The Effect Of Financial Performance On The Company's Share Price: A Case Study Indonesian

Mochamad Syafii¹, Bustanul Ulum², Rusdiyanto³, Petrus Suparman⁴, Dwi Inggarwati Rahayu⁵, Niswan Bayu Syasindy⁶

¹Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

²Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

³Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia, **PhD Student of Faculty of Economics and Business, Universitas Airlangga Indonesia, Jl. Airlangga No.4, Airlangga, Gubeng, Surabaya, East Java 60286 Indonesia

⁴Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

⁵Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

⁶Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

E-mail: syafiimochamad87@gmail.com, Bustanululum46@gmail.com, rusdiyanto.se.m.ak-2017@feb.unair.ac.id, petrus.unigres@gmail.com, Inggardwi77@gmail.com, niswan.bayu@gmail.com, rachmayuniaini@gmail.com

ABSTRACT: The objectives: This paper aims to examine the effect of the proxy financial performance used by ROA, ROE, NIM on share prices of banking sector companies on the Indonesian Stock Exchange.

Design / methodology / approach: This paper uses a quantitative approach by using numbered data to prove the hypothesis. Data on financial performance variables use proxies of ROA, ROE, NIM from company financial reports and the Indonesia Stock Exchange website at www.idx.co.id, www.ojk.go.id, www.bi.go.id, www.yahoofinance.com and Google search.

Finding: The findings prove that NIM has a positive and significant effect on share prices. It is hoped that the findings can be used by investors to conduct financial performance analysis to have relevant information. For the ROA variable, ROE has no effect on share prices, meaning ROA, ROE does not have a value relevance to banking stock prices on the Indonesia Stock Exchange.

Practical Implications: The findings are recommended for banking management to improve the effectiveness and efficiency of banking financial performance.

Originality: Previous research was conducted to test financial performance on share prices, the findings concluded that financial performance has an influence on stock prices. The novelty in this study the researcher entered control variables as variables to strengthen the findings.

Keywords: Financial Performance, Share Price

1. INTRODUCTION

The phenomenon of high corporate value makes the company's goal to sell shares in the capital market to attract investment from investors (Utami, 2019; Mudjijah, Khalid, & Diah Ayu Sekar Astuti, 2019; Hermi & Kurniawan, 2011; Marcella, Wijayanti, & Herawaty, 2019). Mudjijah et al., (2019; Erdem, Cebi, & Ilbahar, 2021; Feng & Gong, 2020; Leimstoll & Wölfle, 2021; TK Nguyen & Razali, 2020; Ricci, Scafarto, Ferri, & Tron, 2020; Santos et al., 2021) High company value describes the level of prosperity of shareholders. Company management to produce the best company performance can maximize company value in the capital market (Mudjijah et al., 2019). The company's financial performance can be proxied by profitability. Financial performance in this study is proxied by ROA, ROE, NIM (Mudjijah et al., 2019). The company's financial performance is a performance measure of company assets (Mudjijah et al., 2019; Muhammad & Rahim, 2015; Dewi & Hidayat, 2014). The higher the company's financial performance illustrates the company's ability to get a profit by using the company's assets (Mudijiah et al., 2019). Research related to the effect of financial performance on share prices (Mudjijah et al., 2019). According to the results of previous research (Utami, 2019; Mudjijah et al., 2019; Hermi & Kurniawan, 2011; Marcella et al., 2019; Hanafi & Syam, 2019) explains that financial performance has a significant positive effect on share prices. Meanwhile, according to (Pramono & Widiarto, 2019), financial performance does not have a significant effect on increasing share prices.

Based on the description of the phenomenon and the inconsistent results of the previous findings, it raises the problem and issue of the importance of the role of the company's financial performance as the root of the problem on the company's share price, so that the formulation of whether the impact of financial performance has on the company's share price is formed. By looking at the impact that financial performance has on the company's share price, it is hoped that the findings can be used as a decision maker for company management. Share prices can change up and down very quickly and can be influenced by the company's financial performance (Muhammad & Rahim, 2015; Kohar, Ahmar, & Suratno, 2018; Hutasoit, Sinaga, Marbun, Sembiring, & Sinaga, 2019; Gultom, Purba, Zepria, & Sinaga, 2019). This study aims to analyze the impact of financial performance on company share prices.

The research findings are expected to provide knowledge to the public and investors regarding the impact of the company's financial performance on the company's share price. This research is expected to be used as input for the progress of the company and can be used

as a comparison, especially in assessing the impact of financial performance on the company's share price.

2. THEORY FOUNDATION AND HYPOTHESIS DEVELOPMENT

2.1 Teori Pasar Efisien

Fama, (1970) describes an efficient market in stock market conditions considering perfectly all the information available in the capital market. Market prices move quickly with information reflected in changes in share prices. To measure the efficient market is by evaluating the relationship between share prices and accounting information. (Fama, 1970; F. Fama, 2013; Brown, Lo, & Lys, 1999) states that there are three main forms of efficient markets: Efficient markets are weak forms, efficient markets are semi-strong forms and efficient markets are strong forms

2.2 The Value Relevance of Accounting Information

Value relevance research is research to determine whether there is a relationship between the value of financial statements and share prices in the capital market (Almujamed & Alfraih, 2020; Anggraita, Rossieta, Wardhani, & Wibowo, 2020; Burke, Warfield, & Wieland, 2020; Choi, Choi., Choi., Choi, & Chung, 2020; Crenna, Marques, La Notte, & Sala, 2020; Figlioli, Lemes, & Lima, 2020; Kalantonis, Schoina, Missiakoulis, & Zopounidis, 2020; Omran & Tahat, 2020; Ricci et al., 2020; Zainy & Al-Temimi, 2020). Relevant financial statements can describe decisions in business and can explain confirmatory value. The relevant financial statements in financial statements have a relationship with firm value (Rosadi, 2014; Barth, Beaver, & Landsman, 2001; Hodder, Hopkins, Wahlen, & Zimmerman, 2006; Brimble & Hodgson, 2007). Holthausen & Watts, (2001) Value relevance research consists of three, namely: a. Relative Association studies b. Incremental association studies c. Marginal information content studies

2.3 Financial Performance

The financial performance in this study uses indicators of measuring ROA, ROE and NIM. The company's financial performance is a ratio that assesses the company's ability to use its assets to gain profit (Ahmadi, Hosseini, & Bastani, 2021; Carta, Ferreira, Podda, Reforgiato Recupero, & Sanna, 2021; Chen, Nie, & Li, 2021; Manduca et al., 2021; Wang, Zhang, Jin, & Qian, 2021; Xie, Qian, & Wang, 2021; Zeng, Dong, Zhou, & Jin, 2021; Zhang et al., 2021; Pramono & Widiarto, 2019). The company's financial performance is net income divided by the company's total assets (Mudjijah et al., 2019; Hanafi & Syam, 2019; Pramono & Widiarto, 2019). Company profitability is a measurement indicator of the company's financial performance (Pramono & Widiarto, 2019). Financial performance research is proxied by ROA, ROE and NIM (Pramono & Widiarto, 2019; Muhammad & Rahim, 2015; Dewi & Hidayat, 2014). The company's financial performance illustrates the company's ability to get profit by using the company's wealth (Dewi & Hidayat, 2014). Research on the effect of financial performance on share prices conducted by (Mudjijah et al., 2019) found that financial performance has a positive influence on stock prices, so this research links the impact caused by the company's financial performance to the share prices of banking companies on the Indonesia Stock Exchange.

The company's financial performance illustrates the ratio between net income compared to the company's total wealth (Aigbedo, 2021; Chao, Kou, Peng, & Viedma, 2021; C.-Y. Chen et al., 2021; Cinaroglu, 2021; Liu, Rhim, Park, Xu, & Lo, 2021; Lukin, Saraev, & Dozhdeva, 2021; Najihah, Indriastuti, & Suhendi, 2021; Valieva, Yarullin, Zhelonkin, & Mayorskaya, 2021; Yang, Jia, Chen, Wang, & Xiong, 2021; Zhao, Wang, & Pal, 2021; Muhammad & Rahim, 2015; Dewi & Hidayat, 2014). (Mudjijah et al., 2019) explain that the company's financial performance is a ratio that describes the net income that can be obtained from the total wealth owned by the company. Mudjijah et al., (2019) explain that the company's financial performance is a ratio that describes the net income obtained from the total wealth used in operating activities. This illustrates that total wealth can rotate more quickly to get profit (Mudjijah et al., 2019).

The company's financial performance is one type of financial performance ratio to describe the company's ability to generate net income based on the company's total assets (Aigbedo, 2021; Chao et al., 2021; C.-Y. Chen et al., 2021; Cinaroglu, 2021; Liu et al. al., 2021; Lukin et al., 2021; Najihah et al., 2021; Valieva et al., 2021; Y. Yang et al., 2021; Zhao et al., 2021). Positive company financial performance illustrates the company's total wealth used for company operations to generate net income. By knowing the ratio of the company's financial performance, it can assess the company in using the total wealth for the company's operational activities.

2.4 Shares

Shares are proof of ownership of funds in a company, shares as a tool to get additional funds as they develop fundamentally and technically (Aytimur & Cakmak, 2021; Bergant, 2021; Cappelli, Cerqueti, D'Urso, & Di Iorio, 2021; Carta et al., 2021; L. Chen et al., 2021; Diop & Kengne, 2021; Doncato & Costa, 2021; Hedgecock & Pan, 2021; Jing, Siahkouhi, Qian, & Wang, 2021; Marc et al., 2021; Muhammad & Rahim, 2015). Various books try to provide different recommendations but the aim is to provide high profits for users (Betancor et al., 2021; Huang, Qiu, & Li, 2021; Kallarakkal, Muthukumar, Alagarsamy, Pugazhendhi, & Naina Mohamed, 2021; R. Wang, He, & Diao, 2021; K. Yang, Wei, Li, & He, 2021). Some of the parties involved in the stock market include: (1) investors, (2) speculators and (3) government.

2.4.1 Share price

Share prices are prices that occur on the stock exchange at a certain time, share prices can change up and down very quickly, influenced by the company's financial performance (Muhammad & Rahim, 2015; Kohar et al., 2018; Hutasoit et al., 2019; Gultom et al., 2019). The share price depends on the supply and demand between the buyer of shares and the seller of shares (Dewi & Hidayat, 2014). Several conditions and situations can determine share prices to fluctuate, namely: Micro and macroeconomics, company policies, etc.

The share market price is the price agreed upon by investors through a meeting of demand and supply (Muhammad & Rahim, 2015). The meeting occurred because of the investors' agreement on a predetermined share price, the share market price was influenced by the investor's supply and demand mechanism on the stock exchange. Share prices have

fluctuating changes influenced by the company's financial performance (Muhammad & Rahim, 2015). Changes in share prices depend on supply and demand, stocks experience excess demand, the price increases, on the other hand, if there is excess supply, the share price will decrease (Muhammad & Rahim, 2015). The share price is an indicator of the company's success in managing the company (Hutasoit et al., 2019). Company performance is one of the factors considered by investors in choosing companies to invest their funds, the better the company's performance, the higher the profit is obtained and the more net income that shareholders get (Hutasoit et al., 2019). Based on the description above, the hypothesis is as follows:

H₁: It is suspected that ROA has an influence on the company's share price

H₂: It is suspected that ROE has an influence on the company's share price

H₃: It is suspected that NIM has an influence on the company's share price

3. RESEARCH METHODS

3.1 Types of Research Approaches

This type of research uses quantitative research with a descriptive approach. Quantitative research is based on theory and the results of previous research to examine the population or research sample. Data collection uses statistical data with the aim of testing hypotheses on financial performance against share prices. The descriptive approach is to see the existence of the company's financial performance variables and the banking company share price variables on the Indonesian stock exchange.

3.2 Research Variable Model Specifications

The variables used in this study consisted of company performance variables which were proxied by ROA, ROE, NIM and Share Price variables. As well as adding control variables as comparisons in this study, the control variables included were Exchange Rate, Interest Rate, Inflation, CAR, LDR., NPL. The operational definition is as follows:

3.3 Operational Definition of Variables and Variable Measurement

This study uses financial performance variables as proxied by ROA, ROE and NIM to describe a regression model in measuring the relevance of firm value. The variables used in this study, among others:

- 1) Independent Variable
- 1. Variable financial performance is proxied using the Return on Assets indicator, which is the company's ability to generate net income after tax divided by the total company assets owned by the company (Juanamasta et al., 2019; Rusdiyanto, Agustia, Soetedjo, & Septiarini, 2020; Rusdiyanto, Hidayat , Tjaraka, et al., 2020; Mudjijah et al., 2019; Muhammad & Rahim, 2015) Indicators for measuring Return on Assets are as follows

$$ROA = \frac{\textit{Net Income}}{\textit{Total Assets}}$$

2. Variable financial performance is proxied using the Return on Equity indicator, which is the company's ability to get net income after tax divided by the total capital owned by the company (Arreola Hernandez, Kang, Shahzad, & Yoon, 2020; Behera, 2020; Duong &

Huynh, 2020; Hu, Li, & Shen, 2020; Ji, Zhang, & Zhao, 2020; Lahmiri & Bekiros, 2020; Yan, Zhang, & Shen, 2020) Indicators for measuring Return on Equity are as follows:

$$ROE = \frac{Net\ Income}{Total\ Equity}$$

3. Variable financial performance is proxied using the Net Interest Margin (NIM) indicator, which is a measure of the difference between interest income generated by banks and the value of interest paid to lenders, Net Interest Margin (NIM) is calculated in percent (%) (Chatfield, Chatfield, Baloglu, & Poon, 2020; Cruz-García & de Guevara, 2020; Kusi, Agbloyor, Gyeke-Dako, & Asongu, 2020; TVH Nguyen, Pham, Nguyen, Nguyen, & Nguyen, 2020; Pak, 2020), measurement indicators Net Interest Margin as follows:

$$NIM = \frac{\textit{Interest Income}}{\textit{Productive Assets}}$$

2) Dependent Variable

The share price used in this study uses the closing stock price (Ausloos, Zhang, & Dhesi, 2020; de Jesus, Lenin Souza Bezerra, & da Nóbrega Besarria, 2020; Kok et al., 2020; Mokni, 2020; Mullowney, Baker, & Pedersen, 2020; Nayak & Misra, 2020; Tweneboah, Owusu Junior, & Kumah, 2020; Rusdiyanto & Narsa, 2018; Kohar et al., 2018).

3) *Control Variable*

Exchange Rate, Interest Rate, Inflation, CAR, LDR, NPL (Rusdiyanto, Hidayat, Soetedjo, et al., 2020)

3.4 Stages of Estimation

3.4.1 Population and Sample

The population of this study uses banking companies on the Indonesia Stock Exchange in the 2010-2017 period. The research sample used the financial statements of banking companies on the Indonesia Stock Exchange in the 2010-2017 period.

3.4.2 Data Analysis Techniques and Descriptive Statistical Analysis

The research analysis method uses descriptive statistical data analysis, multiple regression analysis, classical assumption test, and hypothesis testing. Descriptive statistical analysis describes the data description as seen from the average value, standard deviation, variance value, minimum value, maximum value. This test provides an overview of the distribution of sample data on financial performance variables and variable of share prices.

3.4.3 Analysis Model

The research analysis model examines the effect of financial performance variables as proxied by ROA, ROE and NIM on share price variables using multiple linear regression analysis is an analysis to express a linear relationship between two or more variables. The following is an empirical model of financial performance research on share prices:

$$NP_t = \alpha + \beta_1 ROA + \beta_2 ROE + \beta_3 NIM + \beta_4$$
 $NK_t + \beta_5 BI_Rate_1 + \beta_6 IF + \beta_7 CAR + \beta_8 LDR + \beta_9 NPL$ ϵ(1)

Table 3 II. Variable Description

Information		Description		
NP_t	=	Share price		
α	=	Constant		
$\beta 1, \beta 2, \beta 3$	=	Variable regression coefficient of ROE, ROA, NPM,		
		NB_{t} , LA_{1} , LA_{2} , and DER		
ROA	=	Return On Asset (ROA)		
ROE	=	Return On Equity (ROE)		
NIM	=	Net Interest Margin (NIM)		
NK	=	Exchange rate		
BI_Rate	=	Interest rate		
IF	=	Inflation		
CDR	=	CDR		
LDR	=	LDR		
NPL	=	NPL		
ϵ	=	Eror Standard		

4. ANALYSIS AND DISCUSSION

4.1 Description of Research Results

Descriptive analysis is to see an overview of the company's financial performance variables and variable share prices of banking companies on the Indonesia Stock Exchange. The data normality test is used to evaluate the distribution of research data from a sample of banking companies on the Indonesia Stock Exchange. The following is the descriptive statistical data from the sample

Table 4 I. Descriptive Statistics

Variable	N	Min	Max	Mean	Std. Dev
Share price	128	870	13275	5721.15	3395.397
ROA	128	1	5	2.96	1.083
ROE	128	6	44	22.53	7.851
NIM	128	4	10	6.28	1,463
Exchange rate	128	9097	14657	1520.03	1761.465
BI_Rate	128	121	7363	4005.34	2641.471
Inflation	128	3	8	5.22	1.482
CAR	128	12	23	17.31	2.290
LDR	128	62	116	90.25	13.367
NPL	128	0	4	1.34	1.097
Valid N (listwise)	128				

From the table above that ROE has a higher value than ROA and NIM. ROA is much lower than NIM and ROA because NIM contains many components of the fair value of the company's assets and corporate debt than ROE and ROA. The increase in value, respectively, of NIM and ROE shows that it contains information about the value relevance faced by the company to the company's wealth and debt. Higher profits have an effect on the economy,

which tends to fluctuate and be unstable

4.2 Regression Analysis

The company financial performance variable and the research share price variable are stated to be stationary at degree 0, then the financial performance variable and the share price variable can be directly included in the regression equation. The following is the regression results of the financial performance variables and the research share price variables:

Variable Coefficient t Sig.t 3180.825 Constant -2.8210.006 ROA 812.006 1.230 0.221 ROE 74.521 2.405 0.018 0.007** NIM 264.626 -2.748 0.183 Exchange rate 3.273 0.001 BI_Rate 0.112 0.909 0.365 Inflation 192.314 -0.8990.371 CAR 146.060 2.373 0.019 34.247 LDR 0.310 0.757 NPL -1.510 538.045 0.134 R = 0.744= 0.553R Square = 16.252Sig.F = 0.000Bound Variable: Share price (NB_t)

Table 4 II. Regression Analysis

5. DISCUSSION

ROA does not have a positive and significant effect on stock prices. These findings explain that ROA has no value relevance to share prices. ROA coefficient shows a value of 812.006 with a tcount of 1.230 with a significance level of 0.221 that ROA does not have a positive relationship to share prices. So that investors cannot use ROA information to assess the share price of banking companies on the Indonesia Stock Exchange. From the findings, investors do not see the effect of ROA on share prices of banking companies on the Indonesia Stock Exchange.

ROE does not have a positive and significant effect on stock prices. These findings explain that ROE has no value relevance to banking company share prices on the Indonesia Stock Exchange. The ROE coefficient shows a value of 74,521 with a t_{count} of 2.405 with a significance level of 0.018 that ROE does not have a positive relationship with share prices. Investors can use ROE information in assessing the share prices of banking companies on the Indonesia Stock Exchange. From these findings, investors do not see the effect of ROE on the share price of companies listed on the Indonesia Stock Exchange.

NIM has a positive and significant effect on share prices of banking companies on the Indonesia Stock Exchange. These findings explain that the NIM value has a value relevance

effect on the share price of banking companies on the Indonesia Stock Exchange. The NIM coefficient shows a value of 264,626 with a tcount of -2,748 with a significance level of 0.007 that NIM has a positive relationship with the share price of repair companies on the Indonesia Stock Exchange. These findings also confirm the opinion that companies with high sales values are able to be favored by investors to buy company shares. The coefficient produced in the test confirms that investors prefer companies with high NIM values for information in making investment decisions on the stock exchange.

6. CONCLUSION

The findings prove that NIM has an influence on the share prices of banking companies on the Indonesia Stock Exchange, while ROA and ROE have no influence on the share prices of banking companies on the Indonesia Stock Exchange. Based on the conclusions, the findings can provide information to investors or potential investors to pay more attention to the NIM ratio as a consideration for investing in banking companies' share prices on the Indonesia Stock Exchange. These findings can be used as consideration for banking companies in making business decisions. Business decisions focus on the magnitude of the return on shares of banking sector companies on the Indonesia Stock Exchange.

Future research uses a sample of all companies on the Indonesia Stock Exchange, not only the banking sector. In addition, further research uses all companies on the Indonesia Stock Exchange with a long period of time to evaluate the relationship between financial performance variables which are proxied by using ROA, RE and NIM to share prices. Subsequent research uses all data on the company's financial statements on the Indonesia Stock Exchange which are then audited so that the value of determining the value of the company's financial performance variables uses the proxies of ROA, ROE and NIM and the share price uses a long period so the results are more accurate. Future research undertakes research on the relevance of the measurement model conducted by Black (1998).

7. REFERENCES

- [1] Ahmadi, Z., Hosseini, S. M., & Bastani, A. F. (2021). A new lattice-based scheme for swing option pricing under mean-reverting regime-switching jump—diffusion processes. *Journal of Computational and Applied Mathematics*, 383. https://doi.org/10.1016/j.cam.2020.113132
- [2] Aigbedo, H. (2021). An empirical analysis of the effect of financial performance on environmental performance of companies in global supply chains. *Journal of Cleaner Production*, 278. https://doi.org/10.1016/j.jclepro.2020.121741
- [3] Almujamed, H. I., & Alfraih, M. M. (2020). Corporate governance and value relevance of accounting information: Evidence from Kuwait. *International Journal of Ethics and Systems*, *36*(2), 249–262. https://doi.org/10.1108/IJOES-08-2019-0140
- [4] Anggraita, V., Rossieta, H., Wardhani, R., & Wibowo, B. (2020). IFRS adoption on value-relevance and risk-relevance of accounting information among indonesian banks. *Pertanika Journal of Social Sciences and Humanities*, 28(1), 515–532. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-85082062965&partnerID=40&md5=b564cdaf059d971ada7509dfe94c82b8
- [5] Arreola Hernandez, J., Kang, S. H., Shahzad, S. J. H., & Yoon, S.-M. (2020). Spillovers

- and diversification potential of bank equity returns from developed and emerging America. *North American Journal of Economics and Finance*, 54. https://doi.org/10.1016/j.najef.2020.101219
- [6] Ausloos, M., Zhang, Y., & Dhesi, G. (2020). Stock index futures trading impact on spot price volatility. The CSI 300 studied with a TGARCH model. *Expert Systems with Applications*, *160*. https://doi.org/10.1016/j.eswa.2020.113688
- [7] Aytimur, M., & Cakmak, A. (2021). Using positional sequence patterns to estimate the selectivity of SQL LIKE queries. *Expert Systems with Applications*, 165. https://doi.org/10.1016/j.eswa.2020.113762
- [8] Barth, M. E., Beaver, W. H., & Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view \$. *Journal Of Accounting & Economics*, 31, 77–104.
- [9] Behera, S. (2020). Does the EVA valuation model explain the market value of equity better under changing required return than constant required return? *Financial Innovation*, 6(1). https://doi.org/10.1186/s40854-019-0167-8
- [10] Bergant, K. (2021). The role of stock-flow adjustment during the global financial crisis. *Journal of International Money and Finance*, 110. https://doi.org/10.1016/j.jimonfin.2020.102261
- [11] Betancor, M. B., MacEwan, A., Sprague, M., Gong, X., Montero, D., Han, L., ... Tocher, D. R. (2021). Oil from transgenic Camelina sativa as a source of EPA and DHA in feed for European sea bass (Dicentrarchus labrax L.). *Aquaculture*, *530*. https://doi.org/10.1016/j.aquaculture.2020.735759
- [12] Brimble, M., & Hodgson, A. (2007). Assessing the Risk Relevance of Accounting Variables in Diverse Economic Conditions Author. *Griffith*.
- [13] Brown, S., Lo, K., & Lys, T. (1999). Use of R 2 in Accounting Research: Measuring Changes in Value Relevance over the Last Four Decades. *JEL*, (847).
- [14] Burke, Q. L., Warfield, T. D., & Wieland, M. M. (2020). Value relevance of disaggregated information: An examination of the rate and volume analysis of bank net interest income. *Accounting Horizons*, *34*(1), 19–43. https://doi.org/10.2308/acch-52637
- [15] Cappelli, C., Cerqueti, R., D'Urso, P., & Di Iorio, F. (2021). Multiple breaks detection in financial interval-valued time series. *Expert Systems with Applications*, *164*. https://doi.org/10.1016/j.eswa.2020.113775
- [16] Carta, S., Ferreira, A., Podda, A. S., Reforgiato Recupero, D., & Sanna, A. (2021). Multi-DQN: An ensemble of Deep Q-learning agents for stock market forecasting. *Expert Systems with Applications*, *164*. https://doi.org/10.1016/j.eswa.2020.113820
- [17] Chao, X., Kou, G., Peng, Y., & Viedma, E. H. (2021). Large-scale group decision-making with non-cooperative behaviors and heterogeneous preferences: An application in financial inclusion. *European Journal of Operational Research*, 288(1), 271–293. https://doi.org/10.1016/j.ejor.2020.05.047
- [18] Chatfield, H. K., Chatfield, R. E., Baloglu, S., & Poon, P. (2020). Preferred stock issuance in the restaurant industry and financial distress. *Journal of Foodservice Business Research*, 23(5), 401–416. https://doi.org/10.1080/15378020.2020.1768818
- [19] Chen, C.-Y., Huang, M.-H., Li, K.-L., Chao, H.-Y., Shen, K.-J., & Yu, S.-H. (2021). Is enforcing the production and filing of corporate social responsibility reports conducive

- to improving corporate performance? *Advances in Intelligent Systems and Computing*, 1195 AISC, 540–551. https://doi.org/10.1007/978-3-030-50399-4 53
- [20] Chen, L., Chen, M., Chen, Y., Chen, Y., Cheng, Y., & Zhao, N. (2021). Modelling and control of a novel AT-fed co-phase traction power supply system for electrified railway. *International Journal of Electrical Power and Energy Systems*, 125. https://doi.org/10.1016/j.ijepes.2020.106405
- [21] Chen, X., Nie, Y., & Li, N. (2021). Online Residential Demand Response via Contextual Multi-Armed Bandits. *IEEE Control Systems Letters*, *5*(2), 433–438. https://doi.org/10.1109/LCSYS.2020.3003190
- [22] Choi, D., Choi, P. M. S., Choi, J. H., & Chung, C. Y. (2020). Does sustainable corporate governance enhance accounting practice? Evidence from the Korean market. *Sustainability (Switzerland)*, *12*(7). https://doi.org/10.3390/su12072585
- [23] Cinaroglu, S. (2021). Comparison of Fuzzy C-Means and K-Means Clustering Performance: An Application on Household Budget Survey Data. *Advances in Intelligent Systems and Computing*, 1197 AISC, 54–62. https://doi.org/10.1007/978-3-030-51156-2_8
- [24] Crenna, E., Marques, A., La Notte, A., & Sala, S. (2020). Biodiversity Assessment of Value Chains: State of the Art and Emerging Challenges. *Environmental Science & Emp. Technology*, *54*(16), 9715–9728. https://doi.org/10.1021/acs.est.9b05153
- [25] Cruz-García, P., & de Guevara, J. (2020). Determinants of net interest margin: the effect of capital requirements and deposit insurance scheme. *European Journal of Finance*, 26(11), 1102–1123. https://doi.org/10.1080/1351847X.2019.1700149
- [26] de Jesus, D. P., Lenin Souza Bezerra, B. F., & da Nóbrega Besarria, C. (2020). The non-linear relationship between oil prices and stock prices: Evidence from oil-importing and oil-exporting countries. *Research in International Business and Finance*, 54. https://doi.org/10.1016/j.ribaf.2020.101229
- [27] Dewi, S. P., & Hidayat, R. (2014). Pengaruh Net Profit Margin dan Return on Assets terhadap Harga Saham pada Perusahaan Otomotif yang Terdaftar di Bursa Efek Indonesia. *Jurnal Ilman*, *1*(1), 1–10.
- [28] Diop, M. L., & Kengne, W. (2021). Piecewise autoregression for general integer-valued time series. *Journal of Statistical Planning and Inference*, 211, 271–286. https://doi.org/10.1016/j.jspi.2020.07.003
- [29] Doncato, K. B., & Costa, C. S. B. (2021). Micronutrient supplementation needs for halophytes in saline aquaponics with BFT system water. *Aquaculture*, *531*. https://doi.org/10.1016/j.aquaculture.2020.735815
- [30] Duong, D., & Huynh, T. L. D. (2020). Tail dependence in emerging ASEAN-6 equity markets: empirical evidence from quantitative approaches. *Financial Innovation*, *6*(1). https://doi.org/10.1186/s40854-019-0168-7
- [31] Erdem, Y., Cebi, S., & Ilbahar, E. (2021). A New Approach to Analyze Perceived Design Quality of Mobile Phone Using Fuzzy Hierarchical Conjoint Analysis. *Advances in Intelligent Systems and Computing*, 1197 AISC, 769–778. https://doi.org/10.1007/978-3-030-51156-2_89
- [32] F.Fama, E. (2013). Session Topic: Stock Market Price Behavior Session Chairman: Burton G. Malkiel Efficient Capital Markets: A Review Of Theory And Empirical

- Work. JSTOR, 25(2), 28–30.
- [33] Fama, E. F. (1970). Efficient Capital Markets: A Riview Of Theory And Empirical Work. *The Journal Of Finance*, 25(2), 383–417.
- [34] Feng, J., & Gong, Z. (2020). Integrated linguistic entropy weight method and multi-objective programming model for supplier selection and order allocation in a circular economy: A case study. *Journal of Cleaner Production*, 277. https://doi.org/10.1016/j.jclepro.2020.122597
- [35] Figlioli, B., Lemes, S., & Lima, F. G. (2020). In search for good news: The relationship between accounting information, bounded rationality and hard-to-value stocks. *Emerging Markets Review*, 44. https://doi.org/10.1016/j.ememar.2020.100719
- [36] Gultom, M. L., Purba, D. P., Zepria, & Sinaga, R. (2019). Pengaruh Current Ratio (Rasio Lancar), Return on Equity Dan Total Asset Turn Over (Tato) Terhdap Harga Saham Pada Sector Consumer Goods Industry Di Bursa Efek Indonesia. *Jurnal Global Manajemen*, 8(1), 35–44.
- [37] Hanafi, M. A. N., & Syam, S. (2019). Analisis Kierja Keuanagn Berdasarkan Prinsip Camel Pada PT. Bank Rakyat Indonesia (BRI) yang terdaftar di Bursa efek Indonesia. *PAY Jurnal Keuangan Dan Perbankan*, *1*(1), 48–57. Retrieved from http://ejournals.umma.ac.id/index.php/pay
- [38] Hedgecock, D., & Pan, F. T. C. (2021). Genetic divergence of selected and wild populations of Pacific oysters (Crassostrea gigas) on the West Coast of North America. *Aquaculture*, 530. https://doi.org/10.1016/j.aquaculture.2020.735737
- [39] Hermi, & Kurniawan, A. (2011). Pengaruh Kinerja Keuangan Terhadap retrn saham Pada perusahaan Manufaktur yng terdaftar Di Bursa Efek Indonesia periode 2008-2010. Jurnal Informasi, Perpajakan, Akuntansi Dan Keuangan Publik, 6(2), 83–95.
- [40] Hodder, L. D., Hopkins, P. E., Wahlen, J. M., & Zimmerman, J. L. (2006). Risk-Relevance of Fair-Value Income Measures for Commercial Banks Published by: American Accounting Association Linked references are available on JSTOR for this article: Risk-Relevance of Fair-Value Income Measures for Commercial Banks. *The Accounting Review*, 81(2), 337–375.
- [41] Holthausen, R. W., & Watts, R. L. (2001). The relevance of the value-relevance literature for financial accounting standard setting. *Journal of Accounting and Economics*, 31(1–3), 3–75. https://doi.org/10.1016/S0165-4101(01)00029-5
- [42] Hu, Y., Li, X., & Shen, D. (2020). Attention allocation and international stock return comovement: Evidence from the Bitcoin market. *Research in International Business and Finance*, *54*. https://doi.org/10.1016/j.ribaf.2020.101286
- [43] Huang, A., Qiu, L., & Li, Z. (2021). Applying deep learning method in TVP-VAR model under systematic financial risk monitoring and early warning. *Journal of Computational and Applied Mathematics*, 382. https://doi.org/10.1016/j.cam.2020.113065
- [44] Hutasoit, P. L., Sinaga, C., Marbun, R., Sembiring, S. A. T., & Sinaga, J. B. L. A. (2019). Pengaruh Net Profit Margin, Non Performing Loan Dan Capital Adequacy Ratio Terhadap Harga Saham Pada Perusahaan Perbankan Yang Terdaftar Di Bursa Efek Indonesia Periode 2014-2017. *Jurnal Aksara Public*, *3*(2), 120–133.
- [45] Ji, Q., Zhang, D., & Zhao, Y. (2020). Searching for safe-haven assets during the

- COVID-19 pandemic. *International Review of Financial Analysis*, 71. https://doi.org/10.1016/j.irfa.2020.101526
- [46] Jing, G., Siahkouhi, M., Qian, K., & Wang, S. (2021). Development of a field condition monitoring system in high speed railway turnout. *Measurement: Journal of the International Measurement Confederation*, 169. https://doi.org/10.1016/j.measurement.2020.108358
- [47] Juanamasta, I. G., Wati, N. M. N., Hendrawati, E., Wahyuni, W., Pramudianti, M., Wisnujati, N. S., ... Umanailo, M. C. B. (2019). The role of customer service through customer relationship management (Crm) to increase customer loyalty and good image. *International Journal of Scientific and Technology Research*, 8(10), 2004–2007.
- [48] Kalantonis, P., Schoina, S., Missiakoulis, S., & Zopounidis, C. (2020). The impact of the disclosed r & the expenditure on the value relevance of the accounting information: Evidence from greek listed firms. *Mathematics*, 8(5). https://doi.org/10.3390/MATH8050730
- [49] Kallarakkal, K. P., Muthukumar, K., Alagarsamy, A., Pugazhendhi, A., & Naina Mohamed, S. (2021). Enhancement of biobutanol production using mixotrophic culture of Oscillatoria sp. in cheese whey water. *Fuel*, 284. https://doi.org/10.1016/j.fuel.2020.119008
- [50] Kohar, A., Ahmar, N., & Suratno. (2018). Sensitivitas Faktor Ekonomi Makro Dan Mikro Dalam Memprediksi Volaritas harga saham Perusahaan Sektor Industri Food & Beverages. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi, 4*(1), 85–100.
- [51] Kok, B., Malcorps, W., Tlusty, M. F., Eltholth, M. M., Auchterlonie, N. A., Little, D. C., ... Davies, S. J. (2020). Fish as feed: Using economic allocation to quantify the Fish in Fish-out ratio of major fed aquaculture species. *Aquaculture*, 528. https://doi.org/10.1016/j.aquaculture.2020.735474
- [52] Kusi, B. A., Agbloyor, E. K., Gyeke-Dako, A., & Asongu, S. A. (2020). Financial Sector transparency and net interest margins: Should the private or public Sector lead financial Sector transparency? *Research in International Business and Finance*, *54*. https://doi.org/10.1016/j.ribaf.2020.101260
- [53] Lahmiri, S., & Bekiros, S. (2020). Renyi entropy and mutual information measurement of market expectations and investor fear during the COVID-19 pandemic. *Chaos, Solitons and Fractals*, *139*. https://doi.org/10.1016/j.chaos.2020.110084
- [54] Leimstoll, U., & Wölfle, R. (2021). Direct to Consumer (D2C) E-Commerce: Goals and Strategies of Brand Manufacturers. *Studies in Systems, Decision and Control*, 294, 237–250. https://doi.org/10.1007/978-3-030-48332-6_16
- [55] Liu, F., Rhim, H., Park, K., Xu, J., & Lo, C. K. Y. (2021). HACCP certification in food industry: Trade-offs in product safety and firm performance. *International Journal of Production Economics*, 231. https://doi.org/10.1016/j.ijpe.2020.107838
- [56] Lukin, A. G., Saraev, A. R., & Dozhdeva, E. E. (2021). Once again to the question of economic efficiency of medical services. *Lecture Notes in Networks and Systems*, *139*, 578–582. https://doi.org/10.1007/978-3-030-53277-2_69
- [57] Manduca, L. G., Silva, M. A. D., Alvarenga, É. R. D., Alves, G. F. D. O., Ferreira, N. H., Teixeira, E. D. A., ... Turra, E. M. (2021). Effects of different stocking densities on Nile tilapia performance and profitability of a biofloc system with a minimum water

- exchange. Aquaculture, 530. https://doi.org/10.1016/j.aquaculture.2020.735814
- [58] Marc, A. F., Guppy, J. L., Bauer, P., Mulvey, P., Jerry, D. R., & Paris, D. B. B. P. (2021). Validation of advanced tools to evaluate sperm function in barramundi (Lates calcarifer). *Aquaculture*, *531*. https://doi.org/10.1016/j.aquaculture.2020.735802
- [59] Marcella, F., Wijayanti, D., & Herawaty, V. (2019). Pengaruh Strategi Bisnis dan Kinerja Keuangan Terhadapa Income Smoothing Dengan Kepemilikan Manajerial Sebagai Variabel Moderasi Pada Perusahaan Manufaktur Di Bursa Efek Indonesia Tahun 2015-2017. *Prosiding Seminar Nasional Pakar Ke 2 Tahun 2019 Buku 2 Sosial Dan Humaniora*, 2(2), 1–8.
- [60] Mokni, K. (2020). Time-varying effect of oil price shocks on the stock market returns: Evidence from oil-importing and oil-exporting countries. *Energy Reports*, 6, 605–619. https://doi.org/10.1016/j.egyr.2020.03.002
- [61] Mudjijah, S., Khalid, Z., & Diah Ayu sekar Astuti. (2019). Pengaruh Kinerja Keuangan dan Strutur mmodal Terhadap nilai perusahaan yang dimoderasi Variabel ukuran Perusahaan. *Jurnal Akuntansi Dan Keuangan*, 8(1), 41–56.
- [62] Muhammad, T. T., & Rahim, S. (2015). Pengaruh Tingkat Likuiditas Dan Profitabilitas Terhadap Harga Saham Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia (BEI). *Jurnal Akunntansi Aktual*, *3*(2), 117–126.
- [63] Mullowney, D. R. J., Baker, K. D., & Pedersen, E. J. (2020). Harvesting strategies during a forecasted decline in the Newfoundland and Labrador snow crab fishery. *Fisheries Research*, 232. https://doi.org/10.1016/j.fishres.2020.105707
- [64] Najihah, N., Indriastuti, M., & Suhendi, C. (2021). The effect of corporate social responsibility and environmental cost on financial performance. *Advances in Intelligent Systems and Computing*, 1194 AISC, 418–425. https://doi.org/10.1007/978-3-030-50454-0 42
- [65] Nayak, S. C., & Misra, B. B. (2020). Extreme learning with chemical reaction optimization for stock volatility prediction. *Financial Innovation*, 6(1). https://doi.org/10.1186/s40854-020-00177-2
- [66] Nguyen, T. K., & Razali, M. N. (2020). The dynamics of listed property companies in Indonesia. *Journal of Property Investment and Finance*, 38(2), 91–106. https://doi.org/10.1108/JPIF-06-2019-0073
- [67] Nguyen, T. V. H., Pham, T. T. T., Nguyen, C. P., Nguyen, T. C., & Nguyen, B. T. (2020). Excess liquidity and net interest margins: Evidence from Vietnamese banks. Journal of Economics and Business, 110. https://doi.org/10.1016/j.jeconbus.2020.105893
- [68] Omran, M., & Tahat, Y. A. (2020). Does institutional ownership affect the value relevance of accounting information? *International Journal of Accounting and Information Management*, 28(2), 323–342. https://doi.org/10.1108/IJAIM-03-2019-0038
- [69] Pak, O. (2020). Bank profitability in the Eurasian Economic Union: Do funding liquidity and systemic importance matter? *North American Journal of Economics and Finance*, 54. https://doi.org/10.1016/j.najef.2020.101265
- [70] Pramono, N. H., & Widiarto, A. (2019). Kinerja keuangan bank syariah di indonesia. *Accounthink: Journal Of Accounting and Finance*, 4(01), 685–697.
- [71] Ricci, F., Scafarto, V., Ferri, S., & Tron, A. (2020). Value relevance of digitalization:

- The moderating role of corporate sustainability. An empirical study of Italian listed companies. *Journal of Cleaner Production*, 276. https://doi.org/10.1016/j.jclepro.2020.123282
- [72] Rusdiyanto, Agustia, D., Soetedjo, S., & Septiarini, D. F. (2020). The effect of cash turnover and receivable turnover on profitability [El efecto de la rotación de efectivo y la rotación de cuentas por cobrar en la rentabilidad]. *Opcion*, *36*(Special Edition 26), 1417–1432. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-85084257220&partnerID=40&md5=8438813317afcd00301bf008d845eea4
- [73] Rusdiyanto, Hidayat, W., Soetedjo, S., Tjaraka, H., Septiarini, D. F., Gazali, ... Rahayu, D. I. (2020). The Effect of Macroeconomics on Stock Prices: Case Study Indonesian. *Espacios*, 14(17), 26. Retrieved from https://www.revistaespacios.com/a20v41n17/20411726.html
- [74] Rusdiyanto, Hidayat, W., Tjaraka, H., Septiarini, D. F., Fayanni, Y., Utari, W., ... Imanawati, Z. (2020). The effect of earning per share, debt to equity ratio and return on assets on stock prices: Case study Indonesian. *Academy of Entrepreneurship Journal*, 26(2), 1–10.
- [75] Rusdiyanto, & Narsa, I. M. (2018). Influence of Earnigs Volatility, Net Income and Comprehensive Income on Stock Prices on Banking Companies on the Indonesia Stock Exchange. *Working Paper Managerial Auditing Journal*, 1–34.
- [76] Santos, F. D., Santos, L. P., Cunha, P. H. P., Borghi, F. T., Romão, W., de Castro, E. V. R., ... Filgueiras, P. R. (2021). Discrimination of oils and fuels using a portable NIR spectrometer. *Fuel*, 283. https://doi.org/10.1016/j.fuel.2020.118854
- [77] Tweneboah, G., Owusu Junior, P., & Kumah, S. P. (2020). Modelling the asymmetric linkages between spot gold prices and African stocks. *Research in International Business and Finance*, 54. https://doi.org/10.1016/j.ribaf.2020.101246
- [78] Utami, S. L. (2019). Analisis Kinerja Keuanagan Perusahaan Pada PT. Telekomunikasi Indonesia (Persero) Tbk. Periode 2015-2017. *Akuntansi*, 1–15.
- [79] Valieva, E. N., Yarullin, R. R., Zhelonkin, N. N., & Mayorskaya, A. S. (2021). Innovations in financial sustainability management of public health care organizations. *Lecture Notes in Networks and Systems*, *139*, 191–200. https://doi.org/10.1007/978-3-030-53277-2_22
- [80] Wang, N., Zhang, N., Jin, Z., & Qian, L. (2021). Reinsurance–investment game between two mean–variance insurers under model uncertainty. *Journal of Computational and Applied Mathematics*, 382. https://doi.org/10.1016/j.cam.2020.113095
- [81] Wang, R., He, X., & Diao, X. (2021). Input-output efficiency of environmental protection enterprises and its influencing factors: An empirical analysis of 279 listed enterprises in China. *Journal of Cleaner Production*, 279. https://doi.org/10.1016/j.jclepro.2020.123652
- [82] Xie, G., Qian, Y., & Wang, S. (2021). Forecasting Chinese cruise tourism demand with big data: An optimized machine learning approach. *Tourism Management*, 82. https://doi.org/10.1016/j.tourman.2020.104208
- [83] Yan, K., Zhang, W., & Shen, D. (2020). Stylized facts of the carbon emission market in China. *Physica A: Statistical Mechanics and Its Applications*, 555. https://doi.org/10.1016/j.physa.2020.124739

- [84] Yang, K., Wei, Y., Li, S., & He, J. (2021). Geopolitical risk and renewable energy stock markets: An insight from multiscale dynamic risk spillover. *Journal of Cleaner Production*, 279. https://doi.org/10.1016/j.jclepro.2020.123429
- [85] Yang, Y., Jia, F., Chen, L., Wang, Y., & Xiong, Y. (2021). Adoption timing of OHSAS 18001 and firm performance: An institutional theory perspective. *International Journal of Production Economics*, 231. https://doi.org/10.1016/j.ijpe.2020.107870
- [86] Zainy, H. Z. A.-A., & Al-Temimi, A. H. (2020). Impact of business model disclosure on the value relevance of accounting information for investors: Empirical analysis. *International Journal of Psychosocial Rehabilitation*, 24(9), 3199–3210. https://doi.org/10.37200/IJPR/V24I9/PR290346
- [87] Zeng, H., Dong, B., Zhou, Q., & Jin, Y. (2021). The capital market reaction to Central Environmental Protection Inspection: Evidence from China. *Journal of Cleaner Production*, 279. https://doi.org/10.1016/j.jclepro.2020.123486
- [88] Zhang, W., Yang, D., Zhang, S., Ablanedo-Rosas, J. H., Wu, X., & Lou, Y. (2021). A novel multi-stage ensemble model with enhanced outlier adaptation for credit scoring. *Expert Systems with Applications*, 165. https://doi.org/10.1016/j.eswa.2020.113872
- [89] Zhao, X., Wang, P., & Pal, R. (2021). The effects of agro-food supply chain integration on product quality and financial performance: Evidence from Chinese agro-food processing business. *International Journal of Production Economics*, 231. https://doi.org/10.1016/j.ijpe.2020.107832

BIODATA AUTHOR

1. Mochamad Syafii*

https://orcid.org/0000-0002-9055-479X Email author: syafiimochamad87@gmail.com Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

2. Bustanul Ulum*

https://orcid.org/0000-0003-0617-280X Email author: bustanululum46@gmail.com

Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

3. Rusdiyanto*

https://orcid.org/ 0000-0002-7456-7072 Email Corresponding author: <u>rusdiyanto.se.m.ak-</u>2017@feb.unair.ac.id

Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

4. Petrus Suparman*

https://orcid.org/0000-0002-5931-4288 Email author: petrus.unigres@gmail.com

Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

5. Dwi Inggarwati Rahayu*

https://orcid.org/0000-0002-9518-5583 Email Author: Inggardwi77@gmail.com

Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia

6. Niswan Bayu Syasindy*

 $https://orcid.org/0000-0002-3421-8425 \quad Email \quad author \quad : \quad niswan.bayu@gmail.com, \\ rachmayuniaini@gmail.com$

Lecturer of the Faculty of Economics and Universitas Gresik Indonesia, Jl. Arif Rahman Hakim No.2B, Gresik, City Gresik, East Java 60111 Indonesia