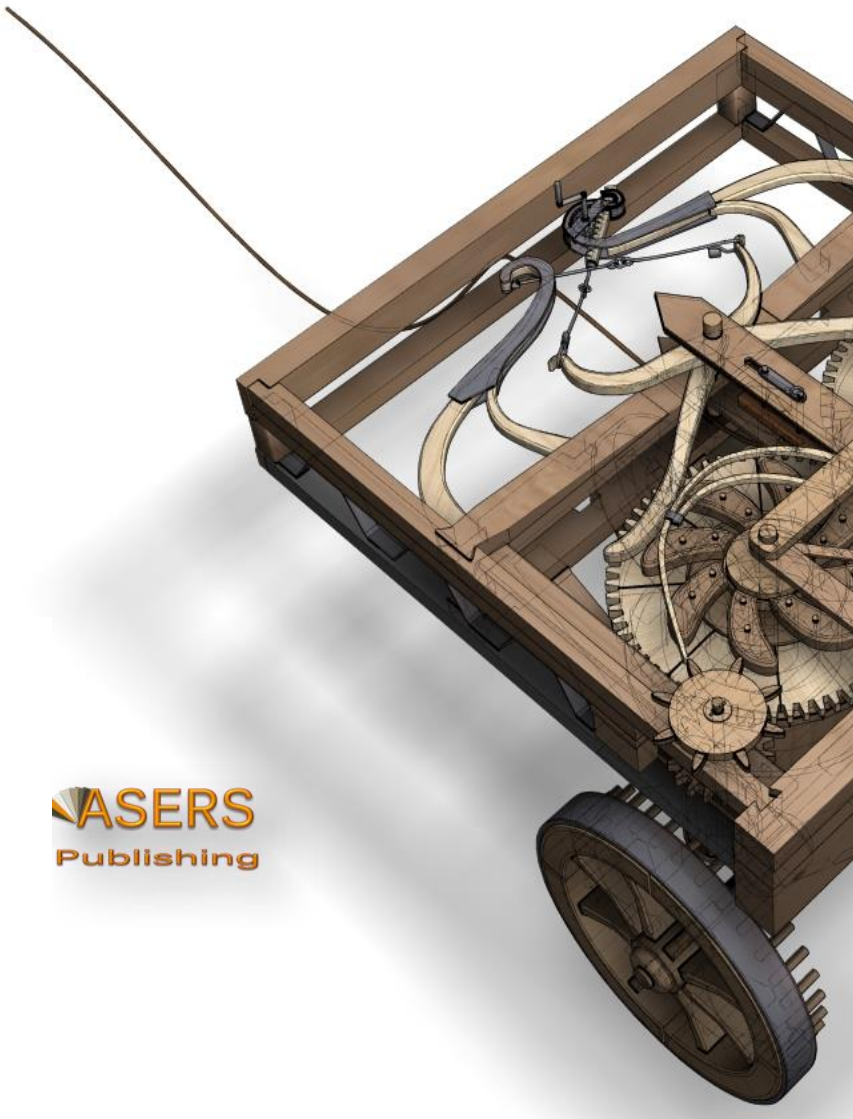
Theoretical and Practical Research in Economic Fields



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Volume XV, Issue 1(29), Summer 2024
Theoretical and Practical Research in Economic Fields

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Stock Market Performance during COVID-19 Pandemic: A Systematic Literature Review

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Abstract: *This study provides a comprehensive review using a systematic database to comprehend the pragmatic studies that examine the stock market performance during the COVID-19 pandemic. This study systematically searches and synthesizes the results of stock market performance during COVID-19 to provide an overview of the current state of knowledge. The objectives of this study are (1) to investigate the impact of COVID-19 on stock market performance, (2) to analyse the reaction of the stock market during a pandemic, and (3) to identify the perspective and gaps for future research. This study employs a Systematic Literature Review (SLR) approach and follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The databases used are Scopus and Web of Science (WoS), covering a period of 2020 to 2023. The articles were identified using specific keywords and were screened based on predefined criteria. A total of 57 articles were included in this study for review. This study examined the impact of the COVID-19 pandemic on stock market returns and volatility. Also, the study examines the interconnectedness between global stock markets. In addition, it explored the potential of government response to mitigate the pandemic's effect on the stock market. The study found that the initial impact was felt in the short term and negatively impacted investor sentiment, but the stock markets began to stabilise and recover over time. The study's findings suggest that future research should not only concentrate on the short-term impact and correlation between the stock market and the pandemic but also their long-term impact.*

Keywords: stock market performance; COVID-19 pandemic; systematic literature review.

JEL Classification: G10; I18; L10; Z11.

Introduction

Coronavirus disease 2019 (COVID-19) has recently become a major topic. The virus was first identified in Wuhan, China, in late 2019. The virus quickly spread to nearly every country worldwide, leading the World Health

Organization to declare a global public health emergency and classify the outbreak as a pandemic on March 11, 2020. COVID-19 goes beyond just a health crisis, and it has also caused significant economic difficulties for people, households, and companies in various industries worldwide (Chatjuthamard *et al.* 2021). This pandemic has significantly impacted society and the economy worldwide, creating a public health and economic crisis. The stock market is one of the most vulnerable sectors to the effects of COVID-19 (Nguyen *et al.* 2021). As the pandemic progressed and its economic impact became more apparent, stock markets worldwide experienced significant declines. Therefore, controlling the pandemic is crucial to preventing a further financial recession. To avert the spread of the virus, many countries have implemented policy stringencies such as stopping public transportation, implementing travel restrictions and curfews, banning large gatherings, and closing educational institutions, entertainment venues, gyms, and restaurants (He *et al.* 2020; Subramaniam and Chakraborty 2021). Anh and Gan (2020) examined the effect of COVID-19 on stock market performance in Vietnam during both the pre-lockdown and lockdown periods. The pre-lockdown phase of COVID-19 had a negative impact on stock returns, whereas the lockdown phase had a positive impact. It suggests that the government's response to the outbreak can positively affect stock returns. The stock market has also seen significant volatility as investors try to navigate the economic uncertainty caused by the pandemic. COVID-19 caused a loss of up to $6 trillion in the world's stock markets between February 24 and 28, 2020 (Ozili and Arun 2020). The US stock market, the largest economy, experienced a significant drop of 34% in the SandP 500 index from 19th February to 23rd March, the largest daily percentage drop since the 1987 crash. The NASDAQ also declined by 30% during the same period (Yiu and Tsang 2021).

Moreover, the stock market's reaction in developed and developing countries produces a different effect. Salisu *et al.* (2020) examined the impact of COVID-19 on developing and developed countries. They found that the pandemic particularly hard-hit developing markets, as many policy measures were ineffective in improving the stock market performance. Additionally, they found that developing stock markets were more vulnerable to the uncertainty of pandemics than developed stock markets. In contrast, Su *et al.* (2022) argue that developed countries were more affected by the pandemic's economic impact, despite having better healthcare systems. For example, the United States has been one of the countries most affected by the COVID-19 pandemic. There are kinds of literature related impact of COVID-19 appears to cause various financial issues such as decreased stock returns (Abdelkafi *et al.* 2023; Amin *et al.* 2022; Choi and Jung 2022; Saif-Alyousfi 2022) increased stock market volatility (Mobin *et al.* 2022; Rakshit and Neog 2022; Vo *et al.* 2022) heightened financial risk (Zhang *et al.* 2020) , systematic risk (Muna and Khaddafi 2022) and potential financial crises (Uddin *et al.* 2021). Furthermore, numerous studies have investigated the potential of policy responses and macroeconomic factors to mitigate the impact of COVID-19 on stock market performance (Abdelkafi *et al.* 2023; Al-Najjar *et al.* 2021; Bole *et al.* 2022; Caporale *et al.* 2022; Ghosh *et al.* 2022; Saif-Alyousfi 2022).

This study aims to add the existing literature in two ways. Firstly, it seeks to examine the stock market reactions to the COVID-19 pandemic. Secondly, to analyse the stock market performance during the COVID-19 outbreak, as well as the effects of COVID-19 on stock volatility and market returns. Lastly, based on this analysis, the study offers recommendations for governments or policymakers worldwide on managing and mitigating the impact of COVID-19 on stock markets. This paper is organised as follows. Section 1 presents the background of the topic used in the research, including the objectives and research questions of the study. Section 2 presents the methodology used to review the articles. Section 3 presents the distribution of articles used in this research. In Section 4, an analysis is conducted to identify the main themes in the literature reviewed. The current research findings on these themes are then discussed and summarised. Additionally, the implications of the COVID-19 pandemic on the stock market are discussed in this section. In the last section, we present the conclusion and limitations of this study.

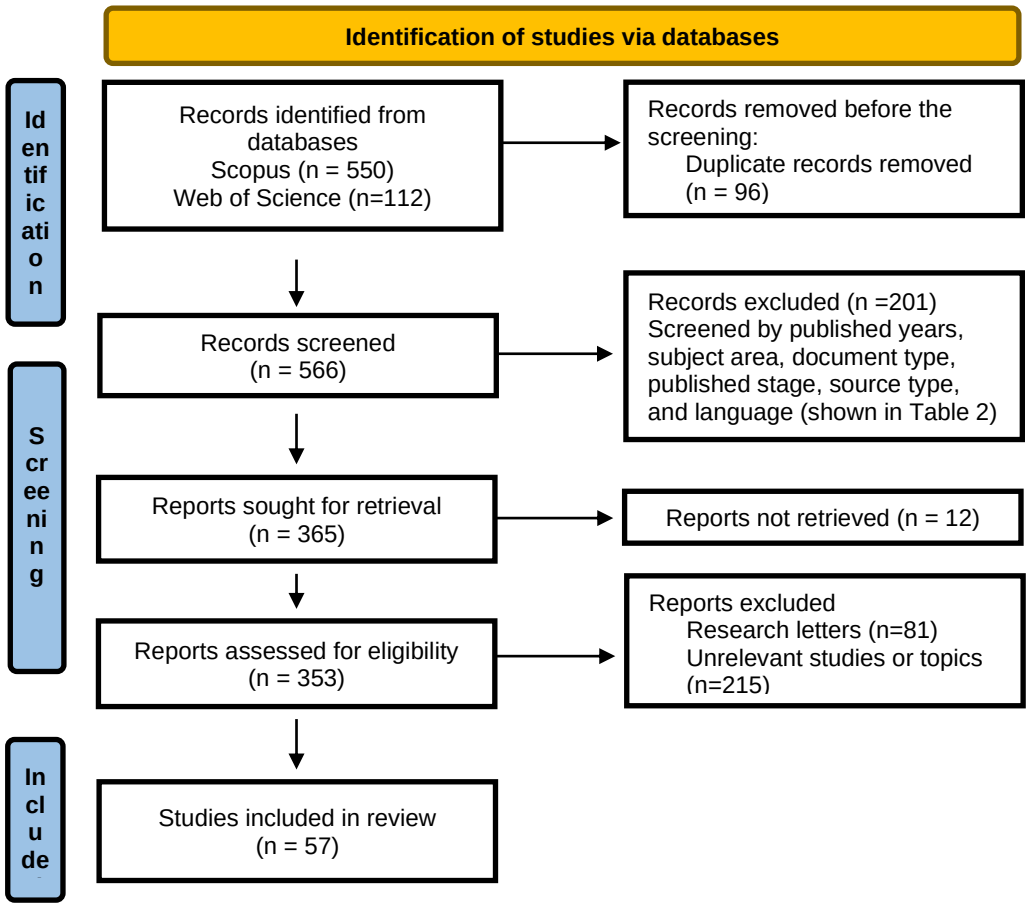
1. Materials and Methods

This study employs a systematic literature review (SLR) methodology and follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for reporting. A high-quality systematic literature review is a comprehensive review of the existing research on a specific topic. It involves a systematic and standardised approach to identifying, evaluating, and synthesising the findings of relevant studies. This type of review typically involves strict inclusion and exclusion criteria to ensure that only the most relevant and reliable studies are included. It also involves a transparent and reproducible method for searching for, selecting, and assessing the quality of the reviewed studies (Page *et al.* 2021).

1.1. Identifying of Studies

This systematic review utilised a combination of two databases, Scopus and Web of Science (WoS), to search for relevant publications in various selected journals. Scopus is a database that contains peer-reviewed academic literature in various fields, such as social sciences, life sciences, and health and physical sciences. Like Scopus, the Web of Science is an academic database that contains information on journals in various disciplines, including arts, humanities, sciences, and social sciences. The process for screening and determining eligibility for literature in this study included three steps: identification, screening, and inclusion. In the first step, we identified the articles using the key terms in Scopus and WoS, resulting in 550 documents in Scopus and 112 documents in WoS. A total of 96 duplicate articles were removed, leaving a total of 566 documents. Next, the articles were screened based on specific criteria such as publication year, subject area, document type, publication stage, source type, and language. A total of 365 documents remained after removing 201 documents that did not meet the criteria. Then, we excluded articles we could not access or were unavailable, leaving 353 documents. The final screening step involved removing research letters and documents irrelevant to the topic. Finally, a total of 57 documents were included in the review. The flow diagram of the literature review is shown in Figure 1.

Figure 1. The flow diagram for systematic literature review



Source: Adapted from Page *et al.* (2021).

1.2. Selecting of Studies

The quality of a literature review depends on the collected materials, as stated by Xiao and Watson (2019). This study utilised articles from refereed journals published between 2020 and 2023, which were obtained from two major databases, Scopus and Web of Science (WoS). The databases used in this study include Science Direct, Emerald Insight, Taylor and Francis Online, Springer, SAGE, RGN, MDPI, and WILEY. We craft search queries to identify relevant literature and utilise filters to obtain optimal results aligned with our research objectives. The search query used the keywords "stock markets", "stock market performance", "stock market return", and "stock market volatility". The search string for selecting articles is listed in Table 1.

Table 1. Literature search strings for the database

Search field	Search string	Scopus	WoS	Last updated
Title/ Abstract/ Keywords	Stock markets	20.064	12.716	January 7, 2023
	Stock market performance	4.579	3.418	January 7, 2023
	Stock market returns	6.854	5.9	January 7, 2023
	Stock market volatility	3.499	3.812	January 7, 2023

To filter out only the relevant papers, the search was restricted to documents that had the initial search terms in the publication title and included the keywords combination of "stock markets", "stock market performance", and "COVID-19", also using a boolean "OR" and "AND" operators (as shown in Table 2). Finally, the result shows 550 documents in Scopus and 112 in WoS.

Table 2. Attribute identification of search strings

Databases	Search string/ keyword used	Result	Last updated
Scopus	TITLE (("stock markets" OR "stock market performance") AND ("COVID-19"))	550	January 7, 2023
Web of Science (WoS)	TITLE=(("stock markets" OR "stock market performance") AND ("COVID-19"))	112	January 7, 2023

1.3. Eligibility of Studies

In a systematic literature review, inclusion and exclusion criteria are used to define the scope of the review and identify which studies should be included or excluded from the analysis. Inclusion criteria are the characteristics that a study must have to be included in the review, while exclusion criteria are the characteristics that will disqualify a study from being included. These criteria are defined based on the research question and the study's specific aims. Using inclusion and exclusion criteria helps ensure that the studies included in the review are relevant and of high quality and that the review results are reliable and valid. The inclusion and exclusion criteria in this study are detailed in Table 3.

Table 3. Details of inclusion and exclusion criteria for studies

Feature	Inclusion criteria	Exclusion criteria
Published year	2020-2023	<2020
Subject area	Economics, econometrics, and finance Business, management, and accounting	Health, computer science, and social science.
Document Type	Article	Conference papers, books, reviews, notes, and short surveys.
Published stage	Final	Article in press
Source type	Journal	Conference proceedings, books, trade journals, reports, and pre-print archives.
Language	English	Non-English

1.4. Assessing the Quality of the Studies

The selection of 57 articles for the study was based on their quality, as assessed using the Joanna Briggs Institute's (JBI) Critical Appraisal checklist for systematic reviews, suggested by Rathnayaka *et al.* (2022). The JBI Critical Appraisal checklist is a tool used to evaluate the methodology and reporting of systematic reviews, and it can help determine the level of confidence that can be placed in the review findings. The checklist includes criteria that are rated as "yes", "no", "unclear", or "not applicable", with "yes" indicating that the review meets the criterion and "no" indicating that it does not. The total score is calculated after all the criteria are scored; it may range from 0-100 (found in Appendix 2). A score of 65 or above is considered good quality.

2. Results

This section presents the review results derived from the key findings and methods employed in the selected literature. The discussion is divided into three parts: an analysis of the years of studies (Figure 2), an examination of the methodology used (Table 4), the study setting of articles (Figures 3 and 4), and the themes of the studies (Figure 5 and 6). The COVID-19 pandemic began in late 2019 and has been a research focus in 2020.

Figure 2. Number of published articles by year

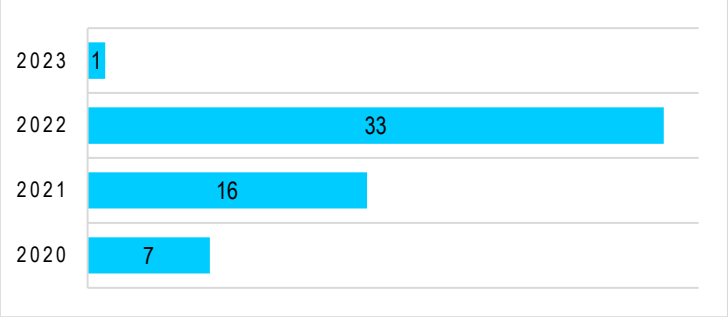


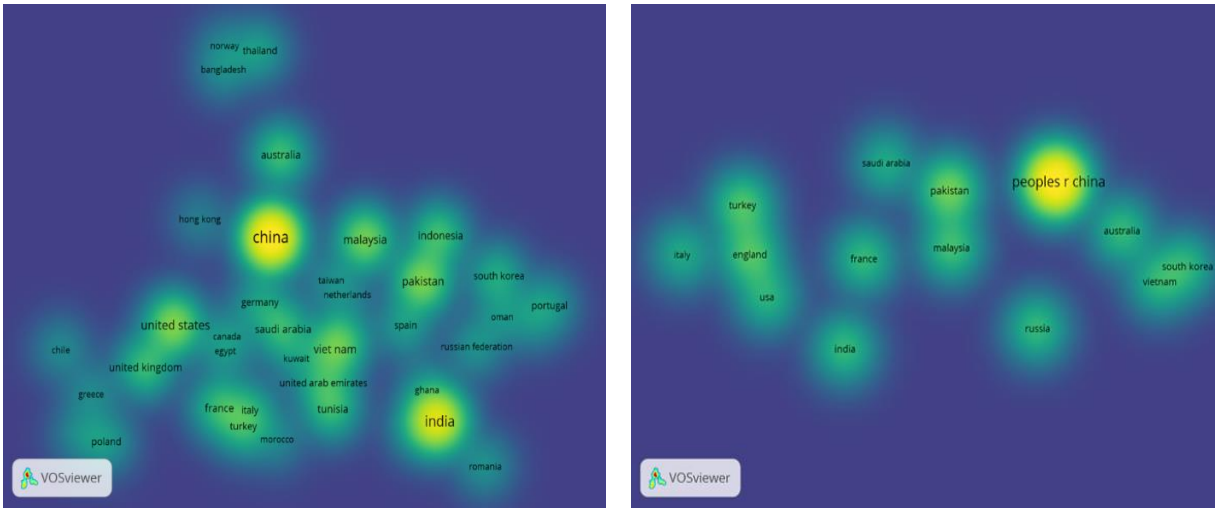
Figure 2 displays the most frequent year of publication of articles used in this study is 2022, with a total of 33 articles (57.8%), followed by 16 articles in 2021 (28%), a total of 7 articles in 2020 (12.3%), and 1 article in 2023 (1.7%).

Table 4. Most frequent research methodology in the study

Methodology	Frequency	Percentage (%)
GARCH and its various models	15	26.31
Panel data	11	19.29
Event Study	5	8.77
Ordinary Least Square (OLS)	4	7.01
Granger causality	3	5.26

Table 4 illustrates the main methodology employed to investigate the stock market performance during COVID-19 in all selected articles. The most used methodology in the selected articles is GARCH and its various models (26.31%), followed by panel data (19.29%), event study (8.77%), OLS (7.01%), and Granger causality (5.26%) across all the selected articles. For detailed methodology used in all articles selected can be shown in Appendix 3. The Generalized Auto Regressive Conditional Heteroskedasticity (GARCH) is a widely used approach many researchers employ to measure stock market volatility and identify risk. It is particularly useful for analysing time-series data, where the variance error is considered serially autocorrelated (Khattak *et al.* 2021). At the same time, the Exponential General Autoregressive Conditional Heteroskedasticity (EGARCH) method captures what is not considered by the GARCH model. It was employed to examine the impact of COVID-19 on the stock market in Ghana and forecast current stock returns based on past returns (Insaidoo *et al.* 2021).

Figure 3. Item density visualisation (country) using Scopus and WoS databases



The results of the density visualisation are displayed as a map with colour-coding by country or study setting, as shown in Figure 3. The left figure is the result obtained from Scopus, and the right is from Web of Science databases. Bright yellow and uppercase keywords indicate the highest prevalence in recent research.

The result using Scopus databases shows that China is prominently displayed in bright yellow, indicating it is the most commonly used country in the study, followed by India and the United States. Similarly, the density visualisation results using WoS also show China as the most frequently used study setting by researchers in this study.

Figure 4. Network visualisation (keywords) from Scopus

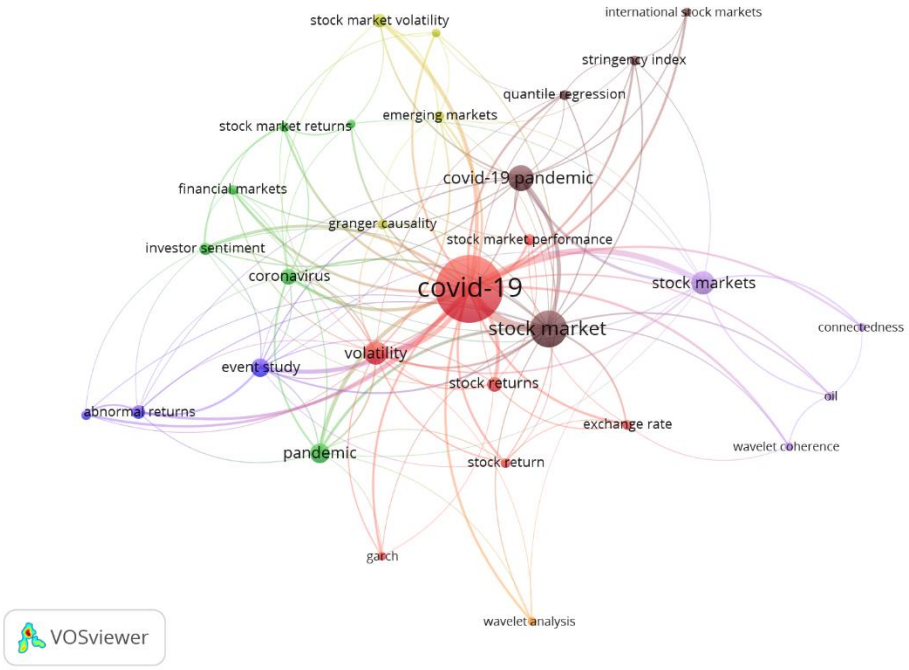
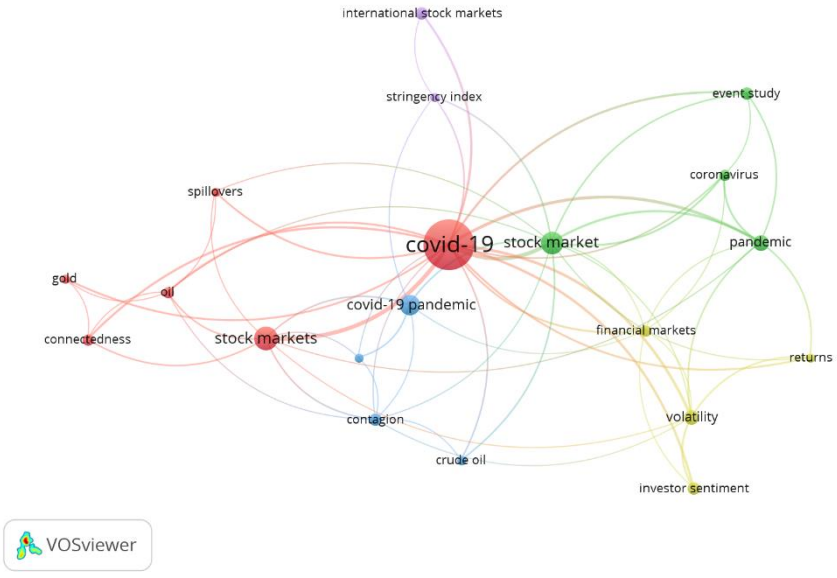


Figure 5. Network visualisation (keywords) from Web of Science.



Figures 4 and 5 show the articles' mapping based on the keywords using VOSviewer. In Figure 5, we use the Scopus database and identify seven clusters related to the stock market during the COVID-19 pandemic. However, some keywords were placed in incorrect groups because the classification was based on how often the words were used together. For instance, "wavelet analysis" and "wavelet coherence" were not in the same group. Another example is "stock returns", which should not have been grouped with "stock market returns". As a result, the study adjusted to clarify the groupings and reduced the number of clusters to four. The first cluster, referred to as "stock market performance," is the blue cluster identified by VOSviewer. The main focus of this research is to analyse the stock market's performance, specifically by examining stock market returns and volatility. The second

theme, "investor sentiment," is represented by a green cluster. The third theme, referred to as the "stringency index," relates to the international stock market and is represented by a brown cluster. Lastly, the theme is called "connectedness" and is represented by a purple cluster. In addition, using the Web of Science database (Figure 6), we identified five clusters related to the stock market during the pandemic. The results obtained from mapping clusters using the Web of Science database were similar to those obtained from the Scopus database. Thus, we combined the results from both databases for the themes discussed in this study.

3. Findings

The themes in the literature were identified by performing a content analysis. This analysis aimed to answer the research questions and validate the findings. Four main themes were identified and organised as follows:

3.1. COVID-19 Pandemic and Stock Market Performance

The rapid and widespread transmission of the coronavirus has had a profound impact on global capital markets (Viona *et al.* 2023). The stock market, as a significant component of the capital market, has been particularly affected by the pandemic. The spread of COVID-19 exerts a significant and immediate impact on stock movements, particularly in the short term (Rahman *et al.* 2022). A study conducted by Wajid and Gupta (2022) has demonstrated that the pandemic had a significant negative impact on the indices of the world's 20 largest stock markets. Additionally, negative impacts on the stock market were also observed in eight countries in Africa during the pandemic, as noted by Takyi and Bentum-Ennin (2021). The pandemic caused a sharp and sudden fall in stock prices, as investors became increasingly concerned about the economic impact. However, this impact has not been uniform across all regions and markets, with the effects growing from east to west as the virus spread (Jakub Szczygielski *et al.* 2022). According to Lee *et al.* (2022), the stock markets and COVID-19 have a strong connection due to several reasons. Firstly, the COVID-19 pandemic is an unpredictable black swan event, making it difficult to prepare for. Secondly, stock markets are influenced by speculation, causing decreased returns following pandemic announcements. Lastly, the downturn in stock returns is related to the extreme stringency measures put in place to control the spread of COVID-19. The global stock market reaction was strong during the early days of confirmed cases of COVID-19 in Major affected WHO Regions which experienced a steep drop on the 26th day, followed by another sharp decline between the 30th and 35th day (Al-Qudah and Houcine, 2022). Moreover, a study by Ashraf (2020) also found that the market reaction occurs between 40 to 60 days after the first date of confirmed cases.

The stock market return and volatility, as an important indicator of stock market performance. Hong *et al.* (2021), also showed a significant response. The Ghana Stock Exchange Composite Index (GSECI) showed a downward trend during the pandemic with some fluctuations over the period (Ofori-Boateng *et al.* 2022). Moreover, the stock market returns also decline in China, India, and Thailand (Al-Awadhi *et al.* 2020; Bhama 2022; Suwannapak and Chancharat 2022). Interestingly, Kusumahadi and Permana (2021) studied stock market returns in 15 affected. Their findings revealed that each country experienced its highest and lowest returns in March 2020. For example, the Brazilian stock exchange recorded a significant decline of 15.99% in returns, followed by a subsequent increase of 13.02% on the following day. Additionally, the Singapore stock indices reached their lowest point on March 23, 2020, with a return of -7.64%. However, within two days, they managed to recover, reaching a return of 5.89%. Furthermore, it is notable that there is a strong relationship between the increase in COVID-19 deaths and recoveries and the fluctuations in stock returns. In Italy, a rise of 1000 deaths corresponds to an average decrease of approximately 0.014% in stock returns, while a rise of 1000 recoveries is associated with an average increase of 0.0044% in stock returns (Basuony *et al.* 2021). Abouelfarag and Qutb (2022) have shown that the mortality rate and transmission speed of COVID-19 have caused market instability and influenced stock returns. Additionally, macroeconomic factors such as interest rates, inflation rates, and exchange rates, as well as market sentiment, rumors, and trends, can also impact stock returns (Barakat *et al.* 2022).

The COVID-19 pandemic had a significant impact on stock markets, leading to a substantial increase in volatility, particularly in March 2020 (Ganie *et al.* 2022). Volatility plays a crucial role in various aspects of financial decision-making, including portfolio selection, derivative pricing, and risk management (Yong *et al.* 2021). Higher volatility implies greater uncertainty and risk, while lower volatility suggests a relatively stable investment. During the pandemic, information becomes more abundant and spreads at a faster pace. Consequently, market volatility becomes increasingly sensitive to news updates related to COVID-19 (Xu 2022). Numerous countries experienced high volatility in their stock markets. Singh *et al.* (2020) revealed in their research that statistically all the indices in G20 countries show a high fluctuation in abnormal returns (ARs) from day 0 to 57. The stock market

volatility for 43 stock indices in the world rose (Chatjuthamard *et al.* 2021). In line with a study by Kusumahadi and Permana (2021) in 15 countries in Asia, Europe, the Americas, and Africa. Meanwhile, countries characterized by low political stability showed decreased volatility in stock indices. This can be attributed to the likelihood of countries with centralized power adopting strong and effective measures to curb the spread of the virus, resulting in reduced panic in the stock market (Chatjuthamard *et al.* 2021). Furthermore, a study conducted by Zhang *et al.* (2023) revealed that stock markets in developing countries exhibited higher volatility in comparison to developed markets. For instance, studies examining the Indian stock market during the COVID-19 period have revealed a significant increase in volatility. Moreover, these studies have consistently found that the returns from the market exhibited non-normal patterns, deviating from the expected distribution of returns (Chaudhary *et al.* 2020; Sreenu and Pradhan 2022).

Each country has its own unique situation. The stock market performance in one country might not be the same as in another. It also can be influenced by the domestic economic situation, the level of integration with the global economy, and the effectiveness of the government's response to the pandemic. Subramaniam and Chakraborty (2021) found that developed markets are better at handling market fluctuations than developing markets, as shown by the correlation between market volatility and the interaction term of developing markets and economic resilience. For example, the US stock market indicates a market that is more resilient to the impact of the pandemic revealed significant negative only in the 6th window (Lee *et al.* 2022). In line with the study by Chowdhury (2022), the US stock market saw a sharp decline during the first three weeks of March 2020 but began to recover from the first week of April 2020. Japan's Nikkei 225 also saw large declines early on in the pandemic but has also since recovered, driven by government stimulus and relatively quick control of the pandemic within those countries (Li *et al.* 2022). Similarly, the study by Gupta *et al.* (2022) in the 20 largest economies' stock markets showed that at the end of April 2020, stock market indices had recovered, with 9 out of 20 stock market indices showing improvement, particularly the Canadian, Russian, Saudi Arabian, and US markets. Meanwhile, the Indian and Indonesian stock markets were still trending downward. The effects of the pandemic on the stock market fluctuate over time based on each country's economic and health situation. Each country experiences similar phase changes, with some stages marked by a peak and others by a trough, meaning there are positive and negative correlations (Cervantes *et al.* 2022).

3.2. Government Policy Response Through the Stringency Index

As the COVID-19 pandemic continues to spread and affects economic growth, it has become a major concern for policymakers. Governments quickly took preventive actions, which had a negative impact on various sectors, specifically service, tourism, and finance. Consequently, this situation caused public panic and heightened concerns about the leadership's ability to respond to the crisis effectively (Alkhatib *et al.* 2022). The implementation of COVID-19 control measures in the Asia-Pacific region appears to have a tendency to alleviate market volatility (Vo *et al.* 2022). Studies conducted by Amin *et al.* (2022) indicate that stock markets have shown high responsiveness to these government-implemented containment and stabilization policies. Moreover, government policies may indirectly mitigate the negative effects of daily confirmed COVID-19 cases and deaths (Guven *et al.* 2022). However, it is important to note that such measures also have consequences, including reduced economic activities and disruptions in global supply chains, particularly affecting industries such as travel, tourism, manufacturing, and labor-intensive sectors. These disruptions have implications for businesses' profitability and household consumption (Insaidoo *et al.* 2021). Governments around the world have implemented various stringency policies to slow the spread of the virus and mitigate its economic impacts such as closing borders, cancellation of international fights, ban of large gatherings, closure educational institutions, entertainment avenues, gyms, restaurants, bars, etc. (Subramaniam and Chakraborty 2021). A study conducted by Saif-Alyousfi (2022) has demonstrated that the stringency index has a positive and significant impact on stock markets across the Americas, Europe, Asia-Pacific, the Middle East, and Africa, with a significance level of 1%. This finding supports the idea that government intervention contributes to heightened stock market activity. While government policies in America and Latin countries may have been effective in containing the spread of the virus, they may have also inadvertently resulted in negative economic consequences by generating uncertainty and instability for businesses and individuals (Abdelkafi *et al.* 2023).

The stock markets quickly and negatively responded to the pandemic when lockdown restrictions were announced (Ji *et al.* 2022). During the lockdown in Italy, the lockdown not only helped reduce new infections but also had severe economic repercussions, leading to a significant decrease in Gross Domestic Product (GDP) by as much as 13% by the end of the second quarter of 2020, marking one of the largest declines in Italy's history (Keliuotyte-Staniuleniene and Kviklis 2022). Moreover, studies by Caporale *et al.* (2022) have shown that in G7

countries, stock markets are more affected by government restrictions rather than the direct impact of the pandemic itself. Furthermore, it has been found that the positive impact of government policy only occurs during the first wave of the pandemic in different regions like Africa, Asia, Europe, South America, North America, and Oceania (Marobhe and Kansheba 2022). Overall, the effectiveness of these policies in reducing the impact of the pandemic on the stock market will depend on a variety of factors, including the severity of the pandemic, the speed of vaccine distribution, and the ability of governments to effectively implement and follow through on these policies as mentioned by Barakat *et al.* (2022). Governments that can swiftly address the health crisis and implement well-coordinated policies are more likely to achieve better outcomes in stabilizing and restoring confidence in the stock market.

3.3. The Investor Sentiment During a Pandemic

During the initial stages of the COVID-19 pandemic, when the virus was spreading rapidly and the economic impact was not clear, investor sentiment was heavily influenced by fear and uncertainty. Consequently, there was a sharp and sudden decline in stock prices as investors reacted with overreactions and sold off their holdings to mitigate potential financial losses. Consequently, there was a sharp and sudden decline in stock prices as investors reacted with overreactions and sold off their holdings to mitigate potential financial losses (Lie *et al.* 2022). Normally, rational investors would sell their stocks before the pandemic intensifies (Insaidoo *et al.* 2021). During times of deteriorating economic conditions, investors may tend to exhibit a reduced willingness to invest their funds in high-risk assets such as stocks (Tiwari *et al.* 2022). In response to this situation, financial market regulators may impose restrictions on short selling or stock repurchasing (Ji *et al.* 2022). The increased volatility in the stock market and the uncertainty also made investors more risk-averse, it was primarily triggered by the impaired investor sentiment due to the announcement's effects, and this tendency to avoid risk has led to a more cautious investment behaviour (Mishra and Mishra 2021).

Investor sentiment had a negative impact on the volatility of the Tadawul All-Shares Index (TASI) during the COVID-19 period (Wasiuzzaman 2022). However, as more information became available about the impact on the economy and society, investor sentiment began to recover. Positive news such as the development of vaccines, treatment, and the efficacy of different policy responses, can enhance investors' outlook and restore confidence in the market. Moreover, government policies, monetary and fiscal responses, and the progression of the pandemic can heavily influence investor sentiment. Government support, including bank loans extended to sectors like travel, tourism, and manufacturing, can help alleviate uncertainties that contribute to stock market volatility (Insaidoo *et al.* 2021). Starting in mid-April 2020, the pattern of stock return volatility in Asia changed direction and returned to the pre-event levels. It could be attributed to an increase in investor confidence due to proactive fiscal and monetary actions taken by governments in Asia (Mishra and Mishra 2021). Investors must diversify their investments to reduce risk by including a combination of investments that correlate negatively to the stock market (Rahman *et al.* 2022). For example, more appropriate for investors to invest in companies like banks and telecommunications, as many of these companies are performing well and generating strong profits from their business activities at that time than investing in industries like manufacturing and oil and gas may carry more risk (Khattak *et al.* 2021).

3.4. Stock Market Connectedness

The degree of connectedness among stock markets has increased during the COVID-19 pandemic, as the crisis has led to a high degree of market synchronisation. Globalisation has connected the economies of the world and heightened the mutual dependence of global financial markets (Chatjuthamard *et al.* 2021). The correlation between global stock indices has grown stronger, leading to similar movements in stock markets worldwide (Zaheer *et al.* 2022). As can be seen, the overall interdependence of volatility among the G20 countries has significantly increased during the pandemic period (Li *et al.* 2021). The ASEAN5 stock markets are also influenced by events in the global financial market due to the spillover effect (Yiu and Tsang 2021). The market's interconnection between ASEAN and COVID uncertainty indices is strong, with Indonesia and Singapore stock market indices being significant transmitters of shocks. On average, they transmit 59.40% and 58.89% of shocks to other indices respectively (Behera and Rath 2022). This is likely because the pandemic has affected economies and industries globally, leading to similar reactions in different markets. The increased connectedness has also led to greater co-movement among different asset classes, including stocks, bonds, and commodities. This is partly because investors have been moving money out of riskier assets and into safe-haven assets such as government bonds.

Furthermore, the connectedness of emerging markets and developed markets has also increased during the pandemic, as the crisis has had a similar impact on both types of markets. Cheng *et al.* (2022) found that the COVID-19 outbreaks in Europe and America had a significant effect on the interconnectedness of stock market volatility in 19 economies around the world. It was also observed that the connectedness within the Asian markets was higher during the second stage of the COVID-19 pandemic but decreased in the third stage. Moreover, the negative impact of COVID-19 on the stock market in six countries in the Arabian Peninsula, namely Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Bahrain, and Oman markets has a spillover effect on the Chinese stock market. There is evidence of a bidirectional spillover effect of COVID-19 on stock markets in both the Arabian Peninsula and China (Salman and Ali 2021). Conversely, the European, American, and Australian stock markets were found to be consistently closely connected during the COVID-19 pandemic. Moreover, a study by Aslam *et al.* (2020) on 56 global stock indices revealed that before and during the COVID-19 pandemic, developed markets typically exhibit a positive correlation, indicating a tendency for their movements to align. However, it is important to note that during the COVID-19 period, the strength of this relationship experienced a decline. Furthermore, the spillover result indicates that the stock market performance in emerging countries such as Brazil, Chile, Peru, Mexico, and Russia was heavily impacted by China's exchange rate volatility during the pandemic (Rakshit and Neog 2022). Overall, the COVID-19 pandemic has led to increased connectedness among stock indices, as the crisis has led to increased volatility and correlations among different markets.

Conclusions and Further Research

This study identifies the most cited and influential manuscripts, journals, publishers, and authors, along with the themes of research, from the keywords and conclusions of research publications. The focus of this study is to analyse the stock market performance during the COVID-19 pandemic. The research encompasses articles published in the Scopus and WoS databases, covering the period from 2020 to 2023. A total of 57 articles were evaluated following the PRISMA guidelines. The study encompasses four main themes. The first theme examines the adverse impact of COVID-19 on the stock market performance. The second theme explores the significant role of government policies in mitigating the pandemic's impact. The third theme investigates the response of investors and investor sentiment toward investment risk during the pandemic. Lastly, the fourth theme addresses the global interconnectedness of the stock market during the pandemic. This study can provide valuable information for both policymakers and investors. For policymakers, this research can help inform decisions related to economic stimulus and recovery measures. It can also shed light on the impacts of different policy choices on the stock market and the broader economy. For investors, this research can provide insight into the potential short- and long-term effects of COVID-19 on various industries and companies, which can help inform investment decisions. Additionally, such research can also help investors to understand the behaviour of the stock market during a pandemic and help them to anticipate any future pandemics.

In general, this research can help to better understand the economic effects of the pandemic and guide decisions related to investment and policy. This review process has generated several suggestions for future studies. Firstly, it is important to acknowledge that this study was limited to published articles in Web of Science (WoS) and Scopus databases, which introduces selection bias. To obtain a more comprehensive understanding of the trends in research on stock market performance during COVID-19, future research should consider including other sources as well. Secondly, this research has focused on four themes and primarily examined the short-term impact of the pandemic on stock market performance. Therefore, conducting studies that explore the long-term impact of COVID-19 on stock market performance and incorporating additional correlated aspects would be worthwhile. Lastly, it is worth noting that the use of certain keywords in the search term might have excluded relevant articles from being reviewed. To broaden the scope of literature, researchers can consider adding more specific keywords such as "stock market reaction" or "stock market returns" instead of broader terms like "stock markets" and "stock market performance." In summary, these limitations highlight valuable research opportunities within the field of stock market performance during the pandemic.

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Credit Authorship Contribution Statement

Pingkan Mayosi Fitriana: Conceptualization, Investigation, Methodology, Formal analysis, Writing – original draft, Writing – review and editing, Visualization.

Jumadil Saputra: Conceptualization, Investigation, Methodology, Project administration, Software, Formal analysis, Writing – original draft, Supervision, Data curation, Validation, Writing – review and editing, Visualization, Funding acquisition.
Zairihan Abdul Halim: Conceptualization, Investigation, Methodology, Project administration, Software, Formal analysis, Writing – original draft, Supervision, Data curation, Validation, Writing – review and editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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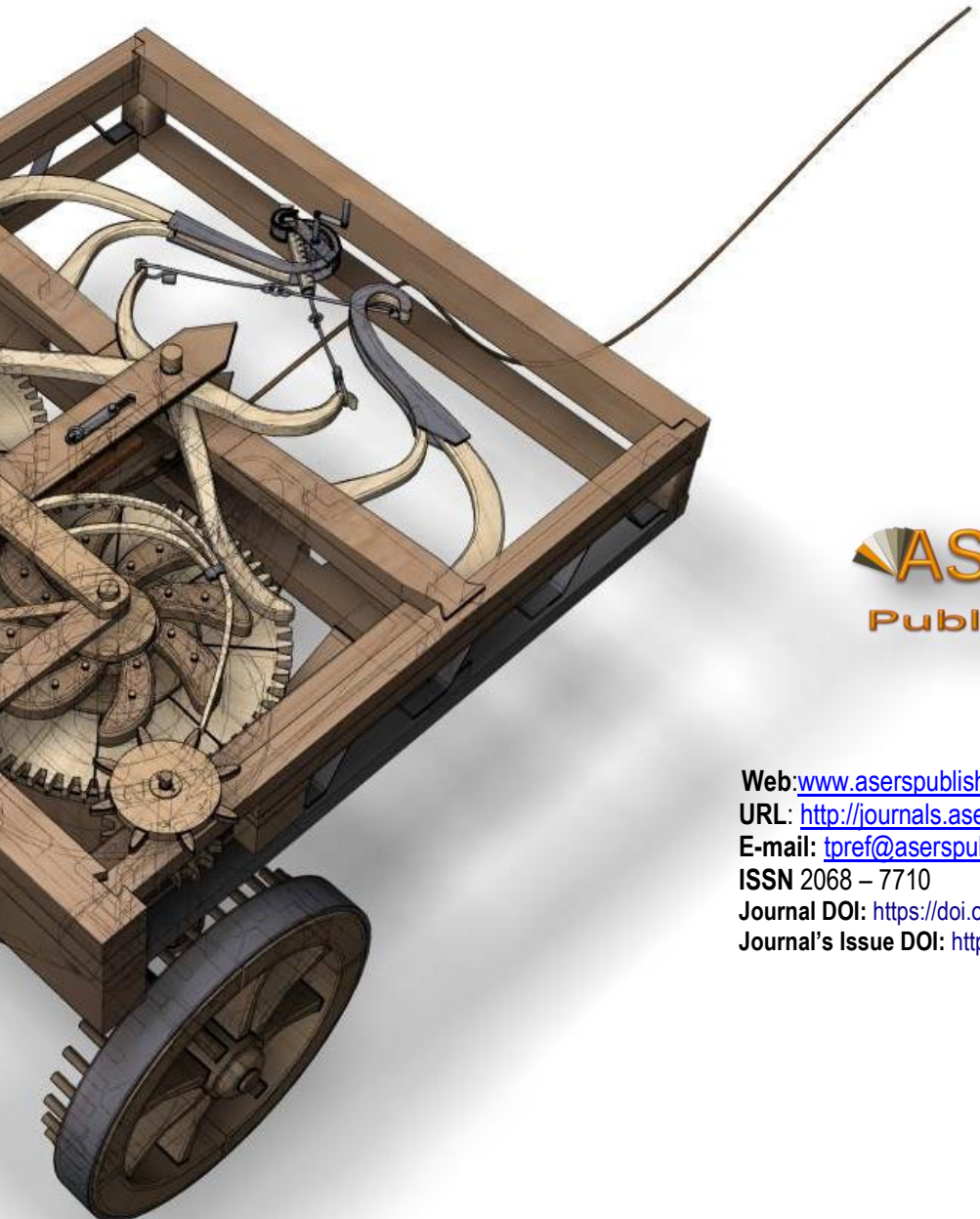

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