

Investing in Indonesia during the pandemic covid-19, it is safe?

Tuti Zakiyah^{1✉}, wahyuni Windasari²

Management, Universitas Putra Bangsa, Kebumen Jawa Tengah.

Abstract

This study aims to prove the safety of investment in Indonesia during the covid-19 pandemic. By analyzes the dynamic correlation between gold, Composite Supply Price Index (CSPI), LQ45, and Sharia supply (JII) as a reference investment instrument that is a haven investment and has hedging during the COVID-19 pandemic in Indonesia. The sampling technique used is Saturated Sample. This research data is gold closing price data, Closing (CSPI), and Closing Jakarta Islamic index (JII). The research period used during the COVID-19 pandemic is March 11, 2020, to December 31, 2020. This research method uses the Dynamic Conditional Correlation-Generalized Autoregressive Conditional Heteroskedasticity (DCC-GARCH) model with gold research results, CSPI, LQ 45. JII is a very safe asset. It is used as Asset Safe Haven and hedging to reduce investor losses or minimize the risk from investing, especially when there is market uncertainty or economist pressure during the Covid-19 Pandemic.

Key words: Safe haven; hedging; DCC-GARCH

INTRODUCTION

Coronavirus Disease 2019 (COVID-19) was officially announced by the World Health Organization (WHO) on February 11, 2020, like a dangerous virus. It first emerged from Wuhan, China, in early December 2019. Since then, the severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) that causes COVID-19 is rapidly contagious from effective and sustainable human-to-human. Also, transmission through contact, droplets, and possibly by air. The COVID-19 outbreak was initially labeled a "Public health emergency of international concern", but with over 150,000 confirmed cases of infection, and 5,000 deaths globally, who declared COVID-19 a pandemic on March 11, 2020, this triggered an increase in emergency response mechanisms around the world (Lie et al. 2020).

In Indonesia, the first case entered early on March 2, 2020 cases with only 2 points. One month later, Kompas.com, on May 2, 2020, government spokesman for the handling of coronavirus Covid-19 Ahmad Yurianto confirmed that the number of covid-19 positive patients reached 10,843 positive patients. The government's lack of swiftness in handling the pandemic covid-19 virus sighted a very significant increase in a short period.

As a result of this pandemic, the World economy is declining, and the country is experiencing an economic recession. Indiscriminately, developed countries to neighboring countries with special populations could not survive the abyss of recession. The recession was construed as negative economic growth for two consecutive quarters. The IMF predicts world economic growth in 2020 of minus 3 percent. The agency said the COVID-19 pandemic made people's costs higher and the economy affected by government protection measures. For the record, in the January 2020 edition of the World Economic Outlook, the projected figure is still higher (3.3 percent) because the spread of COVID-19 has not been widespread.

The economic growth of Indonesia's trading partners in early 2020 includes China (-6.8), the United States (0.3), Singapore (-0.3), South Korea (1.4), Vietnam (3.8), and Hongkong (-9.1). Japan's projection minus Indonesia's trading partners' economic growth in early 2020 accompanied by other developed economies (-6.1%), the European Union (-7.1%), and G7 countries minus 6.2 percent. Growth in emerging economies predictable to be minus. They are developing economies hopefully to be minus 1 percent, while ASEAN is minus 0.6 percent. Indonesia's economy in the third quarter of 2020 contracted at a range of 3.49%.

Household consumption with the most significant GDP contribution will still contract even if it is not as deep as the second quarter of 2020. The Large-Scale Social Restrictions transition policy mainly influences this in various regions in Indonesia, encouraging an increase in people's movement. With the government's efforts in slowing the spread of COVID-19, everyone is strongly encouraged to maintain distance (physical distancing), maintain cleanliness, and use masks. How long the pandemic will last and its economic impact is difficult to predict, but lately, the government has begun to launch a discourse on the transition to a new normal. Must face new normal conditions where several policies are changed and loosened, including the question of investing. It is necessary to adapt where investors have to restructure their portfolios. In the economic environment during the COVID-19 pandemic, investors should be careful in trading holistic and diverse investments. Influenced by supply exchanges worldwide experiencing an average decline (Tambunan 2020) (Mukhibad and Nurkhin 2020) the magnitude of the Indonesian supply exchange's Composite Price Index (JCI), the LQ 45 index, and the Jakarta Islamic Index.

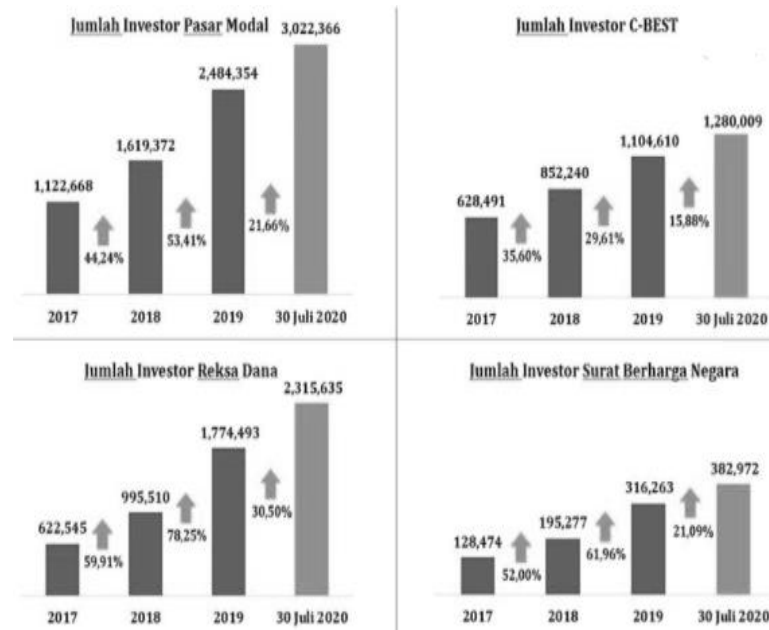


Figure 1.
Investor growth in Indonesia

The rapid development of financial markets in figure 3 above one of the factors is the rise of layoffs that hit many workers due to the stalling of business activities directly affected by the pandemic. This condition forces the people of Corona victims to look for new income alternatives with severance pay, one of which is through the capital market. These novice investors must be aware of the risks that investors will face, so diversification is needed to reduce this risk. Investors with the risk averse type will choose international portfolio diversification is not enough. International diversification is only to reduce non-systematic risk, but market risk (systematic risk) is still there. Therefore, to reduce market risk, we need a hedging instrument that can reduce the variance rate of return. This can be done by adding a derivative contract as a hedging instrument. Meanwhile, Safe Haven is said to be a useful instrument to ensure the security of an asset during an economic crisis.

(ida musialkowska, agata Kliber 2020) gold investment is in the second position after businesses in the real sector that are doing well. The similarity between gold investment and the real sector is that both have tangible value, intrinsic value and innate value. These three value advantages are not shared by other forms of investment such as stocks, derivatives, foreign exchange rates.

Can apply hedging to both financial instruments and commodity instruments. In hedging, financial instruments can use index futures contracts, such as the LQ45 futures Index, CSPI futures. In contrast, in commodity instruments, in Indonesia, there have been gold futures contracts, olein futures contracts, gold scroll contracts, and gold index scroll contracts organized by the Jakarta Futures Exchange (BBJ). So minimizing risk with profit variance is the primary goal of hedging (Robiyanto 2018a).

Investment is an investor, which means someone sacrifices assets they have now in order to get assets in the future, of course with a larger amount that will affect the company (Muhammad 2014) Baswara (2012). Investing is generally carried out in real assets (land, gold, machinery or buildings) and financial assets (deposits, stocks or bonds) which is an investment activity that is generally carried out (Tandelilin E 2010).

Safe Haven is said to be a useful instrument to ensure the security of an asset in times of economic crisis. Assets that can be used as safe haven instruments are assets that are not correlated or negatively correlated with other assets or portfolios when economic conditions are in crisis. That is the main characteristic of an asset as a safe haven instrument. An asset can be used as a good safe haven instrument if the correlation between the return on the asset and the return on the JCI is between zero and minus one. The closer the correlation value is to minus one, the better the asset will be used as a safe haven instrument (Ciner, Gurdgiev, and Lucey 2013)(Batten and Lucey 2010)

Hedging is an instrument to protect the value of an asset when economic turmoil occurs. Hedging can be seen from the negative correlation or the absence of correlation between an asset and other assets or portfolios when the economy is in turmoil. Hedging and safe haven instruments are almost similar, the difference only lies in times of crisis and economic turmoil. An asset can be said to be a hedging instrument when it is negatively correlated with other assets during times of economic turmoil. Meanwhile, an asset can be considered a safe haven instrument if the asset has a negative correlation with other assets during an economic crisis (Batten and Lucey 2010).

Gold as a hedge and Safe haven investment in Indonesia during the Covid-19 Pandemic

Gold as a hedge and safe haven for developing countries. As a result, gold acts as a hedge and haven. Next, Arouri et al. (2015). Aware that adding gold to a supply portfolio can reduce portfolio risk and increase hedging against supply risk. An asset considered a hedge if it is not correlated or negatively correlated with another purchase (Billah, Nanda Anisa 2018). In contrast, the investment is regarded as a haven if it is not associated or negatively correlated with other assets at any given time (e.g., financial crisis) (Ciner et al. 2013)

Shares (CSPI) as a hedge and Safe haven investment in Indonesia during the Covid-19 Pandemic

CSPI is an index of supply movements recorded in IDX. Thus, it can conclude that the position of JCI reflects the condition of supply in the capital market (Robiyanto 2018a). Therefore, CSPI can be a reliable reference to see the current situation of the supply exchange (Ciner et al. 2013). CSPI can measure the portfolio condition of each Investor. In diversifying supply and forming portfolios in incest can also be used for hedging and haven in hedging (ida musialkowska, agata Kliber 2020) (Tambunan 2020).

LQ45 as a Hedging and safe haven Investment in Indonesia during the COVID-1 pandemic

The LQ 45 index is the 45 most liquid supply market cap value and has a considerable capitalization value. It is an indicator of liquidation. LQ 45 Index, using 45 supply selected based on supply trading liquidity and adjusted every six months (Mulyono 2015). The purpose of the LQ45 index is to provide a means for financial analysis, investment managers, investors, and other capital market observers. Monitor the movement of actively traded supply and supply prices that go into the portfolio and have a greater excess return on beta value (Ciner et al. 2013).

Sharia Supply (JII) as hedging and safe-haven investments in Indonesia during the Covid-19 Pandemic

Sharia supply can attract foreign investors because sharia supply can serve as a haven for investor assets. Sharia supply indices are considered more resilient to financial crises due to their different characteristics from the conventional supply, such as ethics in investing, screening ratios, limiting financial product incentives, and low debt policies (Muhammad Rizky Prima Sakti, Mansur Masih 2018). (Coudert 2011) said that the equity ratio on sharia supply indices should not exceed 33% because it limits prohibited activities such as gambling, alcohol trading, cash trading, and so on. The financial sector that is allowed to operate in sharia supply indices is only productive sectors related to technology, consumer services, and other industrial sectors that make the sharia supply index less risky (Robiyanto 2018b). The less complicated characteristics of sharia supply indices and increased growth make the demand for sharia supply index. With this increase, the sharia supply index is considered the leading innovator in the financial community. Investment shifts from actively managed mutual funds to passive sharia indices provide investment opportunities for investors worldwide (Nugroho and Lako 2020). found that sharia supply indices have different characteristics than conventional supply. These characteristics made it into the category of hedging assets and safe assets during the financial crisis.

METHOD

Data Collection Techniques

Based on the nature of the type of data used in this study is quantitative data. Quantitative data is data in the form of numbers or qualitative data that are guessed (Sugiyono 2014). Quantitative data in this study are gold price, CSPI, and JII or daily closing data from Gold, CSPI, and JII. The sampling technique used is Saturated Sample. According (Sugiyono 2011) saturated samples are a sampling technique when all population members are utilized as samples. In this study, samples are gold closing

price data, Closing Composite supply Price Index (JCI), and Closing Jakarta Islamic index. The research period used during the COVID-19 pandemic is March 11, 2020, to December 31, 2020.

Variable Operational Definitions

Gold

The World Gold Price is a spot price formed from the accumulation of supply and demand in the London gold market. The price of gold used is the closing gold price in the afternoon (gold price Gold P.M). The world gold price data captured from www.ivingest.com. The data used is data at the end of each month during the period between:

$$\Delta Gold = \frac{Gold_t - Gold_{t-1}}{Gold_{t-1}}$$

Composite Supply Price Index (CSPI)

Composite Supply Price Index (CSPI) is the price of an index that combines all supply listed on the Indonesia Supply Exchange. The measurements were captured as units of CSPI data points obtained from Yahoo's website about finances based on closures.

$$\Delta IHS G = \frac{IHS G_t - IHS G_{t-1}}{IHS G_{t-1}}$$

LQ 45 index

LQ 45 index is the 45 most liquid supply market cap value and has a significant capitalization value. It is an indicator of liquidation.

$$\Delta LQ45 = \frac{LQ45_t - LQ45_{t-1}}{LQ45_{t-1}}$$

Jakarta Islamic Index (JII) is an index

Sharia-based supply in Indonesia to help facilitate the trading of public companies by the Sharia business code. Following Islamic law prohibits companies from engaging in gambling, speculation, and traditional banking and financing. JII must not list equity that produces or distributes food, beverages, or dangerous goods morally contrary to Islamic values.

$$\Delta JII = \frac{JII_t - JII_{t-1}}{JII_{t-1}}$$

Data Analysis

Volatile behavior in financial markets is usually referred to as “volatility”. Volatility has become an important concept in financial theory and practice, such as risk management, portfolio selection and so on. In the study, statistically developed a model for high volatility in order to be more flexible known as Generalized Autoregressive Conditional Heteroscedasticity (GARCH).

This study used the Dynamic Conditional Correlation-Generalized Autoregressive Conditional Heteroskedasticity (DCC-GARCH) model introduced (Engle 2002). DCC-GARCH is a development of the GARCH model model assumes the conditional correlation matrix changes over time and applies to data that is not normally distributed (Robiyanto 2018a). The DCC-GARCH calculation in this study conducted using the Eviews Program. Before GARCH analysis is undertaken, a stationarity test will perform using the Augmented Dicky Fuller (ADF) unit root test, as stated by (Juanda & Junaidi 2012) The order of data processing for GARCH analysis is as follows:

Stationary test

Test GARCH/ ARCH effect,

The terms are as follows:

If Prob RESID (-1) $\wedge 2 < \alpha$ and GARCH (-1) $> \alpha$, then the suitable method is ARCH (1)

If Prob RESID (-1) $\wedge 2 < \alpha$ dan GARCH (-1) $< \alpha$, then the suitable method is GARCH (1)

DCC-GARCH analysis.

RESULTS AND DISCUSSION

Overview of Sample Volatility

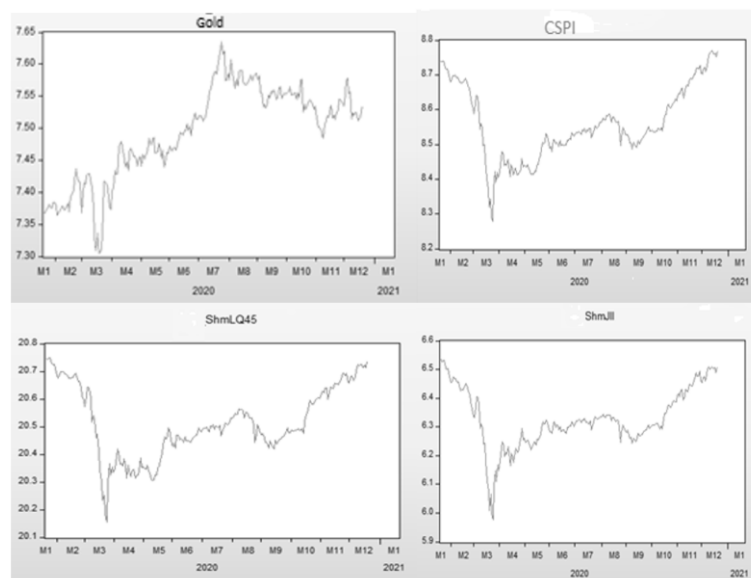


Figure 1.
Volatility sample

The COVID-19 outbreak in Indonesia turned out to have an impact on several sectors in the Indonesia Stock Exchange (IDX). The impact is shown by the emergence of negative sentiment from the sectors that existed during the day of events up to the first three days following the event (Herwany et al. 2021). And scale social restrictions (known as “PSBB”), the announcement of the daily growth in total confirmed and death cases by the government affect the dynamic of Islamic stock returns in the Jakarta Islamic Index (JII) (Agustin 2021). In research (Rezeki and Pitaloka 2020) who conducted research on how COVID-19 impacts the supply Stock market. His research results say that the COVID-19 pandemic is the most appropriate time to invest/buy shares where many people sell shares so that the share price is meager. The number of investors in the capital market increased during the Corona pandemic. The marked by the increase of single investor identification (SID), namely "single and unique code issued by Indonesian Central Securities Depository (KSEI), used by customers, investors, and other parties to conduct activities related to securities transactions and use other services. Public's trust in the capital market. Investors need to diversify Investments through various types of assets and in various countries it is empirically proven to be able to provide significant diversification benefits for investors (Trisnowati, Y., & Muditomo 2021). Through diversification investors get a combination of risk and return, it is hoped that it will be better (Febriyanto 2018). Minimizing investment risk by forming a portfolio by selecting a combination of assets so that the risk faced can be reduced or what is known as diversification, meaning that investors need to form a portfolio to a number of combinations of these assets without reducing returns. Portfolio theory uses the assumption that the capital market is efficient (efficient market hypothesis). An efficient capital market means that stock prices reflect thoroughly all the information on the exchange (Reilly 2003). According to (Merton and Bodie 2005) forming a portfolio, investors always want to maximize the expected return with a certain level of risk that they are willing to bear or look for a portfolio that offers the lowest risk with a certain rate of return. And the variables in this study were able to not be safe-haven assets and hedging in investment, following the eradication of each variable.

Gold

Gold research acts as a hedge and haven in developing countries has been done a lot, and the result is gold as an investment asset that can is hedging and haven. Historically, gold is indeed the most traditional hedging tool in the world. Whenever their increased risk, gold's main advantage is liquidity due to historical dependence and widespread public acceptance of the product.

In this study, gold during the Covid-19 Pandemic was used to save haven and hedge investments in Indonesia. It is also covered by (ida musialkowska, agata Kliber 2020). Realized that adding gold to the supply portfolio can reduce portfolio risk and increase hedging against supply risk. Supported by research by (Muhammad Rizky Prima Sakti, Mansur Masih 2018) Levent Sumer, and Beliz ozorhon (2020), (Levent Sumer 2020). The value of gold assets is also expected to coincide with inflation for an extended period and is believed to be a value store. Also, the importance of gold is not influenced by the interest rate policy set by the government. Nonetheless, there are many risks to physical gold bullion investments, such as the risk of loss and theft.

In contrast to the results of (Robiyanto 2018a), gold is not able to be an instrument of hedging in all capital markets studied. At the time of the worldwide economic crisis, the supply price index on the capital market looked as well as the price of gold simultaneously moved up, which means a positive correlation between gold and all supply indices on the capital market studied.

Composite Supply Price Index (CSPI)

CSPI is an index of supply movements recorded in IDX. Thus, we can conclude that CSPI's position reflects the condition of supply in the capital market. Therefore, CSPI can be a reliable reference to see the current situation of the supply exchange. CSPI can measure the isi portofolio kond of each Investor. According to Hirschey and Nofsinger (2008), changes in the supply price index are strongly influenced by the macroeconomic conditions and other countries that affect where the macro-economic conditions will form an investment climate. Climate Change investments will directly affect changes in the supply price index on one supply exchange. The results in this study that CSPI at the time of the Covid-19 Pandemic can be used as an Asset for investments that can be used as a Safe haven and investment hedging in Indonesia. This is because the supply diversification that joins the CSPI can describe safe and stable collections in their share prices.

LQ 45 Index

Investors can use LQ-45 futures products as asset hedging in the capital market if, at the same time, the domestic supply market is in a bearish trend. The results in this study that Index LQ 45 shares at the time of the Covid-19 Pandemic were used as assets for investments used as Save havens and investment hedges in Indonesia. Investors do not need to sell their shares to protect the portfolio value of their falling shares (Graha, I.M.D & Darmayanti 2016). Investors can make 'short' positions in their derivative products through the LQ 45 supply Index (Ciner et al. 2013)(Nugroho and Lako 2020).

Saham Jakarta Islamic index (JII)

Jakarta Islamic Index (JII) is a sharia-based supply index in Indonesia to facilitate public companies' trading by sharia business codes. Following Islamic law prohibits companies from engaging in gambling, speculation, and traditional banking and financing. In this study, Sharia supply can attract foreign investors because sharia supply can serve as a haven and hedging for investor assets during the Covid-19 pandemic. Sharia supply indices are considered more resilient to financial crises due to their different characteristics from the conventional supply, such as ethics in investing, screening ratios, limiting financial product incentives, and low debt policies.(Shakil et al. 2017). (Chkili 2016)said that the equity ratio on the sharia supply index should not exceed 33% because it restricts prohibited activities such as gambling, alcohol trading, cash trading, etc. The results in this study that IDEKS JII shares at the time of the Covid-19 Pandemic can be used as assets for investments that can be used as a Safe haven and investment hedge in Indonesia.

CONCLUSION

Based on the research that has been done, we can conclude that the variables in this study are gold, the composite supply index (CSPI), LQ 45 supply index, and Jakarta Islamic Index (JII) can act as investment instruments that are haven and hedging to invest in the pandemic covid-19 that occurred in Indonesia. And these variables are very safe investment instruments and can reduce investor losses or at least minimize the risk from investing, especially when there is market uncertainty or economic pressure. Gold, CSPI, Index LQ 45 shares at the time of the Covid-19 Pandemic can be used as an instrument asset for investments with the nature of Save haven and investment hedging in Indonesia because the diversification of supply that joins CSPI, LQ 45, and JII can describe safe and stable supply in their share prices.

REFERENCES

- Agustin, Isnaini Nuzula. 2021. "How Does the Impact of the COVID-19 Pandemic on Indonesia's Islamic Stock Returns?" *JEMA: Jurnal Ilmiah Bidang Akuntansi Dan Manajemen* 18(1):21–35.
- Batten, Jonathan Andrew, and Brian M. Lucey. 2010. "Volatility in the Gold Futures Market." *Applied Economics Letters* 17(2):187–90.
- Billah, Nanda Anisa, Deny Dwi Hartomo. 2018. "LINDUNG NILAI DAN SAFE HAVEN PADA INVESTASI DI INDONESIA." *Jurnal Bisnis Dan Manajemen* 18(2):67–86.
- Chkili, Walid. 2016. "Dynamic Correlations and Hedging Effectiveness between Gold and Stock Markets: Evidence for BRICS Countries." *Research International Business and Finance* 38:22–34.
- Ciner, Cetin, Constantin Gurdgiev, and Brian M. Lucey. 2013. "HeHedges and Safe Havens: An Examination of Stocks, Bonds, Gold, Oil and Exchange Rates Department of Economics and Finance University of North Carolina at Wilmington University of Dublin, Trinity College Institute for International Integration Studi." *International Review of Financial Analysis* 29:1–27.
- Coudert, Virginie. 2011. "Gold and Financial Assets: Are There Any Safe Havens in Bear Markets?" *Economic Bulletin* 31(2):1613–22.
- Engle, R. 2002. "Dynamic Conditional Correlation Dynamic Conditional Correlation: A Simple Class of Multivariate Generalized Autoregressive Conditional Heteroskedasticity Models." *Journal of Business & Economic Statistics* 23(3):339–50.
- Febriyanto. 2018. "KEPUTUSAN DIVERSIFIKASI PORTOFOLIO INVESTASI DI ERA MEA." *Jurnal Fidusia* 1(2):64–83.
- Graha, I.M.D & Darmayanti, N. P. A. 2016. "Analisis Portofolio Optimal Perusahaan Yang Terdaftar Di Lq 45 Bursa Efek Indonesia." *E-Jurnal Manajemen Unud* 5(January 2010):928–55.
- Herwany, Aldrin, Erie Febrian, Mokhamad Anwar, and Ardi Gunardi. 2021. "The Influence of the COVID-19 Pandemic on Stock Market Returns in Indonesia Stock Exchange." *Journal of Asian Finance, Economics and Business* 8(3):39–47.
- idamusiakowska, agata Kliber, Katarzyna Swierczynska. 2020. "Looking for a Safe-Haven in a Crisis-Driven Venezuela." 14(3):475–94.
- Juanda & Junaidi. 2012. *Ekonomika Deret Waktu Teori Dan Aplikasi*. Bogor: IPB Press.
- Levent Sumer, Beliz Ozorhon. 2020. "Investing in Gold or REIT Index in Turkey: Evidence from Global Financial Crisis, 2018 Turkish Currency Crisis and COVID-19 Crisis." *Journal of European Real Estate Research* ahead.
- Lie, Sui An, Mmed Sook, Wai Wong, Mbbs Loong, and Tat Wong. 2020. "Practical Considerations for Performing Regional Anesthesia: Lessons Learned from the COVID-19 Pandemic." *Rations Pratiques Pour L'Anesthésie: L'Anesthésie Considérée Globalement: Les Leçons de La Pandémie de COVID-19 Reçues, Nous Tire.* *Canadian Journal of Anesthesia/Journal Canadien d'anesthésie* 67(7):885–92.
- Merton, Robert C., and Zvi Bodie. 2005. "Design of Financial Systems: Towards a Synthesis of Function and Structure." *The World of Risk Management* 3(1):1–27.
- Muhammad Rizky Prima Sakti, Mansur Masih, Buerhan Saiti. 2018. "Unveiling the Diversification Benefits of Islamic Equities and Commodities." *Emeraldinsight* 1–22:1–22.
- Muhammad, Sholeh. 2014. "Emas Sebagai Instrumen Investasi Yang Aman Pada Saat Instrumen Keuangan Mengalami Peningkatan Resiko." *Jurnal Akuntansi Unesa* 2, 2:1–20.
- Mukhibad, Hasan, and Ahmad Nurkhin. 2020. "The Mechanism of Corporate Governance, Financial Performance, and Social Performance in Baitul Maal Wat Tamwil (Bmt)." 3(1):1–17.

- Mulyono. 2015. "ANALISA KORELASI RETURN INDEKS – INDEKS SAHAM TERHADAP INDEKS HARGA SAHAM GABUNGAN PADA BURSA EFEK INDONESIA." *Binus Bisnis Review* 6(2):330–39.
- Nugroho, Bayu Adi, and Andreas Lako. 2020. "Safe Haven and Performance of Extension-Markowitz Portfolio on Indonesian Ethical Investments Safe Haven and Performance of Extension-Markowitz Portfolio on Indonesian Ethical Investments." *Internasional Journal of Ekonomi Policy in Emerging Economic* (januari):1–20.
- Reilly, Frank K. and Keith C. Brow. 2003. "Investment Analysis and Portfolio Management." Dryden Press 7.
- Rezeki, F. A. S., and E. Pitaloka. 2020. "Faktor-Faktor Yang Mendorong Keputusan Investasi Saham Di Masa Pandemic." *Prosiding Seminar Nasional Terapan Riset Inovatif (SENTRINOV)* 6(2):131–38.
- Robiyanto, Robiyanto. 2018a. "DCC-GARCH Application in Formulating Dynamic Portfolio between Stocks in the Indonesia Stock Exchange with Gold." *Indonesian Capital Market Review* 10(1):13–23.
- Robiyanto, Robiyanto. 2018b. "THE EFFECT OF GOLD PRICE CHANGES , USD / IDR EXCHANGE RATE CHANGES AND BANK INDONESIA (BI) RATE ON JAKARTA COMPOSITE INDEX (JCI)' S RETURN AND JAKARTA ISLAMIC INDEX (JII)' S RETURN." 20(1):45–52.
- Shakil, Mohammad Hassan, Is'haq Muhammad Mustapha, Mashiyat Tasnia, and Buerhan Saiti. 2017. "Is Gold a Hedge or a Safe Haven? An Application of ARDL Approach." *Journal of Economics, Finance and Administrative Science* 23(44):60–76.
- Sugiyono. 2011. *Metode Penelitian Kuantitatif, Kualitatif Dan R&D*.
- Sugiyono. 2014. "Populasi Dan Sampel." *Metode Penelitian Kuantitatif, Kualitatif Dan R&D* 291(292).
- Tambunan, Diana. 2020. "Investasi Saham Di Masa Pandemi COVID-19." *Widya Cipta: Jurnal Sekretari Dan Manajemen* 4(2):117–23.
- Tandelilin E. 2010. *Portofolio Dan Investasi: Teori Dan Aplikasi*. Kanisius.
- Trisnowati, Y., & Muditomo, A. 2021. "COVID-19 and Stock Market Reaction in Indonesia." *Journal of Accounting and Investment* 22(1):23–36.