



The Effect of Covid-19 on The Egyptian Stock market

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Summary:

This research investigates the impact of COVID-19 on the stock markets of Egypt and see the effect of it on some countries like China, the USA, India, Indonesia, and Vietnam. Using data collected in 2020 and analyzing it through SPSS, the study examines correlations between daily confirmed COVID-19 cases, deaths, and stock market indices.

The findings reveal a negative impact of COVID-19 on the Egyptian stock market, while advanced markets like the USA and China showed resilience due to strong governmental interventions. Interestingly, stock markets in developing countries demonstrated mixed responses, with some positive effects observed during lockdown recovery phases.

Keywords: Stock Markets,Egypt,Covid-19 ,Developing Economies,EGX30,Economic Impact

Keyfindings:

COVID-19 negatively impacted the Egyptian stock market (EGX30), with weak correlations between cases, deaths, and stock indices.

While on USA and China showed resilience due to strong fiscal measures; sector-specific recovery favored healthcare and technology.

And on some developing countries Mixed effects; India and Vietnam saw positive impacts during lockdown recovery, while Indonesia faced negative effects in key sectors.

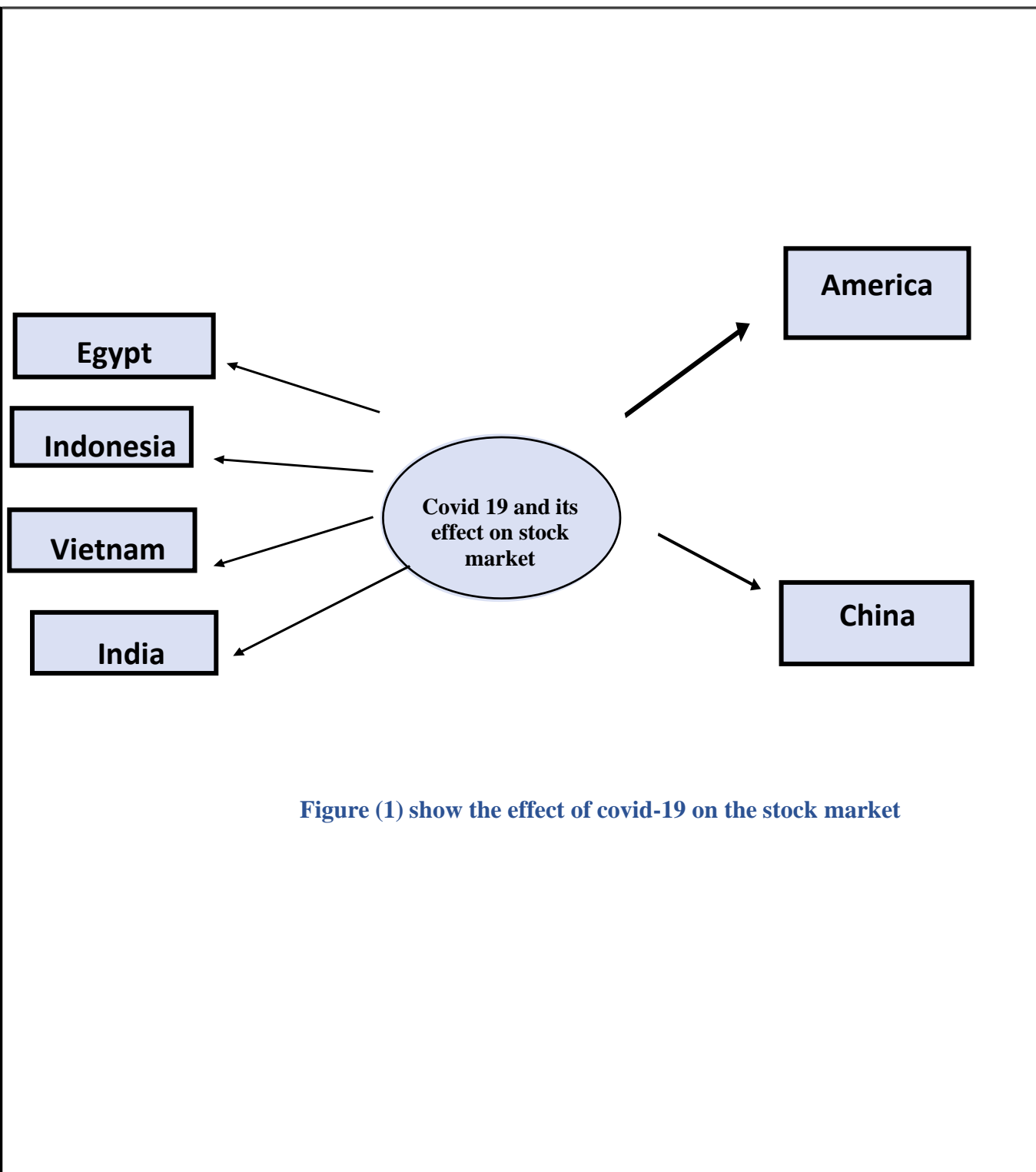
Abstract

The goal of this study is to investigate the effect of COVID-19 on the stock markets of a group of countries (Egypt, China, America, India, Indonesia, and Vietnam) by analyzing data collected from the World Health Organization website and the investment website from 1/1/2020 to 31/12/2020 and using the spss program to determine if there is a relationship between these variables. The findings show that COVID-19 is significantly negatively correlated with the Egyptian stock market. The study also discovered that COVID-19 has a significant positive relationship with the stock markets of advanced countries such as America and China, and the stock markets of developing countries like Indonesia, Egypt, Vietnam, and India.

1.1 Introduction

The novel coronavirus (COVID-19), which was reported as a group of pneumonia cases by the Wuhan Municipal Health Committee on December 31, 2019, in Wuhan City, Hubei Province, China, spread to many regions all over the world in a very short time. On March 11, 2020, the World Health Organization (WHO) described COVID-19 as a global epidemic (WHO, 2020) and warned countries against taking urgent and bold action to stop its spread in a briefing (O, 2020). Yet the damage to not only human health but also to the local and global economy and financial markets has become a real threat.

This paper aims to investigate the impact of the COVID-19 pandemic. In the leading stock market indices for a group of countries, including domestic and global ones, the sample countries are Egypt, America, Indonesia, Vietnam, India, and China. We examine the effect of the number of infected cases on the daily stock prices of each country.



1.2 Background

This part includes the most important studies related to the Corona pandemic and the stock market. The background also helps in understanding the subject of the research carefully and the main reasons for conducting it. The impact of Corona on the stock price and how to measure it will be discussed.

1.2.1 COVID-19

COVID-19, or coronavirus disease 2019, is a disease caused by a new (or emerging) type of coronavirus. first detected when an outbreak occurred in December 2019. In December 2019, an outbreak of pneumonia of unknown origin was reported in Wuhan, Hubei Province, China. Inoculation of respiratory samples into human airway epithelial cells and cell lines led to the isolation of a novel respiratory virus whose genome analysis showed it to be a novel coronavirus related to SARS-CoV and therefore named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The global spread of SARS-CoV-2 and the thousands of deaths caused by coronavirus disease (COVID-19) led the World Health Organization to declare a pandemic on March 12, 2020. To date, the world has paid a high price in terms of human lives lost, economic ramifications, and increased poverty as a result of this pandemic.^{1}

1.2.1.1 COVID-19's Economic Impact

- **The impact of COVID-19 on the Egyptian economy:**

Egypt implemented partial and total lockdown measures from March 15th to June 30th, 2020. Such short-term lockdowns have had a significant impact on the reduction of emissions from transportation, industrial, and human activities. The Egyptian Stock Exchange was not affected compared to other countries. The Egyptian government's response to the pandemic will shrink Egypt's fiscal space significantly as increased borrowing and debt service obligations are not offset by the levying of corona tax on salaries and wages. However, increased taxation will hurt poverty.

The pandemic's primary impact on the Egyptian economy was the slowdown in all domestic activities and the significant fall in income from tourism, remittances, and the Suez Canal, which has severely eroded household incomes, pushing millions to live below the poverty line.

1- Marco Ciotti, M . C, A .Ti, Wen-Can ,Ch. W & S . B (2020) The COVID-19 pandemi

- **The impact of COVID-19 on the Chinese economy:**

The economic hit from COVID-19 will be hard. Private companies, which account for 60% of China's GDP, have been hit the hardest. They do not receive government assistance and do not have the financial means to go months without paying rent or salary. Even after remission from COVID-19, most Chinese factories have a severe shortage of workers, even after they are allowed to open. This is going to have a severe impact on global supply chains.

- **The impact of COVID-19 on India's economy:**

The outbreak of the coronavirus has thrown the global economic system into chaos. Corona has a profound negative impact on Indian businesses. Domestically, the impact of the Coronavirus is slowiCoronavirus demand, which will erode purchasing power due to job losses and wage cuts. Deferred demand has a long- term effect on different sectors, especially when demand is discretionary {3}

- **The impact of COVID-19 on the US economy:**

The US economy has been harmed by the coronavirus outbreak. Airlines, aerospace, real estate, tourism, oil, breweries, retail clothing, and funerals have all been damaged by idiosyncratic circumstances. As a result, vast portions of the economy rely on the pandemic's management rather than the macroeconomic environment for recovery. Production equipment, machinery, and electronic and electrical equipment all suffered losses as a result of macroeconomic reasons.

Thus, reviving capital goods spending required not just an end to the pandemic but also a macroeconomic recovery. News of the crisis contributed to a 43% drop in the aggregate U.S. Expansionary policies by the Federal Reserve and the federal government then contributed to a 37% increase in stock prices between 23 March and 10 July 2020.

2- Emad M. Elkhachen . A . S. A . E (2020) . Egyptian budgetary responses to COVID-19 and their social and economic consequences.

3- Dr. Kishore Kumar Das and Shalini Patnaik,(2020). The Impact of Covid 19 on the Indian Economy.

- **The impact of COVID-19 on the Vietnamese economy:**

The financial sector was hardest hit by the Vietnam stock market during the COVID-19 outbreak. The impact of COVID-19 during the pre-lockdown period and closing periods on stock performance in Vietnam, which is a rapidly developing economy and has succeeded in controlling the epidemic with the renewal of the stock market after the closure, The impact of the COVID-19 outbreak and subsequent pandemic lockdown on daily stock returns in Vietnam, a fast-growing emerging market that has successfully recovered from the pandemic lockdown. Though COVID-19 had a large negative impact on Vietnam's stock returns before the shutdown, the lockdown period had a significant favorable impact on the overall market and several economic sectors in Vietnam. [4]

- **The impact of COVID-19 on the Indonesian economy**

The world economy went into a tailspin as COVID-19 spread globally from China. Indonesia was not immune to these effects. The impact of the virus and the economic response to it have created the biggest shock to the Indonesian economy since the Asian financial crisis (AFC) two decades earlier. The impact of the COVID-19 pandemic on the economy in Indonesia The affected sectors during the COVID-19 pandemic are transportation, tourism, trade, health, and other sectors, but the economic sector is most affected by COVID-19 is the household sector. (5)

1.2.2 Stock market

The stock market refers to a collection of exchanges and other venues where shares of publicly traded firms can be bought, sold, and issued. Such financial transactions are carried out on institutionalized formal exchanges (physical or electronic) or over-the-counter (OTC) markets that are governed by a set of rules. While both the terms "stock market" and "stock exchange" are often used interchangeably, the latter term generally comprises a subset of the former. If one trades in the stock market, it means that they buy or sell shares on one (or more) of the stock exchanges that are part of the overall stock market. A given country or region may have one or more exchanges comprising their stock market.

4- Dao Le Trang Anh, Christopher Gan (2020) . The impact of the COVID-19 lockdown on stock market performance: evidence from Vietnam.

5- Susilawati¹, Reinpal Falefi¹, Agus Purwoko² (2020) Impact of COVID-19's Pandemic on the Economy of Indonesia.

1.2.2.1 Benefits of the stock market:

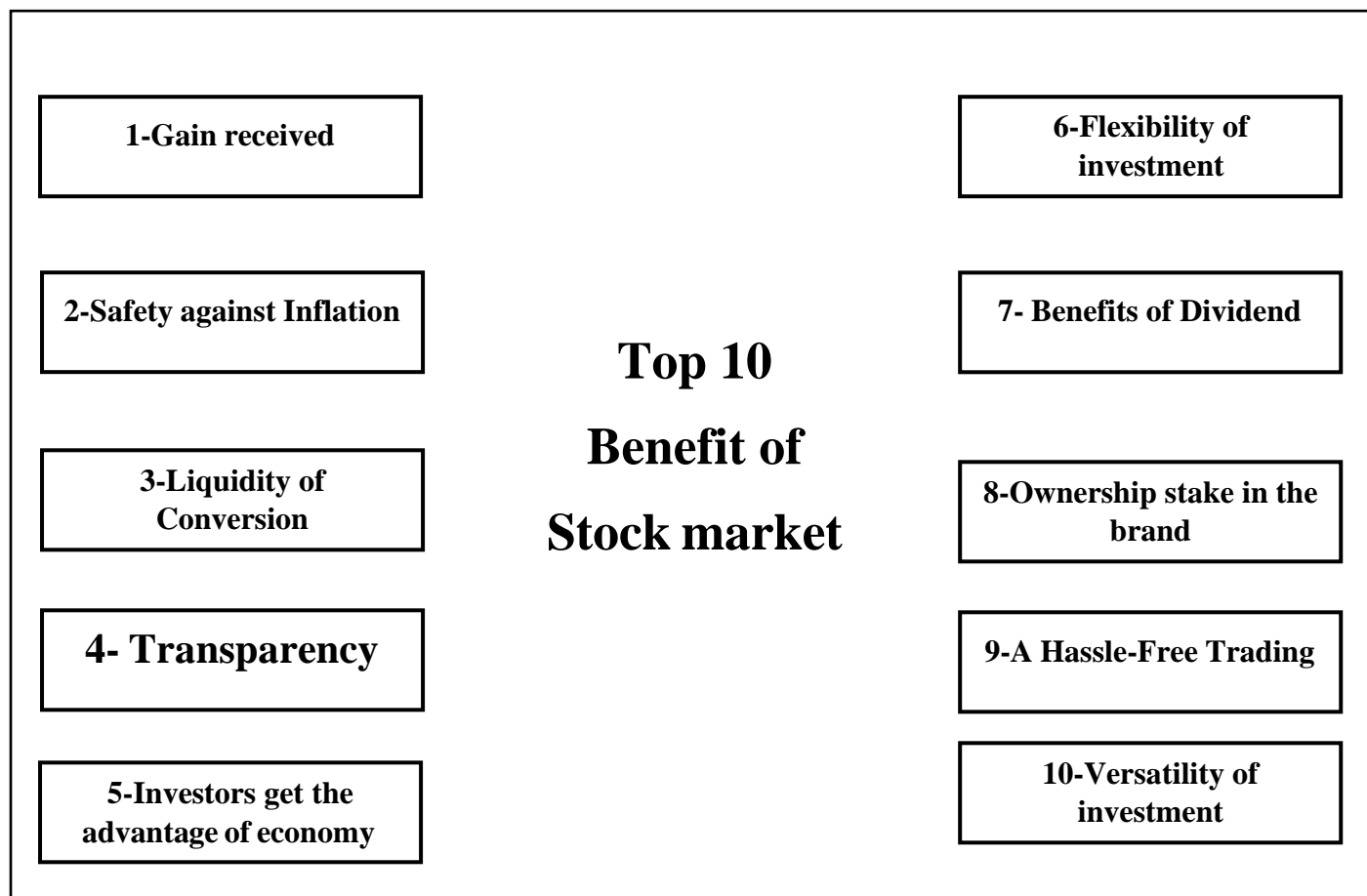


Figure (2) show the top 10 benefits of the stock market

1- Gain received:

The ability of the market to generate the kinds of gains it does is the most essential component of investing directly in markets. According to historical data, stock markets have always stood the test of time, rising in value over time even though individual stock values fluctuate daily. The investors reap all of the benefits from their investment. It is said that a long-term investment in certain stocks is a guarantee of gain in the stock market.

2- Safety against Inflation:

The fundamental goal of investments is to guarantee our future, but we must keep track of inflation regularly. The gains will be nil if inflation and the rate of return on investments are comparable. In an ideal world, the rate of return on investments would be higher than inflation. Stock markets and benchmark indexes have consistently outperformed inflation.

3-Liquidity or Ease of Conversion:

Stocks are considered liquid assets since they can be easily converted to cash and have a large number of purchasers at any given time. The same cannot be said for all assets; some, such as real estate, are difficult to sell. It could take months to see a return on your home investment. It is, however, much simpler in the case of stocks. If the average volume of transactions is high, then we can say that there are multiple buyers and sellers for that specific stock. This liquidity of a stock market is one of the key benefits for investors, as the process never stops.

4-Transparency:

The stock market in every country is regulated by a regulatory body. For example, in India, the body is SEBI. The market functions according to its guidelines, and the bodies that regulate stock exchanges, provide transparency in the market and protect the rights of investors. This means that when an investor invests in the stock market, not only his money but also his rights are protected by these regulatory bodies. This saves them from any kind of fraudulent activity carried out by the company they have invested in. This makes the investments even more secure and gives the investors the confidence and trust that there will be no mishaps.

5-Investors get the advantage of the economy:

The stock market is always a factor in a thriving economy, and it responds to all economic growth indices like gross domestic product (GDP), inflation, corporate profit, and so on. Investors in the stock market can directly benefit from a thriving economy, and the value of their investments rises in lockstep with economic expansion. When an economy is growing, corporate earnings rise, and as a result, the ordinary individual's income rises. As a result, customer demand rises, increasing sales. As a result, the value of your investment in a specific company rises. The share price rises.

6- Flexibility of investment:

For a beginner in the stock market, the road isn't easy and the risks need to be smaller. For this, they need to invest in stocks that are not highly-priced. This is where the stock market helps the investor. It gives them the flexibility of smaller investments. These small investments can be made by buying small-cap and mid-cap stocks. Stocks do not require a large initial investment. Another advantage of directly investing in stocks is that you can buy at your leisure; you are not obligated to invest a certain amount every month.

7- Benefits of a Dividend:

A dividend is an additional income for investors, which is paid annually by most companies. Dividend payments arrive even if the stock has lost value and represent income on top of any profits that come from eventually selling the stock. These dividend incomes also have a lot of benefits.

They can:

- Fund your retirement.
- Pay for more investments.
- help you grow your investment portfolio.

8- Ownership stake in the brand:

By investing in the stocks of a certain company, the investor buys an ownership stake in the company. It offers them a sense of belonging to the company you enjoy. It implies that, as a shareholder, they have a say in how a corporation makes choices and can vote on those decisions. Several times, shareholders have intervened to prevent management from taking irrational actions that are harmful to their interests. The annual report of any company is sent to its stockholders to let them know about its functioning.

9-A No-Hassle Trading:

Technology has helped almost all the existing sectors. The stock market isn't untouched by it either. Stocks can be bought and sold easily with the help of technology. Earlier, when all the work was limited to pen and paper, this hassle-free trading wasn't feasible for many. Nowadays, there are various mobile applications for this purpose. One can easily buy or sell stock in a certain company. Various platforms are there which tell the investors about the profit and loss of any specific stock so that they can easily know which stock to invest in.

10-Versatility of investment:

Shares, bonds, mutual funds, and derivatives are among the financial products available in the stock market. This gives investors a wide range of things to choose from when it comes to investing their money. This flexibility benefits investors by allowing them to diversify their investment portfolios, which helps to mitigate the risks associated with stock investing.

1.3.2.1 the meaning of stock market indices:

A number that summarizes the price movement of all registered shares. It is usually the average of those prices. and not equal in the market. All stocks are proportional to their representation in the index, but it depends on the representation of company shares on the company's market weight. The market value of the company is divided by the value means The market for all companies registered in the market. And moving The result of supply and demand is up and down. Share prices are upon her; when the demand for a company's stock exceeds the supply of this stock, the stock price goes up with the market index in proportion to the representation of this stock in the index.

1.2.2.2 The Importance of Stock Market Indices

The stock market index reflects the state of the national economy in general and the economic performance of the companies listed in the market in particular. If the demand for the products of companies increases due to an economic boom, sales and profits are expected to increase. The distributions of these companies increase from profits to shareholders, which raises share prices and market indexes.

1.2.2.3 The stock indices that we will use in this study are:

- **EGX30:** The EGX 30 index is a price index that measures the performance of the top 30 companies in terms of liquidity and activity on the Egyptian Stock Exchange. The EGX 30 index is weighted by market capitalization and adjusted by the ratio of free-float shares to total shares. (6)
- **Hang Seng:** The Hang Seng Index is a market capitalization-weighted and free-weighted stock market index in Hong Kong. It is used to record and monitor the daily changes of the largest companies on the Hong Kong Stock Exchange and is the main indicator of the general market performance in Hong Kong. I 7
- **Sensex:** Sensex is comprised of 30 of the largest and most actively traded stocks on the BSE and provides a gauge of India's economy. (8)

- **The Dow Jones** (Dow-Jones) is a major index consisting of four sub-indices. The most popular is the Dow Jones According to the pointer value, Jones Industrial Corporation What is among the shares of the thirty largest industrial companies in the USA?

- VN30: It's a stock market index that tracks the performance of the top 30 largest and most liquid stocks traded on the Ho Chi Minh Stock Exchange in Vietnam. (9)
- The IDX Indicator is an index that measures the stock price performance of all listed companies on the main board and development board of the Indonesia Stock Exchange. 10

In the end, Xin Li in China, Enrico Onali in the United States, Rashmi Chaudhary, Priti Bakhshi, and Hemendra Gupta in India, Quang-Thai Truong, Duc-Nguyen, Quynh-Nhu Tranb, Somar Al-Mohamad Walid Bakry in Vietnam, Salsa Dilla, Linda Karlina Sari, and Noer Azam AchsThey used the price of stock indices to measure stocks. We will measure the stocks using the price of the stock indices as they did.

Abdullah Elsayed and Mansour Abd Elohim in Egypt used the SPSS program to find out if there was a relationship between variables. And we will use the SPSS program as they did.

6- <https://www.asharqbusiness.com/stocks/security/EGX30>

7- <https://www.asharqbusiness.com/stocks/security/HSI:IND>

8- <https://www.investopedia.com/terms/s/sensex.asp>

9- <https://capital.com/vn30-equal-weight-index-definition>

10-<https://www.idx.co.id/en-us/products/index/>

1.3 Research problem

The main problem of this research is to know the extent of the impact of Covid-19 on the stock market and its comparison between Egypt and several countries.

1.4 Research question

1. To what extent will COVID-19 affect the profitability and liquidity of the stock market?
2. How will COVID-19 affect the Egyptian Stock Exchange?
3. What are the challenges facing the stock market due to COVID-19?

1.5 The objective of the research

The main purpose of this research is to clarify the extent of the impact of COVID-19 on the stock market. **through:**

identify the extent to which COVID-19 will affect stock market t.

- analyze the effect of COVID-19 on stock market profitability.
- investigate the effect of the COVID-19 on the stability of Egypt's stock market.
- investigate the effect between Egypt and other countries.

1.6 Hypothesis

This research expects the impact of COVID 19 on the Stock Market through assumptions that the research seeks to prove. There are **three** hypotheses:

H1: covid 19 hurts the Egyptian stock market.

H2: covid 19 hurts the stock market of developing countries: Indonesia, Vietnam, and India.

H3: covid 19 has a positive impact on the stock market of advanced countries: America and China.

1.7 Research Methodology

In this search, we collected data from the websites of the global health organization and from investment sites for the period from January 1, 2020, to December 31, 2020. It shows the effect of COVID-19 on both advanced countries (America and China) and developing countries (Indonesia, Vietnam, Egypt, and India). The following models are adopted to assess the effect of COVID-19 on the stock market. Then we used the SPSS program to see if there was a positive or negative relationship between these variables.

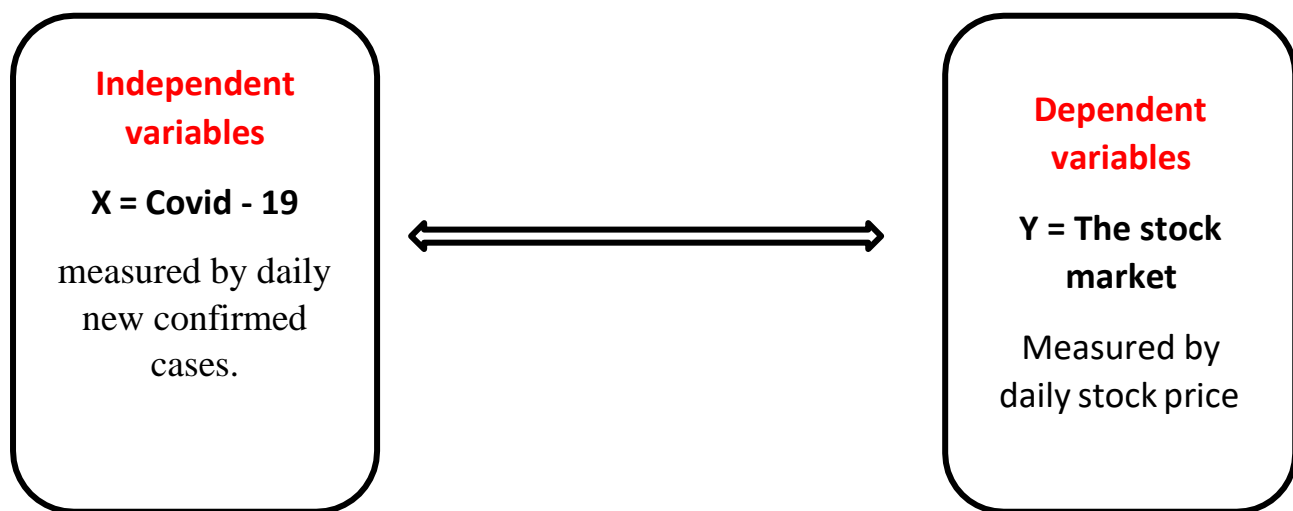


Figure (3) show the relation between covid – 19 and the stock market

1.8 Data collection

We collected data from the website of the global health organization and from investing site for the period from 1/1/2020 to 31/12/2021

1.9 The research limitation

1- the research focuses on the effect of covid-19 on the stock market

***returns on the economic and financial effects of the covid-19**

2- the research cover the period between 1/1/2020 to 31/12/2020

3- This research will depend on measuring the number of cases and their effect on the stock market

4- The difference between the impact of covid-19 on the Egyptian economy and other countries

Literature review

2.1 Introduction

There are several studies in the literature measuring the impact of diseases and outbreaks on the financial markets. These studies have mostly investigated the effects of outbreaks that arose in the past like SARS, MERS, Ebola, and AIDS on financial markets. The number of studies evaluating the impact of COVID-19, which the world is encountering and suffering nowadays on financial markets, is not sufficient. The main reasons behind it are that the epidemic is brand new, and the difficulties encountered in reaching enough data to do detailed analyzes. Accordingly, the studies about the current COVID-19 outbreak and past illnesses and outbreaks are stated below.

2.2 The Literature Review on the impact of covid – 19 on the Advanced countries:

China

Liao Xu & Jilong Chen, J. Z (2021) Investigated the impact of coronavirus disease 2019 (COVID-19) on the Chinese stock market, the sample is all Chinese firms publicly listed on Shanghai and Shenzhen stock exchanges between 1 January 2019 and 30 August 2020, used the daily change in confirmed cases officially released by the Chinese and found that the Chinese stock returns and stock price sensitivity to firm-specific information after the COVID-19 outbreak are significantly lower than before. It indicates that the outbreak hurts not only stock returns but also the stock price efficiency by slowing the incorporation of new information into the stock price. And confirmed the damage of both epidemic infection scale and (unexpected) public attention (beyond the pandemic) on stock returns. Moreover, the evidence indicated their heterogeneous effects on the price discovery process: the stock price sensitivity to firm-specific information increases Theon e demic infection scale but is damaged by (unexpected) public attention. COVID-19 outbreak directly reduces the stock returns in a significant fashion in the sense that the estimated coefficients of Output are negative and significant at the 1 per cental. Its effect is also economically substantial.

Yue Jiao Duan, Lanbiao Liu, Z. W (2021) This study quantitatively measured the Chinese stock market's reaction to sentiments regarding the Novel Coronavirus 2019 (COVID-19, this study measures the Chinese stock market by Using 6.3 million items of textual data extracted from the official news media and Sistine Weblog site, the first 56 high-frequency vocabulary words are finally selected as text screening standards to clean the news media and Sine blog content,) Considering the differences of opinion between the official media sources and Sine Weibo, discovered that the Chinese stock market returns and turnover rates were positively predicted by our sentiments with both platforms. and found that stock markets. Reacted proactively to growth sentiments. However, the traditional BW sentiment could not predict Chinese stock market activity during the pandemic period. Moreover, margin trading and short-selling activities increased with the increase in sentiments. Specifically, the optimistic guidance of Sine Weibo further increased returns. Overall, these results illustrate how the effects on health.

Yinchuan Sun & Meng yuan Wu, (2021) Investigated the impact of COVID-19 on the Chinese stock market through an event study and examine the effect of individual investor sentiment on returns. This study measured the Chinese stock market, the data are from the CSMAR database for the period from 25 July 2019 to 31 March 2020, The research paper aimed to clarify the effects of the Corona disease on the financial markets and, evidence that epidemics cause widespread negative sentiment, which leads to investor anxiety. Stock with Different financial characteristics and in different industries are affected differently the industry, and the emotional effects of only seven Industries, related to the Internet, education, medical manufacturing, and agriculture cultural production. The five industries in which the effects of positive emotions have been significantly weakened are all Related to oil, fuel, and transportation Investors can get an increased return by holding the drugs in the first stage in the second stage they gradually accept from the pharmaceutical stock industry and increase the stocks highlighted by the government In addition, stock high-risk factors, such as high price-to-earnings ratio and price-to-earnings ratio Book value, CMV rate high, low The institutional contribution ratio and decrease in net assets should be avoided during the middle and late phases of the epidemic.

Yingjie Lin, Yashi Wang, and Xiaoqing (Maggie) Fu (2021) Examined the effects of margin purchases and short sales on the return volatility in the Chinese stock market during the COVID-19 outbreak, the sample contains all non-financial A-share stocks that are eligible for margin-trading and in the Chinese stock market from August 19, 2019, to August 18, 2020, utilize panel data on margin purchases and short sales at the stock level and using measured by the number of daily confirmed COVID-19 cases, to reflect the severity of the outbreak, -the COVID-19 outbreak amplifies the destabilizing effect.-no evidence shows that short sellers destabilize the stock market in general

Xin Li, (2021) This study examined the asymmetric effects of positive and negative changes in media attention to COVID-19 and daily new confirmed COVID-19 cases on China's stock market volatility by utilizing the nonlinear autoregressive distributed lag (NARDL) model. Sample taken for this article is China stock market. Media attention to COVID-19 is obtained from the CoronavirusMedia Monitor1 and the other datasets are obtained from the Wind dataset of China. China's stock price volatility (SPV) is measured by the SSE 50 ETF Volatility Index. COVID-19 is measured by daily new confirmed cases. Results showed that media attention act on China's stock market volatility and this effect is greater than the direct impact of COVID-19. Several important policy implications arise. Positive shocks to media attention will lead to increased stock price volatility in China; this effect is greater than the direct impact of COVID-19. This implies that information originating from media news reports about COVID-19 can provide useful information to help investors and policymakers forecast stock price volatility.

Quang Thi Thieu Nguyen (2021) Investigated the Chinese stocks' returns during different epidemic periods to assess their effects on firms' market performance. The study employed an event study method on more than 3,000 firms on Shanghai and Shenzhen stock exchanges during periods of SARS, H5N1, H7N9, and COVID-19. A questionnaire was framed for better understanding. The results showed that Epidemics' effect on firms' stock returns is persistent up to 10 days after the event dates. Although the impact varies with the types and development of the disease, firms experience a negative impact of the epidemics. B-shares and stocks listed on Shanghai Stock Exchange are more negatively influenced by the epidemic than A-shares and those listed on Shenzhen Stock Exchange. Chinese Stock market experienced a sharp decline in terms of return shortly after the epidemic outbreak.

Zhifeng Liu, (2021) Examined the impact of the COVID-19 pandemic on the stock market crash risk in China. First estimated the conditional skewness of the return distribution from a GARCH with skewness (GARCH-S) model as the proxy for the equity market crash risk of the Shanghai Stock Exchange. Then constructed a fear index for COVID-19 using data from the Baidu Index. The sample used was a literature review from previous research. The results showed that skewness reacts negatively to daily growth in total confirmed cases, indicating that the pandemic increases stock market crash risk. COVID-19 outbreak hurts stock market crash risk. The values of listed companies were generally affected, and the stock market entered a clear economic downturn, accompanied by large declines or even crashes

Lei Yan and Yanyong Qian, (2020) Investigated the impact of the coronavirus pandemic on the consumer industry in the Chinese stock market. Employ an event studied approach and used the Shanghai Stock Exchange 80 Index as the data sample. Measured by the stock price. The results showed that stocks belonging to the consumer industry were adversely impacted by the pandemic in the first three trading days after the incident. However, this impact is transitory. With the implementation of government policies, stock returns of the industry maintain steady growth. Stock prices fell, and the Chinese government introduced a series of monetary policies to regulate the economy, which effectively helped to stabilize the stock market. In addition, the outbreak of the pandemic has positively influenced some industries, such as med services service, health, and information technology.

America

Younes Ben Zaied a, Mohamed Yousfi b (2021) This paper made the first comparative assessment of the impacts of the first and second waves of the ongoing COVID-19 pandemic on the US stock market and its uncertainty. The stocks used were from the S&P 500 index in the United States, which measures the stock performance of the 500 largest companies traded on the exchange, and from the CSI 300 index in China. chose the CSI 300 index. The measure used to perform empirical investigations used daily data from the US S & P 500 index and obtained data on the global cumulative daily COVID-19 cases and deaths from the WHO. The results showed that he investigated the linkage between the S&P 500 stock market, as well as two US uncertainty indices (VIX and EPU), and the global cumulative daily COVID-19 cases and deaths during the first and second waves.

Hong, Hui; Bian, Zhicun; Lee, Chien-Chiang (2021) This paper examined the relationship between COVID-19 and the instability of both stock return predictability and price volatility in the U.S over the period January 1st, 2019, to June 30th, 2020, by using the methodologies of Bai and Perron, Elliot, and Muller. The simple used Our datasets consist of two leading U.S. stock market indices and predictor variables of concern to investors. Measured by Covid 19: daily stock prices. The results highlight a single break in return predictability and price volatility of both S&P 500 and DJIA. The timing of the break is consistent with the COVID-19 outbreak, or more specifically the stock selling off by the U.S. Senate committee members before COVID-19 crashed the market. Furthermore, return predictability and price volatility significantly increased following the derived break

Ali Amin, Muhammad Arshad, Naheed Sultana (2020) This study analyzed the relationship between the COVID-19 cases, age, and stock market indexes in Central America, North America, and South America. the study used the empirical data of three regions: South America, North America, and Central America, for the period March 10 to April 9, 2020, to explore the patterns of stock market reactions. The measure used was COVID-19 cases were measured as confirmed positive cases announced by each country. The stock market response was analyzed by using the daily stock indexes of the country's stock exchange. The results are not surprising as Al Rajoub (2011) mentioned an insignificant association between the two variables in his study in the context of the Jordan Stock Exchange. Further, they expected a negative association between age and stock indexes, however, in all regions age was found to be significantly positively associated with stock indexes which shows our second hypothesis was not supported. their results contradict the findings of Ashraf (2020) but are consistent with the study of Ramello and Wagner (20. They reported a positive relationship because of immediate and effective economic measures taken by the Government.

Enrico Onali (May 28, 2020) investigated the impact of Covid-19 cases and related deaths on the US stock market (Dow Jones and S&P500 indices), by using the Data on the VIX, the S&P500, and the Dow Jones index (prices and volume) and Data on the number of Covid-19 reported cases and deaths at the daily level and the result show that The results, based on data up to 9 April 2020 and GARCH(1,1) models, suggest that changes in the number of cases and deaths in the US and other countries majorly affected by the Covid-19 crisis in the first three months of 2020 (China, Italy, Spain, the UK, Iran, and France) do not have an impact on the US stock market returns.

Hue Hwa Au Yong and Elaine Laing (2020) examined the U.S. stock market reaction to the World Health Organization's announcement declaring COVID-19 a global health emergency with a focus on firms' international exposure by using all listed U.S. firms excluding the financial industry (prices and volume of stocks) and data on the number of COVID-19 reported cases and deaths at the daily level. We find that while international exposure through foreign sales, foreign assets, imports, and exports is significant and negatively associated with standardized cumulative abnormal returns in the short run, the effect reverses in the long run. Internationalization thus contributes to multinational firms' being more resilient to economic shocks caused by COVID-19.

2.3 The literature review on the impact of covid-19 on the development of countries

Egypt

Nader Alber and Abanob Refaat (2020) This paper attempted to investigate the effects of the spread of the coronavirus on stock markets using panel data analysis, day throughout of March 1, 2020, through September 30, 2020. There are two variables for stock return and COVID-19. The coronavirus (COVID-19) was measured by daily cases and daily deaths per million population, while stock yield was measured by sectoral indices. This was done after dividing the research period into 6 months from March to September and was applied to 17 sectors on the Egyptian Stock Exchange. The results have resulted in significant negative industrial effects in the banking sector. Significant positive industrial impacts appear on stocks. and shows that the informational content of competitive advantages has a positive effect on the abnormal return of listed companies on the Egyptian exchange. Results indicate that stock market return seems to be sensitive to coronavirus cases more than deaths, and to coronavirus cumulative indicators more than new ones. The results do not support any negative effects during the third and fourth periods. Results indicate that the return of the stock market sectors seems to be more sensitive to cumulative daily deaths than new daily.

Samira Allam. M. Abdulrahim, M. Mohamed (2020). This paper aimed to study the effect of coronavirus on the trading behavior of both individual and institutional investors in the Egyptian Stock Exchange, the variables COVID,-19, and the stock market. The Coronavirus (COVID-19) was measured by indicators revealing the virus spread in the Arab Republic of Egypt by using daily cases, total cases, daily deaths, and total deaths as independent variables and dependent variables represented in investors' trading behavior, measured by the daily trading volumes for both individuals and institutions, and measured through the difference between buying and selling transactions in the Egyptian stock market. Finally, the result shows an increase in the value of the trading averages of investing Egyptian individuals. During the COVID-19 period, The results of (Beta Standardized Coefficients) were the most influential and sensitive independent variables in the dependent variable. The Daily Deaths variable was more effective and sensitive for individuals and institutions for Egyptian investors, and for Arab investors, the Daily Cases variable was more sensitive to the trading behavior of Arab individual investors. The results also showed that significant differences were statistically significant for the volume of investors trading on the Egyptian Stock Exchange.

Abdullah Elsayed-Mansour Abd Elohim (2020) This paper attempted to investigate the effects of the COVID-19 spread on the Indices Sectoral of the Egyptian Exchange. And there are two Egyptian Stock Exchanges and COVID-19 has been measured by "Coronavirus cases" and "Coronavirus deathdailydependent variable reflects the response of the Egyptian sectoral indicators to the spread of the coronavirus and is measured by the returns of the daily sectoral indicators for the Egyptian stock market.

Mohamed Hamdy Awad (2020) This paper contributes to the literature review of COVID-19 in emerging countries as it is one of the first studies to address the impact of COVID-19 on stock returns of EGX30 listed companies. The sample taken is an international sample of 6 ALBER countries (2020), and it is concluded that market returns appear to be more sensitive to COVID-19 cases than deaths and to cumulative indicators of COVID-19 than new indicators. which led to a decrease in the world's production of goods and services, fluctuations in stock exchange EGX30, COVID-19 cases, and confirmed deaths were measured according to the World Health Organization. And the results showed a decrease in the world's production of goods and services considering the COVID-19 crisis, which led to an impact on the joint-stock companies on the Egyptian Stock Exchange.

Abd-Allah, M.H. (2020). This study aims to verify the presence of grazing behavior during the COVID-19 crisis in Egyptian stock methodologies. A sample of the behavior in the Korean stock market was taken during the 1997 Asian financial crisis. The study used a sample of 414 stocks owned by foreign investors and compared it to the fluctuations of the Egyptian stock exchange, considering the COVID-19 crisis. The study uses Hwang and Salmon (2004) and Chang et al. (2000) as a method for measuring grazing behavior. Using daily stock quotes and EGX30 index data, we confirmed COVID-19 cases and deaths, and the result showed, in the end, the negative and positive changes in the Egyptian market during the COVID-19 crisis.

India

Mohammad Noor, Md. Shabbir and Kavita (2020) examined the extent of the influence of the lockdown on the Indian stock market and whether the market reaction would be the same in the pre-and post-lockdown periods caused by COVID-19. The average abnormal returns (AAR) is the measurement, which is based on the sample taken from 31 companies listed on the Bombay Stock Exchange(BSE). The results indicated that the market reacted positively with significantly positive average abnormal returns during the present lockdown period, and investors anticipated the lockdown and reacted positively, whereas in the pre-lockdown period, investors panicked and it was reflected in negative AAR. The study found evidence of a positive AR around the present lockdown period and confirms that the lockdown had a positive impact on the stock market performance of stocks till the situation improves in the Indian context.

Rosy Dhall and Bhanwar Sing (2020) The researchers investigated the herding behavior using the daily closing prices of stocks that constituent the sectoral indices of the NSE. The sample is the daily stock closing prices of 191 firms, which constitute the 12 industry indices for the period from 1 January 2015 to 1 June 2020. The results for the full sample period (1 January 2015 to 1 June 2020) and before the COVID-19 outbreak period (1 January 2015 to 29 January 2020) indicated the non-existence of herding formation at the industry level, but they do suggest strong evidence of anti-herding behavior. In addition, during the bull and bear market conditions, they found evidence of herding behavior during the post-COVID-19 outbreak period (1 January 2020 to 1 June 2020). Further, the findings suggest that the COVID-19 pandemic caused the formation of herding behavior at the industry level. The study enables investors to devise their trading strategies in the context of the COVID-19 pandemic.

Debi Bal and Saba Mohanty (2021) examined the nonlinear relationship between sectoral stock market volatility and COVID-19 in India. Using a GARCH model to measure the volatility, the result is that there exists bidirectional nonlinear causality between the volatilities of oil and gas, metals, movable consumer goods, and health care to the growth rate of COVID-19. Our findings contribute to the literature in three ways. First, we divide the stock market into sectors, such as oil and gas, metal, fast-moving consumer goods, and health care, and measure their sectoral stock return volatility. This sectoral analysis is important because it helps trace the individual stock market volatility due to COVID-19 cases. Second, India is the second-highest COVID-19 affected country after the USA. From an emerging market perspective, it is worthwhile examining the relationship between the growth rate of confirmed daily virus cases and the sectoral stock market. This type of analysis has not been undertaken. Therefore, there is limited knowledge of sectoral return volatility and COVID-19.

Rashmi Chaudhary and Priti Bakhshi (2020) This paper outlined the implications of the coronavirus on Indian financial markets concerning two composite indices (BSE 500 and BSE Sensex) and eight sectoral indices of the Bombay Stock Exchange (BSE) (automobiles, banking, consumer durables, capital goods, FMCG, health care, information technology, and real estate) in India and the main findings have shown average daily returns that are lower than the negative returns defined in the crisis period compared to the pre-crisis period. All indices have an ascended negative standard deviation, and kurtosis values are extremely high.

Ashri, D., Sahoo, B. P., Gulati, A., & Haq, I. U. (2021). This paper outlines the implications of the coronavirus in the Indian financial markets and whether this effect is positive or negative. Through a case study of eight stocks in the Indian market, the stocks were measured with the daily returns of sectoral indices and Corona with confirmed cases and deaths. The results revealed that the epidemic hurt some stocks, and the results also revealed that there were no specific indicators whose performance was below par.

Indonesia

Sunitha Devi, Ni Made Sindy (2020) This study aimed to examine the impact of the COVID-19 pandemic on firms' financial performance listed on the Indonesia Stock Exchange., the sample is taken from 214 companies, which were divided proportionally into nine sectors or 49 sub-sectors, Current ratio, debt to equity ratio, return on assets and receivable turnover is the measurement of the stockmarket, the result showed that Increase in the leverage ratio and short-term activityratio but a decrease in the public companies' liquidity ratio and profitability ratio during the COVID-19 pandemic, and increase in the average value of receivable turnover, which means that a significant decrease in average receivables accompanies a decrease in sales. A significant decrease in average receivables can be caused by intensive collection from companies for outstanding receivables as a form of early anticipation of an economic situation such as during the COVID-19 pandemic.

Ainine Devara Nugroho, Robiyanto Robiyanto's (2021) this study aims to examine variables that influenced the Jakarta Composite Index (JCI) volatility during the outbreak of COVID-19, the sample is taken from the Bank Indonesia website, gold return volatility and USD/IDR return volatility is the measurement of the stock market, the result that USD/IDR volatility has a positive effect towards JCI volatility, while gold volatility negatively affects JCI volatility during the COVID-19 pandemic in Indonesia.

Sumarsan, Thomas GOH, Henry Henry (2020) This research examines the stock market index determinants and the prediction using the FFT curve fitting of the Jakarta Stock Exchange (JKSE) Composite Index during the COVID-19 pandemic., the sample is taken from daily data of the Jakarta Stock Exchange (JKSE) Composite Index, interest rate, and exchange rate from October 15 to October 15, 2019. This is the measurement of the stock market, The results have shown a strong influence of the independent variables and the dependent variable. The value of adjusted R-Square is 0.719, which means that the independent variables have simultaneously impacted the dependent variable for 71.9%; other factors have influenced the remaining 28.1%.

Nia Vera Mita (2020) This study looked at (1) the risk and return received by investors on the Indonesian capital market in depth; and (2) the effect of market return, size, and book-to-market factors in explaining excess returns on the Indonesian stock market during the COVID-19 outbreak. The sample was drawn from 100 indexes comprised of 100 listed companies. The results showed that the research found that the market return factor, size, and value variables mutually affect the ER during the observation period, and market returns are more dominantly affected than other independent variables during the period. But they are only able to 39.58% (partially) and 24.68% (simultaneously) influence the dependent variable.

Rika Candraningrat, Barrel Mujib (2021) The purpose of this study is to test whether the announcement of the first case of COVID-19 in Indonesia contains information that can make the market react marked by an abnormal return in the observation period. The sample is taken from 40 listed companies. The abnormal return is the measurement of the stock market. The results show that the announcement of the first case of COVID-19 in Indonesia hurt the Indonesia Stock Exchange, as evidenced by the absence of differences in abnormal returns before and after the announcement of the first case of COVID-19 in Indonesia, suggesting that the announcement has hurt the capital market. COVID-19 affects 60% of small, medium, and large industries, including the metal industry, electronics, and telecommunications equipment, automotive, airplanes, trains, and the tourism industry, which is heavily impacted by COVID-19.

Dewi Utomo HANGGRAENI (2021) This study explores the impact of the COVID-19 pandemic and the lockdown policies that are used to tackle the pandemic on stock market returns in Indonesia. The sample is taken from the daily stock returns of 272 firms that are listed on the Indonesia Stock Exchange. The daily stock return is the measurement of the stock market. The results show that the daily growth in COVID-19 total confirmed cases has a negative and significant impact on the stock returns. Furthermore, the daily growth of the total increase in the number of confirmed deaths due to COVID-19 also hurts stock returns.

Erie, Aldrin HERWANY FEBRIAN, Mohamad A. (2021) This research aimed to confirm if the COVID-19 pandemic has had an impact on existing sectors. The sample was taken from nine sectors of the Indonesia Stock Exchange. The abnormal return is the measurement of the stock market. The results show a decreased abnormal return value. The infrastructure, utilities, and transportation sectors also show an abnormal return value that tends to be constant, while the abnormal return value increases in other sectors. Judging from the cumulative value of abnormal returns, the most affected sector is financials, followed by the trade, service, and investment sectors. The consumer goods and mining industry sectors are still optimistic, while other sectors show temporary negative sentiment. Overall, the stocks on the Indonesia Stock Exchange (IDX) were affected by the COVID-19 pandemic with a cumulative negative value of the average abnormal return sample. The results using OLS regression also strengthen the relationships between the COVID-19 pandemic and negative and significant market returns.

Mulyo Haryanto, Wisnu Mawardi (2021). This research tries to show that information about COVID-19 affects market arousal indicated by the frequency of

transactions. The sample is taken from the Indonesia Stock Exchange (IDX). The Jakarta Composite Index (JCI) is the measurement of the stock market. The results of statistical analysis indicate that information about COVID hurts JCI, as well as trading volume on the day. The evidence can briefly prove that there is an effect of COVID-19 and weakening daily transactions on JCI. The research findings show that the JCI market uncertainty is in line with the VUCA and Prospect theories.

Vietnam

Quang-Thai Truonga, Duc-Nguyen Nguyen, and (2020) investigated the performance of the stock market during the outbreak of the novel coronavirus in Vietnam. The sample taken for this article includes data from 11 different industries and more than 700 firms from two main stock exchanges. measured by daily confirmed cases. Results showed that COVID-19 exerts heterogeneous impacts on different industries. Moreover, when focusing on the firm level, results show that firms with better financial backgrounds (leverage, liquidity, profitability, and cash holdings) have better stock performance.

Dao Van Hung (2021) studied the impacts of COVID-19 on the performance of the Vietnamese stock market. The sample taken from this article is a random-effect model (REM) on panel data of stock returns of 733 listed companies on both HOSE (the Ho Chi Minh Stock Exchange) and HNX (the Hanoi Stock Exchange). measured by daily confirmed cases. The results showed that the number of daily COVID-19 confirmed cases in Vietnam hurts the stock returns of listed companies in the market. During the pre-lockdown and second-wave periods of COVID-19, stock returns were negatively affected by the pandemic. Contrary to the negative impact on stock returns in the COVID-19 pre-lockdown and second-wave periods in Vietnam, as well as the negative impact of lockdowns that occurred on other countries' stock markets, The COVID-19 lockdown period in Vietnam had a positive impact on stock performance in Vietnam.

Vu, Son T., Le, Tam T. (2021) investigated the impacts of COVID-19's new cases and stimulus packages on the daily stock returns of five key economic sectors (Finance, Fast-moving-consumer-goods (FMCG), Healthcare, Oil and Gas, and Telecommunication) in Vietnam. Using stock returns of 107 companies listed on HOSE and HNX, including 16 companies from the healthcare sector and 9 companies from the telecommunications sector, 41 companies from the financial sector, 30 companies from the consumer goods sector, and 11 companies from the oil and gas sector, we measured it by The data of daily stock prices and finally, this study showed that the daily new confirmed COVID-19 cases negatively impacted stock returns of all five examined sectors. The order from most affected to least affected s: Finance, FMCG, Healthcare, Oil and Gas, and Telecommunication.

Lai Cao Mai PHUONG¹, (2021) examined how the COVID-19 pandemic affects the share price of the Vietnam Oil and Gas industry. Sample taken for this article is a method applied to Oil and Gas industry index data around three event days. Measured by Oil and Gas industry index. The results showed that the share price of the Vietnam Oil and Gas industry responded positively even though the oil and gas industry is experiencing a major decline. During a period of a sharp decline in oil prices, it will be a favorable condition for Vietnamese oil and gas companies in the upstream segment to negotiate with partners in oil and gas exploitation. They may buy back companies that have the potential but have difficulty being able to exploit them effectively in the long term as the economy recovers.

Dao Le Trang Anh and Christopher Gan (2020) explored the effects of the COVID-19 outbreak and its following lockdown on daily stock returns in Vietnam, a fast-growing emerging market that successfully revived after the pandemic lockdown by using the daily stock returns of 723 listed firms on Vietnam's stock market; 385 firms on HOSE and 338 firms on HASTC that measured by the daily number of confirmed cases in Vietnam and daily stock returns of 723 listed firms on Vietnam's stock market. The results showed that the average returns of all stocks in the market were negative during the study period. The average number of new COVID-19 confirmed cases was three per day. Notably, the dummy variable D_LOCK is positive and significant at 1%, indicating a positive impact of the COVID-19 lockdown period on the stock performance of listed firms on both HOSE and HASTC. Finally, this study examined the influence of COVID-19 during pre-lockdown and lockdown on daily stock returns of 723 listed firms on Vietnam's stock market from 30 January to 30 May 2020. Using panel data regression models, this study confirmed that the daily increase in the number of confirmed COVID-19 cases negatively impacted stock returns.

2.4 comments on literature review results

China:

Some authors' opinions gathered that the negative of the COVID-19 outbreak directly reduces the stock returns in a significant fashion in the sense that the estimated coefficients of output are negative on the stock market and significant at the 1 percent level. Its effect is also economically substantial. Although the impact varies with the types and development of the disease, firms that experience a negative impact from the epidemics are Liao Xu & Jilong Chen, J. Z. (2021) & Quang Thi Thieu Nguyen (2021).

On the other hand, the author disagrees with the results of the pandemic's having positively influenced some industries, such as medical services, health, and information technology. The five industries in which the effects of positive emotions have been significantly weakened are all related to oil and fuel. They are: Lei Yan, Yanhong Qian, (2020) & Yunchuan Sun & Mengyuan Wu, (2021) & Yuejiao Duan, Lanbiao Liu, Z.W. (2021)

America:

Some authors agreed with the opinion, and they saw that the results showed the linkage between the S&P 500 stock market, two US uncertainty indices (VIX and EPU), and the global cumulative daily COVID-19 cases and deaths during the first and second waves. and highlight a single break in S&P 500 return predictability and price volatility. Mohamed Yousfi a, Younes Ben Zaied b (2021). & Hong, Hui; Bian, Zhicun; Lee, Chien-Chiang (2021).

On the other hand, they saw that positive relationship as a result of immediate and effective economic measures taken by the government. They are Enrico Onali (May 28, 2020) & Ali Amin, Muhammad Arshad, and Naheed Sultana (2020).

Egypt:

Some authors agreed with the opinion, and they saw that the results of Beta Standardized Coefficients were the most influential and sensitive independent variables in the dependent variable, while the Daily Deaths variable was more effective and sensitive for individuals and institutions for Egyptian and Arab investors. They are Samira Allam, M. Abdelrhim, M. Mohamed (2020) & Abdullah Elsayed-Mansour Abd Elohim (2020).

On the other hand, the author's results showed, in the end, the negative and positive changes in the Egyptian market during the COVID-19 crisis, and the results showed a decrease in the world's production of goods and services in light of the COVID-19 crisis. They are Mohammed Hamdy Awad (2020) and Abd-Alla, M.H. (2020), which led to an impact on the joint-stock companies on the Egyptian Stock Exchange.

India:

In some authors' opinions, the standard deviation of all indices has an ascended negative deviation, and kurtosis values are exceptionally large. The results also revealed that there were no specific indicators whose performance was below par.

Indonesia

Some authors' opinions result in USD/IDR volatility having a positive effect on JCI volatility, while gold volatility negatively affects JCI volatility during the COVID-19 pandemic in Indonesia and A significant decrease in average receivables can be caused by intensive collection efforts from companies for outstanding receivables as a form of early anticipation of an economic situation such as during the COVID-19 pandemic. They are: Sunitha Devi, Ni Made Sindy (2020), Ainine Devara Nugroho, Robiyanto Robiyanto (2021).

On the other hand, the author's opinions impacted the dependent variable for 71.9%; other factors influenced the remaining 28.1%. and found that all independent variables influenced the dependent variable during the period. But they are only able to 39.58% (partially) and 24,68% (simultaneously) influence the dependent variable. They are Thomas Sumarsan GOH, Henry Henry (2020), and Vera Mita Nia (2020).

vietnam

Some authors agreed with the opinions on the negative impact of lockdowns that occurred on other countries' stock markets. The COVID-19 lockdown period in Vietnam had a positive impact on stock performance in Vietnam. As for the Dao Van Hung (2021) & Vu, Son T., Le, Tam T. (2021), daily new confirmed COVID-19 cases hurt stock returns in all five examined sectors.

On the other hand, in the author's opinion, this study confirms that the daily increase in the number of confirmed COVID-19 cases negatively impacted stock returns. They are Dao Le Trang Anh and Christopher Gan (2020).

And other opinions differ. Results based on daily confirmed cases showed that COVID-19 exerts heterogeneous impacts on different industries. They are Quang-Thai Truonga and Duc-Nguyen Nguyen (2020).

In the authors' opinion, we conclude the results range between negatives and positives in each stage of Corona in some countries. Most authors believe that they saw that the results of (Beta Standardized Coefficients) were the most influential and sensitive independent variables in the dependent variable. confirms that the daily increase in the number of confirmed COVID-19 cases has negatively impacted stock returns in some countries, such as Vietnam.

Research Hypothesis:

The Impact of covid – 19 on the stock market

Test hypothesis 1: covid 19 hurts the Egyptian stock market.

H0: covid 19 has a positive impact on the Egyptian stock market.

H1: covid 19 hurts the Egyptian stock market.

Test hypothesis 2: covid 19 hurts the stock market of developing countries like nIndonesia Vietnam anand India

H0: covid 19 has a positive impact on the stock market of developing countries: Indonesia.Vietnam and India.

H1: covid 19 hurts the stock market of developing countries : Indonesia, Vietnam, and India.

Test hypotheses 3 covid 19 has a positive impact on the stock market of advanced countries li: America and China

H0: covid 19 has a positive impact on the stock market of advanced countries: America and China

H1: covid 19 hurts the stock market of advanced countries: America and China

3.1 Introduction

This chapter discusses the practical part of research by using some models such as the regression model and coloration to conclude the results of the project from model one and model two, each model separately. This project started with sample and data collection, and research methodology, in addition to the conclusion or the summarized results from the regression model at the end of the chapter.

3.2 Methodology:

In this study, we examine the effect of COVID-19 on the stock markets in six countries: Egypt, America, China, Indonesia, India, and Vietnam. We collected data on the number of daily confirmed cases and death of COVID-19 through the World Health Organization website (<https://covid19.who.int/region/emro/country/eg>) and collected data on index prices for 6 countries from the Investing website (<https://www.investing.com/>) for the period from January 1, 2020, to December 31, 2020. We measured COVID-19 by the number of daily confirmed cases as previous authors did, like Xin Li and Enrico Oni. We measured the stock market by index prices for a set of indices (EGX30, Hang Seng, Sensex (BSE), Dow Jones, VN30, and IDX Indicator). We used these indices because most of these indices consist of 30 stocks, which are the highest companies in terms of liquidity and activity, and these indices are the most widely used measures in the stock trading market. These indices show the average prices of different stocks and bonds traded in the stock market. These are global indices that affect the country's economy and were affected during the COVID-19 pandemic that affected the economy. Previous authors like Xin Li and Enrico Onali measured the stockmarket by index prices. Previous authors like Abdullah Elsayed and Mansour Abd Elohim used the SPSS program to find out if there was a relationship between variables. And we used the SPSS program (regression, correlation, and the Pearson correlation coefficient) to show whether there is a positive or negative relationship between COVID-19 and the stockmarket.

3.3 Variable & Measurements

Table (1) Variable & Measurements

Variable name	Measurement
Covid-19	measured by daily new confirmed cases.
Stock market	Measured by daily stock price

3.1 Test hypotheses significance study:

This study tested the following main hypothesis, there is a significant Impact of covid – 19 on the stock market.

To test this hypothesis, the study uses Regression and correlation.

- 1- **Pearson correlation coefficient** is a mathematical correlation coefficient representing the relationship between two variables, denoted as X and Y. And Pearson coefficients range from +1 to -1, with +1 representing a positive correlation, -1 representing a negative correlation, and 0 representing no relationship. English mathematician and statistician Karl Pearson is credited for developing many statistical techniques, including the Pearson coefficient, the chi-squared test, p-value, and linear regression.
- 2- **Linear regression** is a basic and commonly used type of predictive analysis. There are many names for a regression's dependent variable. It may be called an outcome variable, criterion variable, endogenous variable, or regressand. The independent variables can be called exogenous variables, predictor variables, or regressors. There are three major uses for regression analysis (1) determining the strength of predictors, (2) forecasting an effect, and (3) trend forecasting. These regression estimates are used to explain the relationship between one dependent variable and one or more independent variables. The simplest form of the regression equation with one dependent and one independent variable is defined by the formula $y = c + b \cdot x$, where y = estimated dependent variable score, c = constant, b = regression coefficient, and x = score on the independent variable.

	<u>N</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Std.Deviation</u>
Corona daily cases	366	0	138062	57402.95	49307.957
Corona daily deaths	366	0	7631	3107.98	2793.137
Index price	366	.00	14108.24	7428.7867	5416.95065
Valid N (listwise)	366				

Table(3): correlation between Corona daily cases, death and index price (Egypt)

Pearson Correlation rho	ROE	Sig.(2- tailed)
Corona daily cases	-.025	.629
Corona daily death	-.020	.705
Correlation is significant at the 0.01 level (2-tailed)		

The previous table shows: the matrix of correlations between the variables and the value of the statistical significance of the correlation:

- It is clear from it that the correlation coefficient between the index price and the daily cases of corona (-.025), which is a moderate inverse correlation with two levels of significance (.629), which is statistically not significant
- While the correlation coefficient between the index price and the daily deaths of corona (-.020), which is a moderate inverse correlation with two levels of significance (.705), which is statistically not significant

Variable	coefficient	Sig.		Sig.
(constant)	7684.01	0.00		
Corona daily cases	-.047	.688	R	.053
Corona daily death	.780	.765	R ²	.003

Table (4) Regression analysis between Corona daily cases .death and index price (Egypt)

From table 3, the following points: There is a Moderate inverse relationship between the dependent variable Index price. and independent variables (Corona daily cases), while there is a moderate positive relationship between the dependent variable Index price. and independent variables (Corona daily deaths) which can be represented by a simple linear regression model of the following:

$$Y = 7684.01 - .047CC + .780CD$$

- Significance of independent variables 0, was more than (0.05), which means the variable is not statistically significant.
- The degree of the significance regression model is more than (0.05), which means that the mode is not statistically significant.

(Accepted H1 and Reject H0).

H0: the regression model is significant.

HI: the regression model is not significant.

- Reached the coefficient of determination is $R^2 = .3\%$, which means, .3% from changes in Index price. Because of the change in independent variables (Corona daily cases - Corona daily death).

Finally, covid 19 has a negative impact on the Egyptian stock market.

(Accepted H1 and Reject H0).

H0: covid 19 has a positive impact on the Egyptian stock market.

H1: covid 19 has a negative impact on the Egyptian stock market.

Table (5) correlation between Corona daily cases. death and index price (development countries)

Pearson Correlation rho	ROE	Sig.(2- tailed)
Corona daily cases	.471	.000
Corona daily death	.499	.000
Correlation is significant at the 0.01 level (2-tailed)		

The previous table shows: the matrix of correlations between the variables and the value of the statistical significance of the correlation:

- It is clear from it that the correlation coefficient between the index price and the daily cases of corona (.471), which is a Moderate direct correlation with two levels of significance (0.00), which is statistically significant
- While the correlation coefficient between the index price and the daily deaths of corona (.499), which is a Moderate direct correlation with two levels of significance (0.00), which is statistically significant

Table (6) Regression analysis between Corona daily cases .death and index price (development countries)

variable	coefficient	Sig.		Sig.
(constant)	7027.753	0.00		
Corona daily cases	-.015	0.00	R	.538
Corona daily death	1.187	0.00	R²	.289

From table (4), There is a weak inverse relationship between the dependent variable Index price. and independent variables (Corona daily cases), while there is a strong positive relationship between the dependent variable Index price. and independent variables (Corona daily deaths) which can be represented by a simple linear regression model of the following: **$Y = 7027.753 - .015CC + 1.187CD$**

-

- Significance of independent variables t , was less than (0.05), which means the variable is statistically significant.
- The degree of the significance regression model is the proposed (0.00) is less than (0.05), which means that the model is statistically significant.
(Accepted H_0 and Reject H_1).

H_0 : the regression model is significant.

H_1 : the regression model is not significant.

- Reached the coefficient of determination is $R^2=28.9\%$, which means, 28.9% from changes in Index price. Because of the change in independent variables (Corona daily cases - Corona daily death).

Finally, covid 19 has positive impact on the stock market of developing countries : Indonesia, Vietnam and India.

(Accepted H_0 and Reject H_1).

H_0 : covid 19 has positive impact on the stock market of developing countries like : Indonesia, Vietnam and India.

H_1 : covid 19 has negative impact on the stock market of developing countries : Indonesia, Vietnam and India.

**Table (7) correlation between Corona daily cases. death and index price
(Advanced countries)**

Pearson Correlation rho	ROE	Sig.(2- tailed)
Corona daily cases	.084	0.24
Corona daily death	.083	0.25
Correlation is significant at the 0.01 level (2-tailed)		

The previous table shows: the matrix of correlations between the variables and the value of the statistical significance of the correlation:

- It is clear from it that the correlation coefficient between the index price and the daily cases of corona(.084), which is a strong direct correlation with two levels of significance (0.24), which is statistically not significant
- While the correlation coefficient between the index price and the daily deaths of corona (.083), which is a strong direct correlation with two levels of significance (0.25), which is statistically not significant.

Table (8) Regression analysis between Corona daily cases .death and index price (Advanced countries)

variable	coefficient	Sig.		Sig.
(constant)	17257.74	0.00		
Corona daily cases	.000	.688	R	.084
Corona daily death	.005	.765	R ²	.007

From table 7 , the following points: There is a weak positive relationship between the dependent variable Index price. and independent variables (Corona daily cases - Corona daily death), which can be represented by a simple linear regression model of the following: **$Y = 17257.7 + .005CD$**

- The Significance of independent variables was more than (0.05), which means the variable is not statistically significant.
- The degree of the significance regression model is proposed (0.007) is More than (0.05), which means that the model is not statistically significant.
(Accepted H1 and Reject H0).

H0: the regression model is significant.

HI: the regression model is not significant.

- Reached the coefficient of determination is $R^2=0.7\%$, which means, .7% from changes in Index price. Because of the change in independent variables (Corona daily cases - Corona daily death).

Finally, covid 19 has positive impact on the stock market of developing countries like : Indonesia, Vietnam, and, India.

(Accepted H0 and Reject H1).

H0: covid 19 has positive impact on the stock market of advanced countries like : America and China

H1: covid 19 has negative impact on the stock market of advanced countries like : America and

4.1 Conclusion

The outbreak of COVID-19 disease has had a devastating impact on world economies. Most countries initially responded with lockdowns to stop the spread of the novel coronavirus, which in turn paralyzed economic activity and further trembled economic growth. The majority of stock markets were open for trading during the lockdown period, and the impact of COVID-19 on economic activity created fear among market participants. So, This paper attempts to examine the impact of the COVID-19 outbreak on the stock markets in six countries (China, Arabia, Egypt, India, Indonesia, and Vietnam). To reach this goal, we collected data on the number of daily cases of corona, deaths and the price of the index for a set of indicators (EGX30, Hang Seng, Sensex (BSE), Dow Jones, VN30, and IDX Indicator) for the period from 1/1/2020 to 31/12/2020. We measured COVID-19 by the number of daily confirmed cases and the stock market by its index prices. We used the SPSS program (regression, correlation, and the Spearman correlation coefficient) to show whether there is a positive or negative relationship between COVID-19 and the stock market.

This research examines the impact of COVID-19 on the stock market through the assumptions that the research seeks to prove. It proposed three hypotheses for analysis by using the regression and correlation models. By reviewing previous literature, we found authors like Quang Thi Thieu Nguyen and Dao Van Hung. They found that COVID-19 has negative effects on the stock market. On the other hand, authors like Lai Cao Mai PHUONG and Mohammad Noor, Md. Shabbir and Kavita found that COVID-19 has a positive effect on the stock market. The findings show that COVID-19 is significantly negatively correlated with the Egyptian stock market. The study also discovered that COVID-19 has no significant positive correlation with the stock markets of advanced countries such as America and China. and the stock markets of developing countries like Indonesia, Vietnam, and India.

4.1 Discussion

Our study was aimed at examining the impact of COVID-19 cases and their age on stock market indexes in six regions. We argued that pandemics negatively affect stock indexes in some countries and positively affect them in some countries as they produce shocks to the economy. We used confirmed COVID-19 cases and their ages to determine the impact of the pandemic. The correlation coefficient between the index price and the daily deaths of the corona is .

The linear regression results of our first hypothesis found two variables to be dependent and independent. These regression estimates are used to explain the relationship between one dependent variable and one or more independent variables, Corona daily cases-Corona daily death. Our linear regression first hypothesis results supported the proposition that COVID-19 has a negative impact on the Egyptian stock market. Our results were consistent with the findings of Mohamed Hamdy Awad (2020).

Our second hypothesis is that COVID-19 has a positive impact on the stock markets of developing countries like Indonesia and Egypt. India and Vietnam are clear from it that the correlation coefficient between the index price and the daily cases of the corona is high. We're not consistent with the finding of Robiyanto Robiyanto (2021) & (Dao Van Hung (2021).

Our third hypothesis, COVID-19, has a positive impact on the stock markets of developing countries like America and China. We're consistent with the findings of Naheed Sultana and Lei Yan.

Who mentioned that the market quickly responds to pandemic shocks due to economic measures taken by the government which ultimately increase the investor's confidence? We argue that with time, the strict lockdown measures by the government result in reduced economic activity and ultimately lower stock indexes. Our argument was not supported.

1-Future research avenues might consider testing whether the structural shift is temporary or permanent given its important policy implications. Furthermore, extending the analysis to more countries and comparing their similarities and differences would offer more insightful outcomes.

1- Future research can focus on panel and time-series studies of other regions and countries.

2- Forging ahead, the use of the quantile on quantile approach to examine the stock market reactions to other macro-economic variables such as GDP, inflation and unemployment, during the Covid-19 pandemic, would be an interesting extension for future studies.

3- Our study also paves the way for future research on the impact of COVID-19 on forex markets and gold markets in the short and long run.

4- The impact of fiscal measures taken by the central bank and financial support extended during the pandemic also forms a rich area of future research in this context.

5-Future research should investigate how stocks in other countries have been affected and try to explain cross-country differences in responses based on the industrial structures, level of development, and macroeconomic policy responses.

4.2 The research limitations

1. The research focuses on the effect of COVID-19 on the stock market.

- returns on the economic and financial effects of COVID-19

2. The research covers the period between 1/1/2020 and 31/12/2020.

3. This research will depend on measuring the number of cases and their effect on the stock market.

4-The difference between the impact of COVID-19 on the Egyptian economy and other countries

4.3 Reference

- Ali. A, Muhammad . A, Naheed . S and Rabeeya . R (2020) . Examination of the impact of COVID-19 on the stock market: evidence from American peninsula. Emerald Publishing Limited. DOI 10.1108/JEAS-07-2020
- Abd-Alla, M.H. (2020). Sentimental herding: the role of COVID-19 crisis in the Egyptian stock market. Copernican Journal of Finance & Accounting, 9(3), 9–23. <http://dx.doi.org/10.12775/CJFA.2020.009>
- Abdullah. Elsayed, M. Abd Elrhim , (2020) The Effects of Covid-19 Spread on the Egyptian Exchange Sectors . SSRN Electronic Journal . January 2020. DOI: 10.2139/ssrn.3608734
- Ashri, D., Sahoo, B. P., Gulati, A., & Haq, I. U. (2021). Repercussions of COVID-19 on the Indian stock market: A sectoral analysis. *Linguistics and Culture Review*, 5(S1), 1495-1509. <https://doi.org/10.21744/lingcure.v5nS1.1792>.
- Ainine . D . N, Robiyanto . R.(2020) . Determinant of Indonesian Stock Market's Volatility During the Covid-19 Pandemic. *Jurnal Keuangan dan Perbankan* .<https://doi.org/10.26905/jkdp.v25i1.4980>.
- Aldrin . H, Erie . F, Mohamad . A, Ardi . G (2020) , The Influence of the COVID-19 Pandemic on Stock Market Returns in Indonesia Stock Exchange. *Journal of Asian Finance, Economics and Business*. doi:10.13106/jafeb.2021.vol8.no3.0039.
- A. Mulyo Haryanto, Wisnu . M, “Impact of COVID-19 News on

Performance of Indonesia Stock Market,” Universal Journal of Accounting and Finance, DOI: 10.13189/ujaf.2021.090212.

- Bal, D., & Mohanty, S. (2021). Sectoral Nonlinear Causality Between Stock Market Volatility and the COVID-19 Pandemic: Evidence From India. Asian Economics Letters,2(1). <https://doi.org/10.46557/001c.21380>

-
- Barrel . M, Ica . R . C ,(2020) , Capital Market Reaction to Covid-19 Pandemic on LQ45 Shares at Indonesia Stock Exchange (IDX) . American Journal of Humanities and Social Sciences Research . e-ISSN :2378-703X
 - Christian . Da . U, Dewi . H, (2020) The Impact of COVID-19 Pandemic on Stock Market Performance in Indonesia. Journal of Asian Finance, Economics and Business . Doi:10.13106/jafeb.2021.vol8.no5.0777
 - Duan, Y., Liu, L., & Wang, Z. (2021). COVID-19 Sentiment and the Chinese Stock Market: Evidence from the Official News Media and Sina Weibo. Research in International Business and Finance, 101432. <https://doi.org/10.1016/j.ribaf.2021.101432>
 - Dao Le Trang Anh- 2020. The impact of the COVID-19 lockdown on stock market performance: evidence from Vietnam. Emerald Publishing Limited 0144-3585 . DOI 10.1108/JES-06-2020-0312
 - Dr. Kishore Kumar Das and Shalini Patnaik,(2020). The Impact of Covid 19 in the Indian Economy.
 - Dao Le Trang Anh. Christopher Gan (2020) . The impact of the COVID-19 lockdown on stock market performance: evidence from Vietnam.
 - Hong, Hui; Bian, Zhicun; Lee, Chien-Chiang (2021) : COVID-19 and instability of stock market performance: Evidence from the U.S., Financial Innovation, <http://dx.doi.org/10.1186/s40854-021-00229-1>
 - H.H.A. Yong and E. Laing(2020), Stock market reaction to COVID-19: Evidence from U.S. Firms' International exposure, International Review

-
- Hung, Dao Van, Nguyen Thi Minh Hue, and Vu Thuy Duong. 2021. The Impact of COVID-19 on Stock Market Returns in Vietnam. Journal of Financial Analysis. <https://doi.org/10.1016/j.irfa.2020.101656> of Risk and Financial Management 14: 441. [HTTPS://doi.org/10.3390/jrfm14090441](https://doi.org/10.3390/jrfm14090441)
 - Li, X. (2021). Asymmetric Impact of COVID-19 on China's Stock Market Volatility: Media Effect or Fact?. Asian Economics Letters, 2(4), <https://doi.org/10.46557/001c.24143>
 - Liu, Z., Huynh, T. L. D., & Dai, P. F. (2021). The impact of COVID-19 on the stock market crash risk in China. Research in International Business and Finance, 57, 101419. <https://doi.org/10.1016/j.ribaf.2021.101419>
 - Lin, Y., Wang, Y., & Fu, X. M. (2021). Margin purchases, short sales and stock return volatility in China: Evidence from the COVID-19 outbreak. Finance Research Letters, 102351. <https://doi.org/10.1016/j.frl.2021.102351>
 - Lai . C. Mai . P (2020) The Impact of COVID-19 on Stock Price: An Application of Event Study Method in Vietnam. Journal of Asian Finance, Economics and Business 0523–0531. doi:10.13106/jafeb.2021.vol8.no5.0523
 - Mohamed .Y, Younes . Ben Z, Nidhaledine . Ben C, B´echir . (2020) Effects of the COVID-19 pandemic on the US stock market and uncertainty. Technological Forecasting & Social <https://doi.org/10.1016/j.techfore.2021.120710>
 - Mohamed . H . A (2020) The impact of COVID-19 pandemic outbreak on the Egyptian firms' stock returns: evidence from emerging countries.
-

- Mansour . A, S. Allam , Mahmoud . M. (2020) The Effect of the COVID-19 Spread on Investor Trading Behavior On The Egyptian Stock Exchange. <https://ssrn.com/abstract=3655202>
- Mohammad. N.A , Md. Shabbir .A, Kavita . C. (2020). Stock Market Response during COVID-19 Lockdown Period in India. Journal of Asian Finance 131 – 137.doi:10.13106/jafeb.2020.vol7.no7.131

-
- Marco Ciotti, M . C, A .Ti, Wen-Can ,Ch. W & S . B (2020) The COVID-19 pandemi
 - Nguyen, Q. T. T., Anh, D. L. T., & Gan, C. (2021). Epidemics and Chinese firms' stock returns: is COVID-19 different?. China Finance Review International. Emerald Publishing Limited2044-1398. DOI 10.1108/CFRI-03-2021-0053
 - Quang-T . T, Duc-N. Ng , Quynh-Nhu .T, S. Al-Mohamadc, Walid . B(2020) COVID-19 IN VIETNAM: WHAT HAPPENED IN THE STOCKMARKET?.<https://www.researchgate.net/publication/343215558>. DOI: 10.2139/ssrn.3654017
 - Sun, Y., Wu, M., Zeng, X., & Peng, Z. (2021). The impact of COVID-19 on the Chinese stock market: Sentimental or substantial?. Finance Research Letters, 38, 101838.<https://doi.org/10.1016/j.frl.2020.101838>
 - Sunitha . D, Ni . Sindy . W, Putu. R. M, Lucy Sri . M. (2020) The Impact of COVID-19 Pandemic on the Financial Performance of Firms on the Indonesia Stock Exchange . Journal of Economics, Business, and Accountancy. <http://dx.doi.org/10.14414/jebav.v23i2.2313>
 - Rosy . D and Bhanwar . S (2020). The COVID-19 Pandemic and Herding Behaviour: Evidence from India's Stock Market. sagepub.com/journals-permissions-india.DOI: 10.1177/0976399620964635
 - Susilawati¹, Reinpal Falefi¹, Agus Purwoko² (2020) Impact of COVID-19's Pandemic on the Economy of Indonesia.

- Thomas . S . G, Henry . H, Albert . A.(2020) Determinants and Prediction of the Stock Market during COVID-19: Evidence from Indonesia.,. Journal of Asian Finance, Economics and Business Vol 8 No 1 (2021) 001–006.doi:10.13106/jafeb.2021.vol8.no1.001

- Vera . M . N (2020) The Effect of Corona Outbreak on the Indonesian Stock Market, 2378-703X
 - Vu, Son T., Le, Tam T., Nguyen, Chi N. L., Le, Duong T., Le, Phuc H., and Truong, Ha K. (2021), COVID-19 Pandemic, Stimulus Packages and Stock Returns in Vietnam. In: Economics and Business Quarterly Reviews, Vol.4, No.2, 22-34. DOI: 10.31014/aior.1992.04.02.342
 - Xu, L., Chen, J., Zhang, X., & Zhao, J. (2021). COVID-19, public attention and the stock market. Accounting & Finance, 4741-4756. doi: 10.1111/acfi.12734
 - Yan, L., & Qian, Y. (2020). The impact of COVID-19 on the Chinese stock market: An event study based on the consumer industry. Asian Economics Letters, 1(3), 1-5. 10.46557/001c.18068.
- <https://www.asharqbusiness.com/stocks/security/EGX30>
- <https://www.asharqbusiness.com/stocks/security/HSI:IND>
- <https://www.investopedia.com/terms/s/sensex.asp>
- <https://capital.com/vn30-equal-weight-index-definition>
- <https://www.idx.co.id/en-us/products/index/>