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Efficiency of the Sri Lankan Stock Market during the COVID 19 Period

A. M. A Jayawardena, P. A. S. Madhubhashini, U. H. S. L Bandara

CINEC Campus, Malabe, Sri Lanka

ABSTRACT
The study looks into how the COVID 19 affects the Sri Lankan stock market. The purpose of this study is to determine if the COVID 19 Pandemic has made the Sri Lankan stock market more efficient or inefficient. The study employed secondary data in the form of time series for a six-month period commencing September 2nd, 2019 and concluding March 31st, 2020. The pre-COVID period runs from September 2nd to December 31st, 2019, while the COVID period runs from January 1st to March 31st, 2020. The study's findings indicated that the Sri Lankan stock market became more inefficient after COVID 19.

KEYWORDS: *Weak form market efficiency, COVID 19, Sri Lankan Stock Market*

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1. INTRODUCTION

The capital market of a country plays the most important role in the development of the economy by promoting and sustaining the growth of an economy. The key role of the capital market is distribution of rights for economy's capital stock (Fama, 1970). This role become more important in a developing economy like Sri Lanka. It provides opportunities for companies to mobilize funds needed for long term investment purposes and provides effective source of investment in the economy. Moreover, with capital markets businesses now face less cost and burden when accessing financial resources because they have access to stable financing. A well-developed capital market will draw funds from all over the world. As a result, foreign capital enters the country through foreign investments.

Capital market efficiency is vital for investors because it helps them to make better informed decisions. When the capital market is efficient, it draws both domestic and foreign investors (Dsouza & Mallikarjunappa, 2015). If markets are efficient, all information is already encoded in asset values, then there is no way to "beat" the market because there are no cheap or overpriced companies.

The Covid-19 pandemic, the third significant coronavirus epidemic in less than 20 years (Yang et al., 2020), has created a global pandemic, with roughly 3.1 million confirmed cases and 227,000 deaths as of April 30, 2020. (Roser et al., 2020). In this study, we explicitly assess whether the Sri Lankan stock market has become more efficient or inefficient as a result of the coronavirus epidemic.

The study carefully investigated if the Sri Lankan stock market's stock prices exhibit weak form efficiency in the first quarter of 2020 as compared to the final quarter of 2019.

The remainder of the paper is structured as follows. The second section outlines the associated literature review. Section 3 discusses the paper's data and methods. The findings of the empirical analysis are presented in Section 4. Section 5 brings the research to a close.

2. Literature Review

According to the Sri Lanka Securities Exchange Commission unlike in the past, the last two decades have witnessed a considerable growth in market activity and the relative importance of stock markets in emerging nations such as Sri Lanka, However, the fatal contagious virus COVID-19, which surfaced at the end of 2019, has resulted in a global social and economic catastrophe that has had a substantial impact on Sri Lanka's economic activity as well.

Many scholars have reported that (Al-Awadhi et al., 2020; Alfaro et al., 2020; Zhang et al., 2020), in addition to a significant takedown of domestic trading and international business, COVID-19 has caused significant negative influences on the performance of different stock markets worldwide.

To combat the spread of COVID-19, the Sri Lankan government has imposed curfews across the island in order to create social isolation, and inter-district movement has been totally prohibited. Some districts, including Colombo, Gampaha, Kalutara, Puttalam, Kandy, and Jaffna, have been designated as 'high-risk' and are subject to an indefinite curfew.

The current study adds to the body of knowledge on asset pricing, informational efficiency, and the influence of pandemics on stock markets. While there is a significant literature on the informational efficiency of various asset markets in general, there is little work on the influence of COVID-19 on stock market efficiency, and even less data on the impact of the COVID-19 pandemic on the Sri Lankan stock market.

According to a research on the Vietnam stock market undertaken by Anh& Gan (2020), the Vietnam stock market operated in opposite ways before and during the statewide lockdown. Though the COVID-19 pre-lockdown period had a large negative impact on Vietnam's stock returns, the lockdown period had a substantial favorable impact on the overall market and diverse economic sectors in Vietnam.

In 2020, Alam, Alam, and Chaval evaluated the influence of the COVID-19 lockdown period on the Indian stock market. The results showed that the market reacted positively with significantly positive Average Abnormal Returns (AAR) during the current lockdown period, and investors predicted the shutdown and responded positively, however in the pre-lockdown period, investors got nervous, which was mirrored in negative AAR.

The current study is to examine if stock prices in the Sri Lankan stock market exhibit poor form efficiency in the first quarter of 2020 when compared to the fourth quarter of 2019.

3. Data and Methodology

The current study tries to determine if the Sri Lankan stock market is efficient in its current state. Secondary data in the form of time series were used in the study for a six-month period beginning on September 2nd, 2019 and ending on March 31st, 2020. The period from the 2nd of September 2019 to the 31st of December 2019 is referred to as the pre-COVID period (81 observations), and the period from the 1st of January 2020 to the 31st of March 2020 is referred to as the COVID period(61 observations). All secondary data utilized in this study came from the official website of the Colombo Stock Exchange (CSE). The key index used in this study is the Standard and Poor 20 Sri Lanka (S&P 20). This research is mostly concerned with daily returns.

The variance ratio test is a popular method for determining if stock returns are serially connected. (Patel, Radadia, and Dhawan, 2012). As a result, the variance ratio test is used in this study to analyse the market efficiency exhibited by the Sri Lankan stock market.

The main premise of the VR test is that the variance of the nth period return is equal to 'n' times the variance of the one period returns under random walk.

The Variance ratio test is investigated in this study using Microsoft Excel. As a result, the hypotheses employed for Variance ratio testing are as follows.

Ho: The index series follow a random walk

H1: The index series does not follow a random walk

4. Results

In CSE, the VR test is used to test the Weak Form Efficient Market Hypothesis. When the autocorrelations are mostly positive, the variance ratio is greater than one (VR >1), but when they are generally negative, the variance ratio is less than one (VR <1) (Cohen, 1994). At such point, the investigation can conclude that the market is inefficient.

Table 1 Results of The Variance Ratio Test for the Pre COVID-Period from 2nd Sep2019to 31st December 2020

Period	Variance Ratio	Std. Error	z statistic	Prob
2	0.43	0.47	9.17	0.00*
4	-0.29	0.87	-3.38	0.00*
8	-0.71	0.14	-5.13	0.00*
16	-0.93	0.21	-4.55	0.00*

Source: Author's Calculations.

*p <.01. **p <.05. ***p <.1., this illustrates significance at 1%, 5% and 10% respectively.

Table 2 Results of The Variance Ratio Test for the Post COVID-Period from 2nd Jan 2020 to 31stMarch 2020

Period	Variance Ratio	Std. Error	z statistic	Prob
2	0.22	0.04	4.87	0.00*
4	-0.40	0.09	-4.63	0.00*
8	-0.75	0.14	-5.46	0.00*
16	-0.85	0.21	-4.13	0.00*

Source: Author's Calculations.

*p <.01. **p <.05. ***p <.1., this illustrates significance at 1%, 5% and 10% respectively.

Because the p values in tables 1 and 2 are less than 1 percent, the null hypothesis of the index series follows a random walk is rejected. As a result of the COVID 19 impact, the Sri Lankan stock market has grown more inefficient during the post-COVID 19 period.

5. Conclusion

For decades, the Efficient Market Hypothesis has been a cornerstone of economics research. For example, econometric research strongly supports weak-form market efficiency – the idea that historical pricing cannot predict future performance. This study attempted to integrate existing econometric and finance research on weak-form efficient markets in order to examine the validity of the weak form efficient market hypothesis in the Sri Lankan stock market before and after COVID 19. The current study's findings do not support the validity of weak-form market efficiency.

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