstable.

Future Studies

The empirical findings of this research will help improve investors', policymakers', and researchers' understanding of the impact of FDI and other control variables on stock market performance. As every developing country has different development levels, this research's findings cannot be generalized to all developing countries. Future studies can focus on comparative analysis in other developing countries. Future studies concerning FDI and its effects on stock market performance could consider additional variables such as volatility, concentration, and liquidity separately or as a combined index to assess overall performance. This research has investigated the overall stock market performance so that future studies could study the impact of FDI on specific sectors of the Sri Lankan stock market, providing a better understanding. This study is a quantitative analysis, so future studies could use qualitative research methods with policymakers, investors, and industry experts to better understand the relationships.

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