

DOES UNCERTAINTY AFFECT FIRM PERFORMANCE? EVIDENCE FROM INDONESIA

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ABSTRACT

This study evaluates the relationship between firm performance and stock price while incorporating the uncertainty due to the COVID-19 pandemic as a control variable. A research model was developed separating two periods: before (2019) and during (2020) the COVID-19 pandemic. The sample consisted of all companies of LQ45 Index members. This study examined quarterly panel data and a total of 360 observations. Next, the analysis evaluates the impact of actual performance on share prices using Structural Equation Modeling, more precisely SmartPLS, as an analysis tool. The results show that the profitability, solvency, and activity ratios influence the stock price of LQ45 companies both before and during the COVID-19 pandemic, except the liquidity ratios. Meanwhile, the uncertainty has no influence on the stock price of LQ45 companies both before and during the COVID-19 pandemic. These findings imply that policymakers should respond to drivers of stock performance and regulate strategic decisions accordingly in order to mitigate their long-term impact.

JEL: M40, M41.

Keywords: *activity, liquidity, profitability, solvency, uncertainty.*

1. INTRODUCTION

The COVID-19 pandemic has been a popular topic to study. Its impacts were severe for various sectors. The pandemic is currently an exciting study associated with many aspects, including the development of stock prices. COVID-19 triggers uncertainty in various sectors, such as changes in the education system (Yıldırım, Bostancı, Yıldırım, & Erdoğan, 2021), job opportunities (Alam, Adnan, Baten, & Bag, 2021), and has forced most companies to stop their activities from breaking the spread of the pandemic (Heniwati, 2021). However, the impacts of COVID-19 pandemic were not always negative. Changes the COVID-19 pandemic brought to the business sector also opened up new opportunities. There are three categories of sectors affected by the changes as results of the COVID-19 pandemic: poorly affected category, benefitted category, and highly benefitted category. The first category consists of industries that experienced huge losses during the COVID-19 pandemic, such as the tourism industry, manufacturing industry, and food and beverage industry. The second category consists of business groups which experienced a turnover increase of 30% - 50% and had the opportunity to invest in stock portfolios by choosing low-priced and promising stocks with appropriate cash flow. Meanwhile, the third category consists of sectors that could make huge profits, such as providers of essentials, medicines, and personal protective equipment (PPE) and other sectors producing commodities needed during the COVID-19 pandemic (Baker, Bloom, Davis, Kost, Sammon, & Viratyosin, 2020; Fairlie & Fossen, 2022).

In addition to changes, uncertainties also emerged as the result of COVID-19 pandemic (Al-Thaqeb, Algharabali, & Alabdulghafour, 2020; Sharif, Aloui, & Yarovaya, 2020). The

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uncertainties had influenced politics, regulations, economic policy (Albulescu, 2021), and the development of stock prices. The capital market activities can be disrupted by a high level of uncertainty (Altig, Baker, Maria, Bloom, Bunn, Chen, Davis, Leather, Meyer, Mihaylov, Mizen, Parker, Renault, Smietanka, & Thwaites, 2020; Baker *et al.*, 2020). The uncertainty index is an indicator often used by many studies (Ashraf, 2021; Chiang, 2019, 2021; Wu, Li, Zheng, & Liu, 2021), to measure economic uncertainty. This index considers many factors that are sources of uncertainty in the economy so that it describes the uncertainty of economic policy for all market participants (Ahir, Bloom, & Furceri, 2018). In a wider scope, the uncertainty can even be considered as a risk factor in decision-making (Ahrori & Lucik, 2017).

The impact of COVID-19 using data sets from the global market has been carried out by some researchers (Ashraf, 2020; Ghorbel, Fakhfekh, Jeribi, & Lahiani, 2022; Paumgarten, 2020). Liu, Wang, He, & Wang (2020) and Liu, Manzoor, Wang, Zhang, & Manzoor (2020) found that the major stock markets in China, Asia, the U.S., and Europe decreased significantly. The COVID-19 pandemic strongly impacted oil prices, CO₂ emissions, and global stock market volatility in the first quarter of 2020 (Mzoughi, Urom, Uddin, & Guesmi, 2020). Using data sets from 13 countries, Golubeva (2021) emphasizes the importance of several factors such as sector, size, export participation, and market demand for company products for bank performance during the pandemic. Hoang, Nguyen, & Hoang (2021) considered two waves of COVID-19 infection to evaluate its impact in five capital markets, and they found that firms with more cash reserves before the COVID-19 outbreak performed better in the first wave. Atayah, Dhiaf, Najaf, & Frederico (2021) investigated logistics companies during the COVID-19 outbreak, and the study found that the financial performance of logistics companies was relatively high during the pandemic. Furthermore, Zaheer, Aslam, Mohmand, & Ferreira (2023) found that COVID-19 changes co-movement among stock market indices.

Studies discussing the uncertain impact of COVID-19 on the capital market are also carried out using individual country data. In India, the COVID-19 pandemic has a statistically strong negative correlation with the stock closing price variable (Pareek & Singh, 2020). Mohanty & Mishra (2021) identified undervalued stocks from five industry categories, and they found that the firm's value from the film, car, and hotel exhibition industries was more struggle than the firm value from other categories during COVID-19. Elmarzouky, Albitar, & Hussainey (2021) examined the relationship between COVID-19 and company performance in the U.K. They found a significant positive relationship between COVID-19 disclosures and company performance disclosures in annual reports. Using data from the U.S. stock market, Ciner (2021) found that investment-grade, high-yield corporate bonds emerged as notable predictors of U.S. stock returns.

In line with previous research, this research was conducted in Indonesia's capital market context. Even though Indonesia is the largest economy in Southeast Asia, Indonesia's capital market is included in the shallow capital market category; that is, in general, its reliability is lacking in conveying price accuracy signals. In addition, the capital market in Indonesia is relatively small and less liquid compared to capital markets in ASEAN countries and other developing countries. The Indonesian people prefer funding from banks to the capital market. Therefore, Indonesia's potential to develop the capital market is relatively high. Given this situation, the study of the capital market in Indonesia is still wide open. In particular, this study analyzes the company's performance by considering the uncertainty factor before and during the

COVID-19 pandemic, and no previous studies in the Indonesian context consider this factor. This study focuses on the LQ-45 stock, the leading or favorite stock index on the Indonesia Stock Exchange, with high liquidity and large market capitalization. As of the beginning of 2020, the LQ-45 composite stock price index contracted by 26.43% (or 4,635 points), which continued until April 2020 (Indonesia Stock Exchange, 2020). This study is intended to analyze the performance of companies that are members of LQ-45 through fundamental analysis, considering the effects of economic uncertainty before and during COVID-19. Fundamental analysis is a systematic procedure for assessing company performance (Coleman, 2019; Jackson, 2022; Safdar, 2020). Papanastasopoulos, Thomakos, & Wang (2013) evaluate the relationship between value/growth anomalies and external financing anomalies. They find that free cash flow relates to returns. Using fundamental analysis, Ho, Nguyen, Tran, & Vo (2022) have tested the ability of financial statement-based signals to predict winners and losers in the capital market.

Loang & Ahmad (2021) examined the impact of firm-specific information and macroeconomic variables on the market overreaction of the U.S. and China's winning and losing portfolios before and during COVID-19. Their study found that before COVID-19, both variables were correlated with stock returns in the U.S. and Chinese portfolios, except for Chinese winners' portfolios. However, that information was eventually lost during COVID-19, suggesting that trading on the capital markets relies on economic indicators. Based on this finding, the current study will specifically evaluate whether the fundamental characteristics of the industry (profitability, liquidity, solvency, and activity) of companies that are members of LQ-45 affect stock prices before and during the COVID-19 pandemic. For this reason, this study uses data collected during 2019 (before the pandemic) and 2020 (during the pandemic).

2. THEORETICAL FRAMEWORK AND EMPIRICAL STUDIES

The firm's stock performance has been measured using the fundamental characteristics of firm performance (Ho *et al.*, 2022; Loang & Ahmad, 2021; Mohanram, Saiy, & Vyas, 2018). The fundamental characteristics signal the firm's success or failure in managing the resources invested by investors. They can also be used by the investors in making investment-related decisions. A high firm performance indicates a high shareholder value in the agency relationship between the management and investors. This present study employs the perspectives of the agency and signaling theories as the theoretical framework.

Further, the economic and non-economic uncertainty determines the ability of firm management to manage the firm resources. The COVID-19 pandemic contributed to the non-economic uncertainty (Al-Thaqeb *et al.*, 2020; Altig *et al.*, 2020), which exacerbated a company's activities and push it to delay investment decisions. In addition, the government's policy to prevent the spread of COVID-19 pandemic had also slowed the economic growth. A study by Baker *et al.* (2020) proved that the COVID-19 pandemic had significantly impacted the capital market activities. Gong, Zhang, Yuan, & Chen (2020) found that there was a high EPU Index during the recession, while there was a low EPU Index during a period of economic growth.

2.1. Profitability Ratios and Stock Price Before and During the COVID-19 Pandemic

Profitability ratios measure a company's ability to generate profits from its resources (assets). This study employs four profitability ratios, including the return on assets (ROA), return

on equity (ROE), net profit margin (NPM), and operating profit margin (OPM) (Robison & Barry, 2022). The ROA measures the company's return earned on its assets. A high ROA value reflects the optimal use of assets, which signals the market to value the company's shares higher. Further, the ROE measures the company's return on its equity capital. A ROE value reflects a high shareholder value shown in an increase in the stock price. Meanwhile, the NPM and OPM indicate the share of net income and operating expenses, respectively, of the total revenue generated by the company. A high NPM and low OPM is a positive signal for the market, indicating that the market places a high value on the firm stock. It also suggests that the company is 'healthy' to generate high profits for the investors. Piotroski (2000) and Tuzcuoğlu (2020) supported that there was a positive correlation between the profitability ratios and firm value or stock price. Therefore, the first hypothesis that can be proposed is as follows:

H1: Profitability significantly affects stock prices before and during the COVID-19 pandemic.

2.2. Liquidity Ratio and Stock Price Before and During the COVID-19 Pandemic

Liquidity ratios measure a company's ability to meet its short-term obligations. This study employs four liquidity ratios, including the Current Ratio (CR), Quick Ratio (QR), Cash Ratio (CASHR), and Net Operating Working Capital (NOWC) (Robison & Barry, 2022). The higher the liquidity of the company, the higher its ability to pay off its current liabilities – which is a good signal for the market. On the other hand, a high liquidity can be interpreted as a company's ineffectiveness in managing excess cash. The excess cash can be invested in to improve the firm performance and drive growth. The rational expectations theory explains that the high ratio has an impact on the company's low value, represented by the stock price. The investors take this signal negatively and as a result, sell their shares. It is in line with a study by Piotroski (2000). Therefore, the second hypothesis that can be proposed is as follows:

H2: Liquidity has a negative effect on stock prices before and during the COVID-19 pandemic.

2.3. Solvency Ratios and Stock Price Before and During the COVID-19 Pandemic

Solvency ratios measure a company's ability to meet its long-term obligations. This study employs three solvency ratios, including the Debt Ratio (DR), Debt-to-Equity Ratio (DER), and Time Interest Earned ratio (TIE) (Robison & Barry, 2022). The solvency ratio, or the leverage ratio, represents the company's 'health' level or the ability to manage its operations in the future. The higher the solvency ratio, the less likely the company's failure to meet its long-term obligations. Further, the debt overhang theory introduced by Myers (1977) explains that changes in the leverage have a negative impact on the stock price. The higher the leverage, the less likely the company is to achieve a positive Net Present Value (NPV) in the future. The reason for this is that the company's assets will first be spent to pay the obligations to creditors, after which the investment value would be low, affecting the company's growth value. Cai & Zhang (2011) proved that increasing the leverage could decrease the company's investment. Meanwhile, from the perspective of signaling theory, the company's high level of leverage suggests a lack of internal funds, which the investors perceive negatively. Therefore, if all other factors remain constant, increased leverage will cause the stock price to fall (Akdoğan, Avci, & Simsir, 2021; Elkhishin & Mohieldin, 2021; Golubeva, 2021; Shyam-Sunder, 1991). Therefore, the third hypothesis that can be proposed is as follows:

H3: Solvency has a negative effect on stock prices before and during the COVID-19 pandemic.

2.4. Activity Ratios and Stock Price Before and During the COVID-19 Pandemic

Activity ratios measure how efficiently a company performs its daily operations, such as managing its assets (Piotroski, 2000). This study employs four activity ratios, including the Total Asset Turnover (TATO), Working Capital Turnover (WCTO), Inventory Turnover (ITO), and Average Receivable Collection Period (ACP) (Robison & Barry, 2022). This ratio metric conveys information regarding the efficient use of company assets (Piotroski, 2000), which is presented in the statement of financial position to generate income and cash. This efficiency ratio helps analysts measure how a company manages its investments. Money is the key to smooth operations and overall fiscal health. For example, the TATO refers to a ratio that explains the efficiency level in using the company's assets to generate profits through sales (Rahayu, 2019). This ratio helps determining the changes in the company's fiscal development over different periods. Generally, the more the efficient and effective use of resources, the higher the company's sales. Simultaneously, the increased sales will increase the company's profit – which is a positive signal for the investors. This is in line with studies by Rahayu (2019) and Piotroski (2000) support this opinion. Therefore, the fourth hypothesis that can be proposed is as follows:

H4: Activity significantly affects stock prices before and during the COVID-19 pandemic.

3. RESEARCH METHODS

This study evaluated the firm performance through the fundamental analysis. The data used was a secondary data consisting of quarterly data obtained from the Indonesia Capital Market Directory (ICMD) and financial statements of the LQ45 companies, accessed through official websites of the Indonesia Stock Exchange (www.idx.co.id) and the company itself. The sample of this study must meet several criteria, including (1) the companies must be listed in the LQ45 Index; (2) the companies must distribute the dividends continuously; (3) the companies must issue the annual reports and financial statements in a thorough and orderly manner; and (4) the companies must provide all information needed, such as about the indicators and variables studied. Based on these criteria, this study used a total of 360 observations. Further, this study investigated the periods of before and during the COVID-19 pandemic by El-Chaarani, Ismail, El-Abiad, & El-Deeb (2022) and Kakinuma (2021), however the observation period started in 2019 (Quarter I-IV) for before the COVID-19 pandemic, and ended in 2020 (Quarter I-IV) for during the COVID-19 pandemic.

As a dependent variable in this study, the stock price was measured using Price-to-Book Value ratio (PBV), Price-to-Earnings Ratio (PER), and Price-to-Cash Flow ratio (PCF). While PBV describes the company's net assets financed by shareholders, PER provides information about investment prospects in the company. Furthermore, PCF is a stock valuation that focuses on net income as measured by the company's cash flow, and some researchers state that this measure is better than PBV and PER (Jooste, 2006). PBV ratio is measured by comparing the company's market value (share price times number of shares outstanding) with a book value (assets minus liabilities). If the company's assets are liquidated, and the company's liabilities are paid off, then the final value is the company's book value. This information is essential for investors because it provides the reality of the company's growth at a fair price. PER is measured by comparing the company's current price per share with net earnings per share. This ratio is often used to evaluate prospective investments so that it is helpful for investors to assist in

making decisions. A high PER is not always a positive indicator due to "overpricing" of the stock price. Conversely, a low PER is not always a negative indicator because the market may ignore the stock or not yet active. PCF is measured by dividing market capitalization by operating cash flow. This measurement accurately tracks the amount of cash in and out of a company's operations, and it is more helpful in valuing stocks with positive cash flows but negative net income (e.g., due to non-cash charges). The PCF ratio is believed to be a better valuation indicator than PER because cash flow statement factors are more difficult to manipulate (such as depreciation and non-cash items).

This study uses several fundamental signals to measure four areas of a company's financial performance: profitability, financial leverage, financial liquidity, and operating efficiency (Piotroski, 2000; Robison & Barry, 2022). Profitability ratio; Return on Assets (ROA), (net income/total assets), Return on Equity (ROE), (net income/shareholder equity), Net Profit Margin (NPM) ($[\text{net profit}/\text{total revenue}] * 100$), Operating Profit Margin (OPM) ($[\text{operating profit}/\text{net sales}] * 100$). Generally speaking, these profitability measurements are a crucial aspect that investors often consider in their investment decisions. These measures provide an overview of the company's ability to generate profit by examining business productivity from different aspects. Through those ratios, investors have insight into the earnings generated and how they relate to other aspects such as revenue, assets, and operating cost of shareholders' equity over time. Liquidity ratio; Current Liability (CR) (current assets/current liabilities), Quick Ratio (QR) (current assets-inventory/current liabilities), CASHR (cash + cash equivalents/short-term liabilities), Net Operating Working Capital (NOWC) ($[\text{cash} + \text{inventories} + \text{account receivables}] - [\text{account payables} + \text{accrued expenses}]$). This ratio relates to the company's ability to meet current liabilities using its assets and provides investors with information regarding its operational efficiency. In addition, it indicates the company's velocity in generating cash to fund additional assets or pay off liabilities that commonly arise in routine or emergency conditions. Solvency ratio; Time Interest Earned (TIE) (EBITDA/interest expense), Debt to Equity Ratio (DER) (total debt/total shareholder equity), Debt Ratio (DR) (total debt/total assets). This solvency or leverage ratio gives investors an idea of the company's financial health related to the debt burden. If the debt burden is too high, the investment may become unprofitable for investors. In other words, this ratio conveys information about the company's capital structure, whether it is funded through debt or equity. Activity ratio; Total Asset Turnover (TATO) (net sales/average total assets), Working Capital Turnover (WCTO) (sales/working capital), Inventory Turnover (ITO) ($\text{cost of goods sold} / [(\text{beginning inventory} + \text{ending inventory}) / 2]$), Average Receivable Collection Period (ACP) ($[\text{account receivable balance}/\text{total net sales}] * 365$). This efficiency ratio relates to a company's efficient use of assets to generate cash and income. It signals investors how a company manages inventory, which is vital to smooth operations and overall fiscal health.

Furthermore, this study also employed the economic uncertainty due to the COVID-19 pandemic as the control variable. It was measured using the World Pandemic Uncertainty Index (WPUI). This study adopted the WPUI of Indonesia constructed by Ahir *et al.* (2018). The WPUI was constructed by counting the number of times the uncertainty was mentioned within proximity to a word related to the pandemics in the Economist Intelligence Unit (EIU) country report. Higher numbers indicated a higher level of uncertainty regarding the pandemic and vice versa.

This study uses the outer model measurement to assess the constructed model's validity and reliability. The validity test consists of two types: convergent validity (measured by factor loadings>0.6 and AVE>0.5) and discriminant validity (measured by cross loadings>0.7 and root AVE>correlation of latent variables). The reliability test was carried out using Cronbach's alpha method and composite reliability with a value of more than 0.7. Based on the test results of the measurement model that meet the requirements, the structural model test (inner model measurement) is carried out to show the significance of all estimation paths that will describe the causality relationship between latent variables built on the substance of the theory. This model is evaluated by using R² for the dependent construct and the path coefficient values or t-values for each path to test the significance between constructs in the structural model. Furthermore, correlational effect size tests f², predictive relevance Q², and q² were applied to strengthen the previous test results (Hair, Hollingsworth, Randolph, & Chong, 2017).

Finally, the hypotheses of this study were examined by considering the significance of t-value between variables using the SmartPLS bootstrapping technique. A statistical t-test was conducted to determine the extent of the individual regressor's influence in explaining the variation of the measured variables. This study employed a multiple structural regression model with the the SmartPLS technique, as it could simultaneously test the structural model and model to lower the probability error variance (Nitzl, 2016). The multiple regression equations are as follow:

$$\text{HSP_C19} = \alpha + \beta_1.P + \beta_2.L + \beta_3.S + \beta_4.A + \beta_5.KE + e \dots\dots\dots (1)$$

$$\text{HSP_C19} = \alpha + \beta_1.P + \beta_2.L + \beta_3.S + \beta_4.A + e \dots\dots\dots (2)$$

$$\text{HSD_C19} = \alpha + \beta_1.P + \beta_2.L + \beta_3.S + \beta_4.A + \beta_5.KE + e \dots\dots\dots (3)$$

$$\text{HSD_C19} = \alpha + \beta_1.P + \beta_2.L + \beta_3.S + \beta_4.A + e \dots\dots\dots (4)$$

Note:

- α = Constant coefficient
- β = Regression coefficient
- P = Profitability ratios
- L = Liquidity ratios
- S = Solvency ratios
- A = Activity ratios
- KE = Economic uncertainty
- HSP_C19 = Stock price pre COVID-19
- HSD_C19 = Stock price during COVID-19

4. DATA ANALYSIS AND DISCUSSIONS

This study examined all companies listed in the LQ45 index on the Indonesia Stock Exchange (IDX) during a period of 2019-2020. Based on the criteria, there was a total of 360 observations. The following Table 1 presents the results of descriptive statistics:

Table 1. Descriptive Statistics

Variable	Indicator	N	Mean	Median	Min.	Max.	Standard Dev.
Profitability	ROA	360	0.069	0.043	0.001	0.748	0.084
	ROE	360	0.084	0.061	0.001	0.748	0.097
	OPM	360	0.059	0.065	-8.371	3.339	0.976
	NPM	360	0.255	0.248	0.023	0.865	0.136
Liquidity	CR	360	0.355	0.374	-9.214	1.000	0.821
	QR	360	1.031	0.750	0.000	7.396	1.023
	CASHR	360	0.232	0.208	0.037	0.865	0.122
Solvency	DR	360	0.487	0.498	0.153	0.930	0.135
	DER	360	0.604	0.615	0.000	1.541	0.291
Activity	WCTO	360	0.388	0.304	-9.214	4.249	0.684
	ITO	360	0.918	0.754	-0.008	34.029	2.503
	ACP	360	0.466	0.457	0.193	0.930	0.123
Stock price pre COVID-19	PBV1	360	0.589	0.569	0.012	2.061	0.308
	PCF1	360	0.663	0.606	0.063	1.633	0.268
	PER1	360	1.389	1.361	0.126	2.861	0.473
Stock price during COVID-19	PBV2	360	0.575	0.423	0.000	3.806	0.639
	PCF2	360	0.355	0.215	-0.188	3.375	0.500
	PER2	360	1.326	1.211	0.126	3.267	0.536
Uncertainty	KE	360	7.171	7.673	0.000	24.112	7.788

Source: Processed data (2022)

The following Table 2 presents the results of convergent validity test measured using the loading factors and AVE values. The first validity test examined all latent variables and found that the NOWC, TIE, and TATO indicators were invalid. Therefore, in the second test, those variables were excluded. The results show that all latent variables are valid because their values are higher than 0.6, indicating that there was a high correlation between the latent variables and their constructs. Furthermore, all variables have an AVE value of more than 0.5, indicating they met the convergent reliability requirements. In addition, this study measured the discriminant validity test based on the cross loadings value of > 0.7 and the AVE roots of $>$ latent variable correlation (not shown). The two tests show acceptable results for each latent variable, so that further analysis could be conducted.

Table 2. Loading Factors and AVE Result

Variable	Indicator	Loading factors	AVE
Profitability	ROA	0.750	0.866
	ROE	0.803	
	NPM	0.744	
	OPM	0.883	
Liquidity	CR	0.705	0.562
	QR	0.648	
	CASHR	0.750	
Solvency	DR	0.734	0.539
	DER	0.734	
Activity	ACP	0.726	0.527
	ITO	0.726	
	WCTO	0.728	
Stock price pre COVID-19 (HSP_C19)	PBV1	0.763	0.583
	PER1	0.748	
	PCF1	0.673	
Stock price during COVID-19 (HSD_C19)	PBV2	0.752	0.793
	PER2	0.763	
	PCF2	0.628	
Uncertainty	KE	1.000	1.000

Source: Processed data (2022)

Table 3. Reliability Test and Structural Model Result

	Reliability		R ²	Adjusted R ²
	Composite Reliability	Cronbach's Alpha		
P	0.983	0.933		
L	0.720	0.721		
S	0.701	0.709		
A	0.700	0.702		
HSP_C19	0.736	0.754	0.515	0.509
HSD_C19	0.884	0.839	0.645	0.640
KE	1.000	1.000		

Source: Processed data (2022)

Table 3 presents Cronbach's alpha and Composite reliability tests. The results show that each construct has a loading above the standard, which indicates an internal consistency of each variable, and thus the construct is reliable. Table 3 also presents the results of the structural model. Further, the R² value indicating the prediction model accuracy was divided into the before and during the COVID-19 pandemic. A value close to 1 indicated the regressor's contribution to predicting the outcome. In this study, the R² value increases from 0.515 (before the COVID-19 pandemic) to 0.645 (during the COVID-19 pandemic), suggesting that changes in the stock price before the COVID-19 pandemic reached 51.5%, and the rest 48.5% could be explained by other variables not included in the study. Similarly, the changes in the stock price during the COVID-19 pandemic reached 64.5%, and the rest 35.5% could be explained by other variables not included in the study. These finding indicated that the changes during the COVID-19 pandemic was more significant than before the COVID-19 pandemic. The contribution value could be considered statistically moderate, because it ranges from 0.25 to 0.75.

The following Figure 1 presents the results of model measurement suggesting the hypothesis testing. The hypothesis testing with SmartPLS bootstrapping was carried out to evaluate the significance of the t-value between variables. Figure 1 supports the results presented in Table 2 that there was a high correlation between the latent variables and their constructs, because all constructs' values are higher than 0.6.

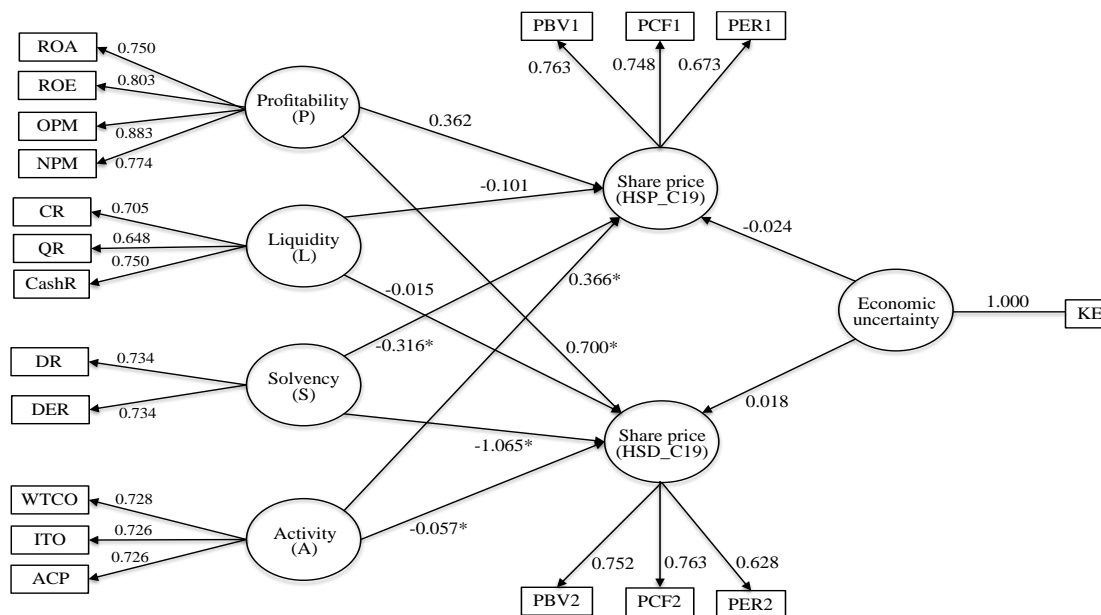


Figure 1. Results of Model Measurement

Table 4. Results of Hypothesis Testing

Hypothesis	Original Sample	Mean	Std. Dev.	t-value	p-value	Remark
P→HSP_C19	0.362	0.362	0.059	6.161	0.000	Accepted
L→HSP_C19	-0.101	-0.135	0.093	1.085	0.139	Rejected
S→HSP_C19	-0.316	-0.285	0.080	3.929	0.000	Accepted
A→HSP_C19	0.366	0.415	0.131	2.782	0.003	Accepted
KE→HSP_C19	-0.024	-0.025	0.035	0.683	0.247	Rejected
P→HSD_C19	0.700	0.699	0.046	15.086	0.000	Accepted
L→HSD_C19	-0.015	-0.027	0.058	0.261	0.397	Rejected
S→HSD_C19	-1.678	-1.059	0.063	16.828	0.000	Accepted
A→HSD_C19	-0.057	-0.054	0.033	1.736	0.041	Accepted
KE→HSD_C19	0.018	0.019	0.032	0.560	0.288	Rejected

Source: Processed data (2022)

Table 4 concludes that the profitability, liquidity and activity ratios, except the solvency ratios, are proven to have a positive influence on the stock price of LQ45 companies, both before and during the COVID-19 pandemic. Therefore, it can be concluded that H1, H3 and H4 can be supported empirically, but H2 cannot. In addition, during the observation period, there is an increase and a decrease in the companies' stock price – an average of 21.55% and -17.34%, respectively. Thus, overall, there is a decline in the stock price by -6.11% during the observation period.

The first hypothesis proposes that profitability significantly affects stock prices before and during the COVID-19 pandemic. The results show that before the COVID-19 pandemic, it has a coefficient of 0.362, t-value of 6.161, and p-value of < 0.005. Meanwhile, during the COVID-19 pandemic, it has a coefficient of 0.700, t-value of 15.086, and p-value of < 0.005. As a result, this finding confirms that the first hypothesis can be supported empirically. Furthermore, it is found that the profitability ratios decline during the COVID-19 pandemic at almost a half from the previous one. The increase in coefficient during the COVID-19 pandemic (from 0.362 to 0.700) indicates that most companies experienced a drop in profits, resulting in bigger drop in the stock price. However, the profitability ratios in both periods remain positive, suggesting that the LQ45 companies had a good stability in asset control to maintain their profitability. The maintained profitability during the COVID-19 pandemic sent a positive signal to the investors, attracting both existing and potential investors. Further, the positive signal shown by each measure of profitability ratios represented the company's ability to manage their assets. The investors showed their appreciation by increasing the company's stock price, which affected the value. This relationship could be explained by the signaling theory from the perspective of information asymmetry. The companies (agents) and shareholders (principals) had unequal access to the information about the company's current state. In this regard, considering that the principals might not have sufficient access to part of the information known to the agents, the agents attempted to communicate the information to the principals through the positive signals expressed in the profitability ratios.

Next, the second hypothesis proposes that the liquidity ratios have a negative influence on the stock price of LQ45 companies before and during the COVID-19 pandemic. The results show that before the COVID-19 pandemic, it has a coefficient of -0.101, a t-value of 1.085, and a p-value of > 0.005. Meanwhile, during the COVID-19 pandemic, it has a coefficient of -0.015, a

t-value of 0.261, and a p-value of > 0.005 . The negative coefficients were expected, but they suggested that they were not significant. Therefore, the second hypothesis cannot be supported empirically. A possible reason to explain this finding was that the LQ45 companies were stable in controlling their company debt. Therefore, the liquidity ratios had a negative and insignificant effect on their stock price. Furthermore, throughout the COVID-19 pandemic, the liquidity ratios had no influence the stock price during the COVID-19 pandemic because there were various government policies related to the liquidity buffers had worked well (Golubeva, 2021). It was such a good signal which could increase the investors' confidence. As a result, the liquidity ratios had no influence before and during the COVID-19 pandemic. This finding is supported by Golubeva (2021).

Then, the third hypothesis proposes that the solvency ratios have a negative influence on the stock price of LQ45 companies before and during the COVID-19 pandemic. The results show that before the COVID-19 pandemic, it has a coefficient of -0.316, a t-value of 3.929, and a p-value of < 0.005 . Meanwhile, during the COVID-19 pandemic, it has a coefficient of -1.678, a t-value of 16.828, and a p-value of < 0.005 . As a result, the third hypothesis can be supported empirically. Moreover, the solvency ratios during the pandemic increased significantly from -0.316 to -1.678. This finding suggested that there was a marginal effect indicating that the LQ45 companies experienced an increase in the solvency ratios during the COVID-19 pandemic. The companies with a high level of debt would struggle with growth issues. Consequently, the investors had a low interest to invest in them, ultimately affecting the companies' stock price. This finding is in line with the results of a research conducted by Zhang & Zhou (2020), which examined the impact of debt on the stock price of companies listed on the China Stock Market. However, it is in contrast with a study by Akdoğu *et al.* (2021).

Finally, the fourth hypothesis proposes that activity significantly affects stock prices before and during the COVID-19 pandemic. The results show that before the COVID-19 pandemic, it has a coefficient of 0.366, a t-value of 2.782, and a p-value of < 0.005 . Meanwhile, during the COVID-19 pandemic, it has a coefficient of -0.057, a t-value of 1.736, and a p-value of < 0.005 . The positive and negative significant coefficients were expected. Therefore, the fourth hypothesis can be supported empirically. Before the COVID-19 pandemic, the companies had positive activity ratios (positive coefficient); however, the opposite happened during the COVID-19 pandemic (negative coefficient). The LQ45 companies had a strong asset management efficiency and effectiveness to generate optimal revenue from their operational activities. This strong foundation existed before the COVID-19 pandemic, and this trend did not continue during the COVID-19 pandemic. The investors perceived the positive signals from these activity ratios which made their confidence increased, ultimately impacting the company's stock price. These results are in line with Rahayu (2019). In addition, the activity ratios were beneficial indicators in increasing the company's sales, which in turn affected the increase in profits. Furthermore, the increased sales affected the company's relative market share in the industry, and determined the company's bargaining power (Mohanty & Mishra, 2021). Similarly, the investors seen this condition as a positive signal in the company's stock price.

In addition, this study employed the economic uncertainty as a control variable. This study proposes that the economic uncertainty can either positively or negatively influence the stock price of LQ45 companies before and during the COVID-19 pandemic. The results show that before the COVID-19 pandemic, it has a coefficient of -0.024, a t-value of 0.683, and a p-

value of > 0.005 . Meanwhile, during the COVID-19 pandemic, it has a coefficient of 0.018, a t-value of 0.560, and a p-value of > 0.005 . This finding suggested that the economic uncertainty has no significant influence on the stock price of LQ45 companies, reflected in the PBV, PER, and PCF, both before and during the COVID-19 pandemic. In contrast, Zhang, Hu, & Ji (2020) found the opposite finding.

In general, the COVID-19 pandemic had caused global economic instability, and each country responded differently depending on their conditions (Wen, Li, Sha, & Shao, 2021). This condition had also caused disruptions in the financial market of each country, raising the risk of global financial markets. Furthermore, the policies taken by each country to prevent the spread of the COVID-19 pandemic also worsened the uncertainty and created long-term problems. In this case, no global agreement existed to address these concerns, resulting in global community disintegration. According to Zhang *et al.* (2020), this condition was a more dangerous threat than the virus itself.

5. CONCLUSIONS, SUGGESTIONS AND LIMITATIONS

This study evaluates the relationship between firm performance and stock price while incorporating the uncertainty due to the COVID-19 pandemic as a control variable. Specifically, this study examines the drivers of stock prices using the fundamental analysis by comparing the periods of before and during the COVID-19 pandemic. The companies studied were LQ45 indexed. The data was analyzed using the multiple structural regressions. The results prove that the profitability, solvency, and activity ratios influence the stock price of LQ45 companies both before and during the COVID-19 pandemic, except the liquidity ratios. These findings provide essential implications for future researchers on factors influencing the stock price, such as the profitability, solvency, and activity ratios. The managerial implications of this study suggest the policymakers and investment managers to always strive to maintain the stability of these ratios, especially to increase the firm performance. The positive signals sent by these ratios are able to attract both the existing and potential investors to invest for the company development. In addition, the positive signals can also be a vital consideration for the investment decision-making to avoid the risk of loss and create good portfolios.

This study has faced two major limitations. First, this study examined whether the economic uncertainty influenced the stock price of LQ45 companies both before and during the COVID-19 pandemic. However, the companies studied were LQ45 indexed, which were highly stable. Therefore, this study finds that the economic stability has no influence on the stock price of LQ45 companies, both before and during the COVID-19 pandemic. Future studies on the economic uncertainty are suggested to study less stable industries or companies to obtain a more comprehensive picture of the influence of economic uncertainty on the stock price. Second, this study only used a relatively short research period: a year before and during the pandemic. Thus, the results cannot be generalized in a wider scope. Therefore, future researches are suggested to employ a longer research period for better and more accurate results.

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