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SHARIA STOCK INDEX AND POST COVID-19 PANDEMIC: WHAT DOES THE CAPM MODEL TELL US?

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Abstract: The aftermath of COVID-19 pandemic has had a major impact on the economic sector, especially the capital market. However, the process of economic recovery took place quite quickly, entering 2021. This study aims to investigate the performance of the Jakarta Islamic Index (JII) stock index, which has not recovered throughout 2021. This research is quantitative descriptive with a sample of 30 stocks listed on the JII index. The analysis technique uses the CAPM model to evaluate and classify stocks on the JII index. The study results show that Islamic stocks listed on the JII index have a negative expected performance throughout 2021. This finding makes the JII index stocks are not recommended as a stock portfolio. The CAPM model also identifies 20 JII index stocks as efficient short-term investments during economic recovery. Furthermore, Islamic stocks tend to be riskier during the economic recovery period after the COVID-19 pandemic.

Keywords: sharia stocks, economic recovery, CAPM, JII index

Abstrak: *Dampak pandemi covid berpengaruh besar pada sektor ekonomi khususnya pasar modal. Namun, proses pemulihan ekonomi berlangsung cukup cepat memasuki tahun 2021. Studi ini bertujuan untuk menginvestigasi kinerja indeks saham Jakarta Islamic Index (JII) yang belum pulih sepanjang tahun 2021. Penelitian ini bersifat deskriptif kuantitatif dengan sampel 30 saham yang terdaftar pada indeks JII. Teknik analisis menggunakan model CAPM untuk mengevaluasi dan mengklasifikasikan saham-saham pada indeks JII. Hasil penelitian menunjukkan bahwa saham-saham syariah yang terdaftar di indeks JII memiliki kinerja ekspektasian negatif sepanjang tahun 2021. Temuan ini membuat saham-saham indeks JII tidak cocok dijadikan portofolio saham. Model CAPM juga mengidentifikasikan bahwa 20 saham indeks JII sebagai saham efisien sehingga dapat menjadi pilihan investasi jangka pendek selama periode pemulihan ekonomi. Lebih lanjut lagi, saham syariah cenderung lebih berisiko di masa pemulihan ekonomi pasca pandemi COVID-19.*

Kata kunci: *saham syariah, pemulihan ekonomi, CAPM, indeks JII*

INTRODUCTION

COVID-19 pandemic had a major impact on Indonesian economy, specifically on the capital market sector. During 2020, the Jakarta Composite Index (JCI) experienced a deep correction to the point of 4,200. However, entering 2021, the JCI value showed signs of economic recovery by returning to the point of 6,000. This was also supported by positive economic growth throughout 2021. The improved handling of the COVID-19 crisis and the free vaccination program for the public are a good signal for investors to return to invest in Indonesia.

Throughout 2021, the JCI increased by 10.08% year to date (highest at 4.7% per day on October 1, 2021). The higher return was due to the increase in aggregate shares on the Indonesia Stock Exchange (IDX). However, the Jakarta Islamic Index (JII index), one of the IDX indices, experienced a downward trend throughout 2021. The JII index indicated a recovery in early 2021 in line with the JCI. Still, throughout the year until the fourth quarter, the JII index fell to 10.85%, which is inversely proportional to the JCI index. This anomaly of the JII index shows a difference in return expectations for sharia stocks and deserves to be investigated further.

When we invest, return and risk are the two main objects that are considered by investors (Irfan, 2020). The relationship between the two is linear. The higher the risk, the higher the expected return. On the other hand, investors tend to get low expected returns on instruments with low risk (Jogiyanto, 2017). In the scope of investment, the expected return is different from the realized return. Portfolio theory usually makes expected returns as input and output models. The perfect model is a model that produces the same value between realized returns and expected returns.

Rationally, the recovery period is expected to give the higher returns. Various methods can define the determination of expected return. One of them is the Capital Asset Pricing Model (CAPM). The CAPM model measures expected returns based on a linear relationship between systematic risk and expected return{Citation}. All risky assets are on the market portfolio line in the CAPM concept because all investors own the portfolio. One of the CAPM model's main features is that each risky asset will be valued based on a beta metric called beta (β). Beta is a coefficient attached to a specific risky asset that shows the size of the variance of the relationship between the returns and risks of that asset and the returns and risks of the market portfolio. The use of CAPM to measure risk-based expected return has more accurate results than other models (Dotulong et al., 2020)

When linked to the previous statement, the perfect model is a model that produces the same value between realized returns and expected returns. In the CAPM model, investment returns are classified into two factors: unique returns (α) and returns on market beta returns (β . Rm). Unique returns are specific returns on micro-events that affect only certain companies, such as rights issues, mergers, fires, and others. Meanwhile, the return on market beta returns is the sensitivity of a security's return to market returns (Jogiyanto, 2017). However, calculating the expected returns from the CAPM model involves the residual error factor (ε) in calculating the actual realized returns value. The greater the residual error, the wider the difference between the return calculation based on the CAPM model and the realized returns.

Research using the CAPM model is generally used to determine efficient stocks in an index and a certain period range. Jumarni, (2019) researched the LQ-45 index for 5 years. The results showed that 34 out of 68 stocks were categorized as efficient stocks. Investors can form a portfolio based on these 34 efficient stocks. The use of CAPM can provide optimal portfolio returns with minimal risk. Kristina, (2018) found that 11 out of 30 stocks are efficient securities in food sector companies. The CAPM model is a more empirically accurate model in predicting returns and explaining phenomena (Dotulong et al., 2020; Indra, 2018; Muhammad & Maulana, 2020)

This research will provide at least two contributions. First, this study can describe the contradictory performance of the JII index against the main index of the JCI. Second, this research can be empirical evidence of using the CAPM model during the economic recovery period after the COVID-19 pandemic. The findings of this study will assist investors in making investment decisions.

Finally, this article is written based on the following structure. Section 2 will present sample and population data, research indicators, and research methods to interpret CAPM calculation to JII stocks during the economic recovery period. Section 3 describes the findings and results for answering the research question. The last section, section 4, presents the conclusions of this study.

LITERATURE REVIEW

CAPM Model

The Capital Asset Pricing Model (CAPM) is a model developed by Sharpe (1964) that describes the relationship between expected returns and risk for assets, such as stocks. The model suggests that the expected return of an asset can be determined by considering two factors: the asset's risk-free rate of return and its beta, which measures the asset's volatility relative to the overall market. The capital asset pricing model (CAPM) is based on the portfolio theory developed by Markowitz (1959).

The Capital Asset Pricing Model (CAPM) is based on the idea that the expected return of an investment is equal to the risk-free rate of return plus a premium based on the volatility (risk) of the investment. The CAPM is often used to price assets and to evaluate the performance of investment portfolios. One of the key assumptions of the CAPM is that investors are risk-averse, meaning that they prefer investments with lower levels of risk. This assumption is based on the idea that investors are willing to accept a lower return on an investment in order to avoid the uncertainty of higher-risk investments.

The Capital Asset Pricing Model (CAPM) is based on several key assumptions (Jogiyanto, 2017), including:

1. Investors are rational and seek to maximize their expected returns while minimizing their risk.
2. Investors have access to the same information and have the same expectations about future returns.
3. All investors can borrow and lend at the same risk-free rate.
4. Markets are efficient and all assets are priced correctly.

5. Trading is costless and there are no taxes or transaction costs.

Al-Afeef, (2017) studied the ability of CAPM model on Amazon Company listed in S&P 500. The study found statistically significant impact of beta stocks on the US stock market return. Investors can apply CAPM model to assess their decision to build efficient portfolio. Pacho, (2014) with his literature review's study also support the use of CAPM and recommend to use CAPM as management toolkit to project profitability.

Overall, the literature survey suggests that the CAPM remains a widely used and important model in finance, but that there are ongoing debates about its assumptions and accuracy. It is important for investors and analysts to be aware of the limitations of the model and to consider other approaches to asset pricing and portfolio management.

JII Index

The Jakarta Islamic Index (JII) is a stock market index that tracks the performance of Shariah-compliant stocks listed on the Indonesia Stock Exchange (IDX). The JII is designed to provide investors with a benchmark for evaluating the performance of Shariah-compliant stocks and to encourage the development of the Islamic finance industry in Indonesia.

The index includes companies that have been screened and selected by a Shariah Supervisory Board to ensure compliance with Islamic principles, such as the prohibition of interest-based activities and the promotion of ethical and socially responsible business practices. The JII is calculated using a modified market capitalization-weighted method, with a base value of 100 as of December 31, 2000.

The JII is considered one of the leading Islamic indices in Southeast Asia, and is widely used by investors and market participants as a benchmark for the performance of Shariah-compliant stocks in Indonesia. The index is reviewed and rebalanced on a semi-annual basis to ensure that it continues to accurately reflect the performance of the Shariah-compliant stock market in Indonesia. In addition to providing investors with a benchmark for evaluating the performance of Shariah-compliant stocks, the JII also serves as a tool for promoting the development of the Islamic finance industry in Indonesia and increasing awareness of Islamic finance among investors and market participants.

RESEARCH METHODOLOGY

This research is a quantitative descriptive study. The objective of this study is to describe the phenomenon of the decline in the JII index which is contradictory to the main index of the JCI using the CAPM model.

This research objective is stocks listed on the JII index in 2021. Based on the IDX publication in December 2020, 30 stocks are included in the JII index. The data source of this research comes from stock price data and index value from Google Finance. The time period used is exchange days throughout 2021, of which there are 244 trading days. Individual stock returns and market returns are calculated on a daily basis. The market return used is the JII index market return. Determination of the beta of each stock is calculated manually. The following is the calculation flow for the CAPM model in this study:

a. Collecting stock data listed on the JII index during 2021. The stock data collected is the closing price of shares.
b. Calculating individual stock returns based on daily historical returns with the following formula:

$$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$$

c. Calculating market return to JII index with the following formula:

$$R_m = \frac{JII_t - JII_{t-1}}{JII_{t-1}}$$

d. Calculating the beta of individual stocks with the following formula:

$$\beta = \sum_{t-1}^{N} \frac{(R_i - \overline{R_\iota})(R_m - \overline{R_m})}{(R_m - \overline{R_m})}$$

e. Calculating risk free return (R_f) using the average rate of return for government sukuk of the Republic of Indonesia throughout 2021.
f. Calculating the expected return with the following formula:

$$E(R_i) = R_f + \beta_i[E(R_m) - R_f]$$

Expected return will be calculated using the result of beta from market return JII.

The assessment of efficient or inefficient stocks will be based on comparing the realized returns throughout 2021 and the expected returns generated from the CAPM model. If the expected return of the CAPM model is lower than the realized return of the stock, the stock is categorized as efficient.

RESULT AND DISCUSSION

The JII index consists of 30 of the most liquid sharia stocks in a certain period. Based on data sources for 30 daily closing prices on 244 trading days, the average daily return is -0.03% with a standard deviation of 0.11%. A negative return value indicates the realized return obtained on each JII index is -0.03% for each day. A standard deviation value greater than the average indicates a wide and varied distribution of daily return data. MDKA shares have the largest average daily return of 0.22% (per day) while UNVR shares have the smallest average return with a negative return of -0.22% (per day).

There are 20 stocks with an average negative return of 30 stocks listed on the JII index. This is in line with the negative index trend originating from index members. The following provides descriptive statistics for the daily average return variable.

Table 1. Descriptive Statistics of the Individual Stocks Return

N	30
Mean	-0,03%
Maximum	0,22%
Minimum	-0,22%
Standard Deviation	0,11%
Negative Return	20 stocks
Positive Return	10 stocks

Market return is the rate of return based on a particular stock index. The object of this research uses the Jakarta Islamic Index (JII) to measure the market return. Market returns using the average daily method. From 244 trading days, the JII index movement showed an average of -0.05%. A negative value indicates a cumulative downward trend. This value also indicates a difference with the JCI index, which produces an average daily return of +0.03% in the same period. The difference in returns between these indices directly indicates the pace of sectoral recovery. JII shares have a slower rate of return than other indices. It can be seen in table 2 that the JII index has the lowest average daily return compared to other IDX indices.

Table 2. Comparison of Selected IDX Market Return

Indices	Daily Avg. Return
IHSG	0,03%
ISSI	0,02%
LQ45	-0,01%
IDX30	-0,01%
KOMPAS100	-0,02%
IDX80	-0,02%
JII	-0,03%

Source: Based on the author's calculation on google finance stock data

The risk-free return (Rf) is calculated using the applicable risk-free investment return in the same period. The shares' object is sharia shares, so the relevant investment instrument for comparison is the state sukuk instrument. In the 2021 period, there are two retail sukuk in circulation whose the state guarantees return and principal 100% to meet the requirements of a risk-free investment instrument. SR014 and SR015 are circulating throughout 2021 with a respective return of 5.47% and 5.10%, then the Rf value used in this study is 5.28% or equivalent to 0.014% per day.

Beta value can be estimated by collecting the historical return value of a security with market returns in a certain period. This study uses a period of 1 year with 244 trading days. The resulting beta values for the research object can be seen in table 3 below.

Table 3. Individual Beta Stocks Value

No.	Stock ID	Beta		No.	Stock ID	Beta		No.	Stock ID	Beta
1	IDX:ADRO	1.158		11	IDX:INKP	1.681		21	IDX:PTPP	1.406
2	IDX:AKRA	0.840		12	IDX:INTP	0.925		22	IDX:PWON	1.022
3	IDX:ANTM	1.824		13	IDX:JPFA	0.889		23	IDX:SCMA	0.809
4	IDX:BRPT	1.565		14	IDX:KAEF	0.838		24	IDX:SMGR	1.143
5	IDX:BTPS	0.987		15	IDX:KLBF	0.534		25	IDX:TKIM	1.783
6	IDX:CPIN	0.900		16	IDX:MDKA	1.155		26	IDX:TLKM	1.041
7	IDX:EXCL	0.952		17	IDX:MIKA	0.343		27	IDX:TPIA	0.808
8	IDX:ICBP	0.572		18	IDX:MNCN	0.918		28	IDX:UNTR	0.982
9	IDX:INCO	1.380		19	IDX:PGAS	1.337		29	IDX:UNVR	0.746
10	IDX:INDF	0.668		20	IDX:PTBA	1.031		30	IDX:WIKA	1.353

The average beta value is 1.05, so in general 30 stocks have a market beta that is not too different from the movement of the market index. ANTM shares obtained the highest beta with a value of 1.824, and the lowest beta by MIKA shares with a value of 0.343. A beta value

greater than 1 indicates the stock has a higher risk and tends to fluctuate. (Jumarni, 2019) stated that the smaller the beta value, the smaller the risk of the stock.

Expected Return Calculation

The expected return can be calculated in the CAPM model by combining risk-free returns, beta, and market returns. The expected return of each security can be estimated based on the securities market line (SML). The securities market line shows the trade-off between risk and expected return for individual securities (Jogiyanto, 2017). Figure 1 shows the expected return data based on the JII index CAPM model in 2021.

Based on Figure 1, the market line shows a negative gradient. The highest return point is at a value of 0.014% per day which is a risk-free return value. Investors who invest in the JII index stock portfolio will gain relative daily losses. Based on the CAPM model, the expected return on investment in the JII index is not commensurate with the risk accepted. Investors are better off investing in risk-free products that produce a higher average daily return in this condition.

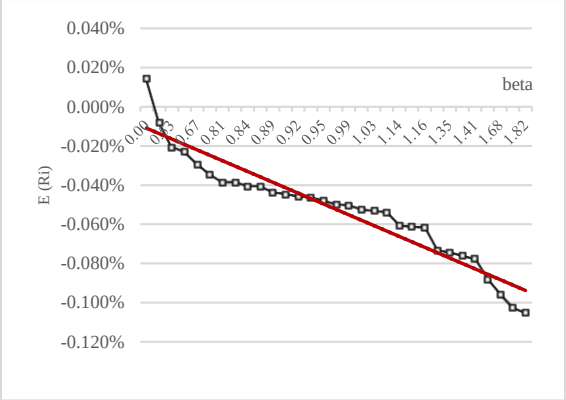

Figure 1. Security Market Line
Source: Based on author's calculation

An interesting finding from this study is that during the recovery period, the JII stock index could not provide the expected return expected by investors. The JII index needs more time to recover. JII shares are difficult to recover because economic recovery usually begins with the improvement of the financial sector first. The JII index does not own any financial stocks. Whereas in the revival of the JCI in 2021, five of the ten stocks with the largest market capitalization were filled by bank stocks. The difficulty of JII stock recovery during 2021 was also due to the deep decline in the 2020 pandemic period. The JII index eroded by -7.85% compared to the JCI which was 'only' -5.09%.

Priyono, (2021) found that daily confirmed cases of COVID-19 had a significant negative effect on sharia stock prices. If seen in Figure 2, it can be seen that 2021 is the highest peak of daily cases. In addition, according to the findings of Saleem et al., (2021), Islamic stocks tend to experience volatility (risky) for a more extended period even during the post-COVID-19 pandemic.

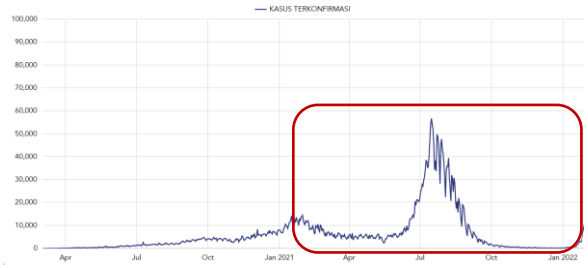

Figure 2. Daily Confirmed Cases Graph

Source: https://covid19.go.id accessed in January 28, 2022

Efficient Stock Grouping

Although based on the CAPM model, the stocks on the JII index have negative expected returns, since in fact there are 10 stocks that produce positive daily realized returns. According to Jumarni, (2019), Hasan et al., (2019), and (Ferrari, 2018), efficient stocks can be identified in the CAPM model by comparing realized returns in the same period with the results of calculating expected returns on the CAPM model. In this study, the comparison resulted in 20 stocks with higher realized returns. Table 4 contains the classification of efficient securities based on the CAPM model.

Table 4. Efficient and Inefficient Stocks List

No.	Stock	Ri	E(Ri)	Desc.
1	ADRO	0.21%	-0.06%	Eff.
2	AKRA	0.12%	-0.04%	Eff.
3	ANTM	0.07%	-0.11%	Eff.
4	BRPT	-0.06%	-0.09%	Eff.
5	BTPS	0.01%	-0.05%	Eff.
6	CPIN	-0.01%	-0.04%	Eff.
7	EXCL	0.07%	-0.05%	Eff.
8	ICBP	-0.03%	-0.02%	Inef.
9	INCO	-0.03%	-0.08%	Eff.
10	INDF	-0.02%	-0.03%	Eff.
11	INKP	-0.08%	-0.10%	Eff.
12	INTP	-0.05%	-0.05%	Eff.
13	JPFA	0.10%	-0.04%	Eff.
14	KAEF	-0.15%	-0.04%	Inef.
15	KLBF	0.06%	-0.02%	Eff.
16	MDKA	0.22%	-0.06%	Eff.
17	MIKA	-0.06%	-0.01%	Inef.
18	MNCN	-0.08%	-0.05%	Inef.
19	PGAS	-0.01%	-0.07%	Eff.
20	PTBA	0.01%	-0.05%	Eff.
21	PTPP	-0.21%	-0.08%	Inef.
22	PWON	-0.02%	-0.05%	Eff.
23	SCMA	-0.10%	-0.04%	Inef.
24	SMGR	-0.19%	-0.06%	Inef.
25	TKIM	-0.08%	-0.10%	Eff.

26	TLKM	0.08%	-0.05%	Eff.
27	TPIA	-0.07%	-0.04%	Inef.
28	UNTR	-0.05%	-0.05%	Eff.
29	UNVR	-0.22%	-0.03%	Inef.
30	WIKA	-0.20%	-0.07%	Inef.

The CAPM model tends to produce negative returns on the object of this research because it has a risk-free input return that has a contrast difference with negative market returns. So, JII index stocks can still be an investment choice for short-term trading even in a downward trend. Efficient stocks tend to be chosen to reduce risk. However, based on the explanation of the findings of this previous study, it is highly discouraged to form a portfolio based on the stocks listed on the JII index as long as COVID-19 cases have not decreased.

CONCLUSION

This study aims to provide empirical evidence related to the contradictory performance of Islamic stocks during the economic recovery post-pandemic period. By using shares listed on the JII index, there are 30 shares traded during 244 exchange days. To obtain an empirical explanation, this study uses the CAPM model to analyze the phenomenon of Islamic stock price trends in the post-pandemic period.

Based on the results of calculations and simulations of the CAPM model, there is a linear relationship between the beta value and the expected rate of return. The resulting linear relationship is negative, meaning that the higher the beta, the smaller the expected return. The CAPM model can also help determine efficient stocks. Of the 30 stocks that become the model input, 20 stocks are categorized as efficient. Using the CAPM method, efficient stocks can be used as short-term investment options because they still offer a higher return than the expected return.

Based on the results of this research we can recommend a valuable consideration for investors. The CAPM model indicates that JII index stocks are not recommended to be used as stock portfolio in the short-term (1-2 years) post-pandemic recovery period. JII shares, all of the sharia category, will take longer to recover. For JII stock member, all companies must take a

For further research, it can proceed the objectives of this research for a more extended period. This research also has implications for investors and regulators. Regulators need to provide more signals that contain confidence in the economic recovery, especially in Islamic stocks. Second, investors need to be more concerned and careful in forming a healthy portfolio in the face of post-pandemic uncertainty.

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IMPLEMENTATION OF INTEGRATED REPORTING ON MARKET PERFORMANCE OF SOE COMPANIES IN INDONESIA

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Abstract: This study aims to examine the implementation of IR elements which are still voluntary on market performance as measured using the Price earning ratio and stock prices. The sample used in this research is 20 state-owned companies which issue annual reports from 2018 to 2020. This study uses a multiple regression analysis tool by testing two research models, namely the first to test the implementation of IR on the price earning ratio, the second model to test the implementation IR on stock prices. The results in this study indicate that market performance as measured by stock prices is influenced by the disclosures of companies that implement IR. These results indicate that disclosure through IR causes investors to be better able to see and assess the company's prospects in the future so that the risks that must be borne by investors are reduced. Thus, a company's stock price can increase followed by an increase in information disclosure made by the company through the implementation of IR.

Keywords: IR Implementation, Price Earning Ratio, Stock Price, Market Performance, SOE

Abstrak: *Penelitian ini bertujuan untuk menguji implementasi elemen IR yang masih bersifat sukarela terhadap kinerja pasar yang diukur dengan menggunakan Price earning ratio dan harga saham. Sampel yang digunakan dalam penelitian ini adalah 20 perusahaan BUMN yang menerbitkan laporan tahunan mulai tahun 2018 sampai dengan 2020. Penelitian ini menggunakan alat analisis regresi berganda dengan menguji dua model penelitian yaitu yang pertama untuk menguji implementasi IR terhadap price earning ratio, model kedua untuk menguji implementasi IR terhadap harga saham. Hasil dalam penelitian ini menunjukkan bahwa kinerja pasar yang diukur dengan harga saham dipengaruhi oleh pengungkapan perusahaan yang mengimplementasikan IR. Hasil ini menunjukkan bahwa pengungkapan melalui IR menyebabkan investor menjadi lebih mampu untuk melihat dan menilai prospek perusahaan di masa mendatang sehingga risiko yang harus ditanggung investor menjadi berkurang. Sehingga, harga saham suatu perusahaan dapat meningkat diikuti dengan peningkatan pengungkapan informasi yang dilakukan oleh perusahaan melalui implementasi IR..*

Kata Kunci: *Implementasi IR, Price Earning Ratio, Harga Saham, Kinerja Pasar, BUMN*

INTRODUCTION

There is concern that traditional corporate reporting is insufficient to meet the information needs of various stakeholders (Adams & Simnett, 2011). Many companies have attempted to increase the information available in decision-making by stakeholders by complementing their traditional financial reporting with reporting of non-financial information (Cohen et al., 2012). This non-financial information is usually reported in various reporting mechanisms, such as sustainable reporting, corporate social responsibility (CSR) reports, or in annual reports (Sìmnett et al., 2009). Additional information in the form of non-financial information is proven to have relevant value and can be used by stakeholders as a consideration in terms of decision making (Dhaliwal, Tsang, & Yang, 2011). However, these financial and non-financial reports are disclosed in a separate report format, so they are not provided to facilitate the understanding of company stakeholders. Thus, the benefits of the information provided is reduced.

The need to fulfill information in decision making makes the scope of financial reporting increasingly growing. Currently, the trend of corporate reporting formats is starting to develop into integrated reporting (IR). This phenomenon emerged as a result of the global financial crisis that hit America in 2008 (Azam et al., 2011). One of the factors that caused the crisis was criticism of the annual report which was considered not to cover all useful aspects for assessing the company's performance as a whole (Krzus, 2011). This makes it difficult for users of financial statements to make business decisions.

In this regard, although IR is considered a solution to overcome the problem of misleading information in annual reports and overcome criticism of sustainability reporting, not many companies have reported financial and non-financial information in the form of IR. For example in the S&P 500 index, only seven companies report in IR form, although 499 provide some sustainability disclosures (Investor Responsibility Research Center Institute (IRRCI), 2013).

Researchers focus on the relationship between IR implementation and market performance. It is important to examine the relationship between disclosure and market performance which is an important part of the financial accounting literature (Botosan, 1997; Francis et al., 2005; Hail, 2002). The basic idea of this relationship is that a higher level of disclosure will contribute to a decrease in information asymmetry between managers and investors, and consequently can improve a company's market performance.

In Indonesia there are still many problems related to information asymmetry, this is evidenced by the fact that many investors do not use published financial information as a basis for making investment decisions (Darmadi, 2013). Levi and Zhang's (2008) study confirms that an increase in information asymmetry causes an increase in spread. This is because the market views with high information asymmetry will potentially experience high investment risk, then changes in stock returns can be described as a function of information asymmetry. The more information disclosed in IR, it will be able to reduce the uncertainty of company information, so that the smaller the investment risk, this will increase investment returns (Botosan & Plumlee, 2012). Gelb and Zarowin (2002) and Lundholm & Myers (2002) found that current stock returns reflect information about future earnings when the quality of information disclosure is more. This result is called "bringing the future forward".

In this regard, researchers are motivated by issues related to IR and the capital market, particularly on the effect of IR implementation on market performance. IR is a mechanism proposed by the International Integrated Reporting Council (IIRC) that encourages companies to be able to produce reports that integrate company financial and non-financial information. IR has the benefit of increasing transparency in company operations, with increased transparency it will increase stakeholder trust (Azam et al., 2011; Cheng et al., 2014; Serafeim, 2015). Disclosure through IR is expected to improve the quality of company reporting, because better reporting quality can have an impact on improving market performance.

Previous research has tested the determinants of companies to disclose information through IR, but there has been no research that tests empirically the disclosure of companies that adopt IR and market performance. Cheng et al. (2014a) argues that financial information is not sufficient to inform the capital market regarding the organization's "true" value creation potential. Therefore, it is important to test empirically related to whether IR can affect market performance. Disclosure of companies adopting IRs is basically still voluntary, because not all countries have established mandates for IRs, except in South Africa which made it mandatory for all companies in 2010 to issue IRs. Therefore, this study focuses on the implementation of IR elements which are still voluntary on market performance as measured using the Price earning ratio and stock prices.

LITERATURE REVIEW

Integrated Reporting Issues

Sustainability information in the form of environmental and social data is a relatively new development which has been increasingly reported by a large number of companies around the world. Not only the number of companies reporting sustainability information but also the number of investors using this information has increased. Investor interest in sustainability data is also evidenced by the large number of investors accessing sustainability data on the Bloomberg database (Eccles, Krzus & Serafeim, 2011).

While the availability of sustainability data has increased, there has been some criticism of their decision usefulness for investors. Perhaps, the most important criticism is the lack of placing data in the context of a company's strategy and business model, as a result of which the relationship between sustainability and financial performance is unclear (Eccles et al., 2011). Closely related to this criticism is the absence of an assessment of the materiality of different sustainability issues. Surveys from institutional investors show that 73% of them do not agree that sustainability reporting is related to business strategy and risk, and 93% do not agree that sufficient information has been provided to assess financial materiality (IRRCI, 2013).

The lack of linkages to financial matters is also reflected in the creation of the Sustainability Accounting Standards Board (SASB) whose mission is to develop materiality guidelines for industry specifications. Another criticism relates to the credibility of the data, since separate sustainability reports often obtain a 'Limited' not 'Fair' belief. Industry observers point out that auditing sustainability data is less expensive than financial data, due to the lower level of assurance it provides. In addition, it is related to timeliness, because sustainability reports are usually published after the company's financial statements (Serafeim, 2015).

IR was first introduced in 2010 by the International Integrated Reporting Council (IIRC). IR is a concise and integrated communication process on how strategy, governance and remuneration, performance and prospects of an organization generate value creation in the short, medium and long term (IIRC, 2013). IR emerged as a response to criticisms of financial and sustainability reporting that were not effective in describing long-term value creation processes within organizations.

Proponents of IR argue that companies should supplement their financial information reported in accordance with accounting standards with other non-financial information of interest to shareholders, such as information about consumers, employees, and the environment. The general reason cited by them is that financial information is considered a lagging indicator or a "rear view mirror" of company performance. Meanwhile, non-financial information can provide insight into the future financial performance expected by the company, and can provide information about intangible assets that are not reflected in the company's balance sheet (Serafeim, 2015).

IR proponents also argue that although separate sustainability reporting may provide relevant information for several stakeholders, such reporting is unlikely to be an effective mechanism for communicating company performance with investors related to environmental and social issues, and how they relate to financial performance (Eccles & Saltzman, 2011; Serafeim, 2015).

IR is a new form of reporting that tries to eliminate all the drawbacks of sustainability reporting. Investors seem to support IR, because based on survey results, 80% of investors believe that IR will be useful or very useful for increasing the reliability and relevance of sustainability information (The value of extra-financial disclosure What investors and analysts said, 2012). However, IR has a short history, or is still under development and guidance for companies is outlined in the new international IR framework developed by the IIRC in 2013. The first company to issue an IR was the Danish enzyme company Novizymes (in 2002), the company cosmetics Natura in Brazil (in 2003), and pharmaceutical company Novo Nordisk in Denmark (in 2004). Starting in 2010, all South African companies listed on the Johannesburg Stock Exchange are required to issue an IR or explain why they are not issuing an IR.

IR can place a company's sustainability activities in the context of the organization's strategy and business. Therefore, IR issues can affect an organization's ability to create value in the future. IR can increase the credibility of sustainability data because the information presented is part of regulatory filings that are scrutinized by regulators and to a greater extent by auditors (Eccles & Saltzman, 2011). Based on the survey results, 92% of investors agreed or strongly agreed that sustainability, financial and other information should be more integrated (IRRCI, 2013).

Agency Theory and Disclosure

Information asymmetry occurs when certain parties in a transaction have more information than other parties. Thus, it is possible that those with more information can take advantage of those who are less informed (Embong et al., 2012). Problems related to information asymmetry are inseparable from conflicts that occur between managers and owners or better known as agency theory (Agency theory) (Jensen & Meckling, 1976).

Agency theory explains the relationship between the owner of the company and its agents, namely the management who plays a role in running the company's operations. Healy & Palepu (2001) shows that to overcome the agency problem can be overcome by entering into a compensation agreement agreed between the management and the owner of the company. One of the contents of this compensation is to disclose relevant information by managers, so that company owners are able to evaluate whether their funding is being managed properly or not by management.

In this regard, to overcome agency problems, companies must also have good corporate governance (CG), where CG is a way for company management to be responsible to company owners or shareholders (Claessens, 2003). The principle of CG that is closely related to disclosure is the principle of transparency. This principle relates to openness in conveying information submitted by the company. In this case, investors are very dependent on the information submitted by the company. Therefore, companies are required to provide clear, accurate, timely and comparable information with the same indicators, as well as disclose and convey this information to all interested parties.

Disclosure in this study uses company disclosure that uses IR which integrates information related to the company's financial and non-financial performance. Disclosure through IR is expected to have better information quality compared to other reporting such as sustainability reporting. Better information quality can be seen from the company's level of transparency through disclosure which is a way that can be used to monitor management performance and can reduce information asymmetry. Diamond & Verrecchia (1991) found that disclosure can reduce information asymmetry which results in reduced special components of the cost of capital, such as reducing the cost of equity, operating costs, and reducing risk estimates. Reduced information asymmetry due to disclosure, has an impact on reducing agency risk (agency risk) faced by investors which will ultimately affect investors to reduce the expected return expected of the company.

In this study, researchers focused on company disclosure in IR which can improve market performance.

IR Implementation and Market Performance

Return is the result (profit or loss) obtained from a stock investment. Stock returns can be positive or negative. If it is positive, it means getting a profit or getting a capital gain, while negative means suffering a loss or capital loss. Return is one of the factors that motivates investors to invest and is also a reward for the courage of investors to bear the risks of the investments made. Return is the result obtained from the investment. Returns can be in the form of realized returns that have occurred or expected returns that have not occurred but are expected to occur in the future. Return realization (realized return) is a return that has occurred. Realized return is calculated based on historical data. Return realization is important because it is used as a measure of the company's performance. This historical return is also useful as a basis for determining expected return and risk in the future. Return expectations (expected return) is the return expected to be obtained by investors in the future. In contrast to the realized return which has already occurred, the expected return has not occurred. Total return is the overall return of an investment in a certain period.

Several studies, both theoretical and empirical, have examined the impact of disclosure and market performance. From a theoretical point of view it has been argued that disclosure can reduce information asymmetry, and consequently can improve the market performance of firms (Diamond & Verrecchia, 1991). From a theoretical perspective, the relationship between disclosure and market performance is supported by two streams related to the theoretical literature (Botosan, 1997). The main argument of this stream from the existing literature is that companies that provide more information about their activities can reduce information asymmetry in the capital market. The first stream shows that better disclosure will increase the liquidity of the stock market and have an impact on improving market performance. This flow is represented by Amihud & Mendelson (1986) and Diamond & Verrecchia (1991). The second stream of research shows that better disclosure can reduce the cost of capital by reducing the non-diversifiable risk estimate. This flow is represented by Barry & Brown (1985), Handa & Linn (1993), Coles et al. (1995).

Based on the arguments and results of previous research, the research hypothesis is:
H1: disclosure of companies that implement IR has an effect on the price earning ratio.
H2: disclosure of companies that implement IR has an effect on stock prices

The following is a picture of the framework in this study:

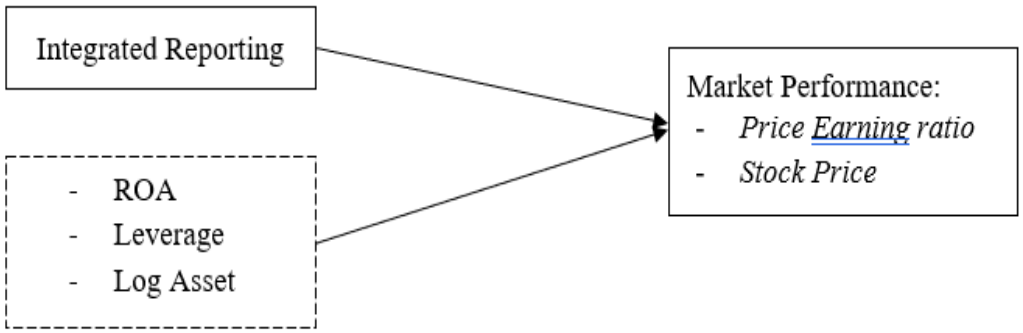

Figure 1. Research Framework

RESEARCH METHODOLOGY

This research was conducted on state-owned companies in Indonesia which are listed on the Indonesia Stock Exchange. The sample selection was carried out by purposive sampling with the aim of obtaining a sample that could represent the criteria specified as follows:

1. SOE companies listed on the Indonesia Stock Exchange
2. SOE companies that publish annual reports for 2018 – 2020
3. SOE companies that report financial and non-financial information either in the form of sustainability reports or integrated reports during 2018 – 2020

This study uses secondary data which consists of data on companies that issue IRs as well as data to calculate stock returns and price earning ratios. The dependent variable in this study is market performance as measured by stock returns and price earning ratios. The independent variable in this study is the disclosure of companies that implement IR, the control variables used are firm size, profitability, financial leverage.

This study examines the relationship between the disclosures of firms implementing IR and market performance. This study was tested using multiple regression analysis. Before the regression analysis was carried out, the researcher tested the classical assumption which is a requirement that the regression model used meets the BLUE (Best Linear Unbiased Estimator) requirements.

This research model consists of two models that have been adapted to the research hypothesis. In the first hypothesis which aims to test the effect of disclosing the implementation of IR and the stock price is included as the first model (1), while the second model is to test the disclosure of the implementation of IR and the price earning ratio. The model equation is:

$$PER_{i\,t} = \alpha + \beta_1 \boldsymbol{IR}_{it} + \beta_2 LASSET_{it} + \beta_3 ROA_{it} + \beta_4 LEV_{it} + \varepsilon_{it} \ldots\ldots \quad \textbf{Model 1}$$

$$SP_{i\,t} = \alpha + \beta_1 \boldsymbol{IR}_{it} + \beta_2 LASSET_{it} + \beta_3 ROA_{it} + \beta_4 LEV_{it} + \varepsilon_{it} \ldots\ldots \quad \textbf{Model 2}$$

Information:

PER_{it} = price earning ratio for company i in year t;
SP_{it} = closing share price of company i in year t;
IR_{it} = disclosure through IR based on the GRI G4 disclosure index for company i in year t, as measured by a score of 1 if disclosed and 0 if not disclosed;
ROA_{it} = return of assets from company i in year t.
$LASSET_{it}$ = natural log of total assets of company i in year t;
LEV_{it} = ratio of short-term and long-term debt to the total assets of company i in year t;

RESULT AND DISCUSSION

The population in this study are all state-owned companies in Indonesia. The sample companies were selected with the criteria of SOE companies listed on the Indonesia Stock Exchange. The data used in this study were obtained from the websites of each state-owned company used as the sample in this study. In addition, data on SOE companies in the form of annual reports published during 2018 – 2020.

With regard to data on state-owned companies that have published their annual reports in the form of integrated reports, there are limitations to the research sample that publishes integrated reports. Based on the results of observations of the research sample, there are 20 state-owned companies listed on the Indonesia Stock Exchange. During the 2018 – 2020 period, 3 state-owned companies have issued integrated annual reports in 2018, 4 companies in 2019, and 3 companies in 2020. In general, all companies have issued annual reports in the form of sustainability reports. his research focuses on the implementation of integrated reporting components using the GRI G4 index (Global Reporting Initiative G4 content index) which was developed in accordance with the international IR framework published by the IIRC in 2013.

Descriptive statistics aim to describe the distribution of statistical data that can be used as a reference in explaining the results of the analysis of the research hypothesis testing. Table 1 below presents the results of descriptive statistics for all research variables in each regression equation model.

Tabel 1. Description of Statistics

Variabel	*Min*	*Max*	*Mean*	*Std. Dev*
PER	-76,45	70,11	1,244	28,48
SP	298	12.425	3.203	2.929
IR	33	142	69,75	23,05
LASSET	3,12	5,96	4,96	0,62
ROA	-23,12	44,24	1,67	9,00
LEV	-27,47	86,98	38,42	25,34
N		60		

Descriptive statistics for the PER variable have a minimum value of -76.45 and a maximum value of 70.11 with an average value of 1.24 . These results indicate that there is a fairly high difference between the smallest value as the minimum value and the largest for the maximum value. Furthermore, the IR, SP, LEV, ROA and Log Asset variables also have minimum and maximum values with quite high differences.

Following are the results of the regression analysis for testing the effect of company disclosures that implement integrated reporting on market performance as measured by price earning ratio and stock price.

Tabel 2. Regression Analysis Results

	Model 1. PER			***Model 2. Stock Price***		
	Koef (B)	**t Stat**	**Sig**	**Koef (B)**	**t Stat**	**Sig**
IR	0,124	0,820	0,416	32,002	1,994	0,050
LASSET	-10,846	-0,237	0,046	1642,38	2,849	0,006
ROA	1,587	0,501	0,000	45,834	1,160	0,251
LEV	0,425	0,378	0,008	-7,280	-0,438	0,663
N	60			60		
F (Sig)	6,253 (0,000)			4,189 (0,005)		
Adj R^2	0,263			0,178		

Based on the results of the regression analysis in table 4.7, it shows that the disclosure of companies that implement IR has an effect on market performance as measured by stock prices. This is indicated by the significant IR of the stock price (B = 32.002; Sig < 0.05). This means that the disclosure of companies that implement IR can increase the company's share price. Meanwhile, market performance as measured by the price earning ratio is not affected by the disclosure of the implementing company (B = 0.124; Sig > 0.05.

Table 4.7 also shows the results for the control variable Log Asset which has a significant effect on market performance, both as measured by the price earning ratio and by the stock price. Meanwhile, other control variables such as ROA and LEV only affect market performance as measured by the price earning ratio.

The results of the regression analysis show that the disclosure of companies implementing IR has an effect on market performance as measured by the stock price, but has no effect on market performance as measured by the price earning ratio. Based on the results of the analysis, it means that the higher the disclosure of companies that implement IR, the higher the stock price of a company. Thus, these results support the proposed hypothesis 2, while hypothesis 1 in this study is not supported.

In connection with the results of analysis and findings from previous studies, the quality of disclosure in the form of IR, which is said to be better than other forms of disclosure such as sustainability reports and CSR, may not necessarily have a direct impact on increasing market performance as measured by the price earning ratio in the short term. This is due to the complexity of disclosures to IRs that integrate financial and non-financial performance into one reporting format, causing companies to readjust what information must be disclosed so that it can be displayed in one reporting format that can describe the company's financial and non-financial performance. Lopes & de Alencar (2010) stated that there is a weak relationship between disclosure and the price earning ratio due to the necessity to make mandatory disclosures which results in lower variations in disclosure levels.

The research findings showing that there is a significant and positive effect between the disclosure of companies that implement IR and market performance as measured by stock prices are in line with previous research (Sayar & Topdemir, 2018) which states that disclosure through IR can affect market performance by increasing a company's stock price. . These results indicate that the information available in the company's IR can be utilized by investors to consider investment decision making, so that the expansion of information in the IR with information in the previous reporting by the company is valued and becomes the main concern of market players in the capital market. Through these disclosures, investors are better able to see and assess the company's prospects in the future so that the risks that must be borne by investors are reduced. Thus, a company's stock price can increase followed by an increase in information disclosure made by the company through the implementation of IR.

CONCLUSION

This study aims to provide evidence related to the effect of company disclosures that implement IR on market performance as measured by the price earning ratio and stock price. The results in this study indicate that market performance as measured by stock prices is influenced by the disclosure of companies that implement IR. These results indicate that disclosure through IR causes investors to be better able to see and assess the company's prospects in the future so that the risks that must be borne by investors are reduced. Thus, a company's stock price can increase followed by an increase in information disclosure made by the company through the implementation of IR.

This study has several limitations that may affect the results of this study. The first limitation is related to the use of a research sample that is relatively very small and limited to companies that disclose IR during the 2018 - 2020 period. This is due to the relatively new implementation of IR in the corporate reporting format, so there are still not many companies that have adopted IR as reporting. its annual. The second limitation, this study uses a disclosure index based on GRI G4 which has been adjusted to the IR framework. This index is used because it has some similarities in content with the IR framework, this is because there is no index that is directly used to measure disclosure in IR. In addition, disclosures in GRI G4 still have a lot to do with sustainability reporting compared to IR. Thus, some of the hypotheses in this study are not supported due to variations in the disclosure index which are different from the content contained in the IR framework.

Future research can examine disclosure and market performance by comparing companies that disclose IR and sustainability reporting with a cut off before and after the company adopts IR. With the aim, in order to know the reporting of companies that have better quality information for stakeholders. In addition, future research can test the disclosure of companies that adopt IR mandatory, such as South African companies listed on the Johannesburg Stock Exchange, in relation to market performance.

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THE EFFECT OF DIGITAL FINANCIAL, CREDIT RISK, OVERHEAD COST, AND NON-INTEREST INCOME ON BANK STABILITY

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Abstract: This research aims to find out and analyze the influence of digital finance, credit risk, overhead cost, and non-interest income on the stability of banks from the banking industry included in conventional banks listed on the Indonesia Stock Exchange (IDX) in the period 2016 to 2020. Sample selection uses the purposive sampling method. The number of samples used in this study amounted to 40 Conventional Banks registered IDX. The independent variable consists of Digital Finance measured using dummy variables, namely 1 if the bank launches a mobile banking application and 0 if vice versa, Credit Risk measured using Non Performing Loan (NPL), Overhead Cost measured using overhead expense ratio divided by total assets, and Non-Interest Income as measured by non-interest income ratio divided by total operating income. Furthermore, the study's dependent variable is Bank Stability as measured using Z-scores. This study compares two research results based on the COVID-19 Pandemic period, namely research I before COVID-19 with 2016 to 2019 and research II when COVID19 with only 2020. The results showed that Digital Finance had a positive effect on both studies, Credit Risk had a negative effect on both studies, Overhead Cost had no effect, and Non-Interest Income had no effect on the study period I and negatively on the study period II.

Keywords: Digital Finance, Mobile Banking, Credit Risk, NPL, Overhead Cost, Non-Interest Income

Abstrak: *Penelitian ini bertujuan untuk mengetahui dan menganalisis pengaruh keuangan digital, risiko kredit, biaya overhead, dan pendapatan non bunga terhadap stabilitas bank dari industri perbankan yang termasuk dalam bank konvensional yang terdaftar di Bursa Efek Indonesia (BEI) pada periode tersebut. Tahun 2016 hingga 2020. Pemilihan sampel menggunakan metode purposive sampling. Jumlah sampel yang digunakan dalam penelitian ini berjumlah 40 Bank Konvensional yang terdaftar di BEI. Variabel independen terdiri dari Digital Finance yang diukur menggunakan variabel dummy yaitu 1 jika bank meluncurkan aplikasi mobile banking dan 0 jika sebaliknya, Credit Risk diukur dengan Non Performing Loan (NPL), Overhead Cost diukur dengan rasio biaya overhead dibagi total aset , dan Pendapatan Non Bunga yang diukur dengan rasio pendapatan non bunga dibagi total pendapatan operasional. Selanjutnya variabel dependen penelitian adalah Stabilitas Perbankan yang diukur dengan menggunakan Z-score. Penelitian ini membandingkan dua hasil penelitian berdasarkan masa Pandemi COVID-19 yaitu penelitian I sebelum COVID-19 dengan tahun 2016 hingga 2019 dan penelitian II saat COVID19 hanya dengan tahun 2020. Risiko berpengaruh negatif pada kedua penelitian, Overhead Cost tidak berpengaruh, dan Non-Interest Income tidak berpengaruh pada penelitian periode I dan negatif pada penelitian periode II.*

Kata Kunci: *Keuangan Digital, Mobile Banking, Risiko Kredit, NPL, Biaya Overhead, Pendapatan Bukan Bunga*

INTRODUCTION

The COVID-19 pandemic is a new challenge for the world economy. The COVID-19 pandemic is considered one of the largest global crises that has had a drastic impact on the global including Indonesia. The Indonesian government has implemented various policies to help reduce the transmission of the COVID-19 virus. This is indicated by Indonesia's domestic economic growth in the first quarter of 2020 of 2.97% *year on year* (yoy). This value is slow compared to the value in the previous quarter of 4.97% (yoy). Therefore, Bank Indonesia predicts that Indonesia's economic growth in 2020 will decline due to the impact of the COVID-19 Pandemic. Of course, this makes the stability of the financial system, especially the stability of banks, shaken in its control (Ali & Puah, 2019).

Bank Indonesia as the central bank has a need to maintain financial system stability in Indonesia, especially in functions related to *Lender of Last Resort* (LoLR). LoLr is the authority of Bank Indonesia in its authority to provide liquidity in times of economic crisis. According to Bank Indonesia, financial system stability is a condition that allows the national financial system to function effectively and efficiently and can minimize internal and external vulnerabilities (Warjiyo, 2006), so that economic growth and stability in Indonesia can be contributed from financing or allocation of funding sources. Banking, especially conventional banks, is one of the largest financial institutions that provide capital to companies or individuals in the financial system (My, 2020). Bank stability is something that needs to be controlled so that its role as the main intermediary financial institution in the economic system can be maintained.

The stability of the bank depends on profitability as one of the factors that can affect it. In the midst of the COVID-19 Pandemic which caused a slowdown in economic growth, the bank's efforts in making a profit in 2020 also weakened. This can be seen from the profitability ratios such as *the Return on Asset* (ROA) of the banking industry which continues to decline. The Financial Services Authority (OJK, 2016) noted that the ROA of banks industrially as of May 2020 was at the level of 2.08%.

Digitalization is one of the factors that can affect bank stability by applying new innovations to industrial systems, especially the financial services industry. According to Durai & Stella (2019), digital finance is a financial service that is delivered via *a smartphone* or *personal computer* using the internet to access *mobile banking*, *e-wallets*, mobile wallets, credit cards, and debits. The implementation of digital finance during the COVID-19 Pandemic has made it very easy for banks to continue to provide good financial services for their customers by carrying out their activities *cashlessly*. Based on the Deputy Commissioner of Banking Supervision I of the Financial Services Authority (OJK,2018), Teguh Supangkat, *mobile banking* transactions also increased with a value of more than 300% from 2016 to August 2021.

Digital finance can help banks to facilitate their financial transaction activities in the period before and after the COVID-19 Pandemic. However, there are still problems in the banking industry that can affect financial transactions such as credit risk. The ever-rising credit risk can make it difficult for banks to maintain their stability. Credit risk is a risk that is likely to arise from a failure in the return of part of the credit given and become a non-performing credit so that it affects bank income (Idawati, 2017). Credit risk is a risk that must be maintained by

banks in the period before and after the COVID-19 Pandemic. OJK noted that the ratio of non-performing loans to banks has increased from the previous year at the level of 3.35%. The loan ratio as measured by *Non-Performing* Loans (NPLs) in the banking industry has increased amid the COVID-19 Pandemic. In August 2020, OJK noted industrially that NPLs increased by 60 basis points (bps) *year on year* (yoy) to 3.2%.

Overhead costs are *the* next factor that can affect the stability of the bank. *Overhead costs* are costs that banks incur to finance the implementation of operational activities. The COVID-19 pandemic has left companies that have assets in the form of physical or high overhead costs such as buildings or paying a lot of employee salary costs have been shaken. The phenomenon that arises due to the COVID-19 Pandemic is the triple *disruption* or three new habits that break the old culture, namely *digital disruption*, *millennial disruption*, and *pandemic disruption*. *Triple disruption* also has an impact on the banking sector. Digitalization makes banks have to slowly reduce branch offices to maximize the application of digitalization to their business activities. Banks that have not been able to adapt to *the triple disruption* can result in an increase in overhead costs due to increasingly large digital assets due to new innovations but banks still have many branch offices and have to pay the salaries of many employees. Bank Neo is a bank that is affected by its overhead costs. PT Bank Neo Commerce Tbk (BBYB) recorded a net loss of IDR 132 billion in the period from January to June 2021 due to the impact of the COVID-19 Pandemic which began in 2020.

Another factor that can affect bank stability is *non-interest income* . According to Wibowo & Mawardi (2017), *non-interest income* is one of the indicators that banks use to diversify income. Banks diversify revenues to increase profitability and mitigate risks. The COVID-19 pandemic has made banks look for new alternatives so that operating income growth continues. Bank Mandiri is one of the banks whose non-interest income is the driver of profit in the first half of 2020 with a value of IDR 10.9 trillion. Bank Mandiri's non-interest income was recorded to increase by 8.64% on an annual basis with a value of Rp13.59 trillion.

This research is the result of modifications, in the context of developing from previous research conducted by My (2020). The difference between this study and the previous study lies in the addition of variable calculations that were not studied by previous researchers, namely digital finance. The dependent variable in this study is only the stability of the bank. After that, this study used *Non Performing* Loans (NPLs) as proxies for credit risk and only made overhead *costs* and *non-interest income* as independent variables. Furthermore, this study used banking sector objects listed on the Indonesia Stock Exchange (IDX) while the object of the previous study was banking in Vietnam.

This study aims to determine, test, and analyze the influence of digital finance, credit risk, *overhead costs*, and *non-interest income* on bank stability before and after the COVID-19 Pandemic. Furthermore, this study aims to see the impact of digital financial potential, credit risk, *overhead costs*, and *noninterest income* on banking stability in Indonesia before and after the COVID-19 Pandemic period as measured using a *Z-score* based on a sample of conventional banks listed on the Indonesia Stock Exchange (IDX). After that, this study aims to see the benefits of factors that affect banking stability based on digital finance, credit risk, *overhead costs*, and *non-interest income*.

This research is expected to contribute to disciplines related to the financial sector, especially in the discussion of factors that can affect bank stability such as digital finance, credit

risk, *overhead* costs, and *noninterest income*. It is also hoped that this research can provide new insights and ideas for further research. This research is also expected to be able to identify the variable relationship between digital finance, credit risk, *overhead* costs, and *non-interest income* with bank stability, so that contributions in this study can help the banking sector in improving company performance and maintaining business balance.

LITERATURE REVIEW

Agency Theory

Agency theory discusses how important a division between management and managers of company ownership is. Jensen and Meckling (1976) say that an agency relationship is defined as an agreement between one or more *principals* who ask an *agent* to carry out his work with some decision-making authority. This theory relates to the stability of a bank because as a company whose capital consists of shares, a *Chief Executive Officer* (CEO) or manager will act as *an agent* and a shareholder as *principal*. Shareholders certainly want the bank to have a good performance in carrying out its role, so that the dividends they get will be a large amount.

Intermediary Theory

The theory of financial intermediation discusses one of the functions of banking, namely that banking has a big task as the main support in the economy of a country with the task of intermediation of funds from parties who are over-funded to those who need funds (Jhon Gurley, 1956). This theory is inseparable from banking stability. This theory studies the existing systems in sectors of the economy. Ketaren & Haryanto (2020) also added that customers who place their funds to banks as intermediation institutions have an interest in seeing the stability of performance and security of the funds they invest.

Banking

Banking is everything that concerns a bank including institutions, business activities, as well as ways, and processes in carrying out its business activities (Hermansyah, 2014). Based on Law Number 10 of 1998 on the amendment of Law No. 7 of 1992, a bank is a business unit that collects money from the community in the form of deposits and distributes it to the community in the form of loans or other forms to improve people's living standards. The bank has three main functions as follows:

1. Receive public funds in various forms.
2. Disbursing community funds in the form of loans for business development.
3. Providing a wide range of commercial services and domestic and international payment transactions.

Banks in Indonesia can be grouped generally according to two categories, namely the type of bank and its ownership. Based on the type, banks in Indonesia can be divided into two types, namely Commercial Banks and People's Credit Banks. Law Number 10
The 1998 amendment of Law No. 7 of 1992 defines a commercial bank as a bank that operates conventionally or based on sharia principles and provides payment services in its activities.

Furthermore, The People's Credit Bank is a bank that operates in a conventional way or in accordance with sharia principles and does not provide payment services in its business.

Bank Indonesia Regulation No. 13/1/PBI/2011, Regulatory Substance:

a. Banks are required to assess the Bank's Health Level both individually and consolidated using a risk approach.
b. Consolidated Assessment of the Bank's Health Level is carried out for banks that control the Subsidiaries.
c. The assessment period is carried out at least every semester (for positions at the end of June and December) and updated at any time if necessary.
d. Factors for assessing the Bank's health level consist of: Risk profile, Good Corporate Governance, Rentability (earnings), and Capital (capital).
e. Each factor is ranked based on a comprehensive and structured analysis framework.
f. Composite ratings are assigned based on a comprehensive and structured analysis of each factor's ratings taking into account the materiality and significance of each factor, as well as taking into account the Bank's ability to deal with significant changes in external conditions.
g. Composite Rating Categories are Composite Rank 1 to Composite Rank 5. A smaller Composite Rating Order reflects the Bank's healthier condition.
h. In conducting a consolidated health level assessment, the mechanism for rating each assessment factor and setting the Composite Rating as well as categorizing the rating of each assessment factor and composite rating must refer to the mechanism for assigning and categorizing the Bank's ratings individually.

Bank Stability

The definition of bank stability can be known by looking at the meaning of financial system stability. This is because banks, especially conventional banks, are one of the largest financial institutions that provide capital for companies or individuals in the financial system (My, 2020). Based on PBI NUMBER 16/11 /PBI/2014, financial system stability is a condition in which a country's financial system can function effectively and efficiently and is resistant to internal and external vulnerabilities. This allows the allocation of funds or sources of funds to contribute to the growth and stability of the economy. The financial system consists of financial institutions, financial markets, financial infrastructure, non-financial companies and households, and is a system that interacts in economic funding and/or financing. Bank stability is characteristic of the stability of the financial system. Bank stability is a condition in which the bank meets two basic requirements, namely improving economic performance and eliminating imbalances caused by endogenous factors from unforeseen or undesirable events from different banking risks (Djebali & Zaghdoudi, 2020).

Banks that have higher stability have a high *Z-score* value where the *Z-score* value ≥ 2.99. Furthermore, if the bank's Z-score value has a value below 1.81, it can be said that the bank has the potential to experience bankruptcy and is declared unhealthy. After that, banks that have a *Z-score* value with a position of $1.81 \leq Z \leq 2.99$, the bank is categorized as entering the *gray area*, which is a condition where banks are prone to experience a risk of bankruptcy of 50%.

Table 1. Categories Bank Stability

Category	Z-score value
Healthy (not broke)	≥ 2.99
Prone (*grey area*)	$1.81 \leq Z \leq 2.99$
Unhealthy (bankrupt)	< 1.81

Source: Hanafi and Halim "Analisis Laporan Keuangan"

Digital Finance

Digital finance is a new innovation in the financial industry. By POJK No.13/POJK.02/2018, digital financial innovation is an update of business processes, business models, and financial products that create new added value in the financial services sector by integrating the digital ecosystem. Digital financial innovation has been widely implemented in the activities of financial service institutions. The Financial Services Authority (OJK,2019) conducts an assessment with *the Regulatory Sandbox* to assess the business processes, business models, financial instruments, and governance of those who carry out digital financial innovations whether they are running well or not. Digital finance can also be interpreted as a type of financial service that uses digital products such as personal computers, the internet, smartphones, or cards that can be connected to digital payment systems (Babarinde *et. al*, 2020). Digital financial innovation cannot be separated from financial service institutions, especially the banking sector. Babarinde *et. al* (2020) also suggested that the banking industry continue to strive to follow digital innovations in order to meet the demands of customers who already have knowledge of digitalization.

Credit Risk

Based on POJK No.18/POJK.03/2016, credit risk is a loss due to the failure of other parties to fulfill their obligations. Credit risk includes credit risk due to debtor default, credit risk due to concentration in the availability of funds (Credit Concentration Risk), credit risk due to counterparty credit risk, credit risk due to failure to settle payments, and credit risk that arises due to country risk. The business activities that banks carry out can be a source of credit risk. PBI NUMBER 13/23/PBI/2011 also states that credit risk arises due to the failure of customers or other parties in fulfilling their obligations to pay to the Bank in accordance with the agreed agreement.

Overhead Cost

Overhead costs are costs incurred by the company but are not directly related to the company's production process. According to Assaf *et. al* (2001), *overhead costs* have two types of costs in construction, namely company *overhead costs* and *overhead costs* in projects. *Overhead costs* in a company are also referred to as general and administrative *overhead costs*. This includes all costs incurred by the company in maintaining its business and also supporting the production process but is not directly related to the specific project. *Overhead costs* incurred by the company are one of the causes that can trigger failures in the company's business. Ashaf et al (2001) states that *overhead costs* are costs incurred by banks in carrying out their business operations.

The increase in *overhead* costs will affect interest rates, if the loan interest rate cannot compete with market interest rates, some sources of bank loans cannot move capital according to the market, so banks will be threatened and threaten losses because they have to bear too high costs (Andriyana & Kusumaningtias, 2019). Daoud & Cameroon (2020) also defines *overhead cost* as a cost that almost represents the entire personnel cost of the company.

Non-Interest Income

Non-interest income or non-interest income has the aim of supporting and accelerating financing and funding activities by providing other support services. *Non-interest income* is one of the indicators of banks in diversifying income (Wibowo & Mawardi, 2017). Ashyari & Rokhim (2020) stated that *non-interest income* is income sourced from three types of income, namely commission income, trading income, and other income. Based on Bank Indonesia Circular Letter No.6/23/DPNP dated May 31, 2004, *non-interest income* is operating income that is not obtained from interest income divided by operating income (Hidayat dan Miyamoto,2012).

Relevant Past Research

Based on research by Rusdianasari (2018), *financial technology instruments* that encourage the influence of financial inclusion on financial system stability performance. However, Ozili's research (2018) has resulted in digital finance having a positive effect on bank stability. This is because it can develop financial inclusion and have lower financing. Ozili's research (2018) is also supported by research by Banna and Alam (2020) which revealed that the implementation of digital finance on financial inclusion has a positive influence on banking stability and the financial system. It can also reduce the risk of uncertainty in banks and increase the country's financial mobility. The results of research by Risman *et. al* (2021) also prove that digital finance has a positive effect on bank stability.

The results of previous studies discussing credit risk and bank stability also found differences. Research by Pinasti & Mustikawati (2018) shows that credit risk has a positive effect *on Return on Assets* (ROA) and ROA is one of the indicators to measure bank stability. The research is inversely proportional to the results of My (2020) research which found that credit risk has a negative influence on bank stability. Matey (2021) in his research also found that credit risk has a negative influence on bank stability because of its inversely proportional value.

Based on previous research on *overhead costs* and bank stability, differences were found. The results of Tan's research (2016) show that overhead costs have a positive effect on ROA. Le & Ngo research (2020) proves that overhead costs negatively affect bank stability as measured by ROA. The research is in line with the results of Daoud & Cameroon's (2020) research which found that overhead costs have a negative influence on bank stability. This is because the greater the bank's expertise in controlling its risks, the more banks will be encouraged to take more risks with the use of overhead costs.

Research by Li *et. al* (2021) found that *non-interest income* has a positive effect on ROA. Li *et. al* (2021) also stated that this was due to the COVID-19 pandemic which made banking financial transaction services more often used. However, this research is not in line with My (2020) research whose results show that *non-interest income* negatively affects bank stability.

Previous studies have shown consistent results that can cause ambiguity in terms of decision making. Based on these differences in results, it is very important to conduct research again on bank stability and differences in research results are one of the motivations for researchers to conduct research again.

Frame of Mind

The research variable consists of a dependent variable, namely Bank Stability. Furthermore, the independent variables of this study consist of Digital Finance, Credit Risk, Overhead Cost, and Non-Interest Income.

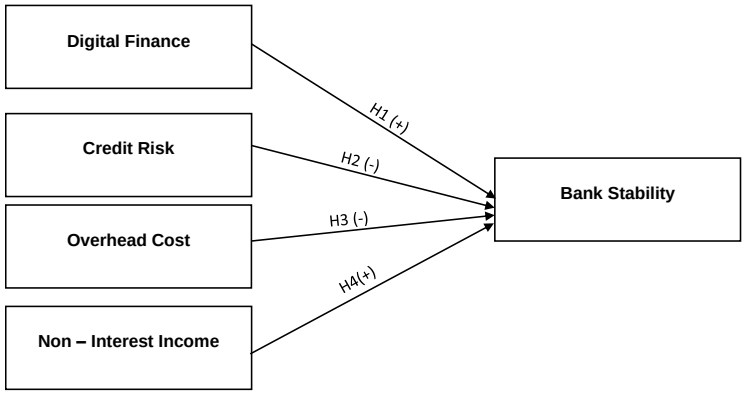

Figure 1. Frame of Mind

Hypothesis Development of the Influence of Digital Finance on Bank Stability

Agency theory makes *agents* need to think of various ways to maintain their performance and also need to be improved. Digital finance as a new innovation that can attract the attention of many people makes *it* necessary for agents to apply it to banking business activities. Digital finance that is constantly changing, an agent must also adapt to these rapid changes. Therefore, the agency theory of improving digital finance and making the influence of digital finance on bank stability positive.

The results of previous research related to digital finance on bank stability researched by Risman *et. al* (2021) show that digital finance has a positive influence on bank stability. However, this research is inversely proportional to Rusdianasari's research (2018) which proves that *financial technology instruments* that encourage financial inclusion have a negative effect on the performance of financial system stability. Furthermore, Ozili's research (2018) supports the results of research by Risman *et. al* (2021) which states that digital finance has a positive effect on bank stability because it can develop financial inclusion and have lower financing.

Ozili Research (2018); Risman *et. al* (2021) is also supported by research by Banna and Alam (2020) and Yudaruddin (2020) which revealed that the implementation of digital finance on financial inclusion has a positive effect on banking stability and the financial system. This can reduce the risk of uncertainty in banks and increase the country's financial mobility. Based on the above, then the hypothesis can be formulated:

H1: Digital finance positively affects bank stability

The Effect of Credit Risk on Bank Stability

The theory of intermediation states that the intermediation process acts as a supervisor. Furthermore, if this function is performed correctly, it will reduce non-performing loans and guarantee the stability of the bank. However, if the function is carried out ineffectively, it will have bad consequences. Therefore, based on this theory, the *non-performing loan* variable negatively affects the stability of the bank.

Research by Pinasti & Mustikawati (2018) shows that credit risk has a positive effect *on Return on Assets* (ROA) and ROA is one of the indicators to measure bank stability. The study is inversely proportional to the results of My (2020) research which found that credit risk negatively affects bank stability. The results of Matey's research (2021) also support My (2020) research by finding that credit risk has a negative influence on bank stability because of its inversely proportional value.

Credit risk as measured by Non Performing Loans (NPLs), it must be seen the value of the NPL ratio whether it is high or low. Declining bank credit growth and the number of non-performing loans can affect banking income and the efficiency of the banking system (My, 2020). Based on the above, then the hypothesis can be formulated:

H2: credit risk negatively affects the stability of the bank

The Effect of Overhead Cost *on Bank Stability*

Smaller overhead costs can be categorized as efficient because banks are better at managing operating costs and profits because they spend less on operating costs and higher operating profits. On the other hand, along with the growth of *overhead costs*, more and more budgets spent on overhead costs and operating profit decrease, so it can be concluded that banks do not manage their operations well. This is also supported by the agency's theory that agents will increase the company's overhead costs to make operational activities run well and bank stability and princial trust will be achieved and maintained.

Based on previous research on overhead costs and bank stability, differences were found. The results of Tan's research (2016) show that overhead costs have a positive effect on ROA. Le & Ngo research (2020) proves that overhead costs negatively affect bank stability. The research is in line with the results of Daoud & Cameroon's (2020) research which found that overhead costs have a negative influence on bank stability. This is because the greater the bank's expertise in controlling its risks, the more banks will be encouraged to take more risks with the use of overhead costs. Based on the above, then the hypothesis can be formulated:

H3: overhead cost negatively affects the stability of the bank

Effect of Non-Interest Income on Bank Stability

Intermediation theory can minimize the risks that occur in banks. This is because intermediation connects customers who need funds and deposit funds. Non-interest income is non-interest income obtained from *fee-based income* or *trading income*. *Fee-based income* is obtained when customers are conducting financial transactions at the bank such as transferring activities to other customers. Therefore, with the intermediation theory, *non-interest income* will increase and this will increase bank stability.

My research (2020) whose research results show that *non-interest income* negatively affects bank stability. However, this research is not in line with the research of Priono & Pangestuti (2019) and Li *et. al* (2021) which found that *non-interest income* has a positive effect on ROA. Li *et. al* (2021) also stated that this was due to the COVID-19 pandemic which made banking financial transaction services more often used so that *non-interest income* in banks increased. Based on the above, then the hypothesis can be formulated:

H4: non-interest income positively affects bank stability

RESEARCH METHODOLOGY

Population and Sample

The object of this study is based on the identification and formulation of predetermined problems, namely digital finance, credit risk, overhead costs, non-interest income, and bank stability in the banking sector, namely conventional banks listed on the Indonesia Stock Exchange (IDX). Furthermore, this study uses a period with an annual system, namely 2016 to 2020. Researchers used this period to find out how the influence of digital finance, credit risk, overhead costs, and noninterest income on bank stability in the period before and during the COVID-19 Pandemic. Researchers used data from 2016 – 2019 for the time period before the COVID19 Pandemic and 2020 for the period during the COVID-19 Pandemic. Researchers used the object of 40 banking companies listed on the Indonesia Stock Exchange (IDX).

Table 2. Definition and Measurement of Variables

Variable	Definition	Formulation	Measurement Scale
Dependent			
Bank Stability	Conditions where banks can survive internal and external vulnerabilities and can contribute to the growth of national economic stability	$\mathrm{Z-score} = \frac{\mathrm{ROA} + \frac{\mathrm{E}}{\mathrm{A}}}{\partial \mathrm{ROA}}$ ROA : Return on Assets (ROA) E : Total Equity A : Total Assets ∂ROA : Standard Deviation from ROA	Ratio
Independent			
Digital Finance	Types of financial services that use digital products and can be connected to digital payment systems	Digital financial measurement uses dummy variables, namely 1 if the bank uses mobile banking services and 0 if the bank does not use mobile banking services.	Nominal
Credit Risk	Losses suffered by the bank due to the failure of the other party in fulfilling its obligations	$\mathrm{Non-Performing\ Loan} = \frac{\mathrm{Non-Performing\ Loans}}{\mathrm{Total\ Credits}}\ \mathrm{X}\ 100\%$ Non-performing loans are all loans given to non-bank third parties with poor, doubtful, and bad quality. After that, the total credit is the amount of credit given to a non-bank third party.	Ratio

Overhead Cost	Costs incurred by the company but not directly related to the company's production process	$\text{Overhead Cost Ratio} = \frac{\text{Overhead Cost}}{\text{Total Assets}} \text{ X } 100\%$ Overhead costs are overhead costs that have no interest costs in them and are incurred for fund raising and credit distribution activities including tax costs that must be paid. After that, the total assets are the overall assets that the company has at any given moment.	Ratio
Non-Interest Income	Bank income earned other than interest income	$\text{Non} - \text{Interest Income} = \frac{\text{Non} - \text{Interest Income}}{\text{Operating Income}}$ Non-interest income is divided into two components, namely trading income and fee-based income. Fee-based income is income (cash inflow) obtained from services provided by the company to customers in addition to loan interest income, administrative income, and service income. Furthermore, trading income is income earned from forex trading transactions, derivatives, or securities trading. After that, operating income is the total amount of the company's income obtained from interest income plus non-interest income.	Ratio

Data Processing and Analysis Techniques

Sugiono, 2018 explain descriptive statistical analysis is used to determine the mean, minimum, maximum, and standard deviation values of each variable. In addition, a test of classical assumptions was carried out to find out normality, multicholinearity, heteroskedasity. T-Test hypothesis testing for H1, H2, H3, and H4 then F-Test was also carried out in this study. Next, conduct a coefficient of determination test. In this study, the system used was E-views-9. The equation in the multiple linear regression test is as follows:

Research Equation 1:

$$\mathbf{ZSCORE_{it} = ß0it + ß1KD_{it} + ß2NPL_{it} + ß3OVCS_{it} + ß4NIN_{it} + \varepsilon_{it}}$$

Research Equation 2:

$$\mathbf{ZSCORE_{i} = ß0i + ß1KD_{i} + ß2NPL_{i} + ß3OVCS_{i} + ß4NIN_{i} + \varepsilon_{i}}$$

Information:

ZSCORE : Bank Stability
ß0 : Constants
ß1,2,3,4 : Regression Coefficient
Kd : Digital Finance
Npl : Credit Risk
OVCS : Overhead Cost

NIN : Non-Interest Income
ε : Error term
i : Company
t : Time

RESULT AND DISCUSSION

Research Samples

The observation period in this study was for 5 years (2016-2020). The source of this research data is an annual report published by each company. Sampling is carried out using non-probability sampling methods and purposive sampling techniques where there are certain considerations or criteria. With this method, several criteria were set so as to produce a total of 40 research samples. Equation I before the COVID-19 Pandemic period produced 143 observations and equation II during the COVID-19 Pandemic period produced 35 observations.

Descriptive Statistics

Descriptive statistics of the research variables can be seen in the table below. The number of observations 143 for equation I and 35 for equation II with the average of each variable can be seen below.

Table 3. Descriptive Statistics

Variable	Model Equation Analysis I (2016-2019) Before the COVID-19 Pandemic						
	Obs	**Mean**	**Median**	**Max.**	**Min.**	**Std.Dev.**	**Sum**
ZSCORE	143	3.568392	2.890000	15.36000	-3.080000	4.042700	510.2800
D_KD	143	0.657343	1.000000	1.000000	0.000000	0.476266	94.00000
Npl	143	3.568182	2.950000	15.82000	0.010000	2.406394	510.2500
OVCS	143	4.622517	3.710000	17.28000	1.280000	2.747542	661.0200
NIN	143	0.191538	0.180000	0.860000	0.010000	0.131322	27.39000
Variable	**Model Equation Analysis II (2020) Covid-19 Pandemic Period**						
	Obs	**Mean**	**Median**	**Max.**	**Min.**	**Std.Dev.**	**Sum**
ZSCORE	35	1.588286	0.870000	7.850000	-2.310000	2.508564	55.59000
D_KD	35	0.857143	1.000000	1.000000	0.000000	0.355036	30.00000
Npl	35	4.183714	4.000000	22.27000	0.000000	3.731288	146.4300
OVCS	35	4.006286	3.590000	14.39000	0.140000	2.489318	140.2200
NIN	35	0.281714	0.240000	0.860000	0.060000	0.183951	9.860000

Panel Data Analysis

Before conducting a panel data regression analysis, it is necessary to select the best panel data model to be used in the study. There are three approaches in the panel data model, namely common effect, fixed effect, and random effect. The determination of the model in this study will be carried out with the Chow Test and the Hausman Test. The explanation of the panel data testing results is as follows:

Chow Test

The Chow test was carried out to select a common effect model or fixed effect model to be used in regression analysis. The following are the results of the chow test in this study:

Table 4. Chow Test

Research Equation I (2016 – 2019) Before the COVID-19 Pandemic			
Effect Test	**Statistics**	**d.f**	**Prob.**
Cross-section F	56.015265	(39,116)	0.0000
Cross-section Chisquare	477.973284	39	0.0000

Source: Eviews 9 output, processed 2022

Based on the table above, the data output results state that the chisquare probability result from the regression model equation I with the fixed effect model is 0.0000. The value is less than 0.05 so H0 is rejected and H1 is accepted. Therefore, it can be concluded that both results of regression of research equations use a fixed effect model. So, the selected model is a fixed effect model and must be carried out further testing, namely the Hausman Test.

Hausman Test

The Hausman test was carried out to determine the research model between fixed effect models or random effect models that will be used in regression analysis. Here are the results of the Hausman Test in this study:

Table 5. Hausman Test

Research Equation I (2016 – 2019) Before the COVID-19 Pandemic			
Effect Test	**Statistics**	**d.f**	**Prob.**
Cross-section random	34.219229	4	0.0000

Source: Eviews 9 output, processed 2022

Based on the table above, it can be seen that the test results show a random cross section probability value in the analysis equation I of 0.0000. The probability value of the random cross section of the study equation 1 is less than 0.05, so H0 is rejected and H1 is accepted. Therefore, it can be concluded that the analysis equation I uses a fixed effect model.

Test of Classical Assumptions

Testing of classical assumptions is carried out with the aim of testing the accuracy of regression models in studies using secondary data sources. The classical assumption test conducted in this study is included in the normality test, multicollinearity, heteroskedasticity test, and autocorrelation test (Winarno, 2015).

Normality Test

The normality test can be used to test or detect in research whether in the model the regression between bound variables (dependent) and free variables(independent) has a distribution result that is normal or close to normal (Ghozali, 2017).

A model that is good and worth using if the model that has research data is normally distributed. Data that can be said to be normally distributed if it has a Jarque-Fallow probability above 0.05 or 5%. The results of the normality test of equation I after the outlier or disposal of research data showed that the data results had a probability value of 0.305068 where the probability value was greater than the Jarque-Bera probability value of 0.05 (5%) with a total of 143 observations. Therefore, it can be concluded that the data used in the model of the first

research equation in 2016 – 2019 are normally distributed. Furthermore, for equation II, the results of the normality test were obtained after outliers or data elimination in the study were carried out. The results of the data analysis showed that the data had a Jarque-Bera probability value of 0.163318 where the value was greater than the probability value of 0.05 (5%) with a total of 35 observations. Therefore, it can be concluded that the data used in the second research equation of the 2020 research year are normally distributed.

Multicholinearity Test

The multicholinearity test has the aim of determining the correlation of more than one linear relationship over the variables used. To detect whether there is multicholinearity or cannot be seen from the probability value of each variable, if each free variable (independent variable) has a probability value below 0.8 then it can be said that there is no multicholinearity, and vice versa if each free variable (independent variable) has a probability value above 0.8 then it can be said that there is multicholinearity (Nachrowi and Usman, 2006). The results of the multicholinearity test in this study are as follows:

Based on the data in the table above, each independent variable in the research regression model I has a value below 0.8. Therefore, it can be concluded that the regression model in research I did not occur problems in the multicholinearity test so that there was no linear relationship between the independent variables in the research equation.

The multicholinearity test used in the regression model in research II was by looking at the tolerance value and variance inflating factor (VIF). If the tolerance value > 0.10 or equal to the VIF value < 10, then there is no multicholinearity in the study.

Based on the results from table 4.8 data above, to see the results of the multicollinearity test, it can be seen from the results of the Centered VIF column. The results of the data above show that the value for each independent variable has a VIF value of < 10, so there is no multicholinearity in study II.

Heteroskedasticity Test

The purpose of the heteroskedasticity test is to find out whether in the regression model there is an uneven inequality of one observation to another (Gujarati & Porter, 2015). A regression can be declared not exposed to heteroskedasticity if it has a probability value above 0.05. However, if the probability value is less than 0.05, it can be concluded that there is heteroskedasticity in the data. Based on the results of the heteroskedasticity test, it was produced that all independent variables in the study equation I (2016 – 2019) were free from the problem of heteroskedasticity. This is shown by the p-value of all independent variables in the research equation I is above the probability value of 0.05.

The purpose of the heteroskedasticity test is to determine whether in the regression model there is an inequality of variance from the residual of one research data to other research data. One way to detect the presence of symptoms of heteroskedasticity is to use the Heteroskedasticity Test: Breusch-Pagan-Godfrey. A data can be said to avoid the symptoms of heteroskedasticity, namely if the probability value > 0.05 (Ghozali and Ratmono, 2017). Based on this test, it was found that from the regression results for equation II (2020) with the Heteroskedasticity Test test method: Breusch-PaganGodfrey obtained an Obs*R-squared value

of 3.738984 and the probability value of 0.4425 greater than α = 0.05, which means that the residual homodexity is accepted, so that in the model there is no heteroskedasticity. In addition, the value of each variable shows a probability of sig > 0.05 so it can be concluded that in the model there are no symptoms of heteroskedasticity.

Autocorrelation Test

The purpose of the autocorrelation test is to test in a linear regression whether there is a correlation between the intruder error in the t period and the disruptor error in the previous period t-1 (Gujarati & Porter, 2015). The autocorrelation test in this study was carried out by comparing durbin-watson values (DW test). Based on this test, it was found that the two research equations did not have autocorrelations in the equations. The results of autocorrelation testing in this study can be seen as follows:

Table 6. Autocoleration Test Before and During the COVID-19 Pandemic

Research Equation I (2016 – 2019) Before the COVID-19 Pandemic			
Durbin-Watson Stat			1.962588
N	**k**	**Dl**	**Du**
143	4	1.6697	1.7846
Research Equation II (2020) Covid-19 Pandemic Period			
Durbin-Watson Stat			1.796277
N	**k**	**Dl**	**Du**
35	4	1.2221	1.7259

Source: Eviews 9 output, processed 2022

Multiple Regression Analysis

The research model used to analyze the data in this study is a multiple linear regression model with the Eviews 9 software tool. Regression analysis is a statistical model that explains the pattern of relationships of 2 (two) or more variables through equations. The following are the results of multiple regression analysis, namely:

Analysis of Research Equations I (2016-2019) Before the COVID-19 Pandemic

Table 7. Multiple Regression Analysis Before the COVID-19 Pandemic

Research Equation I (2016 – 2019)					
Variables	**Coefficient**	**Std. Error**	**t-Statistics**	**Prob.**	**Conclusion**
C	3.730788	0.696365	5.357522	0.0000	-
D_KD	2.287241	0.558915	4.092285	0.0001	Accepted
Npl	-0.466749	0.100945	-4.623789	0.0000	Accepted
OVCS	0.109334	0.095571	1.144010	0.2553	Rejected
NIN	-2.626615	1.453205	-1.807463	0.0736	Rejected
	R-Squared				0.827946
	Adjusted R-Squared				0.762799
	Prob (F-Statistics)				0.000000

Source: Eviews 9 output, processed 2022

Based on the regression results in the table above, the regression equation can be obtained as follows:

$$Z\text{-}score_{it} = 3.730788 + 2.287241D\_KD_{it} - 0.466749NPL_{it} + 0.109334OVCS_{it} - 2.626615NIN_{it}$$

Analysis of Research Equations II (2020) Covid-19 Pandemic Period

Table 8. Multiple Regression Analysis during the COVID-19 Pandemic

Research Equation II (2020)					
Variables	**Coefficient**	**Std. Error**	**t-Statistics**	**Prob.**	**Conclusion**
C	2.070117	1.205379	1.717399	0.0962	-
D_KD	2.713317	0.995452	2.725713	0.0106	Accepted
Npl	-0.270281	0.094852	-2.849486	0.0078	Accepted
OVCS	-0.128943	0.139811	-0.922266	0.3637	Rejected
NIN	-4.216610	1.885749	-2.236040	0.0329	Accepted
R-Squared					0.441600
Adjusted R-Squared					0.367147
Prob (F-Statistics)					0.001220

Source: Eviews 9 output, processed 2022

Based on the regression results in the table above, the regression equation can be obtained as follows:

$$Z\text{-}score_i = 2.070117 + 2.713317D\_KD_i - 0.270281NPL_i - 0.128943OVCS_i - 4.216610NIN_i$$

Digital Finance Positively Affects Bank Stability Before and During the COVID-19 Pandemic

These results are in line with or supported by Ozili's research (2018); Risman *et. al* (2021); Banna and Nature (2020); and Yudaruddin (2020). The application of digital banking to banks has made banks more profitable than before. Yudaruddin (2020) stated that m*obile banking* is one of the latest innovations in mobile technology that provides effective distribution channels compared to other distribution channels. A mobile banking function that provides efficient services anytime, anywhere, including on the go. In addition, with the increasing use of *smartphones*, the ability of banks to offer innovative services to improve operational efficiency and market share will have a significant impact.

The results of this study are also supported by agency theory. Ozili (2018) said that agency issues in digital finance consist of the goal of maximizing the profits of non-profit financial service providers and the goal of maximizing the well-being of those who use such financial services. On the supply side, private and public partnerships in the provision of digital finance can play an important role in digitizing the country's economy. This theory means that a manager or CEO as *an agent* will continue to improve his performance so that the principal's wishes will be fulfilled. The desire desired by the *principal* is like an increased income. Digital finance is a new innovation in the financial industry that can attract the attention of many people because of the practicality of running it. However, this research is not in line with rusdianasari's research (2018). Rusdianasari (2018) stated that digital finance with the role of *financial technology* has not been optimal in influencing financial stability, especially banking. Digital finance can only be achieved by people who know technology, speed, effectiveness, and efficiency so that *unbankable* people cannot use it yet.

Credit Risk Negatively Affects Bank Stability Before and During Covid-19 Pandemic

The results showed that credit risk or *Non-Performing* Loans (NPLs) negatively affect bank stability (*Z-score*). Therefore, these results explain that credit risk or *Non-Performing Loans* (NPLs) negatively affect bank stability in the period before and during the COVID-19 Pandemic. This is in line with the development of this research hypothesis, which means that hypothesis 2 (H2) is accepted.

The results of this study are in line with My (2020); Matey (2021); and Ketaren and Haryanto (2020). My (2020) states that credit risk as measured by *Non Performing* Loans (NPLs), it must be seen the value of the NPL ratio whether it is high or low. Declining bank credit growth and the number of non-performing loans can affect banking income and the efficiency of the banking system. Ketaren and Haryanto (2020) also stated that the higher the NPL, the lower the value of bank stability. The bank's level of bad debts makes it clear that the risk, the failure of customer trust, is borne by the bank. The higher the value of bad debts owned by the bank, the higher the customer default value . This increase in default is a credit risk that has a significant impact on the banking industry because it has an impact on the poor corporate performance as evidenced by the decline in banking stability. This is also supported by the theory of intermediation due to the relationship with bank funds lent to customers who need funds. Credit risk will arise when the customer is unable to pay his obligations so that the intermediation theory can increase the level of credit risk and make the bank have to regulate the level of risk to maintain its stability.

Overhead Cost Has No Effect on Bank Stability before and during the COVID-19 Pandemic

The results showed that overhead cost had no effect on bank stability (Z-score). Therefore, these results explain that overhead cost has no effect on bank stability in the period before and during the COVID19 Pandemic. This is not in line with the development of this research hypothesis, which means that hypothesis 3 (H3) is rejected.

A high overhead cost ratio may have a negative effect on bank stability because the lower the overhead cost, the more efficient the bank will be in maintaining its net income. However, banks have begun to implement digitalization so that the provision of financial services has begun to be automatic and this can cause the cost of wages to fall (Asutay &Izhar, 2007). The results of this study found that overhead costs did not affect bank stability. The results of this study are in line with the research of Dwiyanti &Azib (2019) and Demirhan (2013). However, this research is not in line with Tan's research (2016) which states that overhead costs have a positive effect and Daoud & Cameroon (2020) which proves that overhead costs have a negative effect on bank stability. Demirhan (2013) stated that the non-effect of overhead costs on bank stability is possible because of the low value of the overhead cost ratio so as not to cause changes in bank stability.

Overhead cost is also one of the components that affects the establishment of prime lending rates (PLR) for banks. OJK found that the SBDK component decreased every year. The lowest decline experienced by banking overhead costs was in 2019 and 2020.

The COVID-19 pandemic period, which is the cause of the world economic crisis, can also be one of the reasons for low banking overhead costs due to the implementation of restrictions on community activities in Indonesia (PPKM) which makes activities in the office

restricted. Based on the results of the study, the COVID-19 Pandemic period affected overhead costs because the mean value in research II was smaller than that of research I

i.e. 4.006286 < 4.622517. On the other hand, the decline in the Z-score in research II was seen from the mean value of 1.588286 < 3.568392 was caused by an increase in the value of credit risk or NPL and non-interest income which clearly affected bank stability. Therefore, it can be concluded that if bank stability is negatively affected by overhead costs, bank stability is not significantly affected due to a decrease in the value of overhead costs. These results are also supported by descriptive statistical results for both research equations which result in that the standard deviation value of overhead cost is smaller than the mean value . This is not in line with the agency's theory that agents will increase the company's overhead costs to make operational activities run well and bank stability and princial trust will be achieved and maintained.

Non-Interest Income Does Not Affect Bank Stability Before the COVID-19 Pandemic and Negatively Affects During the COVID-19 Pandemic

The results showed that non-interest income did not affect bank stability (Z-score). The results explained that non-interest income did not affect the stability of banks in the period before the COVID-19 Pandemic. Furthermore, table 4.13 shows that non-interest income negatively affects bank stability (Z-score). The results explained that non-interest income had a negative effect on bank stability (Z-score) during the COVID-19 Pandemic. These two results are not in line with the development of this research hypothesis, which means that hypothesis 4 (H4) is rejected.

The results of research before the COVID-19 Pandemic where non-interest income did not affect bank stability in line with the research of Ikhsan & Hersugondo (2021). Ikhsan & Hersugondo (2021) stated that banks in Indonesia have not yet determined the impact of non-interest income diversification on bank profitability and risk. This shows that Indonesian banks still rely on traditional income to increase profitability and have not maximized the diversification effect associated with increasing profitability by using non-interest income sources.

Furthermore, the results of research during the COVID-19 Pandemic where non-interest income negatively affected bank stability in line with the research of My (2020) and Antao & Karnik (2022). Banks may become more dependent on non-interest income to protect their income. This negatively affects the stability of the bank. This is because the situation is still developing, the proper continuity of the situation in which it occurred is still unclear, and a clear statement is impossible. It is worth considering the role of macroeconomic variables. Inflation above a certain threshold is likely to affect the stability of the bank, but it is necessary to set the appropriate threshold for each group of countries and even for each country. Political variables, especially the role of monetary policy, need further explanation given the magnitude of the differences between countries in the implementation of such policies. Finally, the most important direction that needs to be expanded is to investigate the impact of the COVID-19 Pandemic on bank stability. As the effects of the pandemic are still ongoing in many countries, it will take some time to produce reliable data to analyze. The presence of the COVID-19 pandemic, which has an impact on the economy, still does not seem to have made Indonesian banks to diversify their income with non-interest income (Ikhsan & Hersugondo, 2021). This

is not in line with the theory of intermediation because nowadays, people prioritize digitalization and this affects bank non-interest income. Bank non-interest income can increase along with the development of the digitalization era. Examples of transactions that can increase non-interest income such as *top up* digital wallet balances using *mobile banking*.

CONCLUSION

Conclusion

Based on the results of previously described research, conclusions can be drawn related to digital finance, credit risk, overhead costs, and non-interest income to bank stability (Z-score) both before and during the COVID-19 Pandemic. Based on the results of the analysis and discussion above, the conclusions on the results of this study can be seen as follows:

1. Digital financial variables have a positive effect on bank stability, which is proxied with a Z-score on banks listed on the Indonesia Stock Exchange (IDX) in 2016 – 2020. The results are consistent in research equation I and research equation II.
2. The credit risk variable negatively affects bank stability, which is proxied with the Z-score in banks listed on the Indonesia Stock Exchange (IDX) in 2016 – 2020. The results are consistent in research equation I and research equation II.
3. The overhead cost variable has no effect on bank stability proxied with the Z-score in banks listed on the Indonesia Stock Exchange (IDX) in 2016 – 2020. These results are consistent in the equation of research I and the equation of research II and what distinguishes is the value of the coefficient before the COVID-19 Pandemic is positive while during the pandemic it is negative.
4. The Non-interest Income variable does not affect the stability of banks proxied with the Z-score on banks listed on the Indonesia Stock Exchange (IDX) in 2016 - 2020 before the COVID-19 Pandemic. However, the Non-interest Income (NIN) variable negatively affects bank stability, which is proxied with a Z-score on banks listed on the Indonesia Stock Exchange (IDX) in 2016 – 2020 during the COVID-19 Pandemic.

Managerial Implications

This research has contributed to knowing what factors can affect the level of bank stability before the COVID-19 Pandemic and during the COVID-19 Pandemic. Based on the results of research before the COVID-19 Pandemic, it was found that digital finance had a positive effect, credit risk had a negative effect, overhead costs had no effect, and non-interest income did not affect bank stability. Furthermore, during the COVID-19 Pandemic, it was found that digital finance had a positive effect, credit risk had a negative effect, overhead costs did not affect, and non-interest income had a negative effect on bank stability.

Digital finance, which has a positive influence on bank stability in the period before and during the COVID-19 Pandemic, is expected to make banks more aware of the importance of digitalization. The application of digitalization in banks can increase bank stability so that banks that have not applied it are expected to launch it soon and banks that have implemented it are expected to develop services on their applications such as mobile banking.

Furthermore, credit risk has a negative influence on bank stability in the period before and during the COVID-19 Pandemic is expected to make banks further improve their ability to

mitigate credit risk. After that, non-interest income has a negative influence on bank stability during the COVID-19 Pandemic, which is expected to make banks to further increase non-interest income by implementing digital banks and collaborating with other entities such as companies that run e-commerce.

Limitations

1. This study only uses data from banking companies listed on the Indonesia Stock Exchange for the period 2016 – 2020.
2. This study measured bank stability using only the Z-score, measured overhead costs divided by total assets, measured non-interest income divided by total operating income, and digital financial measurements using only dummy variables.

Suggestion

1. After that, the next researcher is expected to increase the research period.
2. Researchers are then expected to be able to use the latest measurements to measure existing independent variables and are expected to be able to measure overhead costs using overhead cost measurements divided by operating income if they continue to take samples of banks located in Indonesia.
3. After that, the next researcher is expected to be able to compare bank stability for banks that have implemented digital banking, namely banks that have launched mobile banking and for banks that have not.
4. Furthermore, researchers are also expected to multiply other independent variables that are likely to affect bank stability and use control variables that may affect bank stability, example credit risk, market risk, liquidity risk, operational risk, legal risk, strategic risk, compliance risk, and reputational risk.
5. Further research needs to examine financial system stability and macroeconomics, whether or not it has a positive correlation with health banking.

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ARE FINANCIAL PERFORMANCE AND CORPORATE SOCIAL RESPONSIBILITY DETERMINANTS TO FIRM VALUE?

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Abstract: This study aims to empirically prove the influence of capital structure, profitability, and corporate social responsibility on firm value. There are 3 independent variables used in this study, namely capital structure as measured by the Debt to Equity Ratio (DER), profitability as measured by Return on Assets (ROA), and corporate social responsibility as measured by the Corporate Social Responsibility Disclosure Index (CSRDI) with content analysis technique. The population used in this study uses manufacturing companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange in the period 2018 to 2020. Data collection was carried out using a purposive sampling technique with a total sample of 20 companies. The analytical method used is multiple linear regression analysis with SPSS version 26. 0 applications and a significant value of 5%. The results of this study are the capital structure variable has a significant positive effect on firm value, the profitability variable has a significant positive effect on firm value, and the corporate social responsibility variable has no effect on firm value.

Keywords: Capital Structure, Profitability, Corporate Social Responsibility (CSR), Firm Value

Abstrak: *Penelitian ini bertujuan untuk membuktikan secara empiris pengaruh struktur modal, profitabilitas, dan tanggung jawab sosial perusahaan terhadap nilai perusahaan. Terdapat 3 variabel independen yang digunakan dalam penelitian ini, yaitu struktur modal yang diukur dengan Debt to Equity Ratio (DER), profitabilitas yang diukur dengan Return on Assets (ROA), dan tanggung jawab sosial perusahaan yang diukur dengan Corporate Social Responsibility Disclosure Index (CSRDI) dengan teknik content analysis. Populasi yang digunakan dalam penelitian ini menggunakan perusahaan manufaktur pada subsektor makanan dan minuman yang terdaftar di Bursa Efek Indonesia periode 2018 hingga 2020. Pengumpulan data dilakukan dengan menggunakan teknik purposive sampling dengan jumlah sampel sebanyak 20 perusahaan. Metode analisis yang digunakan adalah analisis regresi linier berganda dengan aplikasi SPSS versi 26.0 dan nilai signifikansi 5%. Hasil penelitian ini adalah variabel struktur modal berpengaruh positif signifikan terhadap nilai perusahaan, variabel profitabilitas berpengaruh positif signifikan terhadap nilai perusahaan, dan variabel tanggung jawab sosial perusahaan tidak berpengaruh terhadap nilai perusahaan.*

***Kata kunci** : Struktur Modal, Profitabilitas, Tanggung Jawab Sosial Perusahaan, Nilai Perusahaan*

INTRODUCTION

The business world in Indonesia is classified as developing rapidly, one of which is the food and beverage sub-sector manufacturing company which can obtain high sales volume which triggers an increase in profits which in turn can increase the value of the food and beverage company (Magdalena & Setiawan, 2019). Firm value is one of the indicators that is often used as a reference for investors in predicting the success of a company, because it is closely related to the stock price because,with high stock prices, it also shows high firm value.

In 2020 for the first time, the Covid-19 virus entered Indonesia which had a sizeable impact on all industrial sectors. Several companies have not performed well, one of which is PT Sentra Food Indonesia Tbk (FOOD), which is engaged in the processed meat industry. Reporting from Kontan, FOOD experienced a net loss of Rp. 15.21 billion, while in 2019, FOOD was able to earn a profit of Rp. 1.37 billion (Elvira, 2021). On the other hand, PT Indofood Sukses Makmur (INDF) experienced an increase in revenue and sales in 2020 (Aldin, 2021).

Conditions during the pandemic caused a contraction in stock prices. Even though 2020 INDF's financial performance experienced an increase in both sales and net profit INDF's share price experienced a decline at the end of the year. The decline in share prices due to the Covid-19 pandemic has also affected the decline in the JCI which will simultaneously affect people's investment behavior. As reported in Bisnis, since the pandemic, the JCI has experienced ups and downs (Dance, 2021).

The Covid-19 pandemic has caused a decline in stock prices, so one way to increase stock prices is to increase firm value. Because firm value is a fundamental thing for the sustainability of a company, this research examines several factors that are considered capable of influencing firm value, especially manufacturing companies in the food and beverage sub sector. Some of these factors include capital structure, profitability, and corporate social responsibility. Capital structure is considered important in its influence on firm value because the firm value can be achieved through financial management. Financial decisions will affect other financial decisions (Irawan & Kusuma, 2019). Especially during Covid-19, financial management for company funding will be a challenge for companies.

Furthermore, profitability is another factor that is considered capable of influencing the value of a company. Increased profits indicate that the company has good performance thereby creating a positive signal for investors which can trigger an increase in stock prices. The share price also increases firm value. So that the higher the profitability, the higher firm value and the more courageous an investor invests in the company (Palisan, 2021).

The next factor is Corporate Social Responsibility (CSR). The existence of CSR disclosure is a company effort to provide a positive signal for investors because investors will be more interested in investing in environmentally friendly companies, so the lower the level of CSR disclosure, the lower the firm value. (Fauziah et al., 2020). Especially during a pandemic, companies will increasingly look for ways to help increase funding through increased investor interest.

Because there are still relevant phenomena as explained earlier, this study aims to provide empirical evidence of the influence of capital structure, profitability, and CSR on firm value. Futhermore, this research give the benefit fo the business and investor. To attract and retain the potential investor, the business should pay attention for the firm value which reflect the

volatility of maarket price. And also, the result of this research, give the information for the investor to consider the performance of financial aspect, like capital structure and profitability and non financial aspect, likes CSRD which reflect the consistency of company to sustainability.

LITERATURE REVIEW

Stakeholders Theory

According to Freeman et al. (2010) fundamentally stakeholder theory is a theory that discusses how a business can work as well as possible and how its implementation can be successful which is managerial in nature. It was further explained that the theory discussed value creation, trade, and also how to manage a business effectively. Stakeholder theory requires the existence of other parties who are directly involved in a business where these parties have links to create a certain value and interest. So it is known that stakeholders are the main core of stakeholder theory which includes shareholders, customers, suppliers, workers, communities, government, and others (Magdalena & Setiawan, 2019).

Firm Value

Firm value is an important component because high corporate value, is followed by high shareholder prosperity. Firm value can be reflected in the stock price of a company. So the higher the stock price, the higher firm value. A high corporate value is the desire of every company owner because a high value indicates high shareholder prosperity (Hermuningsih, 2012).

Capital Structure

Capital structure relates to decisions regarding the proportion of funding chosen by the company, where funding sources are divided into two, namely internal and external funding (Sari, 2020). Therefore, the capital structure can be defined as a comparison between foreign capital and owned capital, where foreign capital is obtained through debt, both short-term and long-term debt, while own capital comes from retained earnings and company ownership participation (Dwijayanti et al., 2019).

Profitability

According to Palisungan (2021) profitability is the net result obtained through various policies and decisions that have been implemented by the company before. In addition, it can also be defined as the company's capability to create profits through the sale of goods or services produced by the company itself (Palisan, 2021).

Corporate Social Responsibility (CSR)

Based on Kamaliah (2020), revealed that CSR is a company mechanism to voluntarily integrate environmental and social issues into stakeholder activities and interactions, where it increases corporate responsibility. In Indonesia, CSR disclosure is mandatory, especially for

companies that have an interest in shareholders and other stakeholders (Setiawan & Purwanti, 2021). Companies can also disclose things that are considered important and related to the company's CSR both in annual reports and sustainable reports. Therefore CSR disclosure in Indonesia is still voluntary (Setiawan & Purwanti, 2021).

Hypothesis Development

Effect of Capital Structure on Firm Value

Sutrisno (2016) said that if the company uses debt as a source of funding it can increase firm value, but if it continues to be added it will pose a risk to the company. The increase in firm value as a result of an increase in debt is caused by tax savings because taxes are calculated through operating profit after deducting interest payable so that the net profit that becomes the right of shareholders will be greater than companies that do not use debt as a source of funding. Irawan & Kusuma (2019). Therefore, it can be seen that the greater the capital structure of a company, the greater or increase firm value. This is in line with research conducted by Rahayu et al. (2020), Bestariningrum (2015), Sari (2020), and Hermuningsih (2012).

H_1: Capital structure has a positive effect to firm value

Effect of Profitability on Firm Value

High company profits will be accompanied by an increase in stock prices so that firm value in a correlated manner also increases. That way the company's shares will be increasingly in demand by investors (Palisan, 2021). So it can be seen that theoretically profitability influences firm value. This is in line with previous research by Wijaya (2020), Hill et al. (2018), as well as Palisigan (2021) Based on this explanation, the hypothesis can be formulated as follows:

H_2: Profitability has a positive effect to firm value

Effect of Corporate Social Responsibility on Firm Value

Ehsan et al. (2018) in their journal state that the implementation of CSR is in direct contact with stakeholder theory, namely CSR is an important parameter for the sustainable development of business and the value creation process. To get support from stakeholders, the company will provide more information on the implementation of CSR. Disclosure of CSR also helps companies improve their image and transparency to increase investors' desire to invest in the company. In this way, it is theoretically known that CSR affects firm value. This is in line with previous research by Fauziah et al. (2020), Wirawan et al. (2020) and Kamalia (2020)

H_3: CSR has a positive effect on firm value

RESEARCH METHODOLOGY

Data Types and Sources

The data used in this study is secondary data sourced from the Indonesia Stock Exchange and through the websites of related companies. The data used only use annual reports from each food and beverage sub-sector manufacturing company in Indonesia which publishes in

the 2018-2020 timeframe. Data collection used a purposive sampling technique with the criteria for completeness of the sample data. Of the twenty-six companies in the food and beverage subsector, twenty companies met the criteria.

Operational Definition and Variable Measurement

In this study, the dependent variable used is a firm value which is often used to assess the level of success of a company. The success of the company can be reflected by the existence of a higher firm value. To measure firm value, this study uses Price to Book Value (PBV). A high PBV will reflect a high share price compared to the book value per share. So calculating PBV will prove that the higher the share price, the more successful a company is in generating value for shareholders. The company's success in generating this value certainly gives hope to shareholders in obtaining greater profits (Sutrisno, 2016). Price to Book Value ratio can be calculated using the formula:

$$PBV = \frac{Market\ Prices\ per\ Share}{Book\ Value\ per\ Share}$$

In general, the capital structure describes the company's financial proportion of the capital owned which comes from long-term debt (*long-term debt*) and own capital (*shareholder's equity*) which is the company's source of financing (Sari, 2020). Therefore this study uses Debt to Equity Ratio (DER) in measuring capital structure. Debt to Equity Ratio is the ratio used to measure the level of use of debt to the total shareholder's equity owned by the company. Total debt is total liabilities both short-term and long-term debt, while total shareholder's equity is the total own capital, both paid-up share capital and retained earnings owned by the company. The higher DER indicates that the composition of the total debt is greater than the total equity so the company's burden on outsiders or creditors is increasing (Hermuningsih, 2012). Then, the formula used in the calculation of Debt to Equity Ratio is:

$$DER = \frac{Total\ Debt}{Total\ Equity}$$

According to (Prayitno et al., 2021) profitability is an analysis model in the form of a comparison of financial data so that financial information becomes meaningful. The calculation of profitability also describes the effectiveness of managing a company, this is indicated by the returns obtained from investment income and sales. In this study, the calculation of profitability uses Return on Assets (ROA). ROA is a ratio that measures a company's ability to generate profits using all of the company's assets (Palisan, 2021). The income used in calculating this ratio uses income after interest and tax or what is commonly called Earnings After Tax (EAT). The Return on Assets ratio can be measured using the formula:

$$ROA = \frac{Net\ Income\ After\ Tax}{Total\ Asset}$$

According to Setiawan et al. (2021), Corporate Social Responsibility (CSR) is behavior that provides goodness or benefits to society in the future by applicable law. CSR in this study will be measured using indicators taken through research Baranova et al. (2021). These indicators are used as a reference in measuring CSR disclosure with quantitative techniques of Content Analysis namely providing a code for the number of sentences or paragraphs of disclosure in the annual report as developed by Setiawan et al. (2021). The absence of disclosure on indicators is given a value of 0, the disclosure in 1 sentence is given a value of 1, disclosures in 1 paragraph are given a value of 2, disclosures in 2-3 paragraphs are given a value of 3, disclosures in 4-5 paragraphs are given a value of 4, and disclosures in more than 5 paragraphs are given a value of 5 Furthermore, to calulate of CSR disclosure that has been given a score is to use the following ratio :

$$CSRDI_j = \frac{\sum X_j}{n_j \times 5}$$

$CSRDI_j$ = Corporate Social Responsibility Disclosure Index

Tabel 1. Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.126	.180		.702	.486		
	Capital Structure	.243	.085	.265	2.855	.006	.934	1.070
	Profitability	7.477	.906	.800	8.254	.000	.857	1.167
	CSR	-.126	.441	-.027	-.285	.777	.885	1.130

a. Dependent Variable: Firm Value

$\sum X_j$ = Total CSR score disclosed

$n_j \times 5$ = Number of CSR indicator items multiplied by the highest value CSR assessment score index

RESULTS AND DISCUSSION

Multiple Linear Regression Analysis

Source: Processed results of researchers

Based on the results of data processing for multiple linear regression analysis then created a multiple linear regression model as follows.

$$Y = 0.126 + 0.243X_1 + 7.477X_2 - 0.126X_3 + e$$

Where X1 is capital structure, X2 is profitability, and X3 is CSR.

Hypothesis Test – F Test

Tabel 2. F Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.275	3	8.425	24.741	.000[b]
	Residual	17.026	50	.341		
	Total	42.301	53			

a. Dependent Variable: Firm Value
b. Predictors: (Constant), CSR, Capital Structure, Profitability
Source: Processed results of researchers

Based on table 2 it is known that the result of the F test is 24.741 with a significance value of 0.000. Because the significance value is less than 0.05, then it can be said that the capital structure, profitability, and CSR simultaneously or jointly affect firm value.

Hypothesis Test – T Test

Based on table 1, it is known that the capital structure variable has a significance of 0.006 where the value is smaller than the degree of confidence level of 0.05. So it can be concluded that the capital structure variable has a significant effect on firm value with a confidence level of 95% (0.95). In other words, the Ha_1 is accepted. The profitability variable has a significance of 0.000 which is smaller than the level of confidence of 0.05. So it can be concluded that the profitability variable has a significant effect on firm value with a confidence level of 95% (0.95). In other words, the Ha_2 is accepted. However, it is also known that the CSR variable has a significance of 0.777 which is greater than the degree of confidence level of 0.05. It means Ha_3 is rejected.

Discussion

The Relationship between Capital Structure and Firm Value

The capital structure variable has a significant value of 0.006 which indicates that the significance value is less than 0.05 so it can be interpreted that the capital structure variable has a significant influence on the firm value variable.

In addition, the calculated T value shows a value of 2.855 where it can be seen that the direction of influence of the capital structure variable on firm value is positive, which means that if the company's capital structure increases, the firm's value will also increase. So, it can be concluded that the capital structure variable has a significant positive effect on firm value so that Ha_1 is accepted. The results of this study are in line with previous research conducted by Rahayu et al. (2020) and Hermuningsih (2012). However, the results of this study are not in line with previous research conducted by Sutrisno (2016).

If the company can manage its debts properly and pay them on time, it will be a positive signal for investors and will not affect the decision of creditors to provide additional loans, so it will not reduce firm value. In addition, the use of debt as a source of funding is preferred by investors compared to issuing shares because issuing shares will increase the number of outstanding shares in the company which will reduce the value of these shares.

The Relationship between Profitability and Firm Value

The significance value of this variable is 0.000 which indicates that the significance value is less than 0.05. So the profitability variable has a significant influence on the firm value variable. Furthermore, it is known that the calculated T value of this variable is 8.254, which means that the direction of the influence of the profitability variable on firm value is positive, which indicates that the higher the profitability, the higher the firm value. Through this explanation, it can be concluded that profitability has a significant positive effect on firm value so Ha2 is accepted. These results are in line with previous research conducted by Hill et al. (2018) and Wijaya (2020). However, this is not in line with research byWulandari & Efendi (2022).

The effect of profitability on firm value indicates that the profits generated by the company will increase firm value, not only that, high profits also reflect good profitability. High profitability will attract investors to invest, which simultaneously increases stock prices through the demand for many shares so that if stock prices increase, firm value will increase.

The Relationship between Corporate Social Responsibility and Firm Value

The significance value of the CSR variable in this study is 0.777, which is greater than 0.05, which means that the corporate social responsibility variable does not affect firm value. It can be seen that the calculated T value of this variable is -0.285. Thus, it is concluded that the corporate social responsibility variable has no influence on the firm value variable, and Ha_3 is rejected. These results are in line with previous research conducted byRahmawati et al. (2021). However, this is not in line with previous research conducted by Irwan et al. (2020).

Rahmawati et al. (2021) state that CSR disclosure is one of the important factors for investors to make investment decisions in companies. However, there are indications that investors tend to ignore CSR disclosure because CSR disclosure is legally guaranteed in Law no. 40 of 2007 article 66 paragraph (2) concerning limited liability companies which require every company to report all of its social responsibility activities in an annual report. This is also supported by the voluntary nature of CSR disclosure information in Indonesia. So, it is known that Disclosure of a company's CSR cannot be a factor affecting firm value. The results of this variable are not in line with the stakeholder's theory which states that CSR disclosure is a parameter for business development and value creation processes. Thus, the provision of information by stakeholders related to the implementation of CSR does not affect the improvement of the company's image and transparency which can increase the desire of investors to invest.

CONCLUSIONS

This study explains that capital structure has a significantly positive affects. This means that the increase in the use of debt as a source of funding for the capital structure will simultaneously increase firm value. This is because the use of debt will not increase the number of outstanding shares which will reduce the value of shares. Next, profitability has a significant positive effect on firm value. That is, an increase in ROA will increase firm value. This is because high profits will attract investors to invest so the company's stock price will increase.

Furthermore, CSR does not affect firm value. This is because there are regulations that require CSR disclosure so investors pay less attention to CSR disclosure.

Research can answer the phenomenon of the large number of people investing in stocks to earn income or as an alternative to saving money during the Covid-19 pandemic, so knowledge of things that affect firm value is important. The results of this study provide a forum for further research to be developed. First, this research is limited to 2020 because many foods and beverage companies have not yet published their 2021 annual reports. Further research can continue in the 2021 period. generalized. Third, future research is suggested to be able to add to the use of sustainability reports to measure CSR disclosure.Setiawan et al. (2021).

For companies, this research is expected to be able to expand CSR disclosure on indicators that are still relatively low, such as CSR 15 and also 20. In addition, companies are also advised to use debt for funding because it can increase firm value.

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THE INFLUENCE OF GREEN INTELLECTUAL CAPITAL, DIVIDEND POLICY, PROFITABILITY RATIO AND ACTIVITY RATIO ON COMPANY VALUE

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Abstract: This study aims to determine the effect of green intellectual capital, dividend policy, profitability ratios and activity ratios on firm value. This study takes a sample of companies listed on the Indonesia Stock Exchange which are included in the Sri-KEHATI Index list for the 2016-2020 period. The sample in this study a sample of 9 companies with a total of 45 observations of observation data for 5 years. A total of 5 outlier data have been removed from the analysis so that the total observations are 40 observational data. The data analysis method used is panel data regression with the help of the Eviews 9 program. The results show that partially green intellectual capital, dividend payout ratio and return on equity have no effect on firm value.

Keywords: dividend policy, profitability ratios, activity ratios, firm value, green intellectual capital

Abstrak: *Penelitian ini bertujuan untuk mengetahui pengaruh* green intellectual capital, *kebijakan dividen, rasio profitabilitas dan rasio aktivitas terhadap nilai perusahaan. Penelitian ini mengambil sampel perusahaan yang terdaftar di Bursa Efek Indonesia yang masuk dalam daftar Indeks Sri-KEHATI periode 2016-2020. Sampel dalam penelitian ini sampel sebanyak 9 perusahaan dengan jumlah observasi sebanyak 45 data observasi selama 5 tahun. Sebanyak 5 data outlier telah dikeluarkan dari analisis sehingga total observasi adalah 40 data observasi. Metode analisis data yang digunakan adalah regresi data panel dengan bantuan program Eviews 9. Hasil penelitian menunjukkan bahwa secara parsial green intellectual capital, dividend payout ratio dan return on equity tidak berpengaruh terhadap nilai perusahaan.*

Kata Kunci: *kebijakan dividen, rasio profitabilitas, rasio aktivitas, nilai perusahaan,* green intellectual capital

INTRODUCTION

In the midst of increasingly fierce global competition, companies in various sectors are trying to improve competitiveness, this can attract investors to invest. Therefore, the value of the company isvery important because it reflects the company's performance which can affect investors' perceptions of the company(Wijaya and Sedana 2015). Generally a company will always try to achieve both long-term and short-term goals. The long-term goal of a company is usually to increase the value of the company and prosper the shareholders. Meanwhile, the short-term goal is to maximize the company's profit with the available resources(Sintyana and Artini 2018).

The company is one of the drivers of the economy that plays a strategic role even though on the other hand it has a negative impact on environmental quality. In the last decade, ecological issues have become a concern for many people, for example related to the need to reduce pollution and reduce carbon dioxide (CO_2). The company implements environmental management systems and green activities to control environmental pollution so that employee and human behavior can be used to reduce pollution. Companies are required to be more proactive in responding to environmental issues and make voluntary disclosures for environmental protection in sustainability reports. With the company paying attention to environmental performance it will have a positive impact on the value of the company.

The policy that needs to be considered in optimizing the value of the company is the dividend policy. Dividend policy can have a positive effect on firm value. Because investors prefer a definite dividend at this time by considering the risk that investors will receive is smaller. This can attract investors so that it can also increase the value of the company(Sintyana and Artini 2018). Dividend policy can also have a negative effect on firm value if the company's dividend policy chooses to reinvest the earnings received into retained earnings.

The value of the company can also be influenced by the size of the profitability obtained by the company. Imam Rahmantio et al. (2018) suggests that ROE increases along with the company's abilityto generate profits from its own capital. Investors before deciding to invest in the company will certainly see the extent to which the company can generate profits. Profitability has no effect on firm value because this means that profitability is not the main focus of investors to see the value of a company, stated by the research of Delariani et al. (2020).

Company activity or activity ratio is a ratio used to measure a company's ability to manage its assets effectively and efficiently. The higher the asset turnover means that the company has been able to make sales using all of its assets. This gives a positive signal to investors to trust the company morebecause it will get the expected profit.

LITERATURE REVIEW

According to (Rachman, Rahayu, and Topowijono 2015) in (Mutmainnah, Puspitaningtyas, and Puspita 2019) argues that the value of the company can describe the good and bad management of a company carried out by management which will later affect the formation of the company's share price.If the company can manage its resources well, then

the company can generate profits optimally. The higher the amount of profit generated will affect the high retained earnings of the company.

Green Intellectual Capital

The definition of Green Intellectual Capital (GIC) proposed by Chen (2008) is the incorporation of environmental concepts into Intellectual Capital (IC) to compensate for the previous inadequacy of environmental problems. Chen (2008) describes green intellectual capital as the total wealth stored in the company which includes intangible assets, knowledge, abilities and other matters related to environmental protection and green innovation at the individual level and organizational level within the company. According to Chen (2008) green intellectual capital has three components, namely greenhuman capital, green structural capital, and green relationship capital

Dividend Policy

Dividend is a distribution to shareholders of a company proportionally according to the number of shares held by each owner(Stice, Stice, and Skousen 2009).According to Sutrisno (2012) dividendpolicy is one of the policies that must be taken by management whether the profits earned by the company during one period will be divided all or partially divided into dividends and someare not divided in the form of retained earnings.

Profitability Ratio

Profitability ratio is a ratio to assess the company's ability to seek profit. According to (Harahap2010) ROE is used to measure the return on investment of shareholders. The level of ROE has a positiverelationship with firm value, so the higher the ROE, the higher the interest of investors because the higher the profit for shareholders and the impact on firm value (Hariyanto and Lestari 2015)

Activity Ratio

The activity ratio according to Home, James, & Machowucz (2007) is a ratio that measures how effectively a company manages its assets. Total Assets Turnoveris a ratio used to measure the effectiveness of the company's total assets in generating sales, or to measure how many sales will be generated from each rupiah of funds embedded in total assets.

Framework

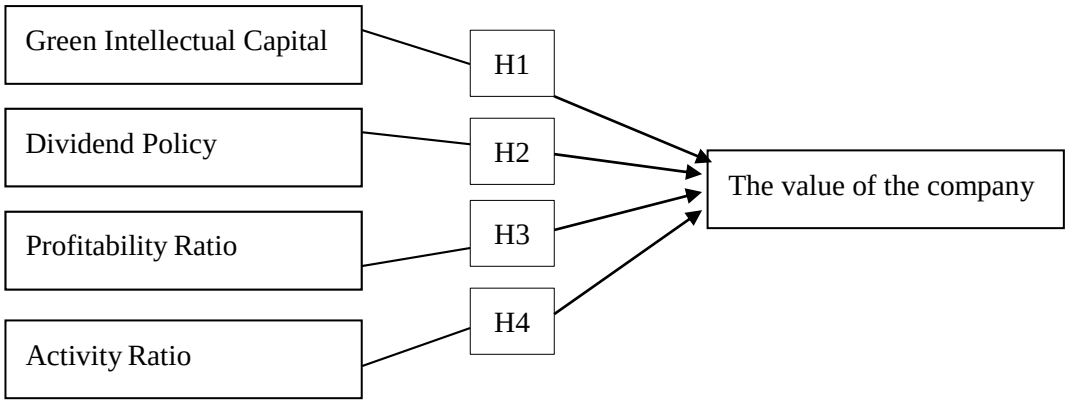

Figure 1. Thinking Framework

H1 : Green Intellectual Capital has a positive effect on Firm Value
H2: Dividend Policy has a positive effect on Firm Value
H3 : Profitability Ratio has a positive effect on Firm Value
H4 : Activity Ratio has a positive effect on Company Value

RESEARCH METHODOLOGY

This study aims to determine the effect of green intellectual capital, dividend policy, profitability ratios and activity ratios on firm value. This study takes samples from companies listed on the Indonesia Stock Exchange which are listed on the Sri-KEHATI Index for the 2016-2020 period. The source of data used in this study is secondary data obtained from the official website of the Indonesia Stock Exchange. In processing the data, this study uses the help of the Eviews 9 application by using a regression equation in the form of a logarithm. Ghozali (in Widiyanto, 2018) mentions that there are differences in the units and quantities of independent variables, then the regression equation can be made a natural logarithm model to avoid heteroscedasticity, knowing the coefficients that show elasticity, and closer to the scale of the data. The sampling technique used in this research is purposive sampling. The following are the sample criteria from this study:

1. Companies listed on the Indonesia Stock Exchange that are listed on the KEHATI index (SRI) on the Indonesia Stock Exchange during the 2016-2020 period
2. Companies that are not consistently listed on the Sri-KEHATI Index during the 2016-2020 period
3. Companies with the SRI-KEHATI index that do not present complete financial statements during the 2016-2020 period
4. SRI-KEHATI indexed companies that do not use Rupiah in their financial statements
5. Companies with SRI-KEHATI index that do not present complete sustainability reports during the2016-2020 period
6. SRI-KEHATI indexed companies that did not distribute dividends consecutively during the 2016-2020 period

Table 1. Table of Operational Variables

No.	Variable	Indicator	Scale
1	The value of the company	$Q = \frac{MVE + Debt}{Total\ Asset}$	Ratio
2	Green Intellectual Capital	GIC $= \frac{n}{k}$	Ratio
3	Dividend Policy	DPR $= \frac{Dividend\ Per\ Share\ (DPS)}{Earning\ Per\ Share\ (EPS)}$	Ratio
4	Profitability Ratio	ROE $= \frac{EARNING\ AFTER\ TAX}{TOTAL\ EQUITY}$ X 100%	Ratio
5	Activity Ratio	TATTOO $= \frac{Sales}{Total\ Asset}$	Ratio

RESULTS AND DISCUSSION

The population in this study are companies that are included in the Jakarta Islamic Index (JII)index and listed on the Indonesia Stock Exchange (IDX) in the 2017-2019 period. Based on the calculation of purposive sampling, the number of samples obtained is as follows:

Table 2. Sample selection process

1. Companies listed on the Indonesia Stock Exchange that are listed on the KEHATIindex (SRI) on the Indonesia Stock Exchange during the 2016-2020 period	25
2. Companies that are not consistently listed on the Sri-KEHATI Index during the2016-2020 period	(10)
3. Companies with the SRI-KEHATI index that do not present complete financial statements during the 2016-2020 period	(0)
4. SRI-KEHATI indexed companies that do not use Rupiah in their financialstatements	(1)
5. Companies with SRI-KEHATI index that do not present complete sustainabilityreports during the 2016-2020 period	(3)
6. SRI-KEHATI indexed companies that did not distribute dividends consecutivelyduring the 2016-2020 period	(2)
7. Outlier data	(1)
8. Number of companies that are still samples	8
9. Number of years of observation 2016-2020	5
10. Amount of data during the research period	40

Descriptive Statistics Test

Table 3. Descriptive Statistical Test Results

	Y	X1	X2	X3	X4
mean	1.309005	0.878250	0.413350	0.129641	0.379384
median	1.236866	0.890000	0.40256	0.133473	0.282340
Maximum	2.027312	0.940000	0.655629	0.1201547	0.806043
Minimum	0.883581	0.720000	0.099256	0.029427	0.080336
Std. Dev.	0.263228	0.059995	0.111934	0.038970	0.296394
Observations	40	40	40	40	40

Source: Eviews 9 (2022) data processing results

Chow test

Table 4. Chow Test Results

Redundant Fixed Effects Tests
Equation: MODEL_FEM
Test cross-section fixed effects

Effects Test	Statistics	df	Prob.
Cross-section F	10.840438	(7.28)	0.0000
Cross-section Chi-square	52.442456	7	0.0000

Source: Eviews 9 Data Processing Results.

The results of the Chow test show that the probability value is 0.0000 < 0.05. This shows that H0 is rejected and H1 is accepted which means a better approach to use is the Fixed Effect Model (FEM).

Haussman test

Table 5. Haussman Uji test results

Correlated Random Effects - Hausman Test
Equation: MODEL_REM
Test cross-section random effects

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Cross-section random	9.128808	4	0.0580

Source: Eviews 9 Data Processing Results.

The results of the Hausman test show that the probability value is 0.0580 > 0.05. That is, this indicates that H0 is accepted. Thus the method used in this study is the Random Effect Model (REM), because the REM model is better than the FEM model.

Langrage Multiplier Test

Table 6. Langrage Multiplier Test Results

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Hypothesis Test		
	Cross-section	Time	Both
Breusch-Pagan	13.54896	0.168248	13.71721
	(0.0002)	(0.6817)	(0.0002)

The results of the Hausman test in this study indicate that the right model is the Random Effect Model (REM) so it is necessary to do a Lagrange Multiplier test. the results of the Lagrange Multiplier test, the value of Both Breusch-Pagan is 0.0002 < 0.05 so that H0 is

rejected and theappropriate model for this study is the Random Effect Model (REM).

Normality test

According toChristiandi and Colline (2021)normality test is a test that aims to see whether the distribution of data obtained from a group has been normally distributed. The results of the normality test in this study are as follows:

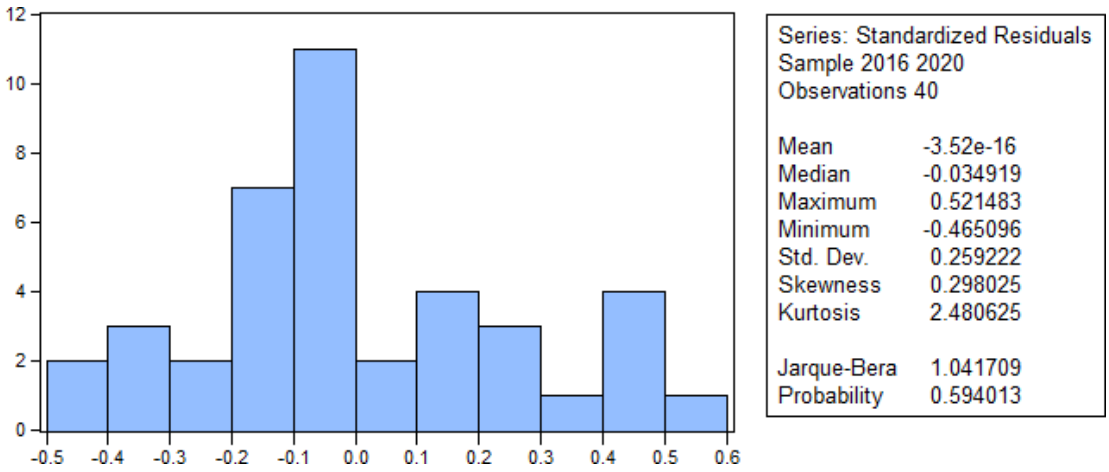

Figure 2. Normality Test Results

The results of the normality test show that the Jarque-Bera Probability value is 0.594013 > 0.05 so it can be stated that the data is normally distributed. Thus, that the regression model satisfies the assumption of normality

Multicollinearity Test

The multicollinearity test was carried out with the aim of knowing whether there was a correlation between the independent variables in this study.

Table 7. Multicollinearity Test Results

	X1	X2	X3	X4
X1	1.0000000	0.061050	-0.370029	0.455033
X2	0.061050	1.0000000	0.030313	0.044851
X3	-0.370029	0.030313	1.0000000	-0.118796
X4	0.455033	0.044851	-0.118796	1.0000000

Source: Eviews 9 Data Processing Results.

Multicollinearity test results show that there is no value of the independent variable which is worth more than 0.90. Thus, the independent variables in this study did not occur multicollinearity or no correlation between independent variables.

Heteroscedasticity Test

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variancefrom the residual of one observation to another observation

Table 8. Heteroscedasticity test results

Dependent Variable: RESABS
Method: Panel EGLS (Cross-section random effects)
Date: 04/12/22 Time: 00:05
Samples: 2016 2020
Periods included: 5
Cross-sections included: 8
Total panel (balanced) observations: 40
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.538150	0.395469	-1.360792	0.1823
X1	0.678197	0.427982	1.584637	0.1220
X2	0.136219	0.188762	0.721643	0.4753
X3	0.314194	0.571709	0.549570	0.5861
X4	0.076147	0.088490	0.860518	0.3954

Source: Eviews 9 Data Processing Results.

Based on table 8, it shows that the probability of each variable > 0.05 so that it can be stated that the regression model in this study does not occur heteroscedasticity.

F Uji test

The F test was conducted with the aim of knowing whether the regression model used in this study was feasible to use so that it could be used to predict the dependent variable. The results of the F test in thisstudy are as follows:

Table 9. F . test

Weighted Statistics

R-squared	0.246341	Mean dependent var	0.378029
Adjusted R-squared	0.160208	SD dependent var	0.162371
SE of regression	0.148797	Sum squared resid	0.774915
F-statistics	2.860022	Durbin-Watson stat	1.303348
Prob (F-statistic)	0.037647		

Source: Eviews 9 Data Processing Results.

Based on the results of the F test above, it shows that the Prob value (F-Statistic) is 0.037647 < 0.05. Then H0 is rejected and H1 is accepted, so it can be indicated that the independent variables (green intellectual capital, dividend policy, profitability ratios and activity ratios) simultaneously or jointly affect the dependent variable, namely firm value.

Coefficient of Determination

The coefficient of determination test is carried out with the aim of measuring how effective the regression model is in explaining the dependent variable in a study. The results of the coefficient of determination in this study are as follows:

Table 10. Results of the Coefficient of Determination

Weighted Statistics			
R-squared	0.246341	Mean dependent var	0.378029
Adjusted R-squared	0.160208	SD dependent var	0.162371
SE of regression	0.148797	Sum squared resid	0.774915
F-statistics	2.860022	Durbin-Watson stat	1.303348
Prob(F-statistic)	0.037647		

Source: Eviews 9 Data Processing Results.

Based on the results of the coefficient of determination test above, it shows that the adjusted R-squaredvalue is 0.160208 which indicates the ability of the independent variables (green intellectual capital, dividend policy, profitability ratios and activity ratios in explaining the dependent variable (firm valueis 16%. Thus, 84% of firm value variables are explained by other variables not examined in this study.

T Uji test

The T test was conducted with the aim of knowing whether the independent variable had a partial effecton the dependent variable in a study. The results of the t-test in this study are as follows

Table 11. T . Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.952882	0.583159	1.633999	0.1112
X1	-0.142199	0.644262	-0.220715	0.8266
X2	0.500848	0.278755	1.796731	0.0810
X3	0.359481	0.786415	0.457113	0.6504
X4	0.599339	0.226158	2.650092	0.0120

Source: Results of Eviews 9

Based on test resultsThe above shows that X1 has a t-statistic value of -0.220715 with a probability value of 0.8266 which means it is greater than a significance level of 0.05. This means that the Green Intellectual Capital variable partially has no effect on Firm Value. X2 has a t-statistic value of 1.796731 with a probability value of 0.0810 which means it is greater than a significance level of 0.05.

This means that the Dividend Policy variable partially has no effect on Firm Value. X3 has a t- statistic value of 0.457113 with a probability value of 0.6504 which means it is greater than a significance level of 0.05, it states that the Profitability Ratio variable partially has no effect on Firm Value.

CONCLUSIONS

Based on the results of a study entitled The Effect of Green Intellectual Capital, Dividend Policy, Profitability Ratios, Activity Ratios to Firm Value (Empirical Study on Sri-Kehati Stock Index CompaniesListed on the Indonesia Stock Exchange 2016-2020) with a research sample of 40 companies, then can beconcluded as follows:

1. Green Intellectual Capital partially has no effect on Company Value on the SRI-KEHATI

stock index in the 2016-2020 period. This is because not all investors see green intellectual capital as a criterion for investing.

2. Dividend policy partially has no effect on Company Value on the SRI-KEHATI stock index in the 2016-2020 period. These results indicate that high dividends distributed to shareholdersdo not guarantee an increase in firm value
3. Profitability Ratio partially has no effect on Company Value on the SRI-KEHATI stock index in the 2016-2020 period. This is because the return on equity only describes the amount of return on investment made by ordinary shareholders but does not describe the prospects and development of the company
4. The Activity Ratio partially affects the Company Value on the SRI-KEHATI stock index in the 2016-2020 period. This is because when investors see a company is able to increase its sales by managing its assets properly, this will attract investors' attention.

Suggestions that can be given for further research on stock prices include adding other independent variables that are not explained in the study. In addition, researchers can examine by comparing companies that are members of the SRI-Kehati index with non-SRI-Kehati index companies. Academics can include green intellectual capital as lecture material in accounting theory courses, financial accounting or capita selecta seminars. For the company, it is better to give rewards to employees when they successfully carry out the task of protecting the environment so that later it can foster enthusiasm for employees to protect the environment

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