

# Journal of Economics and Business

---

**AlAli, Musaed Sulaiman. (2020), The Effect of WHO COVID-19 Announcement on Asian Stock Markets Returns: An Event Study Analysis. In: *Journal of Economics and Business*, Vol.3, No.3, 1051-1054.**

ISSN 2615-3726

DOI: 10.31014/aior.1992.03.03.261

The online version of this article can be found at:  
<https://www.asianinstituteofresearch.org/>

---

Published by:  
The Asian Institute of Research

The *Journal of Economics and Business* is an Open Access publication. It may be read, copied, and distributed free of charge according to the conditions of the Creative Commons Attribution 4.0 International license.

The Asian Institute of Research *Journal of Economics and Business* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Economics and Business, which includes, but not limited to, Business Economics (Micro and Macro), Finance, Management, Marketing, Business Law, Entrepreneurship, Behavioral and Health Economics, Government Taxation and Regulations, Financial Markets, International Economics, Investment, and Economic Development. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Journal of Economics and Business* aims to facilitate scholarly work on recent theoretical and practical aspects of Economics and Business.



ASIAN INSTITUTE OF RESEARCH  
Connecting Scholars Worldwide



# The Effect of WHO COVID-19 Announcement on Asian Stock Markets Returns: An Event Study Analysis

Musaed Sulaiman AlAli<sup>1</sup>

<sup>1</sup> Department of Insurance and Banking - College of Business Studies, The Public Institute of Applied Education and Training (PAAET) - Kuwait. Email: ms.alali@paaet.edu.kw

## Abstract

This study aims to examine the effect of World Health Organization (WHO) declaring COVID-19 as a global pandemic on the stock market returns of the five largest Asian stock markets using event study analysis. Results obtained from this research shows that the WHO announcement had a significant negative effect on stock markets returns on major Asian stock markets.

**Keywords:** COVID-19, Asian Stock Markets, Event Study, Pandemic, Stock Markets Returns.

## Introduction

The Covid-19 pandemic can be classified as a ‘black swan’ since it was a very unlikely event that has a severe unfavorable economic consequences. Taleb (2005) defined black swan as a random event satisfying the following three properties: large impact, incomputable probabilities, and surprise effect. Literature shows that there is a strong relation between stock market returns and pandemic outbreaks (Park et al. 2008; Pendell and Cho, 2013; Chen et al., 2009; Chen et al., 2007; Ichev and Marinč, 2018; Bash, 2020; AlAli, 2020).

The coronavirus first appeared in Wuhan, China on December 2019 and since then started spreading around the world. On March 11<sup>th</sup>, 2020 the World Health Organization (WHO) declared COVID-19 as a global pandemic. Since then, there has been 13.95 million confirmed cases and a death toll of 593 thousands as of July 17<sup>th</sup>, 2020. AlAli (2020) studied the effect of first reported case in 11 countries and its effect on their stock markets and concluded that the effect of WHO announcement had a much greater effect than the effect of first case reported. Baig et al. (2020) investigate the effect of COVID-19 on the United States (US) equity markets and found that COVID-19 has led to an increase in market illiquidity and volatility. Zhang et al. (2020) showed that both financial market risk and uncertainty increased following COVID-19 outbreak.

## Data and Methodology

This research is based on the average daily returns of the five largest Asian stock markets which are Shanghai SE, Nikkei 225, Bombay SE, Hang Seng Index, and South Korea KOSPI Composite Index. In addition to Morgan Stanley all-country world equity index (MSCI), all data used cover the period March 4<sup>th</sup>, 2019 to April 22<sup>nd</sup>, 2020. The data for this research were downloaded from Yahoo-finance website.

Two methods are used in this research to determine abnormal returns. The first method is the mean-adjusted returns as conducted by Brown and Warner (1985) where;

$$ABR_d = R_d - \bar{R}_n \quad (1)$$

$$\bar{R}_n = \frac{\sum_{d=-257}^{-11} R_d}{257} \quad (2)$$

Where  $R_d$  is the average return of the 5 indices under study at day d,  $\bar{R}_n$  is the average return of the indices during the estimation window (-257,-11).

The second method is Dodd and Warner (1983) market model method where;

$$ABR_d = R_d - (\alpha_d + \beta_d R_{m,d}) \quad (3)$$

Where  $R_{m,d}$  is the return of all-country world equity index (MSCI).  $\alpha_d$  and  $\beta_d$  are the coefficients obtained from OLS regression over the (-257,-11) estimation window.

## Empirical Results

Mean abnormal returns (ABR) and cumulative abnormal returns (CABR) for both models used are illustrated in figure 1. It can be seen from the figure that CABR showed an accelerating decline after day 0 which is the WHO announcement date indicating the greater effect of the announcement on stock markets returns. In examining the mean difference between cumulative returns before and after WHO announcement date (event date) using event windows (-5,5), (-15,15), and (-30,30). Results presented in table 1 shows that there was a statistically significant difference in CABR mean returns at the 99% confident level except for (-5,5) event window for mean-adjusted return where the confident level was at 95%.

Table 1. Mean equality test for cumulative abnormal returns (CABR)

Mean-Adjusted Return Model				
Event Window	Before	After	After-Before	t-test
-5,5	-2.29%	-14.61%	-12.32%	14.62***
-15,15	-4.77%	-22.19%	-17.42%	16.01***
-30,30	-0.91%	-18.61%	-17.70%	13.22***
Market Model				
-5,5	-1.13%	-5.90%	-4.77%	3.83**
-15,15	-1.03%	-10%	-8.97%	14.35***
-30,30	-0.58%	-9.49%	-8.91%	13.81***

\*, \*\*, \*\*\* represent the confidence level at the 90%, 95, and 99% levels respectively

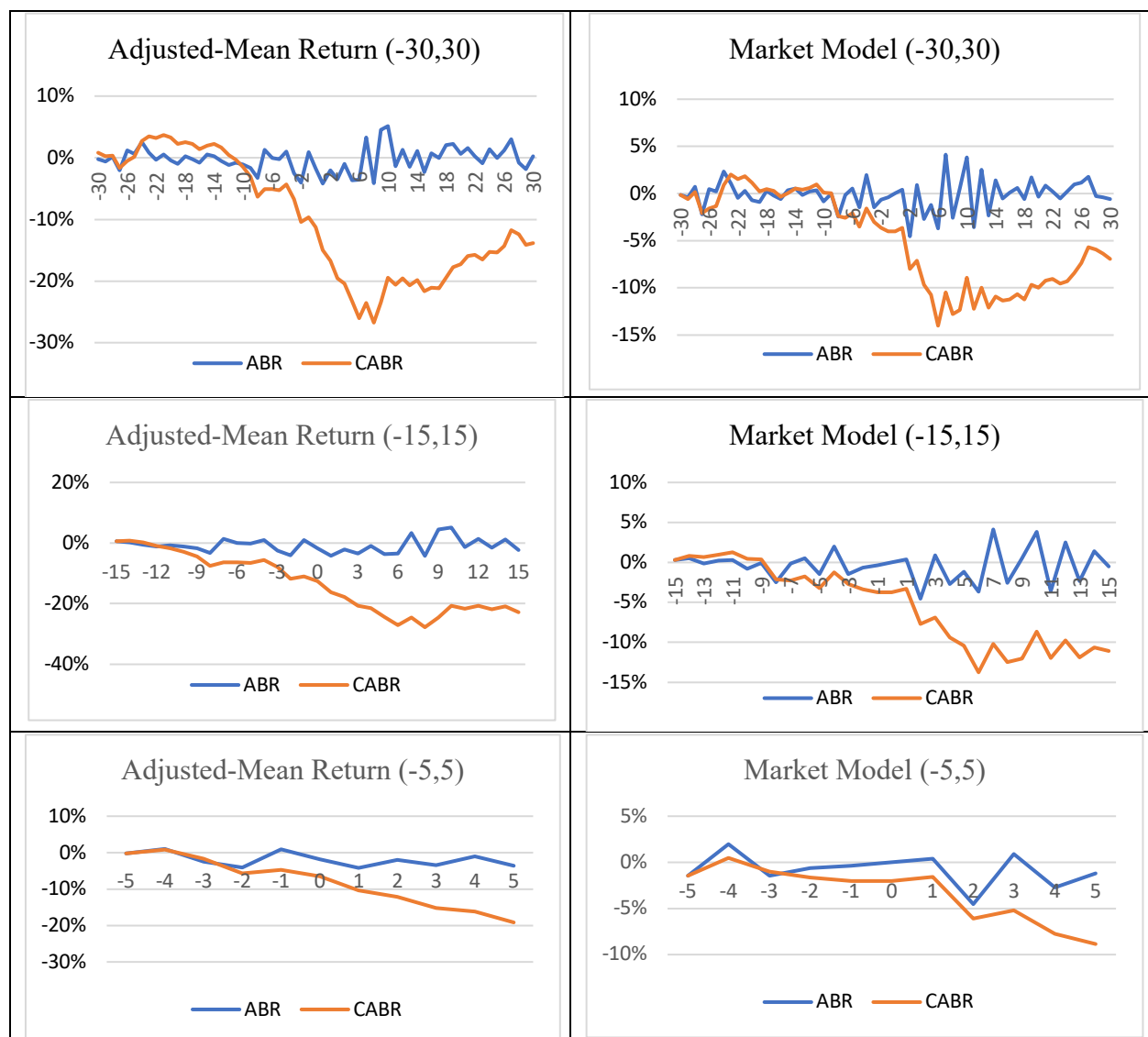


Figure 1. Abnormal Returns (ABR) and Cumulative Abnormal Returns (CABR)

## Conclusion

This study was set to examine the effect of WHO announcement declaring COVID-19 as a global pandemic on stock market returns of the largest five Asian stock markets. Using mean-adjusted returns and market model methods, results shows negative effect of WHO announcement on market abnormal returns and there was a statistically significant difference between market returns before and after the announcement.

## References

- AlAli, M.S. (2020). Risk Velocity and Financial Markets Performance: Measuring the Early Effect of COVID-19 Pandemic on Major Stock Markets Performance, *International Journal of Economics and Financial Research*, 6(4), 76-81. DOI: [10.32861/ijefr.64.76.81](https://doi.org/10.32861/ijefr.64.76.81)
- Baig, A., Hassan, A.B., Haroon, O., Rizvi, S.A.R. (2020). Deaths, Panic, Lockdowns and US Equity Markets: The Case of COVID-19 Pandemic. Available at: <https://www.ssrn.com/abstract=3584947>.
- Bash, A.Y. (2020). International Evidence of COVID-19 and Stock Market Returns: An Event Study Analysis, *International Journal of Economics and Financial Issues*, 10(4), 34-38. DOI: <https://doi.org/10.32479/ijefi.9941>

- Brown, S.J., Warner, J.B. (1985). Using daily stock returns: The case of event studies, *Journal of Financial Economics*, 14(1), 3-31.
- Chen, C.D., Chen, C.C., Tang, W.W., Huang, B.Y. (2009). The positive and negative impacts of the SARS outbreak: A case of the Taiwan industries, *Journal of Developing Areas*, 43(1), 281-293.
- Chen, M.H., Jang, S.S., Kim, W.G. (2007). The impact of the SARS outbreak on Taiwanese hotel stock performance: An event-study approach, *International Journal of Hospitality and Management*, 26(1), 200-212.
- Dodd, P., Warner, J.B. (1983). On corporate governance: A study of proxy content, *Journal of Financial Economics*, 11(1-4), 401-438.
- Ichev, R., Marinč, M. (2018). Stock prices and geographic proximity of information: Evidence from the Ebola outbreak, *International Review of Financial Analysis*, 56, 153-166.
- Park, M., Jin, Y., Bessler, D. (2008). The impacts of animal disease crises on the Korean meat market. *Agricultural Economics*, 39(2), 183-195.
- Pendell, D., Cho, C. (2013). Stock market reactions to contagious animal disease outbreaks: An event study in Korean foot-and-mouth disease outbreaks. *Agribusiness: An International Journal*, 29(4), 455-468
- Taleb, N. N. (2005). *The black swan: Why don't we learn that we don't learn?* : Random House: NY.
- Zhang, D., Hu, M. and Ji, Q. (2020). Financial markets under the global pandemic of COVID-19, *Finance Research Letters*, 101528, 2020. Advance online publication. <https://doi.org/10.1016/j.frl.2020.101528>.