The effect of leverage and liquidity on the value of the firm with age as a moderating variable on companies in Indonesia

Wastam Wahyu Hidayat*
Universitas Bhayangkara Jakarta Raya, Indonesia

Abstract
This study aimed to examine whether there is an effect of leverage and liquidity on the value of the firm with age as moderating variable in companies listed on the Indonesia Stock Exchange in 2019-2021. The sample in the study was 15 companies for 5 years. The data analysis used in this study was carried out quantitatively, with Statistical Product and Service Solutions-23. The results of this study prove that partially leverage has a negative and significant effect on the value of the firm, liquidity ratios have no impact on the value of the firm, age is proven to moderate the leverage ratio to the value of the firm, and age is not proven to mediate the liquidity ratio to the value of the firm. Based on the coefficient of determination that the leverage ratio and the liquidity ratio affect the value of the firm by 81.7%. For comparison, the remaining 18.3% is influenced by other models of variables from.

Keywords: leverage, liquidity, the value of the firm, firm age.

Introduction
In Indonesia, many companies are currently established. A company is a business entity whose activities are engaged in finance, it plays an important role in providing and distributing funds for the economic development of the community. As the Company's stock prices continuously increase tend to make investors believe that the Company is performing well and the Company is planning for operational activities in the present (Ambarwati, 2021). The value of the company or also called market value is the price that prospective buyers are willing to pay if the company is sold. The value of the company can be seen through the market value or the book value of the company's equity. The higher the market-to-book ratio, the better the investor's estimates of the company's book value. The market-to-book ratio is the ratio of the stock price in the company value or also called market value is the price that prospective buyers are willing to pay if the company is sold. The value of the company can be seen through the market value or the book value of the company's equity. The higher the market-to-book ratio, the better the investor's estimates of the company's book value. The market-to-book ratio is the ratio of the stock price in the market to the book value of the stock as described in the balance.
sheet. The more optimistic investors will concern more about the company's future growth, the higher the market-to-book ratio will be. This ratio is used to measure the relative value. Shares of companies with low market-to-book ratios are considered value stocks, while shares of companies with high ratios are considered growth stocks (Soleman et al., 2022). The increase of the company's value due to the high price of the share will make the market believe in the company's performance and the company's prospects in the future. The first factor that affects the value of the company is the leverage ratio. Leverage ratio is a tool used to measure the company's ability to pay its long-term, short-term, and all of the company's liabilities, using the company's assets as collateral. Leverage is the use of debt by the Company which is used to run its activities. The leverage ratio can demonstrate the capacity of a company to meet all financial needs of the company if the company is liquidated. The increase and decrease of debt levels will affect the market value. The increased excess debt will negatively impact the value of the company (Sutama & Lisa, 2018). According to Priyoko et al. (2019) an optimum leverage will be able to increase the value of the firm but overly high leverage may reduce the value of the company, because investors may assume that companies with high leverage are vulnerable to economic changes resulting in financial difficulties so that the impact on the value of the company decreases. According to Nugroho (2020); Utami and Wales (2019); Harfani and Nurdiansyah (2021), Damayanti and Damayanti (2022) stated that liquidity may affect the value of the company On the other hand, Ambarwati (2021) stated that partially, liquidity has no effect on the value of the company. The age of the company signifies the company's ability to continue to exist and be able to compete in the business world. If a company lasts longer than others, it may gain a lot of experience from inside and outside the company. Companies that have been established for a long time generally have more stable profit than companies that are newly established or those that still have a few years of service (Agustia & Suryani, 2018). Based on the background, the research objective is to examine the effect of the leverage ratio, liquidity on the value of the firm, and the effect of the leverage ratio on the value of the firm with age as a moderating variable and the effect of liquidity ratio on the value of the firm with age as a moderating variable in companies on the Indonesia Stock Exchange. Researchers are very interested in the object of banking sector because banking companies have different specifications from other industrial companies, namely collecting funds from the public in the form of deposits and channeling them back into the form of credit, therefore the researcher conducted an in-depth research on the influence of leverage and liquidity on the value the company, and closely examined how much strength the variable age of the company can affect leverage on the value of the company and also examined in depth how much the power of the variable age of the company can affect liquidity on the value of the firm. The problem in this study is to combine the variables of leverage and liquidity, to determine their effects on the value of the companies with the well-established company as the moderating variable in the companies listed on the Indonesia Stock Exchange. This research aimed to provide empirical evidence, enrich literacy, increase thinking skills, improve academic insight, and provide information to be used as input by banking companies in making decisions about the effect of its influence on the value of the firm.

Effect of Leverage Ratio on Value of the firm

Research results by Priyoko et al. (2019) shows that leverage has no significant effect on company value. This shows that a company that has a high
corporate value still maintains its leverage. Santosa (2020) states that leverage has a significant effect on value of the company. The results of research indicate that leverage has a significant and significant effect on value of the firm. According to Jihadi et al. (2021), leverage has a positive effect on value of the company because, the higher the leverage ratio, the higher value of the firm and leverage ratio is one of several financial measures that assess the ability of the company to meet its financial obligations, so a good leverage ratio will affect public trust in a company, so that increase the value of the firm. According to Cheng and Tzeng (2014), if the firm simultaneously considers the benefits and costs of debt, we find that leverage is positively related to firm value until the firm has incurred sufficient debt to achieve its objectives and optimal capital structure, so the company gets higher financial quality with greater growth opportunities.

H1: The leverage ratio affects the value of the firm.

**Effect of Liquidity Ratio on Value of the firm**

According to Reschiwati et al. (2020), liquidity has a positive and significant effect on value of the firm. Based on the signal theory, a company's ability to meet its short-term obligations will receive a positive response from the capital market because it is considered capable of maintaining company performance so that it can cause company value to increase. Based on the results of the study, Santosa (2020) revealed that liquidity has a positive relationship with value of the firm. Meanwhile, according to Jihadi et al. (2021), liquidity has a positive effect on value of the firm, meaning that the higher the liquidity ratio of a company, the higher the liquidity ratio liabilities borne by current assets, thereby increasing the public trust, this shows that there are a positive effect of liquidity on value of the firm.

H2: The liquidity ratio has a positive effect on the value of the firm.

**The Effect of Leverage Ratio on Value of the firm With Age Company As Moderating Variable**

According to Lambey et al. (2021), the age of the company no longer shows greater ability and experience in terms of management than the younger companies, investors in evaluating the value of the firm no longer see the age of the company as an important fundamental factor. This also shows that management capabilities, both relatively older and younger companies, have the same professional ability in increasing value of the firm. The age of the company is the period during which the company was founded until it could carry on its activities in the present. Companies that have been established for a long time can develop company innovation and creativity because of how long the company has mastered the business field obtained from the increasing age of the company so that the company can continue to have a good existence among investors, creditors, or the public. Research results conducted by (Tunggal & Ngatno, 2018) show a significant positive value meaning it can be assumed that firm age has a significant positive moderating effect between leverage and firm value, meaning that firm size strengthens the effect of leverage on firm value.

H3: The age of the Company can moderate the relationship between leverage ratio to value of the firm.

**The Effect of Liquidity Ratio on Firm Value Through Company Age As Moderating Variable**

Companies that have been established for a long time will have more experience in the business world than companies that newly established. From the company's experience, the company can continue to develop in various ways to allocate company funds properly and optimally. The better the company in allocates its funds will result in various positive impacts, one of which is the
company's liquidity ratio is getting better and optimal. According to Hendrick (2020), the current ratio has no effect on the value of the firm. The high current ratio is indeed good from the creditor's point of view, but from the perspective of shareholders it is less profitable because current assets are not optimized effectively. On the other hand, a low current ratio is relatively more risky, but indicates that management must operate current assets effectively. According to Hamdani (2020), his research shows that there is an insignificant effect between the age of the company on the value of the company. It can be interpreted that the age of the company variable is not affected, because even though the age of the company is the time owned by the company starting from establishment of the company, how long the company is able to survive. But the age of the company does not affect the value of the firm if it does not optimize the information that has been obtained from the community and optimize the use of the company's assets and does not have the ability to minimize costs and improve quality in production from experience so that the company will not be able to generate profits and increase value of the firm.

H4: The age company age can moderate the relationship between liquidity ratio to value of the firm.

Method

The research was carried out using quantitative methods. The secondary data used in this study were obtained from the websites of each company and the Indonesia Stock Exchange (IDX) website. The data sources used are annual reports and company financial statements. The research population will be carried out in banking companies that have been listed on the Indonesia Stock Exchange (IDX) from 2017 to 2021. This study is based solely on the data from 2017 to 2021. The data selection method purposive applied sampling which has several criteria (Table 1).

| No | Sample Selection Criteria                                                                 | Amount |
|----|---------------------------------------------------------------------------------------------|--------|
| 1  | Banking company listed on the Indonesia Stock Exchange from 2017 to 2021.                  | 57     |
| 2  | Banking companies that do not publish consecutive annual financial reports during the observation year 2017 to 2021. | (32)   |
| 3  | Companies that make no profits during the 2017 to 2021 research years.                     | (4)    |
| 4  | The financial statements are not presented in rupiah currency and all the data needed for this research is available in | (1)    |
| 5  | Banking sub-sector companies that do not have instruments in the form of shares.            | (5)    |

Number of Companies used as sample 15
Year of Observation 5
Number of Research Samples 75

Signal theory was developed in economics and finance to take into account the fact that company insiders generally have information that better and faster related to the latest conditions and company prospects, compared to outside investors. The emergence of asymmetrical information makes it difficult for investors to objectively assess the quality of the company.

Brigham and Houston (2011) stated that a signal is an action taken by the company’s management that provides investors with clues about how management views prospects company. This signal may be in the form of information about what has been done by management to fulfill the wishes of the owners (investors). Signal theory was introduced by Michael Spence in 1973, it can be defined as an action taken by the company to provide instructions for
potential investors about how the management condition in the company is (Putri & Rachmawati, 2017). The value of the firm becomes an important aspect for companies in designing various strategies to maintain its sustainability and prepare themselves to fairly compete in the business environment to seize market opportunities (Nainggolan et al., 2022). A leverage ratio is a measuring tool used by the company to measure the extent to which the company's assets are financed by debt. If the manager can manage the leverage ratio properly, it will positively impact the value of the company and also provide a positive signal to investors, so that investors are interested in investing in the company. The longer the company can operate its business illustrates that the company has a lot of experience and shows that the company can still compete in today's business competition, besides that company that has been operation for a long time are considered to have stable profits compared to companies that have just been established, this makes a good signal for the investors as well as providing a material for investors to consider investing in the company.

Financial Statement Analysis

Financial statement analysis is an analytical activity aimed at understanding the contents of financial statements. Financial ratios are activities used to compare the numbers in the financial statements. Comparisons can be made between one component with the other components in the same financial report or between components that exist between two or more financial statements, and the numbers compared can be in the form of numbers in one accounting period or several accounting periods (Kashmir, 2017). Measure the analysis of the Company's financial statements using financial ratios, it can be done with several ratios such as liquidity ratios, leverage ratios, activity ratios, profitability ratios, gross profit analysis, break-even points, and other ratios.

Leverage

A leverage ratio is a tool used to measure the amount of debt owned by the company meaning how much debt the company bears compared to its assets. In a broad sense, the leverage ratio is used as a measure of the company's ability to pay all of its obligations if the company is dissolved or liquidated (Kashmir, 2017). The leverage ratio can provide a measure of the funds provided by the company itself compared to the finances obtained from creditors (Hidayat, 2018). Leverage is the level of the company's ability to use assets to increase the return of shareholders' profits in both short and long term. The excessive use of debt can endanger the company because the company is included in the category of extreme leverage, which is a situation where the company is trapped in high debt and is difficult to escape from the debt (Soleman et al., 2022). The following is the formula to calculate the debt to asset ratio.

\[
\text{Debt to Asset Ratio} = \frac{\text{Debt}}{\text{Assets}}
\]

Liquidity

Liquidity is a ratio that describes the company’s ability to meet short-term obligations, which means that if the company is billed, it will fulfill its obligations, especially debt that has matured, that the liquidity ratio is a ratio used to measure how liquid a company is (Soleman et al., 2022). The high level of liquidity indicates that the company's current assets are greater than the its current liabilities. It can reduce the high debt and interest expenses that must be paid to increase the profitability of the Company (Nugroho, 2020). Current ratio formula:

\[
\text{Current ratio} = \frac{\text{Current Asset}}{\text{Current Liability}}
\]
Age Company

The age of the company is the time between its establishment and its ability to continue to operate in the present or indefinitely (Agustia & Suryani, 2018). Age of the Company describes the company's ability to overcome various difficulties and obstacles that may threaten the its operations. The age of the company can reflect that the company can take the opportunities that exist within the company in developing its business (Septiana & Gustyana, 2021). To find out how long the company has been established, it can be measured using calculations since the company was established according to the deed up to the year of the financial statements (annual report), which can be researched using the following formula (Agustia & Suryani, 2018).

\[
AGE = \text{The year the annual report was researched} - \text{The year the company was founded}
\]

The stock market price shows the central assessment of all market participants, a barometer of the company's management performance can be assessed from the stock market price (Soleman et al., 2022). The formula for price-to-book value (PBV) is as follows:

\[
PBV = \frac{\text{Share price per share}}{\text{Book Value per Share}}
\]

The value of the firm

The value of the firm describes the condition of the company, which is very important for shareholders. The higher the value of the company, the higher the prosperity of shareholders and the price of the firm. For companies listed on the Indonesia Stock Exchange, the prosperity of shareholders can be seen from the price of the company's share which is a reflection of investment decisions, funding decisions, and dividend policies made by the company. In measuring the value of the company, several types of ratios can be used, in this study, the ratio used is price-to-book Value (PBV). Price-to-book Value (PBV) is the comparison between the share price and the book value of the company where the book value of the company is the comparison between the total equity of the company's shares with the number of shares outstanding (Soleman et al., 2022). A high price-to-book value (PBV) reflects a high share price compared to the book value per share, thus creating good corporate value.

Result

Based on Table 2, it can be seen that the object under study (N) was 75 samples. The debt to asset ratio has a minimum value of 0.137, a maximum value of 1.024, a mean value of 0.790, and a standard deviation of 0.178. The average value with a deviation value is very far so the debt to asset ratio data is relatively large. The diversity and the mean value show 0.79 in this ratio, it is still quite healthy and good because the total assets are greater than the total debt. The company with the highest leverage ratio of 1.024 was recorded by Bank Woori, and the lowest leverage ratio of 0.137 was recorded by Bank BTPN Syariah Tbk. in the year of 2021.

Table 2. Descriptive Statistics

|          | Mean | Min | Max | Std. Dev |
|----------|------|-----|-----|----------|
| DAR      | 0.137| 1.024| 0.790| 0.1783   |
| CR       | 1.010| 8.262| 1.689| 1.610    |
| AGE      | 21   | 126 | 65.80| 27       |
| VALUE    | 0.190| 6.070| 1.657| 1.441    |
| FIRM     |      |     |     |          |

N = 75

Source: Data processed, 2022

The current ratio has a minimum value of 1.010, a maximum value of 8.262, a mean value of 1.689, and a standard deviation of 1.610. The standard deviation value is closer to the mean value. It means that the current ratio data has a very small diversity, and the mean value is 1.689, indicating the ratio is quite small and good because the total assets are greater than the current assets.
than the total current liabilities. The company with the highest liquidity ratio of 8,262 is recorded by Bank BTPN Syariah Tbk. in 2021. Meanwhile, the company with the lowest liquidity ratio of 1,010 was Permata Bank in 2019. Price-to-book value has a minimum value of 0.190, a maximum value of 6.070, a mean value of 1.657, and a standard deviation of 1.441. It is known that the standard deviation value is closer to the mean value, this means that the price-to-book value has very small data diversity, and the mean value indicates a good and healthy condition because the market price value is greater than the book value. The highest company of 6,070 was recorded by Bank BTPN Syariah Tbk. in 2019. Meanwhile, the Company with the lowest Company value of 0.190 was recorded by Bank UOB Indonesia Tbk. in the year 2021.

The company age has a minimum value of 21, a maximum value of 126, a mean value of 65.80, and a standard deviation of 27.412. The standard deviation value is smaller than the mean value, which means that the stated data is further away from the mean value. relatively large diversity. The mean value of the age of the company shows that the banking company is quite old and good. The highest company age of 126 was recorded by Bank Rakyat Indonesia Tbk. per 2021. Meanwhile, the company with the lowest age of 21 was recorded by Bank Mandiri Tbk. per 2019.

Normality test

The normality test aimed to test whether in the regression model the dependent variable and the independent variable have a normal distribution or not. The normality test in this study was using the Kolmogorov-Smirnov (K-S) non-parametric statistical test, said to be normally distributed if the significance value is greater than 0.05. normality test results in this study are normal distribution. Based on the results of the calculation in table 3 shows that the total data after outliers are made to 30 data or samples and the Asymp value. Sig > 0.05 (0.200 > 0.05), it shows that the residual data is normally distributed and it can be concluded that the regression model can meet the requirements of the classical assumption of normality and which means that the data is suitable for use in this study and this research can be continued.

Multicollinearity Test

Based on table 3, the value of VIF for the three independent variables is < 10 and the tolerance value is > 0.01, which can be said that the three independent variables are free from the multicollinearity test and it can be concluded that there is no correlation between the independent variables.

Autocorrelation Test

Based on table 3 Classical Assumption Test shows that the results of the autocorrelation of Durbin Waston's value are 2,076. Based on the Durbin Waston table with a significance value of 5%, the dL value is 1.2138 and the dU value is 1.6498. Based on the decision-making criteria that the value is 1.6498 <

| Source: Data processed, 2022 |

Table 3. Classical Assumption Test

| Multicollinearities | Heteroskedasticities | Normalities | Autocorrelation |
|---------------------|----------------------|-------------|-----------------|
| Tolerance | VIF     | Sig. | Test Statistic | Sig. | Durbin Watson |
| Constanta | 0.343     | 0.084 | 0.200       | 2.076 |
| DAR     | 0.103 | 9.667 | 0.620    |      |
| CR      | 0.112 | 8.902 | 0.421    |      |
| AGE     | 0.786 | 1.272 | 0.944    |      |
2.076 < (4 – 1.6498 = 2.3502), it can be concluded that there is no autocorrelation.

**Heteroscedasticity Test**

Based on table 3 shows that the results of the heteroscedasticity test of all variables have a sig value greater than 0.05. Therefore, it can be said that the regression model is not constrained by heteroscedasticity. With the fulfillment of the classical assumption test as described above, multiple regression analysis is can be used in the research model because the requirements have been met.

**Hypothesis Test**

Based on the results of the t-test (table 4), the leverage ratio regression model obtained a significance value of 0.021, which means it is smaller than 0.05, so it can be interpreted as leverage on the value of the firm (H1 received). The liquidity ratio regression model obtained a significant value of 0.963, which means it is greater than 0.05 (H2 rejected). Based on the results of table 4 research, which was carried out using moderating analysis, it shows the relationship between the influence of the liquidity ratio on the value of the firm with a significance value of 0.768, which means it is greater than 0.05 (H4 rejected).

**Discussions**

The effect of leverage on the value of the company.

The results of this study are in line with research conducted by Kolamban et al. (2020) which stated that the leverage ratio has a negative and significant effect on the value of the firm. This is because the higher the use of debt will result in an increase in the company's total burden and the risk that must be borne by the company will also increase. In other words, if the leverage ratio increases, the value of the firm will decrease. Negative leverage is caused by the average value of leverage every year is quite high and experiences ups and downs. It shows that the company still relies heavily on debt composition rather than money, and as a result, the value of the firm decreases. The leverage ratio is the company's ability to measure the amount of debt used by the company to finance its business activities when compared to using its capital. The company's debt level can also show whether the company's finances are healthy or not, where excessive debt will
cause financial distress problems. However, companies with high debt will also be able to increase the value of the firm because the company will be able to reduce the company's tax payments and the company cost of capital is also getting lower (Putra et al., 2017). Proportionally and well controlled use of debt can potentially increase the value of the firm to attract investors to invest their capital. This is in line with the signal theory, which states that if the company can manage the leverage ratio well, it will have a positive impact on the value of the firm and will become a signal for investors so that investors are interested to invest in the company.

Effect of Liquidity on the Value of the Firm

The results of this study are in line with research conducted by Soleman et al. (2022) and Oktrima (2017) stated that the liquidity ratio does not affect the value of the firm. It shows that a high or low liquidity ratio cannot indicate that the company has a good corporate value. A liquidity ratio is a tool used to measure the company's ability to meet its short-term debts that have matured. According to Chasanah (2018) the results of their research show that liquidity does not affect the value of the company, because investors, while investing, do not pay attention to the liquidity factor which is proxied by the current ratio owned by the company. A company's liquidity only shows the company's ability to meet its short-term obligations so that liquidity does not affect the growth of company value. The investors are less interested in the liquidity ratio because they concern the internal condition of a company in fulfilling its short-term obligations, but investors pay more attention to the long-term ratio which has more value on the return of their investment. In addition, an investor does not care about the size of the current ratio, because the focus of investors is on the company's ability to generate profits. As it is known, the value of the company is not based on the company's ability to pay off its debts but on the company's ability to manage assets, own capital, and sales to generate profits that reflect the company's value as measured by its share price.

Effect of Leverage on the Value of the Firm, Age as Moderation Moderate

The results of this study indicate that there is a moderating effect of the company's age on the relationship between leverage ratios and the value of the firm. This shows that the age of the company gets a good response in the company and has a good influence to attract investors. Company’s age is the length of time the company can survive, be competitive, and take business opportunities that exist in the economy. The longer the company established, the more investors will believe in the company and attract investors to invest their capital. Older companies have extensive information and a lot of experience in running their business and are also good at managing the company's finances based on the business experience that has been passed so that the company can still compete with companies that are still young. Older companies have a lot of experience better understand what information should be disclosed in the annual report so that the company discloses information that has a positive impact on the company. This is in line with the signal theory which states that the older age of the company illustrates that the company has a lot of experience in the company's operations and shows that the company can still compete in today's business competition, this is a positive signal for investors to invest their capital.

Effect of Liquidity Ratio with the Value of the Firm, Age as Moderating

The result of this study stated that it could not moderate the age of the company on the relationship between the liquidity ratio and the value of the firm.
This shows that the longer the company has been established, it is not necessarily the case that the company can continue to exist, its existence and excellence are recognized by the community. This is because the older the company is established, the better profits will be because a company will rise and fall on the income generated every year, which is caused by a decrease in creativity and innovation in developing a business. Then it will experience a decline in terms of the company’s performance to the income in running its business. So that the old company will lose its potential and existence in the community or investors.

Based on table 4 the coefficient of determination shown in the Adjusted R square column is 0.817, shows that the leverage ratio and liquidity ratio affect the value of the company by 81.7% while the remaining 18.3% is influenced by variables from other models. According to Pambudi et al. (2022), company’s age does not moderate the effect of liquidity on value of the firm. This is because, investors evaluate the company is not limited to how the company pays short-term debt and how long the company has been in existence but sees the ability to generate profits, plus high liquidity does not necessarily increase the value of the company, because there are idle assets that are not used by the company to run activities to generate profits for the company.

Conclusion

Based on the results of the analysis described in the previous chapters, it can be concluded as follows: leverage has a negative and significant effect on the value of the firm, liquidity has no effect on the value of the firm, and age can moderate the leverage ratio to the value of the firm and age cannot moderate the ratio liquidity on the value of the firm in the companies listed on the Indonesia Stock Exchange. Theoretically, the results of the research are expected to add references to leverage, liquidity, and company age, especially to increase company value, especially in the banking sector. Whereas practically for banking companies, it can be used as a consideration in managing funds from third parties and for academics to better understand the causes of public interest in using bank loans. The limitations of this study are found in the sample of banking companies that use 15 companies listed on the Indonesia Stock Exchange (IDX) from 2017 to 2021. Further research is suggested to able to increase the research period and expand the sample selection method to increase the data used in the study. In addition, variables related to banking performance may be added.

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