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Influence of Capital Adequacy Ratio, credit risk, market risk and financial distress indicator towards stock return

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Abstract
The research objective is to the influence of capital adequacy ratios, credit risk, market risk, and financial distress indicators on stock returns. The sample uses a saturated sampling method. The data used is secondary data collected using the documentation method. Independent variables include indicators of capital adequacy ratio, credit risk, market risk, and financial distress with the dependent variable being stock returns. The analysis uses multiple regression. This research found that: capital adequacy ratio, credit risk, market risk, and financial distress have no effect on stock returns.

Keywords: capital adequacy ratio; credit risk; market risk; financial distress indicator stock return

1.0 Introduction
Regarding various occurrences of the Global Financial Crisis, such as the debt crisis in Latin America in the early 1980s, the financial crisis in Southeast Asia and South Asia in 1997-1998, and the Global Financial Crisis that happened in New York in 2007-2009, made regulators in finance, pay more attention to banking system stability and health. The implementation of the concern of the financial regulators is to form the Basel Committee on Bank Supervision. BCBS was founded in 1974 as an international forum that collaborates in banking supervision. According to the Basel Committee in Basel I, the banks operating internationally are required to meet the needs of the Bank's Capital Ratio, or known as CAR of 8%. Basel I was formed against concerns over the debt crisis of Latin America. Basel I discusses the Basel Capital Accord, which also discusses the Capital Adequacy Ratio by considering credit risk. After 20 years, developments in the banking sector and financial markets, notably the 1997-1998 financial crisis in Southeast Asia and South Asia, took the form of Basel II. Basel II debates new capital standards such as Minimum Capital Requirements, Supervisory Review Process, and Market Discipline. Credit risk, market risk, and operational risk are all discussed in the Minimum Capital Requirement. Six years later, Basel III was developed against the backdrop of the 2007-2009 global financial crisis, which happened as a result of the collapse of Lehman Brothers, demonstrating risk management and insufficient government controls. Basel III is a banking regulation reform enacted in response to the 2008 global financial crisis, which was caused by insufficient capital adequacy, wide variance in RWA between banks,

and extremely high leverage. This research was conducted to see the effect of Basel III on the level of return on shares. And the requirements in Basel III on financial institutions that have a systematic influence on the world banking industry remain at the 8% level. However, according to the Governor of Bank Indonesia, Perry Warjiyo, this development was reflected in the banking Capital Adequacy Ratio (CAR) in July 2019, which remained high at 23.1%. This shows that Indonesian banks are strong enough to absorb losses. Credit risk is the risk of debtors and/or other parties' failure to fulfill obligations to the Bank (OJK Regulation No.11 /POJK.03/2016). If credit risk decreases, the return on shares will also decrease (Mwaurah et al., 2017). Market risk is the risk that arises from off-balance sheet and balance sheet transactions, including derivatives, as a result of broad changes in market circumstances, including the risk of fluctuating option prices (OJK Regulation No.11 /POJK.03/2016). Pane (2021) stated that financial distress is important to be considered by company management because it is related to the company's ability to generate returns or accounting earnings, such as Return on Assets (ROA) and Return on Equity (ROE), net profit margins, which generally increase good accounting earnings, the higher the stock return. There are still research gaps based on previous research which examined the relationship between financial distress indicators, capital adequacy ratio, credit risk, and market risk on stock returns. Financial stress indicators have a positive and insignificant relationship with stock returns (Tony et al., 2019). Damaris and Poerwati, 2022). Stock returns are influenced by credit risk (Yoewono & Ariyanto, 2020). The Capital Adequacy Ratio has no effect on stock returns (Astohar et al., 2021). Meanwhile, the Capital Adequacy Ratio has a significant effect on stock returns (Khatijah et al., 2020). Because there are no conclusive results regarding the results of previous research, this research examines the financial performance of stock returns in the book bank 3 and book bank 4 case studies.

2.0 Literature Review

2.1 Signalling Theory
This theory was put forward by Spence (1973) who defined a signal as an information provider's attempt to describe a problem accurately to another party so that the other party is willing to invest even in conditions of uncertainty. This theory analyzes the relevance of the information provided by the company to the investment choices of parties outside the company (Ross, 1977). The use of signal theory in this research is related to providing information on banking financial performance to investors as material for consideration before making investment decisions on company shares in the market (Connelly et al., 2011).

2.2 Capital adequacy ratio
According to Bank Indonesia Decree No. 30/11/KEP/DIR/April 30, 1997, the capital adequacy ratio is a ratio for determining the existing capital to cover possible losses in credit and securities trading activities. CAR is the insurance of minimum capital for banks based on the risk of assets in a wide sense, including both on-balance-sheet assets and administrative support, as represented in liabilities that are not yet foreseen and liabilities guaranteed by the bank for third parties or market risk, according to Bank Indonesia (Number 9/13/PBI/2007).

2.3 Credit risk
According to OJK Decree no. 11/POJK.03/2016, Credit risk is the risk that arises as a result of non-fulfillment of the debtor's and/or other party's obligations to the Bank. According to the Basel Committee on Banking Supervision (September 2000), Credit risk is simply interpreted as the potential failure of partner banks in loans to fulfill their obligations in accordance with the agreed terms. Credit risk management strives to optimize the bank's risk-adjusted rate of return by keeping credit risk exposure within allowed limits. According to Risk Management (2007), credit risk is the risk of loss owing to the chance that the counterparty will fail to meet its commitments at maturity.

2.4 Market risk
Market risk is the risk that price fluctuations or market values, such as foreign currency exchange rates, interest rates, credit margins, stock prices, and/or commodity prices, will alter the value of a bank's balance sheet position and administrative accounts, resulting in a loss of income and capital. (Sukcharoensin, 2013). Market risk, as defined by OJK regulation No. 11/POJK.03/2016, is the risk to balance sheets and administrative accounts, including derivative transactions, as a result of changes in general market circumstances, including the risk of changes in option prices.

2.5 Financial distress indicator
When a corporation is unable to fulfill its payment schedule or when cash flow estimates suggest that the company will be unable to satisfy its commitments, financial challenges arise (Brigham & Daves 2003). Financial distress, as defined by Platt and Platt (2002), is a period of decreasing financial conditions encountered by a corporation prior to bankruptcy or liquidation. Financial distress, according to Drescher (2014: 25), is the ultimate stage of a liquidity crisis and has the potential to lead to bankruptcy.

2.6 Stock Return
A stock's return is the total profit or loss earned on an investment over a period of time. It is usually measured as the change in the cumulative value of each cash distribution expressed in the value of the initial investment over a period of time (Gitman, 2015). According to Brigham et al. (2015), the financial performance of leveraged investments, equity in investments is used to measure the financial performance of a firm.

2.7 Hypothesis development

2.7.1Capital adequacy ratio and stock return
Based on Jaya (2015) demonstrates that the Capital Adequacy Ratio has a positive and statistically significant influence on stock return. Sensarna et al. (2009) found that the CAR variable, which is a proxy for solvency risk, had an influence on stock returns. The hypothesis that may be advanced based on the description given is:

H1: Capital adequacy ratio affects stock return

2.7.2 Credit risk and stock return
Research by Isaac Mwaurah et al. (2017) demonstrate that credit risk has a negative and large impact on stock returns. This study is consistent with the findings of Muhammad Nisar Khan et al. (2018), who discovered that credit risk has a negative and substantial impact on stock returns. The hypothesis that may be developed based on the preceding description is:

H2: Credit risk affects the stock return

2.7.3 Market risk and stock return
Naser et al. (2011) determined the effect of credit and exchange rate risk on volatility using the asymmetric and symmetric GARCH models. Where the results of the study found that there was a significant relationship between credit risk and market risk with stock return volatility. And the existence of this risk can help predict stock returns that are beneficial to investors and regulators. The hypothesis that may be advanced based on the description given is:

H3: Market risk affects stock returns

2.7.4 Financial distress indicator and stock return
The Altman Bankruptcy Prediction Model approximates a company's financial difficulties (Z-Score). The higher the Z-Score in the Altman Bankruptcy Prediction Model (Z-Score), the lower the company's bankruptcy risk and the better the company's health. As a result, financial hardship as measured by the Altman Z-Score has a favorable influence on stock returns. This is consistent with the findings of Mathius Tandiontong et al. (2017), who discovered that financial difficulty had an influence on stock returns. From this explanation, the hypothesis proposed is:
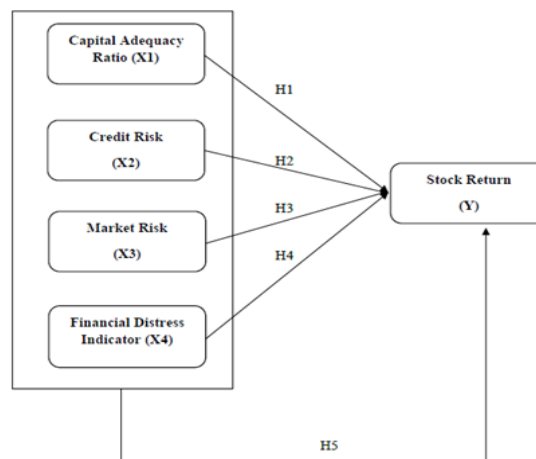
H4: Financial distress indicators affect stock returns

Fig 1. Research Framework

3.0 Methodology

3.1 Research design
The research design is a cohort study. Associative research aims to explain the relationship between variables (Sekaran & Bougie, 2013). In this study, data from the independent variable and the dependent variable are utilized to describe the relationship between the two variables. The independent variables in this study include capital adequacy ratio, credit risk, market risk, and financial distress index. Meanwhile, the stock return is the dependent variable in this study. The data was examined using multiple regression. The multiple linear regression equation utilized in this investigation is as follows.

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$$SR = \alpha + \beta_1 CAR + \beta_2 CR + \beta_3 MR + \beta_4 FDI + \varepsilon \qquad (1)$$

Information:
SR = Stock Return
α = Constant
β = Regression Coefficient
CAR = Capital Adequacy Ratio
CR = Credit Risk
MR = Market Risk
FDI = Financial D

3.2 Population and sample
The subjects of this study were 1 to 4 book banks on the Indonesia Stock Exchange from 2015 to 2019. The sample was determined using the saturated sampling method. The data used is secondary data collected through documentary methods according to research needs. This data is available in Volume 3 and Volume 4 of the 2015-2019 Basel-implemented Bank Financial and Annual Reports. Data obtained from the website of the company concerned and the website of the Indonesian Stock Exchange.

Table 1. Research sample

No.	Selection Criteria	amount
1.	Banks included in the list of book banks 3 and 4 that implemented Basel during the 2015-2019 period.	34
2.	Banks that are not listed on the Indonesia Stock Exchange in the 2015-2019 period	(16)
3.	Banks that do not implement Basel III	(3)
4.	Outlier data	(4)
5.	Banks that meet the requirements and become samples in the study	11
6.	Observation Year	5
7.	Total Observations	55

Source: Data processed by researchers (2022)

3.3 Data collection technique
The data used in this research is secondary data. data collection of the study was to use the documentation method by collecting data according to research needs from available secondary data sources. The data used in this research are financial report data and annual reports of books 3 and 4 banks that implement Basel during the 2015-2019 period obtained from the websites of each company and the website of the Indonesian Stock Exchange. In addition, the supporting hypotheses and theories used in this study come from journals.

4.0 Findings

4.1 Multiple Linear Regression Test
The results of hypothesis testing using multiple linear regression can be seen in table 2.

Table 2. *Linear Regression Test*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.718198	1.664832	-1.032055	0.3070
CAR	2.157945	2.032433	1.061754	0.2934
CR	1.312681	1.571235	0.835445	0.4074
MR	5.640129	7.574584	0.744612	0.4600
FDI	3.850629	2.536090	1.518333	0.1352

Source: Data Processed by Researchers (2022)

Based on table 2, the following are the results of the hypothesis testing analysis in this study.

4.2 Capital adequacy ratio
Based on Table 2, the probability value of the capital adequacy coefficient calculated by dividing total capital by total loans plus total securities is 0.2934, which means it is greater than the significance value α, namely 0.05 (0.2934 > 0.05). Based on the decision criteria explained above, H_0 was accepted and H_1 was rejected in this study. The capital adequacy ratio has a positive but not significant effect on stock returns, meaning that the capital adequacy ratio has no effect on stock returns in research observation data. The results of this research are in line with research conducted by (Salim, 2012).

4.3 Credit risk
Based on table 2, the credit risk probability value calculated by multiplying total net sales with the estimated as an uncollectible percentage is 0.4074, which means it is greater than the significance α, which is 0.05 (0.4074 > 0.05). Based on the decision-making

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criteria described above, H_0 in this study is accepted, and H_1 is rejected. Credit risk has a positive but not significant effect on stock returns, which means that credit risk does not affect stock returns in the research observation data.

4.4 Market risk
Based on table 2, the market risk probability value calculated using idiosyncratic risk volatility with the CAPM model is 0.4600, which means it is greater than the significance value of α, which is 0.05 (0.4600 > 0.05). Based on the decision-making criteria described above, H_0 in this study is accepted, and H_1 is rejected. Market risk has a positive but not significant effect on stock returns, which means that market risk does not affect stock returns in the research observation data.

4.5 Financial distress indicator
Financial distress indicator has a positive but insignificant effect on stock returns, which means that financial distress indicators do not affect stock returns in the research observation data. Based on table 2, the probability value of financial distress indicators calculated using the Altman Z-Score test model is 0.1352, which means it is greater than the α significance value, namely 0.05 (0.1352 > 0.05). Based on the decision-making criteria described above, H_0 in this study is accepted, and H_1 is rejected. *Determination Coefficient Test (R² Test)* in this investigation are as follows:

Table 3. Result of Determination Coefficient Test (R² Test)

Weighted Statistic			
Root MSE	3.524.473	R-squared	0.066507
Mean dependent var	1.053.255	Adjusted R-squared	-0.008172
S.D. dependent var	3.681.486	S.E. of regression	3.696.498
Akaike info criterion	1.014.433	Sum squared resid	68320,49
Schwarz criterion	1.032.681	Log-likelihood	-2.739,69
Hannan-Quinn criteria	1.021.490	F-statistic	0.890569
Durbin- Watson stat	2.075.613	Prob(F-statistic)	0.476534

Source: Data Processed by Researchers (2022)

Based on Table 3, the regression results show that the coefficient of determination (R2) is 0.066507 or about 6.65%. These results indicate that the independent variable can explain the stock return of 6.65%, while other factors influence the rest.

5.0 Discussion

5.1 The effect of capital adequacy ratio toward stock return
The findings of the tests suggest that the capital adequacy ratio variable has a positive but negligible influence on stock returns since the significance value of the capital adequacy ratio variable is bigger than 0.05. Based on the research conducted by Sujarweni (2016), the Capital Adequacy Ratio (CAR) does not have a significant effect on stock returns because proportion of self-capitalists in banking companies comes from supplementary capital namely from loan capital and subordinated loans.

5.2 The effect of credit risk toward stock return
Because the significant value of the credit risk variable is more than 0.05, the test results show that it has a positive and negative influence on stock returns. This finding contradicts Mwaurah et al. (2017), finding that credit risk has a substantial influence on stock returns. This result is because investors are more likely to pay attention to other indicators such as ROA, ROE, ROI, and Cash Ratio, which does not mean that credit risk does not significantly affect stock returns. However, several indicators cause this to happen. So it can be concluded that the hypothesis that "credit risk affects stock return" is rejected. This indicates that credit risk does not affect by investors in investment.

5.3 The effect of market risk toward stock return
Because the significance value of the market risk variable is more than 0.05, the results of the tests suggest that it has a positive but negligible influence on the stock return. The market risk probability value derived with idiosyncratic risk volatility and the CAPM model is0.744612, which is more than the significance, 0.05 (0.744612 > 0.05). As a result, market risk has a positive but negligible influence on stock returns. In line with the research by Fransisca et al. (2017). The results show that market risk is the risk that the value and position of the bank's balance sheet will be affected by price movements or market prices such as foreign exchange rates, interest rates, credit spreads, equity prices, and costs. market leading to a loss of income and capital (Hartono, 2003).

5.4 The effect of financial distress indicator toward stock return
The results of tests show that the financial distress indicator variable has a positive and insignificant effect on stock returns because significance value of the variable is greater than 0.05. The probability value of financial distress indicators calculated using the Altman Z-Score model test is 1.518333, which means it is greater than the significance value of α, which is 0.05 (1.518333> 0.05). So it can be ignored that the financial distress indicator has a positive but insignificant effect on stock returns, which means that the financial distress indicator does not affect stock returns in the observational research data. And this is backed by the findings of Mathius Tandiontong et

al. (2017), who discovered that financial distress indicators have a favorable effect on stock returns. Furthermore Aftab et al. (2013) discovered that financial distress indicators had a favorable and significant effect on stock returns.

6.0 Conclusion& Recommendations

6.1 Limitations
The limitation of this study is that the sample used is not only companies in the banking sector that are included in the category of book 3 and book 4 banks so the data they have is not too much like other sectors. In addition, the selected bank must implement Basel III and be listed on the Indonesian Stock Exchange. However, many banks in book 3 banks had IPO outside Indonesia, so the number of samples did not meet the minimum number. And the author finally chose to use a saturated sample.

6.2 Conclusion
Based on the general tests that have been carried out, it can be concluded that this research found that the capital adequacy ratio does not affect returns. bank shares included in book 3 and book 4 of Basel implementing banks in Indonesia. This research found that credit risk, market risk, financial distress indicators had no effect on stock returns in banks included in column 3 and column 4 of Basel user banks in Indonesia. The aim of this research is that the sample used is not only companies in the banking sector which are included in the book 3 and book 4 bank categories so that the data they have is not as large as other sectors. In addition, the selected bank must implement Basel III and be registered on the Indonesian Stock Exchange. However, many banks in bank book 3 conducted IPOs outside Indonesia so the sample size did not meet the minimum number. And the author finally used a saturated sample.

6.3 Suggestion
Some suggestions for further research development are to be able to develop research by comparing the effect of operational risk on stock returns in banking companies. Then further research can also add samples of banks that carry out IPO outside Indonesia, not only those listed on the IDX. And further research is suggested to add other factors that can affect stock returns, such as profitability, company size, auditor reputation, etc.

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Paper Contribution to Related Field of Study
Finance and accounting

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