Indonesian Journal of Sustainability Accounting and Management
ISSN 2597–6214 | e–ISSN 2597–6222
DOI: 10.28992/ijsam.v8i1.856

The Valuation of Environmental, Social, and Governance Banking: Evidence from Sri Kehati Index, Indonesia

Yohanes Mario Pratama[1] * | Elizabeth Fiesta Clara Shinta Budiyono[2] | Mario Rosario Wisnu Aji[3]

[1]*Faculty of Business and Economics, Universitas Atma Jaya Yogyakarta, Daerah Istimewa Yogyakarta, Indonesia*
[2]*Faculty of Business and Economics, Universitas Atma Jaya Yogyakarta, Daerah Istimewa Yogyakarta, Indonesia*
[2]*Faculty of Business and Economics, Universitas Atma Jaya Yogyakarta, Daerah Istimewa Yogyakarta, Indonesia*

*Correspondence to: Yohanes Mario Pratama, Faculty of Business and Economics, Universitas Atma Jaya Yogyakarta, Jalan Babarsari No.43, Daerah Istimewa Yogyakarta 55281, Indonesia.
E-mail: yohanes.mario@uajy.ac.id

Abstract: This study aims to provide a fair price valuation of banking shares indexed in SRI-KEHATI as a consideration to investors, the public, and other banks regarding the long-term potential of banks that have implemented ESG. The methodology in this research uses the Discounted Cash Flow method with the Free Cashflow to Equity (FCFE) approach and the Relative Valuation method with the Price to Earnings Ratio (PER) and Price Book Value (PBV) approaches in optimistic, moderate, and pessimistic scenarios. This research focused on five banks indexed in SRI-KEHATI, projecting their fair values under three scenarios. The value of the study is in the optimistic scenario; all banks are projected to be in an undervalued position compared to prices in the capital market. In the moderate and pessimistic scenarios, the condition of the intrinsic value compared to the market value differs between banks. The results of this research can be used by investors and companies to evaluate the performance and value of green banking stocks in Indonesia listed on the SRI-KEHATI index because there is no previous research that has examined the valuation of green banking stocks within the SRI-KEHATI index in Indonesi.

Keywords: banking, stock, sustainability, valuation.

Article info: Received 20 September 2023 | revised 26 January 2024 | accepted 16 February 2024

Recommended citation: Pratama, Y. M., Budiyono, E. F. C. S., & Aji, M. R. W. (2024). The Valuation of Environmental, Social, and Governance Banking: Evidence from Sri Kehati Index, Indonesia. *Indonesian Journal of Sustainability Accounting and Management, 8*(1), 43–62. https://doi.org/10.28992/ijsam.v8i1.856

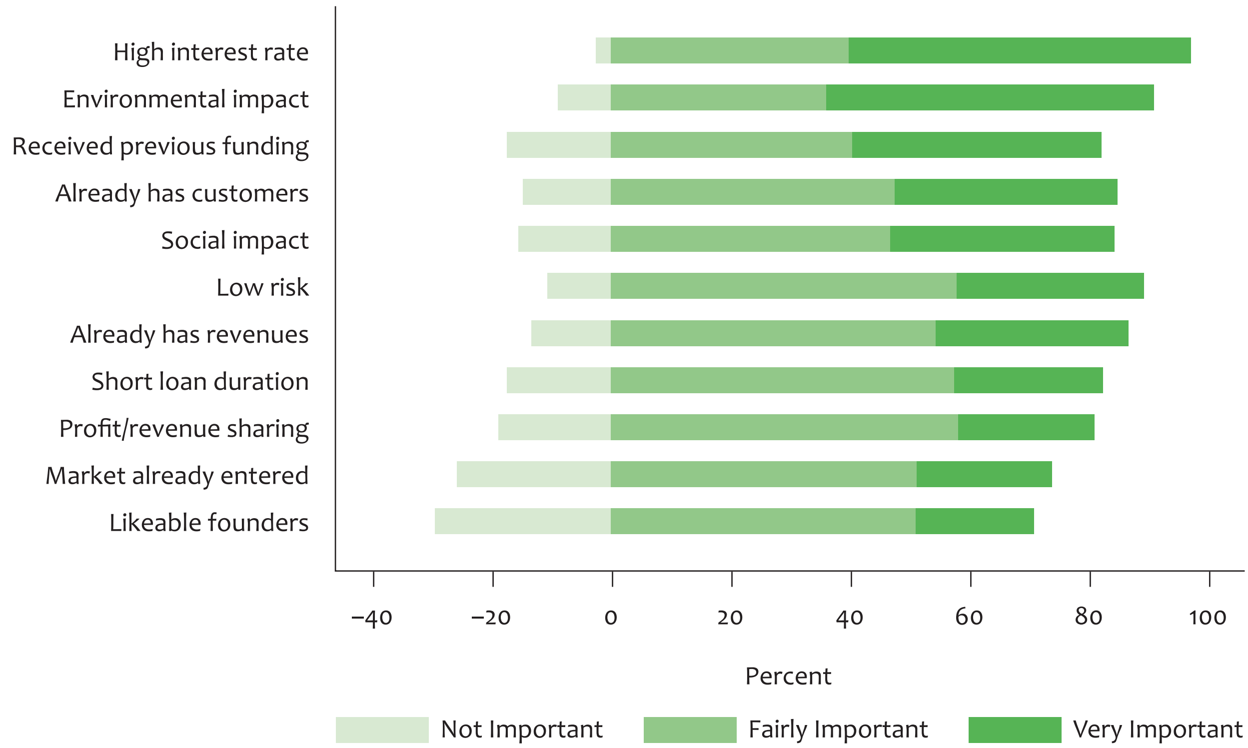
INTRODUCTION

Banks have significant impacts on the economy, society, the environment, and indirectly through their lending and investment activities (Saif-Alyousfi et al., 2023). The global banking industry is currently undergoing a transitional phase due to various challenges, including financial difficulties and the impact of Covid-19, corporate governance problems, and the escalating concerns surrounding environmental matters (Rastogi & Singh, 2023; Bodhanwala & Bodhanwala, 2023; Demers et al., 2021). Environmental issues, including in the banking sector, are increasingly being discussed and closely related to investment. Many investors now make their investment decisions by considering environmental aspects. Therefore, it is important to have a specific reference regarding how investors make investment decisions when considering external aspects, especially environmental aspects. If we look more broadly, environmental issues have been discussed in the world, including The SDGs.

The Sustainable Development Goals (SDGs) are global initiatives to create a better human life in social and economic aspects that synergize with the environment (Nareswari et al., 2023). Sustainable Development Goals (SDGs) have set 17 goals with a framework spanning 15 years. The Sustainable Development Goals (SDGs) are a continuation of the concept of the MDGs (Millennium Development Goals (MDGs). Sustainable development is an action by individuals to maintain human welfare and the environment and reduce the possibility of future generations losing environmental benefits in their economic activities (Meutia et al., 2020; Di Tommaso & Thornton, 2020; Nekhili et al., 2021; Zadeh et al., 2021). Indonesia has committed to participating in achieving Sustainable Development Goals by developing various programs and agendas. In line with Indonesia's commitment to achieving the Sustainable Development Goals (SDGs) from the United Nations, the Indonesia Stock Exchange (IDX) has also implemented a series of sustainable finance initiatives as part of efforts to create an inclusive and globally competitive Capital Market, as well as being a driving force in the realization of a healthy, stable, and growing Indonesian economic sector. IDX support for economic sustainability is realized through implementing several initiatives. These initiatives include: 1) IDX joined the Sustainable Stock Exchanges on April 18, 2019. SSE is a forum for global stock exchanges to encourage transparency from companies for activities that contribute to solving problems related to Environmental, Social, and Governance (ESG) aspects. The ESG aspect that IDX wants to achieve focuses on the 5th SDGs goal, namely Gender Equality, the 8th goal-Decent Work and Economic growth, the 10th goal-Reducing Inequality, the 12th goal-Responsible Consumption and Production, the 13th goal-Tackling Climate Change, and the 17th goal of the Partnership to achieve the goals; 2) Launching of an ESG-focused index, namely the SRI-KEHATI index (Sustainable and Responsible Investment-*Keanekaragaman Hayati Indonesia*), which was launched on June 8, 2009 to increase the transparency of listed companies' ESG performance and encourage the implementation of sustainability targets in the decision-making process by companies and investors.

ESG (Environmental, Social, and Governance) based investment has grown rapidly worldwide. In the context of ongoing ESG developments, stakeholders actively seek to offer a transparent and comprehensive portrayal of the environmental aspects within their operations (Buallay et al., 2020; Tampakoudis & Anagnostopoulou, 2020; Cordazzo et al., 2020; El Khoury et al., 2023). Countries worldwide, especially developing countries like India, have begun to realize the importance of sustainability practices. The research conducted by Martínez-Ferrero & Lozano, 2021; Lunawat & Lunawat, 2022; Guo & Yu, 2022; Rastogi et al., 2023 explains that ESG has a positive relationship with operational and market performance. Gillan et al. (2021) explained that ESG has broader implications compared to CSR. Research shows that environmental performance significantly affects stock prices and has a positive relationship with stock prices. This statement is then supported by Lundström & Svensonn (2014), who said that recent conditions in financial markets around the world indicate that investors are starting to focus on non-financial factors in the process of selecting their portfolios, including ESG factors. Gillan et al. (2021) stated that in 2021, approximately 3.000 institutional investors and service providers had committed to the Principles of Responsible Investment (PRI), which is an agreement to include ESG issues in their investment decisions. Ikram et al. (2019) stated that over 40% of companies listed on the S&P 500 have incorporated ESG (Environmental, Social, and Governance) criteria into their executive contracts. This indicates that the company is more concerned about having a higher ESG rating in the future, reflecting its commitment to ESG performance. Another research also said that banks are more likely to grant loans to borrowers with ESG profiles (Landi & Sciarelli, 2019; Ademi & Klungseth, 2022; D'Apolito et al., 2024). ESG has been found to play a crucial role in enhancing the stability of banks, especially during periods of financial turbulence such as the global financial crisis (Cantero-Saiz et al., 2024). In line with this trend, enterprises engaged in sustainable development are more conscious of resources and apply effective management methods. This reduces environmental concerns, saves water and energy, and reduces waste disposal costs (Koczar et al., 2023).

This condition is strengthened through the results of research by Siemroth & Hornuf (2023), which shows that currently, the environmental impact aspect ranks second and is only 5 percent of the main reason for choosing a stock, namely, the high-interest rate aspect or, also known as a return. This condition explains that many environmentally minded investors consider the environmental impact aspect one of the strongest reasons for choosing a stock. In more detail, the sequence of reasons used by investors in choosing stocks can be seen in Figure 1.



Source: Siemroth & Hornuf, 2023

Figure 1 Reasons form making Investment decisions

More specifically, in Indonesia, the frequency calculation can be used to see an overview of the activity of trading shares or an issuer in a certain period. Referring to the annual statistical data on the Indonesia Stock Exchange in 2020, it was recorded that the most actively traded industry was the financial industry, which was traded 29,814,846 times throughout 2020. Interestingly, the total frequency of the financial industry was dominated by the frequency of the banking sub-sector, which was traded 27,306,567 times throughout 2020. This means that even in the worst conditions (early years of the COVID-19 pandemic), bank shares were still actively traded and attracted the attention of investors. This shows investors' high confidence in owning banking shares even in crisis conditions. Therefore, this fact needs to be addressed wisely because most stock market investors are engaged in banking stocks. However, it's important to acknowledge a disconnect in understanding the importance of ESG aspects among all banking shares listed on the IDX when integrating them into the investment process. Thus, since global investor awareness is starting to consider investments based on environmental impact as well as the active condition of banking stock transactions on the Indonesian stock exchange, this means the more issuers or companies realize the importance of implementing ESG aspects in their operational activities will certainly have a positive impact on the national banking sector. These can be important because there is a possibility that banks' profitability, asset quality, capital strength, funding, and liquidity are adversely affected by environmental, social, and governance (ESG) risks and have become of increasing concern to banks (Bhaskaran et al., 2023). Consistent with research results from Gloßner (2019), shareholders tend to have a favorable connection with companies with good ESG scores.

Furthermore, as highlighted by Chang et al. (2019), although investors may experience a short-term underperformance with shares in ESG-focused companies, investors will be more patient and anticipate for long-term benefits from these investments. Meutia et al. (2020) similarly emphasized that banks with strong, sustainable financial strategies and adequate sustainability records have an impact on enhancing the value of assets, Return on Assets (ROA), Return on Equity (ROE), and other financial performance ratios, especially compared to banks with low sustainability record conformity and sustainability financial action plan. In more detail, the frequency of stock trading on the Indonesia Stock Exchange in 2020 can be seen in Table 1.

Table 1 Frequency of Stock Trading by Industry

Industry	Total Market Frequency
Agriculture	3.022.695
Mining	20.447.674
Basic Industry and Chemicals	14.746.692
Miscellaneous Industry	6.180.687
Property, Real Estate and Building Construction	20.673.541

(Source: IDX 2020)

A study conducted by Islam & Hossain (2022) explains that the implementation of sustainable development in other developing countries, including Bangladesh, remains at a relatively low level. This is evident in company financial reports, which indicate that environmental practices are still low at 14,48%. The low level of implementation of sustainability practices must be addressed properly by other countries, such as Indonesia, as it significantly impacts the disclosure and reporting of financial performance, which ultimately becomes a consideration for investors in making investment decisions. The awareness of global retail investors in using environmental impact as one of the strongest aspects in making investment decisions should also be followed by retail investors in Indonesia. This is important because in Indonesia, the ESG investment concept has started since 2009. However, the problem is that until today, not all banks have implemented the ESG investment concept in their activities. From 25 stocks that are included and qualify for the SRI-KEHATI Index, there are only 5 banking stocks. This means that most banks have not implemented ESG aspects in their operational activities.

Based on the conditions above, to increase investor awareness of the importance of ESG implementation in banking operations, a reference is also needed for investors to determine the fair value of the shares being valued. Fair value is reliable because it can better reflect the actual market value of assets and liabilities found in financial statements, and it can be the predictor of the quality of earnings (Takacs et al., 2020).

Therefore, this research is essential for investors as it allows them to compare the shares' fair value and current market value to make reasonable investment decisions. In more detail, this valuation is also important for investors to carry out as an effort to optimize investor portfolios because 1) global investors pay serious attention to this ESG factor, and 2) the potential for increased investors is still very open in the stock market, especially in the banking sector. Therefore, it is necessary to evaluate the fair price of bank shares indexed in SRI KEHATI to provide a recommendation to investors, the public, and other banks regarding the long-term potential of banks that have implemented ESG in their activities. Based on the description of the background of the problem that has been described above, the problem can be formulated as follows: 1) How is the condition of the projected fair value of banking stocks in the SRI-KEHATI index compared to market prices using the Discounted Cash Flow method with the Free Cashflow to Equity (FCFE), PER and PBV approaches in the optimistic scenario in 2022-2026?; 2) How is the condition of the projected fair value of banking stocks in the SRI-KEHATI index compared to market prices using the Discounted Cash Flow method with the Free Cashflow to Equity (FCFE), PER and PBV approaches in the moderate scenario in 2022-2026?; 3) How is the condition of the projected fair value of banking stocks in the SRI-KEHATI index compared to market prices using the Discounted Cash Flow method with the Free Cashflow to Equity (FCFE), PER and PBV approaches in the pessimistic scenario in 2022-2026?

METHODS

This research used a quantitative method, revealing contextual results based on data collection and researchers' measurable measurements of numerical data (Sekaran & Bougie, 2016). This research is also classified as descriptive research, where the results describe the characteristics of the research object under study. The research used survey techniques not through questionnaire distribution activities but through secondary data collection, and the results did not generalize the population. This research is deductive, where the research method used comes from general to specific theories (Sekaran & Bougie, 2016). This study aims to explain the research results through numbers by performing a valuation/calculation of the value of the research object to determine the intrinsic value of a stock. The financial analysis makes it possible to establish a better decision-making process based on the company's historical information to project its future behavior utilizing indicators summarizing critical aspects to be evaluated. This research will focus on the bank's valuation of the SRI-KEHATI Indonesia index. Valuation activities are carried out using the DCF method with the FCFE approach and relative valuation using the price-earnings ratio (PER) and price book value (PBV) approaches. The objects of this research are BNI Bank, BRI Bank, Mandiri Bank, BCA Bank, and Danamon Bank. This research will focus on the bank's valuation of the SRI-KEHATI Indonesia index.

Researchers focus on companies implementing environmental, social, and corporate governance (ESG) principles in Indonesia. ESG itself is a company standard in the practice of investment activities. As mentioned in the background, the ESG investment trend continues to increase. In Indonesia, companies implementing ESG in their investment activities are marked by their entry into the SRI-KEHATI index. In light of the discussion, the object of research this time is a banking company listed on the SRI-KEHATI index. The population of companies listed in the SRI-KEHATI index is 25. Based on the characteristics determined by the researcher, the sample was taken using nonprobability sampling using the purposive sampling technique, namely determining the sample with specific criteria. The criteria used in this study are as follows:

1. ESG companies listed on the SRI-KEHATI index
2. State-owned and private banking sub-sector companies listed in the SRI-KEHATI index for the 2017-2021 period
3. State-owned and private banks that consistently publish financial and annual reports for the 2017-2021 period.

Based on the techniques and criteria above, five banking sub-sector companies are used as samples: BNI, BRI, Mandiri, BCA, and Danamon.

Analysis techniques in this study aim to identify and analyze secondary data in the form of reports such as financial reports and information on BNI, BRI, Mandiri, BCA, and Danamon stock prices during 2017 – 2021. Several data sources were used, including company annual and financial reports from each company's website, reports from BPS and BI, historical data on bank stock prices from the Yahoo Finance website, and previous research and reference books. The data sources used by researchers are entirely derived from secondary data.

Intrinsic value calculation with Discounted Free Cash Flow (Free Cash Flow to Equity)/FCFE is used in this research. FCFE is the residual cash flow remaining after meeting interest and principal payments and providing reinvestment to maintain existing assets and create new assets for future growth. FCFE also can be used to see the benefits of ESG activities accrue mostly to shareholders or creditors (Gregory, 2022). The FCFE formula is as follows:

FCFE = Net income – change in regulatory capital (1)

Data analysis with FCFE requires several stages. The first stage is classifying historical data as the basis for projecting activities. At this stage, the researcher classifies net income data, RWA, and tier 1 capital. The second stage is to make estimates/projections for 2022-2026. In the second stage, researchers make projections based on past financial report data (2016–2021), so at this stage, the research involves elements of projections and estimates. The third stage is calculating cash flow with the DCF method. The fourth stage is calculating the estimated cost of capital with the CAPM, calculating the terminal value, the value of free cash flow, and cash flow from the terminal value with the assumption of constant growth. Afterward, the researchers calculated the company value using the present value method, calculated the equity value, calculated the intrinsic value based on three conditions (optimistic, moderate, and pessimistic), and lastly, assessed and provided recommendations regarding the results of the stock value.

Furthermore, PER and PBV calculations are carried out as part of the Relative Valuation method. PER is a method for finding intrinsic value using two critical pieces of information: the value of Earnings per share and the earnings multiplier. The PER formula is:

PER = Market Price per Share / Earning per Share (2)

Meanwhile, PBV is a method for finding intrinsic value by using information on the price of a stock in the market and the book value per share. The PBV formula is:

PBV = Price per Share / Book Value of Equity per Share (3)

The results obtained from the above calculation activities are then analyzed and conducted by conducting research conclusions. Data analysis is used to answer the research problem formulation. In this research, historical data will be processed as data originating from financial reports as a basis for projections. Furthermore, after being processed, the data is analyzed for interpretation. The analysis results and conclusions can reflect whether these stocks are undervalued, fair-valued, or overvalued. Based on these conditions, the research team will advise investors to buy, hold, or sell the shares being evaluated. Investors are often attracted to socially responsible stocks not only because of ethical concerns but also because of the promise of superior returns. Yet the empirical evidence is mixed at best (Long et al., 2023).

RESULT AND DISCUSSION

In providing an overview to investors and the public regarding the potential for a Bank to implement ESG, it is necessary to evaluate the fair price of its shares. Thus, this research used the DCF method with the FCFE approach to calculate the intrinsic value of banking company shares. The FCFE approach focuses on tier 1 capital adequacy after considering Risk-Weighted Assets. In addition to using the DCF method with FCFE, relative valuation is used to calculate the PER and PBV values of the five shares analyzed. The calculation of intrinsic value starts with calculating growth projection for each bank in three scenarios (optimistic, moderate, and pessimistic). The growth projection was used to calculate the Earnings after Tax projection for 2022–2026. Then, the change in regulatory capital was also calculated to get the change in regulatory capital projection. The calculation is done by projecting RWA and tier 1 capital adequacy projection, the calculation of these two elements is the projected value of change in regulatory capital.

There is still relatively little research related to ESG (Alareeni & Hamdan, 2020). Several studies have carried out stock price valuations for the banking sector. For example, Chen et al. (2020), conducted research using quasi-natural to identify the causes and effects of institutional investors' activities on ESG. Similarly, Dyck et al. (2019), researched to examine the implementation of ESG in developing countries. Additionally, Kim et al. (2019) conducted research that evaluated CSR scores before and after an institution modified its policies about ESG implementation. Meanwhile, this research explains and provides an understanding of how the ESG aspect has become one of the considerations for making investment decisions. Therefore, this research will examine how the fair value condition compares to their market value, especially for companies that have implemented ESG and are listed on the SRI-KEHATI index to be used as a consideration when making investment decisions because there is no previous research has examined the valuation of green banking stocks within the SRI-KEHATI index in Indonesia.

To get the intrinsic value of the banking industry, the Capital Asset Pricing Model (CAPM) is needed, which is obtained from risk-free data (taken from the BI 7-Day Repo Rate), market beta, and risk premium for each bank. In calculating the FCFE, the projected net income is deducted with the projected change in regulatory capital. The calculation of the value of equity must be done by using the present value of FCFE and the present value of terminal value, which are required to calculate the intrinsic value. In the end, the intrinsic value is obtained from the value of equity divided by the outstanding share. With the three assumptions that occur, namely pessimistic, moderate, and optimistic, the results of the banking valuation in this study are as follows:

Bank Central Asia (BCA)

Historical data from Bank Central Asia is the basis for the FCFE projection. Historical data of Bank Central Asia is presented in Table 2. The projection results are presented in Table 3, and the analysis results are in Table 4.

Table 2 Historical Data of Bank Central Asia (in Million Rupiah)

Information	2017	2018	2019	2020	2021
Total Revenue	68.923.148	74.510.475	84.982.896	86.407.189	87.964.770
Revenue Growth		8.11%	14.05%	1.68%	1.80%
Net Income	23.321.150	25.851.6600	28.569.974	27.147.109	31.440.159
RWA	129.239.881	149.412.372	170.750.375	179.945.482	196.114.396
Tier 1 Capital	129.239.881	149.412.372	170.750.375	179.945.485	196.114.396
% Change in Tier 1 Capital		15.61%	14.28%	5.39%	8.99%

(Source: Data Processed, 2023)

Table 3 Bank Central Asia FCFE Projection Data (in millions of rupiah)

Scenario	2022	2023	2024	2025	TV	Value of Equity
Optimistic	31.759.207	34.072.822	36.553.275	39.212.525	2.438.661.802	1.332.325.074
Moderate	31.539.126	33.602.905	35.800.747	38.141.319	2.184.313.605	1.202.188.841
Pessimistic	31.102.108	32.678.917	34.335.535	36.075.995	1.788.852.938	999.195.689

(Source: Data Processed, 2023)

Table 4 Analysis Result of Bank Central Asia (in millions of rupiah)

DCF FCFE			
Scenario	**Intrinsic Value**	**Market Price on December 30th, 2021**	**Condition**
Optimistic	10.916,91	7.300	Undervalue
Moderate	9.850,59		Undervalue
Pessimistic	8.187,29		Undervalue
RV-PER			
Scenario	**PER Company**	**PER Financial Sectory December 31st, 2021**	
Optimistic	39,56	Min: -10.367	
Moderate	35,93	Average: 52,	
Pessimistic	30,26	Max: 11.006	
RV-PBV			
Scenario	**PBV Company**	**PBV Financial Sector Industry, December 31st, 2021**	
Optimistic	6,57	Min: -0,99	
Moderate	5,93	Average: 3,77	
Pessimistic	4,93	Max: 64,20	

(Source: Data Processed, 2023)

Based on the results of the BCA bank projection calculations, the intrinsic value of BBCA shares in the optimistic scenario is Rp10,916.91, in a moderate scenario, the intrinsic value of BBCA shares is Rp9,850.59, whereas in the pessimistic scenario, the intrinsic value of BBCA shares is Rp8187,29. In the three existing conditions, in optimistic conditions, when compared to the market price as of December 30, 2021, namely IDR 7,300, the intrinsic value > market price value so that BBCA's share value is undervalued. In moderate conditions, intrinsic value > market price value so that it is included in an undervalued condition. Finally, in pessimistic conditions, when compared to the market price, the intrinsic value > market price value means that BBCA's share value is undervalued.

Bank Rakyat Indonesia (BRI)

Bank Rakyat Indonesia's historical data is the basis for the FCFE projection. Bank Rakyat Indonesia's historical data is presented in Table 5. The projection results are presented in Table 6, and the analysis results in Table 7.

Table 5 Bank Rakyat Indonesia Historical Data (in Millions of Rupiah)

Information	2017	2018	2019	2020	2021
Total Revenue	125.972.627	139.186.447	155.569.163	180.070.091	191.728.919
Revenue Growth		10.49%	11.77%	15.75%	6.47%
Net Income	29.045.049	32.418.486	34.413.825	18.660.393	30.755.766
RWA	704.515.985	818.608.240	869.020.388	889.596.695	955.756.191
Tier 1 Capital	154.668.699	172.358.004	197.219.352	187.205.189	266.166.171
%Change in Tier 1 Capital		11.44%	14.42%	-5.08%	42.18%

(Source: Data Processed, 2023)

Table 6 Bank Rakyat Indonesia FCFE Projection Data (in millions of rupiah)

Scenario	2022	2023	2024	2025	TV	Value of Equity
Optimistic	34.365.895	39.477.083	45.322.802	52.007.581	5.552.747.064	2.422.573.588
Moderate	33.382.723	37.262.059	41.579.841	46.385.124	2.917.731.504	1.285.894.001
Pessimistic	31.416.379	33.012.041	34.688.579	36.450.086	2.411.784.388	1.129.249.516

(Source: Data Processed, 2023)

Tabel 7 Analysis Result of Bank Rakyat Indonesia (in millions of rupiah)

DCF FCFE			
Scenario	**Intrinsic Value**	**Market Price on December 30th, 2021**	**Condition**
Optimistic	16.145,82	4.110	Undervalue
Moderate	8.570,15		Undervalue
Pessimistic	7.526,15		Undervalue
RV-PER			
Scenario	**PER Company**	**PER Financial Sectory December 31st, 2021**	
Optimistic	65,86	Min: -10.367	
Moderate	35,92	Average: 52,15	
Pessimistic	33,38	Max: 11.006	

RV-PBV		
Scenario	**PBV Company**	**PBV Financial Sector Industry, December 31st, 2021**
Optimistic	8,46	Min: -0,99
Moderate	4,49	Average: 3,77
Pessimistic	3,94	Max: 64,20

(Source: Data Processed, 2023)

Based on BBRI's bank projection calculation results, the intrinsic value of BBRI's shares in the optimistic scenario is Rp16,145.82, in a moderate scenario, the intrinsic value of BBRI's shares is Rp8,570.15, while in the pessimistic scenario, the intrinsic value of BBRI's shares is Rp7526.15. In the three existing conditions, in optimistic conditions, when compared to the market price as of December 30, 2021, namely IDR 4,110, the intrinsic value > market price value so that BBRI's share value is undervalued. In moderate conditions, intrinsic value > market price value, so this is included in an undervalued condition. Finally, in pessimistic conditions, when compared to market prices, intrinsic value > market price value, so BBRI's share value is undervalued.

Bank Mandiri

Bank Mandiri's historical data is used as the basis for FCFE projections. Bank Mandiri's historical data is presented in Table 8. The projection results are presented in Table 9, and the analysis results are presented in Table 10.

Tabel 8 Bank Mandiri Historical Data (in Million Rupiah)

Information	2017	2018	2019	2020	2021
Total Revenue	110.440.242	119.007.122	129.129.138	137.100.984	141.635.047
Revenue Growth		7.76%	8.51%	6.17%	3.31%
Net Income	21.443.042	25.851.937	28.455.952	18.398.928	30.551.097
RWA	707.791.497	799.235.097	882.905.621	827.461.178	894.029.247
Tier 1 Capital	157.195.865	171.457.236	194.621.334	182.065.400	196.048.380
%Change in Tier 1 Capital		9.07%	13.51%	-6.45%	7.68%

(Source: Data Processed, 2023)

Table 9 Bank Mandiri FCFE Projection Data (in millions of rupiah)

Scenario	2022	2023	2024	2025	TV	Value of Equity
Optimistic	30.588.325	32.836.812	35.248.607	37.835.488	1.570.632.788	764.100.791,92
Moderate	30.371.627	32.373.988	34.507.226	36.779.848	1.445.271.107	708.777.255,85
Pessimistic	29.983.696	31.505.306	33.103.986	34.783.632	1.237.800.022	616.887.090,43

(Source: Data Processed, 2023)

Table 10 Analysis Result of Bank Mandiri (in millions of rupiah)

DCF FCFE			
Scenario	**Intrinsic Value**	**Market Price on December 30th, 2021**	**Condition**
Optimistic	16.538,98	7.025	Undervalue
Moderate	15.341,50		Undervalue
Pessimistic	13.352,53		Undervalue
RV-PER			
Scenario	**PER Company**	**PER Financial Sectory December 31st, 2021**	
Optimistic	23,24	Min: -10.367	
Moderate	21,80	Average: 52,15	
Pessimistic	19,20	Max: 11.006	
RV-PBV			
Scenario	**PBV Company**	**PBV Financial Sector Industry, December 31st, 2021**	
Optimistic	3,44	Min: -0,99	
Moderate	3,19	Average: 3,77	
Pessimistic	2,78	Max: 64,20	

(Source: Data Processed, 2023)

Based on the calculation results of Bank Mandiri's projection, the intrinsic value of BMRI's shares in the optimistic scenario is Rp16,538.98, in the moderate scenario, the intrinsic value of BMRI shares is Rp15,341.50, while in the pessimistic scenario, the intrinsic value of BMRI shares is Rp13,352.53. In the three existing conditions, in optimistic conditions when compared to the market price as of December 30, 2021, namely IDR 7,025, the intrinsic value > market price value so that BMRI's share value is undervalued. In moderate conditions, intrinsic value > market price value so that it enters into an undervalued condition. Finally, in pessimistic conditions, when compared to market prices, intrinsic value > market price value, so BMRI's share value is undervalued.

Bank Danamon

Bank Danamon's historical data is the basis for the FCFE projection. The historical data of Bank Danamon is presented in Table 11. The projection results are presented in Table 12, and the analysis results are presented in Table 13.

Table 11 Bank Danamon's historical data (in Million Rupiah)

Information	2017	2018	2019	2020	2021
Total Revenue	23.663.363	23.986.206	28.417.163	24.389.476	21.847.585
Revenue Growth		1.36%	18.47%	-14.17%	-10.42%
Net Income	3.828.097	4.107.068	4.240.671	1.088.942	1.669.280
RWA	157.002.381	164.394.273	170.789.224	157.250.615	150.731.797
Tier 1 Capital	33.357.000	35.193.000	39.893.286	37.969.851	38.974.429
% Change in Tier 1 Capital		5.50%	13.36%	-4.82%	2.65%

(Source: Data Processed, 2023)

Table 12 Bank Danamon's FCFE projection data (in Million Rupiah)

Scenario	2022	2023	2024	2025	TV	Value of Equity
Optimistic	1.372.101	1.444.009	1.519.654	1.599.228	58.006.765	29.132.575.602
Moderate	1.268.486	1.232.813	1.196.698	1.160.110	30.926.876	16.710.507.271
Pessimistic	1.216.738	1.132.154	1.049.834	969.623	23.435.984	13.154.195.417

(Source: Data Processed, 2023)

Table 13 Analysis Result of Bank Danamon (in Million Rupiah)

DCF FCFE			
Scenario	**Intrinsic Value**	**Market Price on December 30th, 2021**	**Condition**
Optimistic	2.723,91	2.350	Undervalue
Moderate	1.727,04		Overvalue
Pessimistic	1.359,49		Overvalue
RV-PER			
Scenario	**PER Company**	**PER Financial Sectory December 31st, 2021**	
Optimistic	15.03	Min: -10.367	
Moderate	10.13	Average: 52,15	
Pessimistic	8.23	Max: 11.006	
RV-PBV			
Scenario	**PBV Company**	**PBV Financial Sector Industry, December 31st, 2021**	
Optimistic	0.65	Min: -0,99	
Moderate	0.37	Average: 3,77	
Pessimistic	0.29	Max: 64,20	

(Source: Data Processed, 2023)

Based on the results of BDMN projection calculations, the intrinsic value of BDMN shares in the optimistic scenario is Rp2.723,91, in a moderate scenario, the intrinsic value of BDMN shares is Rp1,727.04, while in the pessimistic scenario, the intrinsic value of BDMN's shares is Rp1,359.49. In three scenarios, in an optimistic scenario, the intrinsic value is higher than the market price (2.723,91 > 2.350), so the value of BDMN shares is undervalued. In the moderate scenario, the intrinsic value is lower than the market price (1.727,04 < 2.350), so the value of BDMN shares is overvalued. In the pessimistic scenario, the intrinsic value is lower than the market price (1.359,49 < 2.350), so the value of BDMN shares is overvalued.

Bank Negara Indonesia (BNI)

BNI's historical data is used as the basis for the FCFE projection. The historical data of Bank Negara Indonesia is presented in Table 14. The projection results are presented in Table 15, and the analysis results are presented in Table 16.

Table 14 Data Historis Bank Negara Indonesia (dalam Jutaan Rupiah)

Information	2017	2018	2019	2020	2021
Total Revenue	66.089.288	71.748.629	74.366.586	74.915.951	72.132.230
Revenue Growth		8.56%	3.65%	0.74%	-3.72%
Net Income	13.770.592	15.091.763	15.508.583	3.321.442	10.977.051
RWA	514.476.829	563.439.969	598.483.879	614.633.183	636.201.737
Tier 1 Capital	94.156.872	102.411.938	117.106.127	96.480.892	112.685.137
% Change in Tier 1 Capital		8.77%	14.35%	-17.61%	16.80%

(Source: Data Processed, 2023)

Table 15 Bank Negara Indonesia's FCFE projection data (in Million Rupiah)

Scenario	2022	2023	2024	2025	TV	Value of Equity
Optimistic	9.919.980	10.430.628	10.967.441	11.531.756	356.159.743	167.642.124
Moderate	9.622.672	9.814.232	10.008.925	10.206.771	275.907.890	134.142.527
Pessimistic	9.474.018	9.512.073	9.548.286	9.582.545	244.801.586	120.982.917

(Source: Data Processed, 2023)

Table 16 Analysis Result of Bank Negara Indonesia (in Million Rupiah)

DCF FCFE			
Scenario	**Intrinsic Value**	**Market Price on December 30th, 2021**	**Condition**
Optimistic	9.080,30	6.750	Undervalue
Moderate	7.265,81		Undervalue
Pessimistic	6.553,02		Overvalue
RV-PER			
Scenario	**PER Company**	**PER Financial Sectory December 31st, 2021**	
Optimistic	14,54	Min: -10.367	
Moderate	11,94	Average: 52,15	
Pessimistic	10,92	Max: 11.006	
RV-PBV			
Scenario	**PBV Company**	**PBV Financial Sector Industry, December 31st, 2021**	
Optimistic	1,33	Min: -0,99	
Moderate	1,06	Average: 3,77	
Pessimistic	0,96	Max: 64,20	

(Source: Data Processed, 2023)

Based on the projection calculation of Bank Negara Indonesia (BNI), the intrinsic value of BBNI's shares in the optimistic scenario is Rp9.080,30, in the moderate scenario is Rp7.265,81, and in the pessimistic scenario is Rp6.553,02. In the optimistic and moderate scenario, the intrinsic values are higher than the market price on

December 31st, 2021 (Rp6.750). Thus, BBNI's share value is undervalued. Meanwhile, in the pessimistic scenario, the market price is higher than the intrinsic value. Thus, BBNI's share value is overvalued.

Based on the results of data calculations carried out by researchers using the FCFE and Relative Valuation approaches, namely PER and PBV, the analysis of the results for each bank is outlined as follows:

Bank Central Asia (BCA)

The data obtained from BBCA's share valuation calculation for the 2022–2026 projection explains that in all three scenarios, BBCA's share value is classified as undervalued because the share price on December 30, 2021, is lower than the intrinsic value of BBCA's shares. Based on this condition, investors are recommended to make purchases or not to sell these stock assets. The average deviation/gap between intrinsic value and market price in the three scenarios is 32.12%. The undervalued condition experienced by BCA bank occurs due to several factors. First, starting in 2020, uncertain conditions in the market due to the COVID-19 pandemic. Second, the results of the Financial Services Industry Meeting (PTIJK) in 2021 explain that there was a delay in implementing Basel III, affecting banking industry policies. An intrinsic value greater than the market price indicates that the banking performance is better than the market reflects.

Bank BCA is one of the earliest banks to enter the SRI-KEHATI index. This means that BCA has an awareness of managing ESG-based banking. As explained in the background, investment activities that consider environmental, social, and governance factors can create better and objective company conditions in optimizing investment activities (Aziz, 2022). Another factor that causes the value of shares to be considered undervalued is information on the company's condition that has yet to be disseminated to the public. Hence, BBCA shares are not well-known as SRI-KEHATI-indexed stocks. Therefore, this represents a potential opportunity for investors to buy BBCA shares to maximize profits. Meanwhile, from the corporate perspective, BCA also needs to conduct more massive outreach to investors regarding implementing ESG to increase investor interest in BBCA shares on the market.

Bank BRI (BBRI)

The data obtained from calculating BBRI's shares for the 2022–2026 projection explains that BBRI's share value is classified as undervalued for the three existing scenarios because the market price at the close of 2021 is lower than the intrinsic value of BBRI's shares. The deviation between the intrinsic value and the market price is 161.49%. The large deviation value indicates that the price offered is 161.49% lower than the actual intrinsic value of BBRI's shares. Based on these findings, investors are advised to buy and not sell BBRI stock assets. The undervalued condition experienced by BBRI occurs due to several factors. One of the contributing factors to this situation was the global economic conditions that were currently in turmoil given the COVID-19 pandemic. The economic disruption due to the COVID-19 pandemic has prompted public panic about the existing banking system/bank panic, causing massive withdrawals of funds at BRI banks. This is one of the factors that makes BBRI's shares undervalued.

Bank BRI's strategy to overcome the undervalued condition is to undertake buyback activities. This activity is carried out by buying back shares circulating in the market by corporations. In addition to carrying out the buyback action, researchers suggest BRI continue to aggressively publicize itself as a bank with ESG standards in Indonesia. Bank BRI is consistently included in the SRI-KEHATI index. Bank BRI is guided by its commitment to conducting company operational activities sustainably with sustainability criteria, including environmental, social, and governance principles. Syafrullah & Muharam (2017) explain that the practice and disclosure of ESG scores help investors conduct capital market transactions. Therefore, it is hoped that this activity will be a way for BRI to increase investor interest in BBRI shares.

Bank Mandiri (BMRI)

Based on the data obtained from BMRI's stock calculation for the 2022-2026 projection, it can be stated that in the three existing scenarios, BMRI's share value is still undervalued. This condition occurs because the market price at the close of 2021 is lower than the intrinsic value of BMRI's shares. Based on these findings, investors are advised to make purchases and tend not to sell BMRI stock assets. The result of the deviation of the intrinsic value and the market price is 114.63%. This significant deviation indicates that the price offered is 114.49% lower than the actual intrinsic value of BMRI shares. The undervalued condition experienced by BMRI occurred because BMRI's shares were one of the banks that experienced intense pressure during the COVID-19 pandemic, plus conditions of global uncertainty due to war and recession issues. This pressure has restrained public funds despite improving BMRI's performance.

Therefore, in responding to the undervalued conditions, BMRI is currently making efforts to grow more massive lending to help maintain economic growth momentum by encouraging potential sectors, especially infrastructure and sustainable sectors. In addition, BMRI will continue to improve quality by focusing on prospective sectors, remaining resilient during a crisis during a pandemic and facing recession issues, being liquid, and having long-term growth potential. In addition, to increase investor attractiveness, BMRI consistently provides dividends to its shareholders.

Bank Negara Indonesia (BNI)

Based on BBNI's stock valuation results for 2022–2026, in the optimistic and moderate scenario, BBNI's share valuation is classified as undervalued. In the pessimistic scenario, BBNI's share value is classified as overvalued. An undervalued stock value indicates the company's performance is better than the market's. Under these conditions, investors are advised to buy BBNI shares. This undervalued condition can be caused by the COVID-19 pandemic, which has caused people to make large-scale withdrawals at banks. On the other hand, when BBNI's shares are classified as overvalued, this is due to a very drastic decrease in profits in 2020. The overvalued share value is caused by an inconsistency between the stock price and fundamental performance, which the decrease in profits can judge.

One of the strategies carried out by Bank Negara Indonesia related to the condition of undervalued shares is to buy back shares. Buy-back shares were done to offset selling pressure on the market and give confidence to investors that the company views the current share price as not reflecting the company's fundamental performance, which continues to improve. Even though Bank Negara Indonesia experienced a drastic decline in net profit in 2020 due to the COVID-19 pandemic, Bank Negara Indonesia's profits increased significantly in 2021 by 230,04%. In addition, Bank Negara Indonesia should continue to carry out and publish activities related to ESG because it can create a positive reaction to share prices. These steps taken by Bank Negara Indonesia, such as issuing "Green Bonds" worth five trillion rupiahs, were developed based on the guiding principles of "Green Bonds." Concerning reducing carbon emissions in Indonesia, Bank Negara Indonesia has also obtained a Long-Term Debt Rating from PEFINDO (Indonesian Securities Rating Agency) for one year with an AAA rating, the highest rating.

Bank Danamon (BDMN)

Data obtained from BDMN's stock valuation for 2022–2026 explains that in the optimistic scenario, Bank Danamon's share value is classified as undervalued. In moderate and pessimistic conditions, the value of Bank Danamon's shares is classified as overvalued. An overvalued stock value is caused by a mismatch between the stock price and its fundamental performance. This can be seen from profits, which declined dramatically in 2020 due to the COVID-19 pandemic. In this situation, investors are advised not to buy or sell this stock. On the other hand, undervalued stock values indicate that the company's performance is better than the market's during optimistic conditions. Therefore, investors are advised to buy Bank Danamon Shares in this optimistic condition.

Regardless of the condition of Bank Danamon, which experienced drastic losses in 2020, Bank Danamon has slowly improved its performance. This is proven by an increase in profits of 105% from 2022. In addition, Bank Danamon can publicize more activities related to the environment so that a positive reaction can appear on the share price. The existence of activities related to ESG can create better, transparent, and objective conditions so that it can increase investment optimization (Aziz, 2022). Investors, shareholders, creditors, governments, and other stakeholders expect that companies can do more for ESG. When a company fulfills these expectations, the market will most likely reward the company (Aydoğmuş et al., 2022). One of the steps taken by Bank Danamon regarding activities related to ESG is establishing a partnership with PT. Eastpring Investment Indonesia launched the Eastpring IDX ESG Leaders Plus Index mutual fund as an investment option focusing on sustainable principles. This step is expected to improve the company's performance in the eyes of investors so that it can increase its share price.

Price to Earnings Ratio and Price to Book Value Analysis

Bank Central Asia (BBCA)

Based on the results of the PER calculation of BBCA, for the optimistic scenario, the PER of BBCA is 39,56 times; in the moderate scenario, the PER of BBCA is 35,59 times; and in the pessimistic scenario, the PER value of BBCA is 30,26 times. In the financial sector data, the PER of the financial sector on December 31st, 2021, is 52,15, with the lowest PER value of –10,367 and the maximum PER value of 11,006. This shows that based on the calculation, BBCA's PER is within the PER range in the market. In the PBV calculation for BBCA, in the optimistic scenario, the PBV for BBCA is 6,57 times; in the moderate scenario, it is 5,93 times; and in the pessimistic scenario, it is 4,93 times. PBV for the financial sector on December 31st, 2021, is 3,77, with a minimum value of –0,99 and a maximum value of 64,20. This shows that the results of the calculation of BBCA's PBV are within the PBV range in the market.

Bank Rakyat Indonesia (BBRI)

Based on the result of the PER calculation of BBRI, the PER of BBRI is 65,86 times in the optimistic scenario, 35,92 times in the moderate scenario, and 33,38 times in the pessimistic scenario. In the financial sector data, the PER of the financial sector on December 31st, 2021, is 52,15, with the lowest PER value of –10,367 and the maximum PER value of 11,006. Based on the calculation, BBRI's PER is within the PER range in the market. In the PBV calculation for BBRI, in the optimistic scenario, the PBV for BBRI is 8,46 times; in the moderate scenario, it is 4,49 times; and in the pessimistic scenario, it is 3,94 times. PBV for the financial sector on December 31st, 2021, is 3,77, with a minimum value of –0,99 and a maximum value of 64,20. This shows that the BBRI's PBV calculation results are within the market's PBV range.

Bank Mandiri (BMRI)

According to the result of the PER calculation of BMRI, in the optimistic scenario, the PER for BMRI is 23,24 times, 21,80 times in the moderate scenario, and 19,20 times in the pessimistic scenario. PER for the financial industry on December 31st, 2021, is 52,15, with the lowest PER value of –10,367 and the maximum PER value of 11,006. Based on the calculation, BMRI's PER is within the PER range in the market. For PBV, in the optimistic scenario, the PBV for BMRI is 3,44 times, 3,19 times in the moderate scenario, and 2,78 times in the pessimistic scenario. In the financial sector data on December 31st, 2021, the PBV is 3,77, with a minimum value of –0,99 and a maximum value of 64,20. This shows that the BMRI's PBV calculation results are within the market's PBV range.

Bank Negara Indonesia (BBNI)

The result of the PER calculation of BBNI shows that, in the optimistic scenario, the PER for BBNI is 14,54 times, 11,94 times in the moderate scenario, and 10,92 times in the pessimistic scenario. PER for the financial industry on December 31st, 2021, is 52,15, with the lowest PER value of –10,367 and the maximum PER value of 11,006. Based on the calculation, BBNI's PER is within the PER range in the market. BBNI's PBV shows that, in the optimistic scenario, the PBV for BBNI is 1,33 times, 1,06 times in the moderate scenario, and 0,96 times in the pessimistic scenario. In the financial industry data on December 31st, 2021, the PBV value is 3,77 with a minimum value of –0,99 and a maximum value of 64,20. This shows that the results of the calculation of BBNI's PBV are within the PBV range in the market.

Bank Danamon (BDMN)

PER calculation for BDMN shows that, in the optimistic scenario, the PER for BDMN is 15,03 times, 10,13 times for the moderate scenario, and 8,23 times for the pessimistic scenario. In the financial industry data on December 31st, 2021, the PER value is 52,15, with the lowest PER value of –10,367 and the maximum PER value of 11,006. Based on the calculation, BDMN's PER is within the PER range in the market. PBV calculation for BDMN shows that, in the optimistic scenario, the PBV for BDMN is 0,65 times, 0,37 times for the moderate scenario, and 0,29 times for the pessimistic scenario. PBV for the financial sector on December 31st, 2021, is 3,77, with a minimum value of –0,99 and a maximum value of 64,20. This shows that the results of the calculation of BDMN's PBV are within the PBV range in the market.

Based on the calculations for the five banks, it was determined that all Price-to-Earnings Ratio (PER) and Price-to-Book Value (PBV) figures fall within the market range of similar industries. Therefore, these results can provide confidence to investors in making investment decisions. Companies that incorporate ESG practices and gather funds from investors are thereby better equipped to conduct business activities with a focus on environmental sustainability because If investors are better informed about the sustainability of funds, this creates an incentive for funds to invest in more sustainable ways (Hartzmark & Sussman, 2019).

CONCLUSION

This research analyzed the projected fair value of banking stocks in the SRI-KEHATI index for 2022-2026 using the Discounted Cash Flow method with Free Cashflow to Equity (FCFE), PER, and PBV approaches. In the optimistic and moderate scenarios, most banking stocks, except for Bank Danamon (BDMN), are undervalued, reflecting a mismatch between stock prices and fundamental performance. In the pessimistic scenario, BBNI and BDMN are overvalued due to declining profits. Validating these findings, PER and PBV calculations confirm that all banks remain within the financial sector's standard ranges. The study suggests utilizing longer historical data and different valuation models, such as the Dividend Discount Model, to enhance accuracy. It also recommends assessing the impact of ESG on risk profiles and the "Risk-Return" trade-off of sustainable investments. For investors, the findings offer insights into the optimal conditions for buying, selling, or holding stocks. For companies, especially the five banks analyzed, the research emphasizes the need for performance improvements, particularly through ESG initiatives, to enhance stock valuations.

ORCID

Yohanes Mario Pratama https://orcid.org/0009-0000-7169-5063
Elizabeth Fiesta Clara Shinta Budiyono https://orcid.org/0009-0003-2720-7837
Mario Rosario Wisnu Aji https://orcid.org/0009-0002-9721-7494

REFERENCES

Ademi, B., & Klungseth, N. J. (2022). Does it pay to deliver superior ESG performance? Evidence from US S&P 500 companies. *Journal of Global Responsibility*, *13*(4), 421–449. https://doi.org/10.1108/JGR-01-2022-0006

Alareeni, B. A., & Hamdan, A. (2020). ESG impact on performance of US S&P 500-listed firms. *Corporate Governance*, *20*(7), 1409–1428. https://doi.org/10.1108/CG-06-2020-0258

Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review, 22*(2), S119-S127. https://doi.org/10.1016/j.bir.2022.11.006

Aziz, A. (2022). *Mengukur Pengaruh Investasi ESG pada Perbankan di Indonesia, dan Bagaimana Peran Kebijakan Fiskal: Analisis Data Panel*. Badan Kebijakan Fiskal, Kementerian Keuangan. https://fiskal.kemenkeu.go.id/kajian/2022/09/30/2448-mengukur-pengaruh-investasi-esg-pada-perbankan-di-indonesia-dan-bagaimana-peran-kebijakan-fiskal-analisis-data-panel

Bhaskaran, R. K., Sujit, K. S., & Mongia, S. (2023). Linkage between performance and sustainability initiatives in banking sector–An empirical examination. *International Journal of Productivity and Performance Management*, *72*(1), 200–225. https://doi.org/10.1108/IJPPM-07-2020-0385

Bodhanwala, S., & Bodhanwala, R. (2023). Environmental, social and governance performance: influence on market value in the COVID-19 crisis. *Management Decision*, *61*(8), 2442–2466. https://doi.org/10.1108/MD-08-2022-1084

Buallay, A., Kukreja, G., Aldhaen, E., Al Mubarak, M., & Hamdan, A. M. (2020). Corporate social responsibility disclosure and firms' performance in Mediterranean countries: a stakeholders' perspective. *EuroMed Journal of Business*, *15*(3), 361–375. https://doi.org/10.1108/EMJB-05-2019-0066

Cantero-Saiz, M., Polizzi, S., & Scannella, E. (2024). ESG and asset quality in the banking industry: The moderating role of financial performance. *Research in International Business and Finance*, *69*, 102221. https://doi.org/10.1016/j.ribaf.2024.102221

Chang, C. H., Chen, S. S., Chen, Y. S., & Peng, S. C. (2019). Commitment to build trust by socially responsible firms: Evidence from cash holdings. *Journal of Corporate Finance*, *56*, 364–387. https://doi.org/10.1016/j.jcorpfin.2019.03.004

Chen, T., Dong, H., & Lin, C. (2020). Institutional shareholders and corporate social responsibility. *Journal of Financial Economics*, *135*(2), 483–504. https://doi.org/10.1016/j.jfineco.2019.06.007

Cordazzo, M., Bini, L., & Marzo, G. (2020). Does the EU Directive on non-financial information influence the value relevance of ESG disclosure? Italian evidence. *Business Strategy and the Environment*, *29*(8), 3470–3483. https://doi.org/10.1002/bse.2589

D'Apolito, E., Galletta, S., Iannuzzi, A. P., & Labini, S. S. (2024). Sustainability and Bank Credit Access: New Evidence from Italian SMEs. *Research in International Business and Finance*, 69, 102242. https://doi.org/10.1016/j.ribaf.2024.102242

Demers, E., Hendrikse, J., Joos, P., & Lev, B. (2021). ESG did not immunize stocks during the COVID-19 crisis, but investments in intangible assets did. *Journal of Business Finance and Accounting*, *48*(3–4), 433–462. https://doi.org/10.1111/jbfa.12523

Di Tommaso, C., & Thornton, J. (2020). Do ESG scores effect bank risk taking and value? Evidence from European banks. *Corporate Social Responsibility and Environmental Management*, *27*(5), 2286–2298. https://doi.org/10.1002/csr.1964

Dyck, A., Lins, K. V., Roth, L., & Wagner, H. F. (2019). Do institutional investors drive corporate social responsibility? International evidence. *Journal of Financial Economics*, *131*(3), 693–714. https://doi.org/10.1016/j.jfineco.2018.08.013

El Khoury, R., Nasrallah, N., & Alareeni, B. (2023). ESG and financial performance of banks in the MENAT region: concavity–convexity patterns. *Journal of Sustainable Finance and Investment*, *13*(1), 406–430. https://doi.org/10.1080/20430795.2021.1929807

Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, 66, 101889. https://doi.org/10.1016/j.jcorpfin.2021.101889

Gloßner, S. (2019). Investor horizons, long-term blockholders, and corporate social responsibility. *Journal of Banking and Finance*, *103*, 78–97. https://doi.org/10.1016/j.jbankfin.2019.03.020

Gregory, R. P. (2022). ESG activities and firm cash flow. *Global Finance Journal*, *52*, 100698. https://doi.org/10.1016/j.gfj.2021.100698

Guo, J., & Yu, Y. (2022). CSR committees, politicians and CSR efforts. *Asian Review of Accounting*, *30*(3), 297–313. https://doi.org/10.1108/ARA-06-2021-0107

Hartzmark, S. M., & Sussman, A. B. (2019). Do Investors Value Sustainability? A Natural Experiment Examining Ranking and Fund Flows. *Journal of Finance*, *74*(6), 2789–2837. https://doi.org/10.1111/jofi.12841

Ikram, A., Li, Z., & Minor, D. (2019). CSR - Contingent Executive Compensation Contracts. *Journal of Banking and Finance*, *151*, 105655. https://doi.org/10.1016/j.jbankfin.2019.105655

Islam, S. M. F., & Hossain, S. Z. (2022). Environmental Reporting Practices in an Emerging Economy. *Indonesian Journal of Sustainability Accounting and Management*, 6(2), 225–238. https://doi.org/10.28992/ijsam.v6i2.577

Kim, H. D., Kim, T., Kim, Y., & Park, K. (2019). Do long-term institutional investors promote corporate social responsibility activities? *Journal of Banking and Finance*, *101*, 256–269. https://doi.org/10.1016/j.jbankfin.2018.11.015

Koczar, J., Zakhmatov, D., & Vagizova, V. (2023). Tools for considering ESG factors in business valuation. *Procedia Computer Science*, *225*, 4245–4253. https://doi.org/10.1016/j.procs.2023.10.421

Long, H., Chiah, M., Cakici, N., Zaremba, A., & Bilgin, M. H. (2023). ESG Investing in Good and Bad Times: An International Study. *Journal of International Financial Markets, Institutions and Money*, *91*, 101916. https://doi.org/10.1016/j.intfin.2023.101916

Lunawat, A., & Lunawat, D. (2022). Do Environmental, Social, and Governance Performance Impact Firm Performance? Evidence from Indian Firms. *Indonesian Journal of Sustainability Accounting and Management*, 6(1), 133–146. https://doi.org/10.28992/ijsam.v6i1.519

Lundström, E., & Svensonn, C. (2014). Including ESG concerns in the portfolio selection process: An MCDM approach. *KTH Royal Institute of Technology*, 83. Available at: https://www.diva-portal.org/smash/get/diva2:725585/FULLTEXT01.pdf

Martínez-Ferrero, J., & Lozano, M. B. (2021). The nonlinear relation between institutional ownership and environmental, social *Sustainability*, *13*(3), 1–16. https://doi.org/10.3390/su13031586

Meutia, I., Kartasari, S. F., Yaacob, Z., & Arunachalam, M. (2020). Mapping Sustainable Finance: A Detailed Analysis of Banks in Indonesia. *Indonesian Journal of Sustainability Accounting and Management*, *4*(1), 13–27. https://doi.org/10.28992/ijsam.v4i1.110

Nareswari, N., Tarczyńska-Łuniewska, M., & Al Hashfi, R. U. (2023). Analysis of Environmental, Social, and Governance Performance in Indonesia: Role of ESG on Corporate Performance. *Procedia Computer Science*, *225*, 1748–1756. https://doi.org/10.1016/j.procs.2023.10.164

Nekhili, M., Boukadhaba, A., Nagati, H., & Chtioui, T. (2021). ESG performance and market value: the moderating role of employee board representation. *International Journal of Human Resource Management*, *32*(14), 3061–3087. https://doi.org/10.1080/09585192.2019.1629989

Rastogi, S., & Singh, K. (2023). The impact of ESG on the bank valuation: evidence of moderation by ICT. *Journal of Global Responsibility*, *14*(2), 273–288. https://doi.org/10.1108/JGR-07-2022-0075

Rastogi, S., Singh, K., & Kanoujiya, J. (2023). Firm's value and ESG: the moderating role of ownership concentration and corporate disclosures. *Asian Review of Accounting*, *32*(1), 70–90. https://doi.org/10.1108/ARA-10-2022-0266

Saif-Alyousfi, A. Y. H., Saha, A., & Alshammari, T. R. (2023). Bank diversification and ESG activities: A global perspective. *Economic Systems*, *47*(3). https://doi.org/10.1016/j.ecosys.2023.101094

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill Building Approach* (7th ed.). West Sussex: Wiley & Sons.

Siemroth, C., & Hornuf, L. (2023). Why Do Retail Investors Pick Green Investments? A Lab-in-the-Field Experiment with Crowdfunders. *Journal of Economic Behavior and Organization*, *209*, 74–90. https://doi.org/10.1016/j.jebo.2023.02.023

Syafrullah, S., & Muharam, H. (2017). Analisis Pengaruh Kinerja Enviromental, Social dan Governance (ESG) Terhadap Abnormal Return (Studi pada Perusahaan Indonesia dan Malaysia yang mengungkapkan ESG score dan terdaftar pada Bursa Efek Indonesia dan Bursa Malaysia Tahun 2010-2015). *Diponegoro Journal Of Management*, 6(2), 222–235. Available at: https://ejournal3.undip.ac.id/index.php/djom/article/view/17499/16751

Takacs, A., Szucs, T., Kehl, D., & Fodor, A. (2020). The effect of fair valuation on banks' earnings quality: empirical evidence from developed and emerging European countries. *Heliyon*, 6(12), 1–7. https://doi.org/10.1016/j.heliyon.2020.e05659

Tampakoudis, I., & Anagnostopoulou, E. (2020). The effect of mergers and acquisitions on environmental, social and governance performance and market value: Evidence from EU acquirers. *Business Strategy and the Environment*, *29*(5), 1865–1875. https://doi.org/10.1002/bse.2475

Zadeh, M. H., Magnan, M., Cormier, D., & Hammami, A. (2021). Environmental and social transparency and investment efficiency: The mediating effect of analysts' monitoring. *Journal of Cleaner Production*, *322*, 128991. https://doi.org/10.1016/j.jclepro.2021.128991