

THE EFFECT OF LIQUIDITY ON FIRM'S PERFORMANCE: CASE OF VIETNAM

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ABSTRACT

This paper aims to estimate the effect of liquidity on the profitability of firms listed on the Ho Chi Minh City Stock Exchange (HSX) in Vietnam during the COVID-19 outbreak. Using a quantitative research method (the feasible generalized least squares method - FGLS), six factors affecting the firms' performance from 2012 to 2021 are identified: COVID-19, the liquidity ratio, firm age, firm size, tangible assets, and gross domestic product growth. This paper has especially highlighted liquidity's negative and significant effect on firms' performance during the pandemic. Therefore, the study findings indicate that manufacturing firms with high liquidity during COVID-19 lose the opportunity to increase revenue due to funds tied to working capital that cannot be used to support the company's operations under the trade-off theory. Besides, high liquidity also increases the company's opportunity cost, which decreases company profitability. However, the study was conducted in a country with government intervention, political stability, and peace, unlike a country in a period of war and economic difficulties, such as Ukraine. Therefore, the article used a cross-country database for more generalizable results.

Keywords: COVID-19; generalized method of moments; liquidity; manufacturing firm; Vietnam

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INTRODUCTION

In a company, managers are experts with extensive experience and a deep understanding of operations, so to achieve the goal of maximum profitability, managers always focus on analyzing and estimating the factors that affect it. When it is clear which factors affect their goals, businesses will have appropriate policies to utilize their resources to improve the

company's performance and benefits. This is an issue that is always focused on by not only owners and the board of directors but also investors and other stakeholders. Because of its importance, many studies have been done to measure profitability and determine the factors affecting profitability in different economies, such as Alarussi & Gao (2021); Almaqtari et al. (2019); Dimitrić et al. (2019); Durrah et al.

(2016); Gatsi et al. (2013); Gharaibeh & Khaled (2020); Hasan et al. (2020); Margaritis & Psillaki (2010); Pervan et al. (2019); Pouraghajan et al. (2012); Yüksel et al. (2018). However, those studies have not come to a consistent conclusion about the determinants of profitability.

After a financial crisis, Vietnam's economy has entered a phase of recovery and expansion, and its stock market has grown significantly as a source of funding for companies. The occurrence of COVID-19 (1 December 2019), however, has impacted almost all enterprises that either have lacked resources or exhausted them in an effort to endure the epidemic. Besides, Liquidity is one of those important resources, as it can help extend the life of a company during a crisis (Golubeva, 2021). According to Vietnam's Ministry of Planning and Investment (2023), from 2019 to 2022 there was a wave of bankruptcies, with 124,600 in 2022 alone (Table 1). Because companies listed on the Ho Chi Minh City Stock Exchange (HSX) are a key component of the national economy, evaluating the effect of the pandemic on their performance is important (Hu & Zhang, 2021; Periokaitė & Dobrovolskienė, 2021; Shen et al., 2020; Xu & Jin, 2022). In a 2020 World Bank report, during COVID-19 liquidity

became a regular issue.. About half of businesses had enough liquidity for 3 months, and about 60% had enough liquidity for 6 months in many sectors. Besides internal factors, macro-economic factors also are considered the most important issues that cause volatility in business profitability. Shen et al. (2020) and Zubair et al. (2020) suggested that a fragile financial system due to a crisis may be the main cause of an economic decline in recent years. Golubeva (2021), Shen et al. (2020) and Xu & Jin (2022) investigated the relationship between COVID-19 and the profitability of listed firms worldwide, while Vo Thi Tuyet Hang (2015), Chu et al. (2015) studied the determinants that impact on financial performance factors during the period prior the pandemic in Vietnam. Therefore, the main objective of this paper is to explore the effect of liquidity on the performance of listed firms' (especially manufacturing firms) in Vietnam during the period of 2012 – 2021. To achieve this goal, the research aims to answer the question "To what extent, does liquidity affect Vietnamese listed firms' performance during COVID-19?"

Table 1: The number of enterprise suspensions and dissolutions in Vietnam from 2019 to 2022

| | 2019 | 2020 | 2021 | 2022 |
|------------------------|--------|--------|--------|---------|
| Enterprise suspension | 28,731 | 46,592 | 54,960 | 73,800 |
| Enterprise dissolution | 16,840 | 17,464 | 16,741 | 18,609 |
| Total | 45,571 | 64,056 | 71,701 | 124,600 |

Source: Data from Ministry of planning and investment, 2023.

The contributions of this paper are as follows. First, the literature on the impact of COVID-19 at the firm level is limited, especially in Vietnam. This paper enriches the extant literature by using agency theory and trade-off theory to emphasize the impact of liquidity on the listed manufacturing firms' performance. Hence, the study proposes some policies for corporate managers to improve firm performance and increase liquidity for the development of companies.

The remainder of this paper is organized as follows. Section 2 presents the literature review and hypotheses development. Section 3 indicates the methodology implemented in the study,

followed by the findings and discussions involved compared to previous empirical studies. The final section is the conclusion and some limitations of the paper.

LITERATURE REVIEW

Three main theories are applied in this study: agency theory; the resource-based theory; and the trade-off theory. Agency theory, initially proposed by Jensen & Meckling (1976), emphasizes the role of the manager, suggesting that managers are limited to over-investing the available free cash flow when the company has

existing debts, decreasing the conflicts between managers and stockholders (Dawar, 2014; Golubeva, 2021). In addition, corporate governance mechanisms to eliminate the principal-agent conflict of interest aim to improve firm performance and protect the benefits of all stakeholders (Golubeva, 2021). In terms of corporate governance, large institutional ownership has an appropriate governance mechanism that can reduce agency problems and enhance a firm's performance during an economic downturn (Jabbouri & Jabbouri, 2021). Institutional investors overwhelm the problem of controlling agents (managers) (Amin & Hamdan, 2018). In addition, the resource-based theory and trade-off theory point out how the company can handle company resources to achieve its goals. The resource-based theory aims to determine the relative impact of a firm's resources and capabilities on firm performance. The basic principle of the theory is that distinctive resources are the sources of long-term competitive advantage (Barney, 1991). The theory maintains that the firm is a collection of resources and capabilities and that the source of competitive advantage is internal to the firm (Amit & Schoemaker, 1993). Obviously, some firms perform better than others because they can use their resources and capabilities to respond to customer needs effectively and efficiently (Demsetz, 1973). Hence, the theory suggests that a firm's resources are the primary determinants of its performance. Those resources may contribute to the firm's sustainable competitive advantage and profitability (Hoffer & Schendel, 1978; Wernerfelt, 1984). The trade-off theory, an expanded theory of Modigliani and Miller, states that the company must balance benefits and costs which are relevant to its operating performance and financial position. According to Njoroge (2015), the theory points out that the company should obtain the optimal level of liquidity because holding cash and cash equivalents easily decreases the cost transfer from liquid assets to current payment and investment flexibility. Conversely, holding more cash and cash equivalents could limit the ability to generate returns. According to Niresh (2012), maintaining proper liquidity shows that transferring liquid assets for payment is unnecessary, so these assets remain for operational or investment with higher returns purposes. Therefore, maintaining a balance

between the conflicting objectives of liquidity and profitability is a significant concern. To summarize, this study applies agency theory to emphasize the role of the manager, and also uses the resource-based and trade-off theories to clarify the impacts of COVID-19 and liquidity on profitability.

EMPIRICAL STUDIES AND HYPOTHESIS DEVELOPMENT

Before the COVID-19 pandemic crisis, Susilo et al. (2020) and Ho et al. (2020) explored the determinants of profitability, especially liquidity, which has a positive impact on financial performance. During Covid-19, however, liquidity became a severe problem affecting firm performance in Vietnam (World Bank, 2020). According to Golubeva (2021), liquidity is a critical factor leading to an end or extension of company life in a crisis. Lai et al., (2022) studied the impact of liquidity on profitability. Their research results showed the adverse effects of liquidity on the profitability of 25 listed companies using data from 2010 to 2021 without testing COVID-19 factors. From the analysis of previous studies, the authors of this study recognize that some recent studies in the world (Golubeva, 2021; Shen et al., 2020; Sinha et al., 2022) have considered the effect of COVID-19 on firm performance; however, in Vietnam, liquidity's impact on firm performance was not examined in the studies of Chu et al. (2015); Ho et al. (2020); Lai et al. (2022); K. L. Nguyen & Phan (2022); and Pham et al. (2022). Second, although the liquidity factor impacts the business performance of enterprises in a stable economy, in Vietnam this factor has implications for the performance of listed companies during the COVID-19 outbreak. This paper aims to explore the influence of liquidity on firms' performance from 2012 to 2021, which covers the period of the COVID-19 pandemic.

COVID-19

Manufacturing has traditionally played a key role in the economic growth of developing countries. It creates value for customers and has been broadening beyond manufactured products. Unfortunately, the pandemic severely impacted manufacturing and industrial operations (Ardolino et al., 2022; Dubey et al., 2021; Dwivedi et al., 2020; Wang & Wang, 2021). The COVID-19 pandemic caused a great recession

worldwide, which damaged the economies of all countries, including Vietnam. The travel, commercial, and manufacturing industries were especially adversely affected during COVID-19. Makni (2023) noted that production manufacturing firms in serious impact regions were forced to close, shrinking their income. And according to Parveen (2020), depending on their size, complexity, and line of business, enterprises were required to close or adjust their operational procedures. Based on the above analysis, the following hypothesis is proposed:

H1: COVID-19 negatively affected listed firms' performance on the HSX in Vietnam.

Liquidity

Liquidity is a ratio that indicates the ability of a company to convert assets into cash quickly to pay current obligations such as loans and payables due (Masood et al., 2016). Based on the liquidity ratio, an investor can evaluate the entity's liquidity and ability to cover liabilities in both the short-term and long-term (Hoggett et al., 2018).

Alhabsji et al. (2017) stated that liquidity is an important index to indicate the maintenance and growth of most firms, so it is necessary to manage it correctly. Therefore, liquidity management is a significant thing that can cause a company's success if done properly, and vice versa (Alhabsji et al., 2017). According to Omondi & Muturi (2013), liquidity is crucial for enhancing a firm's performance. Thus, firms with optimal liquidity levels can obtain better performance due to the trade-off between risk and return, as described by (Raheman & Nasr, 2007). They also mentioned that firms tend to fail in their operations because of mismanaged liquidity, which is explained by the trade-off theory (Alhabsji et al., 2017).

Some studies, such as Alarussi & Gao (2021); Hossain (2020); Nanda & Panda (2018); T. N. L. Nguyen & Nguyen (2020); Pervan et al. (2019); Škuflić et al. (2016), investigated the negative effect of liquidity on firm performance. Liquidity retained at a high level will cause a large amount of capital embedded in current assets and cannot be used to generate revenue. As a result, the company's income declines due to missing the opportunity to employ expensive capital. From these arguments, the second hypothesis is proposed.

H2: Liquidity negatively affects listed firms' performance on the HSX in Vietnam.

Control variables

Some findings have showed that both macroeconomic and firm-specific factors significantly influence profitability (Chu et al., 2015; Gharaibeh & Khaled, 2020; Lai et al., 2022; K. L. Nguyen & Phan, 2022; Pervan et al., 2019; Susilo et al., 2020). Typically, the GDP rate, interest rate, inflation rate, and exchange rate are examples of macroeconomic factors (Chu et al., 2015; Lai et al., 2022; K. L. Nguyen & Phan, 2022; Pervan et al., 2019), while the percentage of the state capital, leverage ratio, management competence, firm size, business risk, tangible assets, growth, quick assets, and the business cycle, firm age, labor cost, and industry concentration liquidity are some characteristics of the company (Chu et al., 2015; Gharaibeh & Khaled, 2020; Lai et al., 2022; K. L. Nguyen & Phan, 2022; Pervan et al., 2019; Susilo et al., 2020). To match with the Vietnamese context and reduce the potential for spurious findings to allow for more reliable causal inferences, some collected control variables involve tangible assets, firm size, firm age, inflation rate, and GDP growth rate that are mentioned in previous studies.

Building the reputation of a business's brand requires a lot of time and effort, therefore Gatsi et al., (2013) affirmed that the longer a business has been in operation, the more its financial performance increases and its reputation proves to be. The firm age variable had a positive sign, especially older manufacturing firms operating with higher levels of profitability. Because older firms exploit the benefits of accumulating knowledge and business reputation through cost savings and higher profitability (Pervan et al., 2019). Hypothesis three follows.

H3: Firm age positively affects listed firms' performance on the HSX in Vietnam.

Large companies with better market access should be able to obtain high profitability. The size of a company can be proxied with the capitalized value of its shares in the capital market. Large companies that use profitability to diversify tend to be able to produce high profitability (Eka, 2018). Therefore, it can be estimated that large companies tend to have greater profitability than small companies do (Susilo et al., 2020). Previous studies have proved

that firm size have a positive impact on the firm performance (Eka, 2018; Gharaibeh & Khaled, 2020; Ho et al., 2020; Lai et al., 2022; Susilo et al., 2020). Based on the above analysis, hypothesis four is proposed:

H4: Firm size positively affects listed firms' performance on the HSX in Vietnam.

Manufacturing companies have high tangible assets that can reduce agency costs in choosing a capital structure because tangible assets can be collateralized easily to take advantage of financial performance (Rajan & Zingales, 1995). According to Liberti & Sturgess (2018), tangible assets create the guarantees in the collateral in financing activities for accessing external finance, in high reliability in the evaluation of the assets' value with low asymmetric information. Following the research of Iltaş & Demirgüneş (2020), tangible assets still have a positive impact on firm performance, including in the crisis period, leading to hypothesis five.

H5: Tangible assets positively affect listed firms' performance on the HSX in Vietnam.

The GDP growth rate reflects the current and future state of macroeconomic activity. With economic growth, consumer demand increases, potentially improving sales with higher profitability (Pervan et al., 2019). The increased GDP growth rate also has a positive impact on purchasing power and also leads to increased corporate profit (Bui et al., 2020). Similarly, some studies also confirm the positive relationship between GDP and firm performance, such as Gharaibeh & Khaled (2020), Pervan et al. (2019), Lai et al. (2022), Bui et al., (2020). Hypothesis six is based on the above analysis:

H6: The GDP growth rate positively affects listed firms' performance on the HSX in Vietnam.

According to Dalci (2018), inflation, a macro-level variable, reflects the economic state and impact on firm profitability through the inflation rate. Forte & Tavares (2019), Demir (2009), and

Pattitoni et al. (2014) proved the negative impact of inflation on firm performance through costs, especially interest rate increases, changes in tax rates, and the decrease in the value of money (Cooper, 1983). This leads to hypothesis 7:

H7: The inflation rate negatively affects listed firms' performance on the HSX in Vietnam.

METHODOLOGY

The number of listed firms on the HSX is 546 firms, which includes 129 manufacturing firms (According to the website finance.vietstock.vn). The study period is from 2012 to 2021, so the observed sample for the corresponding study is 1,290 observations.

The study employs a quantitative methodology, such as pooled ordinary least squares (OLS), the fixed effects model (FEM), the random effects model (REM), and feasible generalized least squares (FGLS) to estimate the effect of liquidity on firms' performance during COVID-19.

The study conducted the Hausman test to decide if FEM and REM models are preferred. If the probability value Prob (Random) is less than the 5% significance level, then the FEM model is chosen. After selecting the optimal model, defective phenomena in the model, such as multicollinearity, autocorrelation, and heteroscedasticity, was tested. When the model still comprised the defective issues, Feasible Generalized Least Squares (FGLS) regression was used to solve and ensure unbiased results.

Based on the agency theory and trade-off theory, combined with empirical studies by Golubeva (2021); Shen et al. (2020); Xu & Jin (2022); Zheng et al. (2021), the research model was built as follows:

$$performance_{i,t} = \beta_0 + \beta_1 covid_t + \beta_2 liquidity_{i,t} + \sum_{i=3}^n \beta_i Control\ variables_i + \varepsilon$$

[1]

Table 2: Variables in the model

| | Variables | Index | Formula/Source data |
|--------------------------|-------------|------------|---|
| Dependent variables | | | |
| $firm\ performance_{it}$ | performance | roe_{it} | $\frac{\text{net income}}{\text{owner's equity}}$ |
| Independent variables | | | |

| | | | |
|-----------------------|-----------------|--------------|--|
| Independent variables | COVID-19 | $covid_t$ | covid=1 if the year incurs COVID-19, covid=0 otherwise. |
| | liquidity ratio | $liq_{i,t}$ | $\frac{\text{Current assets}}{\text{Current liabilities}}$ |
| Control variables | tangible assets | $ppe_{i,t}$ | $\frac{\text{Net fixed assets}}{\text{Total assets}}$ |
| | firm size | $size_{i,t}$ | Ln(total assets) |
| | firm age | $age_{i,t}$ | The number of years of incorporation of the company |
| | Inflation rate | inf_t | World Bank |
| | GDP growth rate | gdp_t | |

RESEARCH RESULTS AND DISCUSSIONS

Table 3. Descriptive statistics

| Variable | Obs | Mean | Min | Max | VIF |
|----------|-------|-------|--------|-----------|------|
| roe | 1,290 | 0.047 | -1.292 | 0.815 | |
| covid | 1,290 | 0.30 | 0.00 | 1.00 | 2.25 |
| liq | 1,290 | 44.17 | 0.00 | 26,674.50 | 1.02 |
| age | 1,290 | 1.96 | 0.00 | 3.83 | 1.91 |
| size | 1,290 | 25.79 | 20.04 | 30.03 | 1.01 |
| ppe | 1,290 | 0.21 | 0.01 | 0.95 | 1.00 |
| gdp | 1,290 | 0.06 | 0.05 | 0.07 | 2.17 |
| inf | 1,290 | 0.06 | 0.01 | 0.19 | 1.63 |

Table 3 presents the descriptive statistics of all variables in the model. Regarding the dependent variable, the average value of roe is 0.047, indicating that for one value of average shareholders' equity, the company can get a profit increase of 4.7%. Under descriptive statistics of return on equity, however, the data shows the fluctuating value from -129.2% to 81.5%, showing that in different years, in the

various sectors, there are changes in profit or loss that affect roe.

COVID-19 is a dummy variable, receiving the value of 1 if the years included COVID-19, and 0 otherwise. The liquidity variable shows a full sample range from a minimum value of 0 to a maximum value of nearly 27,000, with a mean value of 44.17, demonstrating that in

manufacturing the high rate in liq ensures the security of operating payments.

Control variables such as age, ppe, gdp and inf are covered with the mean values 1.96, 0.21, 0.06, 0.06, respectively. Size has a range from 20.04 to 30.03 with a mean value 25.79 and a standard deviation of 1.2, which shows there is not a significant difference in size between the manufacturing companies.

Table 3 also includes the values of the variance inflation factor (VIF) to test multicollinearity. The VIF values for the formative indicators in this paper all are well below the required threshold value of 10. Hence, multicollinearity does not exist in the research model (Hair Jr & Anderson, 1995; Montgomery et al., 2021).

Table 4. Test of autocorrelation and heteroskedasticity

| No. | Test | p-values | H0 |
|-----|---|----------|--------|
| 1 | Wooldridge test for autocorrelation in panel data | 0.000 | Reject |
| 2 | Breusch-Pagan / Cook-Weisberg test for heteroskedasticity | 0.000 | Reject |

Table 4 shows the Wooldridge test for autocorrelation and the Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity. Both p-values are less than 5%, so the heteroskedasticity and autocorrelation phenomenon exist in the model. Because of the existence of these defective phenomenon, the FGLS method was conducted to make the regression.

Table 5 shows that the model has six statistically significant variables affecting the performance of manufacturing firms listed on the HSX. It recognizes that COVID-19 and liquidity have a negative effect on firm performance. The findings are consistent with the studies by Alarussi & Gao (2021; Ardolino et al.,(2022); Dubey et al. (2021); Dwivedi et al.

(2020); Hossain (2020); Nanda & Panda (2018); T. N. L. Nguyen & Nguyen (2020); Pervan et al. (2019); Škuflić et al. (2016); Wang & Wang (2021). The relationship between COVID-19 and performance is explained based on the resource-based theory, while the liquidity-performance correlation can be clarified by trade-off theory.

Table 5. FGLS method

| No. | Variable | roe | |
|-----|----------|-------------|----------|
| | | Coefficient | p-values |
| 1 | covid | -0.8325 | 0.0008 |
| 2 | liq | -0.7016 | 0.0015 |
| 3 | age | 0.2861 | 0.0028 |
| 4 | size | 0.2523 | 0.0091 |
| 5 | ppe | 0.3716 | 0.0257 |
| 6 | gdp | 0.6345 | 0.0000 |
| 7 | inf | -0.5508 | 0.0567 |

Note: roe: return on equity; covid: COVID-19; liq: liquidity ratio; age: firm age; size: firm size; ppe: tangible assets; gdp: gross domestic product; inf: inflation rate.

First, there is the negative correlation between COVID-19 and manufacturing firm performance (-0.8325), meaning that when COVID-19 increases one unit, firm performance drops 0.8325 units. The findings are consistent with the studies by Ardolino et al. (2022); Dubey et al. (2021; Dwivedi et al. (2020); Makni (2023); Parveen (2020); Wang & Wang (2021). They claimed that the COVID-19 pandemic has significantly impacted global operations, and the Vietnamese economy is not an exception. In particular, the entertainment industry, accommodation and food, transportation, and manufacturing industries suffered a sharp decline. During the COVID-19 outbreak, the implementation of social distancing led to an insufficient labor force or higher production costs to carry out the stages of material supply, production activities and consumption of products in Ho Chi Minh City, where the social distancing policy was applied strictly. Many enterprises did not have enough materials for

production, so they could not meet orders on time, and had to extend or cancel signed contracts, including many export orders. As a result, many enterprises faced difficulties in cash flow and liquidity. Second, liquidity had a negative effect on the performance of manufacturing firms listed on the HSX because its coefficient is -0.7016. The findings are consistent with the proposed hypothesis and the studies by Alarussi & Gao (2021); Hossain (2020); Nanda & Panda (2018); T. N. L. Nguyen & Nguyen (2020); Pervan et al. (2019); Škuflić et al., (2016). The results also are explained by trade-off theory. The theory shows that high liquidity leads to a profitability decline because the company wants to reserve the cash or make short-term investments instead of other investments with high returns. This also brings a high opportunity cost in the conflict between managers and stockholders, so managers may prioritize their own benefits ahead of the benefit of the firm by investing in high returns projects with high risk (Almeida et al., 2014; Jensen, 1986). In contrast, lacking short-term liquidity, the company can disrupt the regular business operations.

Firm size has a positive regression coefficient, so this factor has a positive and statistically significant impact on the performance of manufacturing firms listed on the HSX. The results of the study are consistent with the given hypothesis and the research of Onalapo and Kajola (2010); Do Duong Thanh Ngoc (2011); Chu Thi Thu Thuy et al. (2015). The larger size shows the strong financial position through the firm's total assets, which takes advantages in competition and promotes consumption for business improvement.

For firm age (operating time of the enterprise), the regression coefficient is positive, so this factor has a positive and statistically significant impact on the listed manufacturing firms' performance on the HSX. The research results of the topic are consistent with the initial hypothesis posed and studied by Liargovas and Skandalis (2010); Malik (2011). Firm age is considered as a control variable affecting the financial performance of enterprises. In a significant number of cases, company survival has been demonstrated by some researchers based on the existing time of the companies, such as "old" and "young" firms, on the industry sector.

Gross domestic product growth has a positive and statistically significant impact on the performance of the listed manufacturing firms on the HSX, due to the positive regression coefficient. The research results are consistent with the original hypothesis and research by Alper and Anbar (2011) and Tomola (2013). In comparison to this year, the GDP growth rate predicts how much the gross domestic product will increase the following year. A fast-growing economy also improves the effectiveness of businesses.

CONCLUSION AND LIMITATIONS

By using quantitative research methods, this study has identified six statistically significant variables affecting the performance of manufacturing firms listed on the HSX, such as COVID-19, the liquidity ratio, firm age, firm size, tangible assets, and gross domestic product. In particular, the study recognizes that COVID-19 and liquidity have a negative effect on firm performance. The relationship between COVID-19 and performance is explained based on the resource-based theory, while the trade-off theory can clarify the liquidity-performance correlation. Also, the degree of impact of factors on listed firm's performance in Vietnam is shown to be different. The remaining factors have a positive impact on firm performance. With the negative impact of liquidity on firm performance during COVID-19, the implementation of the study suggests manufacturing companies need to keep liquidity in balance in order to improve their performance. The findings emphasize that a company maintaining a low liquidity rate also harms the full operations of the company, creating more costs for short-term payments or the current portion of long-term liabilities. Conversely, with a high liquidity rate, a company can fall into agent-principal conflicts in opportunity cost and profits.

In addition to the results obtained, the study still has certain limitations. First, the study identifies the factors affecting the listed manufacturing firm's performance in Vietnam without focusing on specific fields (such as industry or area, or ownership structure). Second, the study only evaluates the performance of listed firms on the Ho Chi Minh City Stock Exchange, without the Hanoi Stock Exchange, so the number of samples is limited. And third, the research covers a specific country,

Vietnam, so a suggestion for future research can focus on classifying various industries for comparison to explore the impact of COVID-19 and liquidity on firm performance. Data collection must involve the Ho Chi Minh City Stock Exchange and Hanoi Stock Exchange to have a general view or use a cross-country database to compare each country's liquidity in the current economic and political conditions. Finally, researchers can use the generalized method of moments (GMM) to solve the endogenous problem instead of the FGLS method in this study.

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