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THE EFFECT OF PROFITABILITY, FIRM SIZE AND LEVERAGE ON LIQUIDITY OF COMPANIES LISTED IN THE LQ45 INDEX OF INDONESIAN STOCK EXCHANGE IN THE PERIOD OF 2017-2022

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ABSTRACT

This study objective is to determine the effect of profitability, firm size and leverage on liquidity of listed companies in the LQ45 index in Indonesian Stock Exchange (IDX). Eighteen (18) firms from the LQ45 over a period of 6 years from 2017 to 2022 were taken as samples by purposive sampling. Data analysis uses multiple linear regression methods using SPSS. The study found that there is a negative and significant relationship between firm size and leverage on liquidity. The relationship between profitability and liquidity was found to be positive. This study displays the indirect relations between the variables to the pecking order theory and signaling theory. Furthermore, this study pushes the importance of managing profitability and leverage so that an optimal liquidity in the firm can be achieved.

Keywords: Profitability, Leverage, Firm Size, LQ45, Liquidity

PENGARUH PROFITABILITAS, UKURAN PERUSAHAAN, DAN LEVERAGE TERHADAP LIKUIDITAS PERUSAHAAN YANG TERDAFTAR DI LQ45 PERIODE 2017–2022

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh profitabilitas, ukuran perusahaan dan leverage terhadap likuiditas pada perusahaan yang tercatat dalam indeks LQ45 di Bursa Efek Indonesia (BEI). Sebanyak 18 (delapan belas) perusahaan dari LQ45 selama kurun waktu 6 tahun dari tahun 2017 sampai dengan tahun 2022 diambil sebagai sampel secara purposive sampling. Analisis data menggunakan metode regresi linier berganda menggunakan SPSS. Penelitian ini menemukan bahwa terdapat hubungan negatif dan signifikan antara ukuran perusahaan dan leverage terhadap likuiditas. Hubungan antara profitabilitas dan likuiditas ditemukan positif. Penelitian ini menunjukkan hubungan tidak langsung antara variabel-variabel tersebut dengan pecking order theory dan signaling theory. Lebih lanjut, penelitian ini mendorong pentingnya pengelolaan profitabilitas dan leverage sehingga likuiditas yang optimal pada perusahaan dapat tercapai.

***Kata Kunci**: Profitabilitas, Leverage, Ukuran Perusahaan, LQ45, Likuiditas*

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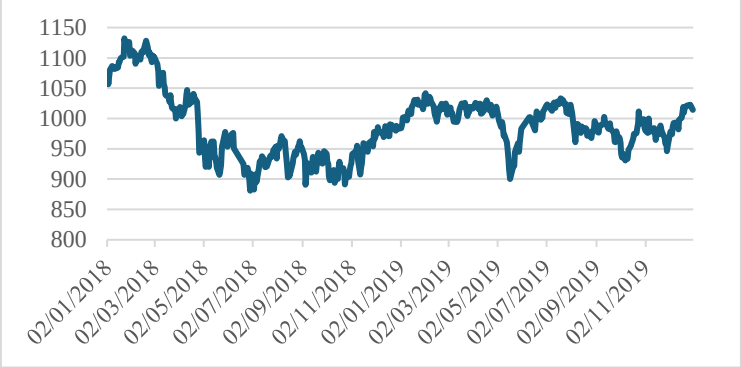
INTRODUCTION

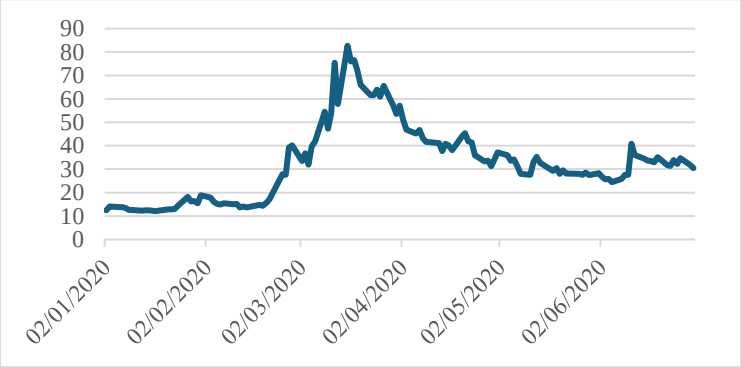
The world has been through a lot of major events in recent years. One of which was the US – China trade war which started in 2018. This trade war was started by the US raising the tariffs on the import items such as washing machines, solar panels, steel and aluminum. While it seems that the US is not targeting any one country, it began to be apparent that US is targeting China. This behavior becomes apparent between 2018 and 2019 when US increased the tariffs on roughly USD350 billion imports from China. In retaliation, China also raised the tariffs and targeting about USD100 billion in US exports. The de-escalation comes in January 2020 when both US and China agreed to sign an agreement to stop any tariffs raise (Fajgelbaum & Khandelwal, 2021). The trade war has a profound impact on business, this is apparent in the decrease of the indexes around the world. One of those indexes affected is the Indonesian Stock Exchange (IDX) LQ45 index. LQ45 index experiences a decrease between 2018 and early 2019 as shown in Figure 1. Furthermore, at the end of 2018, there was a drop in share price around the world led by Asia and Europe. By October of 2018, S&P 500 decreased by 1.8%, erasing stock gains in 2018 (Stevenson et al., 2018).

Another major event that took the world by storm was the event of the Covid-19 which started in late 2019. This event had caused the death of more than 150,000 individuals and infected over six million people in Indonesia alone (UNICEF et al., 2022). Around the world, stock exchanges and business underwent a turbulent time, sectors such as travel, hospitality and retail had been hit hard by the pandemic, but on the other hand, there are those which thrived such as healthcare, technology and e-commerce due to the changes in the consumers' behavior which turned to online purchasing and consultations due to mainly the restrictions for the face-to-face meetup (Mehrotra, 2023).



Source: Yahoo Finance, 2024

Figure 1. LQ45 Index 2018-2019



Source: Yahoo Finance, 2024

Figure 2. Volatility Index for 6 months of 2020

Both events inevitably resulted in a decrease in the market value of assets in a company. A drop in share prices leads to a lower equity value. This will make it difficult for the company to access new and fresh capital and financing. This will make investors see the company as a risky one.

There are several factors that can affect the liquidity of a company. In this research, the researcher will be focusing on Return on Assets, leverage, and firm size as the variables that could influence the liquidity of a company. The purpose of this study is to analyze the effect of profitability, leverage, and firm size on liquidity of firms in LQ45.

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LITERATURE REVIEW

Pecking Order Theory

The Pecking Order Theory, introduced by Myers and Majluf in 1984, proposes that companies follow a specific hierarchy when funding their operations and investments. The preferred order of financing options is as follows (from most favored to least favored): (i) internal financing, (ii) debt financing, and (iii) equity financing.

Internal financing is the top choice, where firms use retained earnings and other internal resources for investments and projects. This method is advantageous as it avoids the need for interest payments, unlike debt financing. When internal funds are insufficient, companies turn to debt financing, such as issuing bonds or taking out loans. This option is preferred over equity financing because it does not dilute ownership, although it does incur borrowing costs. Equity financing, which involves issuing new shares, is the least preferred due to the potential dilution of ownership (Myers & Majluf, 1984). Firms with good liquidity generally will not need to rely on external financing which will reduce the need to consider the cost and risk associated with less liquid funding.

Signaling Theory

Signaling theory is used to explain how the information asymmetry is reduced by the actions undertaken by one party to give a signal to another party of the quality it has. One of such example was given by Spence (1973) in his seminal work on the labor market explaining how job applicant undertake actions to reduce information asymmetry which could weigh down the quality of selection of a potential firm. Spence explained that in such conditions, potential employees distinguished themselves from the others by having thorough higher education to "signal" their quality to potential employers.

Spence's work was applied in many aspects of research, one of which is in finance, one of which is used to explain how companies can give signal to the investors to reduce information asymmetries by communicating good news to the market, one of which is through communicating the profitability of the firm to its investors in the financial report (Bini et al., 2012).

The Effect of Profitability on Liquidity

Profitability is the scope of a firm's profit in relation to its size. A firm with large profitability tend to send the signal to its investors that it is a stable company. Thus, it is easier for such firms to get fundings through equity which will increase its liquidity. Good profitability also means that there is a good amount of profit which can be converted into assets to be used and to grow the firm more (Mulyatiningsih & Atiningsih, 2021).

A study done by Eljelly (2004) on 29 joint stocks company in Saudi Arabia from 1996 to 2000, it was found that profitability has a negative and significant effect on liquidity.

H_1: Profitability has a positive effect on liquidity

The Effect of Firm Size on Liquidity

Firm size is defined as the scale on which a firm operates. A firm with large scale in the market generally will have better access to capital market and can raise funding through equity more easily. Thus, it will be easier for the firm to maintain its' liquidity. Apart from that, larger firms tend to have larger cash reserves, thus liquidity can be properly maintained. In accordance to pecking order theory, a larger firm which has a large cash reserve will prefer internal funding, thus reducing the need for external funding. This in turn will increase its liquidity. Furthermore, looking at signaling theory, a larger firm tends to send the signal that it is better in the eyes of the investor. Thus, increasing its ease in getting funding through equity.

A research done by VU et al. (2020) who studied manufacturing firms in Ho Chi Minh Stock Exchange found a negative relationship between firm size and liquidity.

H_2: Firm size has a positive effect on liquidity

The Effect of Leverage on Liquidity

Leverage is defined as the usage of debt to finance the purchase of an asset in the hope that the gain from the use of the asset will exceed the cost of borrowing. A company which uses high leverage is viewed to be riskier compared to those which uses lower level of leverage. In relation to signaling theory, a more leveraged company is sending the message to the investor that the company is riskier, and therefore it may result in the shareholders selling off their stock. As a result, it may be more difficult for a firm to access fresh funding leading to potential liquidity issue. Very few studies have explored the relationship of leverage on liquidity. Hence, the researchers would like to explore the effect in LQ45.

Research done by Omoregie & Ige (2022) on twenty listed Nigerian companies found out that there is a negative and significant effect of capital structure on liquidity.

H_3: Leverage has a negative effect on liquidity

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RESEARCH METHODOLOGY

Population and Samples

The total samples selected for this research is 18 listed companies in the LQ45 index in Indonesian Stock Exchange (IDX) from the year 2017 to 2022. The samples are selected by purposive sampling from the population of all the listed companies in the IDX using the following criteria: (i) the company is continually listed in LQ45, (ii) the company is listed in the LQ45 from 2017-2022.

Variables

The variables used in this research are made up of 3 independent variables and 1 dependent variable. The independent variables are profitability, leverage, and firm size. The dependent variable is liquidity. Each of the proxies of the variables are shown in Table 1.

Table 1. Variables and Proxies Used

Variable	Proxies (Variable Measurement)	Source
Profitability (PROF)	$ROA = \frac{Net\ Income}{Total\ Asset}$	Koh et al. (2016), Alarussi & Alhaderi (2018), Susilo et al. (2020)
Leverage (LEV)	$DAR = \frac{Total\ Debt}{Total\ Asset}$	Koh et al. (2016)
Firm Size (FSize)	$Firm\ Size = \ln(total\ assets)$	VU et al. (2020)
Liquidity (LIQ)	$Current\ Ratio = \frac{Total\ Asset}{Total\ Liabilities}$	Koh et al. (2016)

All data was analysed using SPSS. The regression equation used in this research is as follows:

$$LIQ = \beta_1 PROF + \beta_2 LEV + \beta_3 FSize \quad (1)$$

The model for the above regression is given in Figure 3:

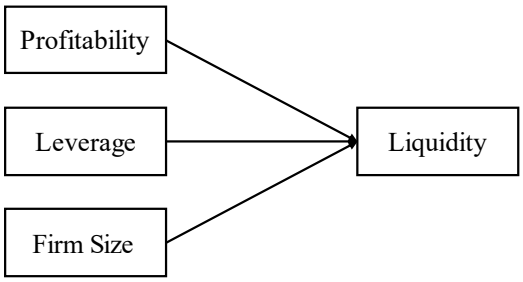

Figure 3. Research Model

RESULTS AND DISCUSSION

Descriptive Analysis

Table 2 illustrates the results of the average, minimum and maximum of each variable over the 6 years period from 2017 to 2022.

Table 2. Descriptive Analysis

	Profitability	Leverage	Firm Size	Liquidity
Average	0.0972	0.4186	17.4902	2.1395
Min	-0.0572	0.0608	15.7689	0.3356
Max	0.4666	0.7818	19.5239	5.6548

Source: Processed Data, 2024

Over the 6 years period from 2017 to 2022, LQ45 has an average profitability value of 0.0972 with minimum at -0.0572 and maximum at 0.4666. The average value for Leverage over the same period has a value of 0.4186 with a minimum at 0.0608 and maximum at 0.7818. Furthermore, Firm Size has an average value of

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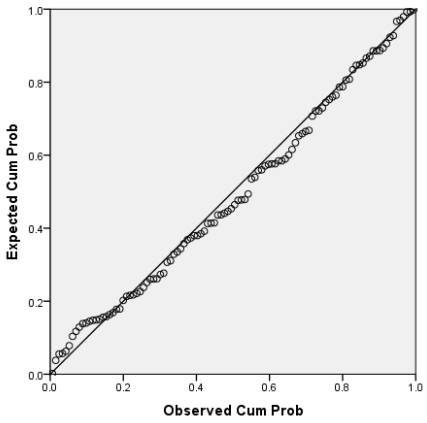
17.4902 with a minimum value of 15.7689 and a maximum at 19.5239. Finally, Liquidity has an average value of 2.1395 with a minimum value of 0.3356 and a maximum value of 5.6548.

Data Normality Test
The data normality test was done using P-P Plot in SPSS and 1 sample Kolmogorov-Smirnov test. Figure 4 shows the result of P-P Plot:



Source: Processed Data, 2024
Figure 4. P-P Plot

The P-P plot in Figure 4 shows that the point in the plot follows the diagonal lines, this indicates normal distribution of data. A further test using one sample Kolmogorov-Smirnov test gave asymptotic significance of 0.850, which is above the alpha of 5%, this confirms the normal distribution of the data.

Multicollinearity Test
Table 3 illustrates the results of the Multicollinearity test:

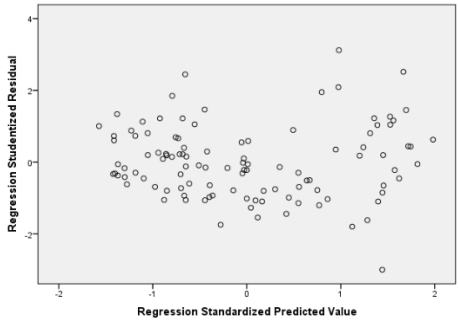
Table 3. VIF Results

Variable	VIF
Profitability	1.048
Leverage	1.094
Firm Size	1.144

Source: Processed Data, 2024

A good value for VIF according to Hair et al. (2019) is close to 3 or lower. The result gave values less than 3 for all variables, indicating that there are no collinearity issues with the variables.

Heteroskedasticity Test
Result for heteroskedasticity using scatterplot is shown in the Figure 5:



Source: Processed Data, 2024
Figure 5. Scatterplot

It can be seen from Figure 5 that the points are scattered without forming patterns, this indicates that there is no heteroskedasticity happening in the result of this research.

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Adjusted R^2

The result of the adjusted R^2 for the experiment is 0.712 or 71.2%, this indicates that the independent variables explain 71.2% of the dependent variable. The remaining 28.8% is explained by other factors not covered in this research.

Hypothesis Tests

The figure below illustrates the resulting coefficients and significance of the coefficients.

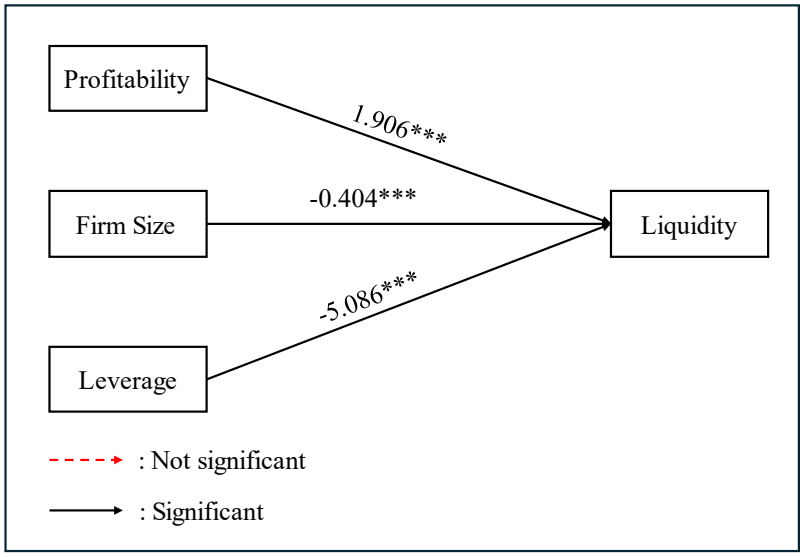

Figure 6. Results of Analysis

Discussion

Figure 6 shows the research model together with the coefficients and the significance level of the relationship between the independent variables and the dependent variable. The relationship between profitability and liquidity has a positive coefficient and it is significant. The positive relationship between leverage and profitability is in line with the hypothesis and with the pecking order theory, as companies become more profitable, it resulted in an increase of their liquidity. The increase in profitability indirectly decreases the need for funding through debt, therefore increasing the liquidity. This result is in line with the research done by Eljelly (2004).

Figure 6 also illustrates that firm size has a negative and significant relationship with liquidity. This is not in line with the explanations in the literature review that when the firm is larger, it will result in the ease of the firm getting fundings, increasing liquidity. As firm size becomes larger, the overhead costs increase, and in line with that, company may need to take up more debt, resulting in the decrease in liquidity. The result of this research is not in line with the research done by VU et al. (2020).

The result of the relationship between leverage on liquidity shows that there is a negative and significant relationship. The result indicates the indirect relation of the leverage and liquidity has to do with signaling and pecking order theory. With the decrease in the need for leverage, there is a lesser need for debt financing, therefore, there will be an increase in liquidity. This result is in line with the research done by Omoregie & Ige (2022).

CONCLUSION

The study's initial aims were to determine the effects of profitability, firm size and leverage on liquidity in 18 firms listed in LQ45. The result shows that both firm size and leverage have a negative and significant effect on liquidity. However, profitability has a positive and significant effect on liquidity of a firm. The result of profitability and leverage indirectly proves that the result has something to do with pecking order theory and signaling theory. The surprising result came from firm size on liquidity. The result in this research is negative, though intuitively, it should have been positive. There has been few research that linked profitability, firm size and leverage on liquidity. Further research needs to be conducted on a larger sample or a greater number of years to see the effect. The result will help managers to zoom in on profitability and leverage to increase liquidity.

Larger firms may face more challenges in maintaining liquidity, potentially due to more complex operations or higher fixed costs. Therefore, larger firms should implement robust liquidity management practices, such as better cash flow management, short-term investments, and leveraging economies of scale without sacrificing liquidity.

Negative relationship between leverage and liquidity highlights that increased leverage severely impacts liquidity. Companies should manage their debt levels carefully and avoid over-leveraging. Reducing reliance on

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debt financing, opting for equity financing, or negotiating better terms for debt repayment could improve liquidity positions.

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