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The Effect of ESG Score, Financial Performance, and Macroeconomics on Stock Returns during the Pandemic Era in Indonesia

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ABSTRACT

This study analyzed the effect of ESG Score, financial performance, and macroeconomic variables on stock returns by using the COVID-19 pandemic period in Indonesia as a dummy variable. The sample was 26 companies listed on the Sri-Kehati and IDX ESG Leaders indexes between 2015 and 2020. Furthermore, the stepwise regression method was used, and the secondary data used were sourced from financial reports and Indonesian macroeconomic data. The first step results showed Debt to Equity Ratio has a positive and significant effect on stock returns, while the ESG Score, Return on Assets, and Firm Size do not have an effect. The results of the second step showed the model is simultaneously not feasible and the macroeconomic variables need to be removed. Therefore, it was concluded that a good model is one with ESG Score and financial performance variables that affect stock return, while macroeconomic variables need to be excluded from the model.

Keywords: ESG Score, Financial Performance, Indonesia, Macroeconomics, Pandemics

JEL Classifications: E0, G3, Q51

1. INTRODUCTION

Problems associated with heating in recent years have become the main target of governments in various countries to overcome the atmospheric phenomenon. Environmental damage is an important topic in the global economy, and one of the causes is the inappropriate administration of resources that are used to obtain large economic benefits. A company's production activities may cause environmental pollution which has an impression on social conflict (Khan et al., 2017). Also, responsible and sustainable investment has grown significantly within the last four decades because it relates to moral decisions. This describes an investment process that considers and adopts Environmental, Social, and Governance (ESG) issues. This process is integrated into investment selection, by including one or more ESG practices

in analysis and monitoring. The responsible and sustainable investment is a process that considers the social and environmental consequences of an investment, both positive and negative, within the analysis of a strict financial framework (Kengatharan and Kengatharan, 2014). Companies must pay more attention to social and environmental responsibilities in order to gain legitimacy for the social role and environmental care that have been carried out by the company, so that the company will gain the trust and support of the community. The trust and support obtained from the community can have a good impact on the survival of the company in the future (Halbritter and Dorfleitner, 2015). Responsible and sustainable investment is the process of identifying and investing in companies that meet certain standards of corporate social responsibility and are increasingly being practiced internationally (Bhandari and Tripathi, 2015).

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The ESG Guidelines were created in 2006 by the United Nations Principles of Responsible Investment (PRI). These guidelines are used as the basis for making decisions regarding environmental, social, and governance aspects. However, in 2008 the guidelines had conformity issued by the Chartered Financial Analyst (CFA) Institute. Good financial judgment and decision-making are at the core of the ESG evaluation process in investment decision-making (Fuller, 2012). Investors prefer to invest their money in the shares of socially responsible companies. At the macro level, when all investors become socially responsible, then the companies will no longer exist because their shares are not in demand.

Green investments are those that focus on environmental, social, and governance (ESG) aspects. The purpose of this type of investment is to maintain the continuity of the economy and life on earth. The Indonesian Government strongly supports the implementation of Green investment as stipulated in Law No. 25 of 2007 Article 3 Paragraph (1) Letter h that investment is carried out by still prioritizing environmental protection and maintenance. The green investment growth program was also implemented to create a conducive situation between sustainable environmental management and increasing capital. In the Indonesian capital market, there are stock indexes that show the green investment, namely Sri-Kehati and IDX ESG Leaders. The Sri-Kehati and ESG Leaders indexes were launched in 2009 and at the end of 2020, respectively. Both indices contain a list of companies that play an active role in protecting the environment, maintaining corporate social relations with stakeholders, and implementing good corporate governance. The performance of the two stock indices is very good when compared to the composite index of JCI and the LQ45.

ESG Score measurement has been widely carried out by institutions that focus on environmental, social, and corporate governance conservation. However, there is a dearth of study related to testing the effect of the Score. The empirical studies related to ESG issues in developing countries is the dedication of shareholders to making investments as a sustainable development effort (Diouf et al., 2016; Meher et al., 2020; Miralles-Quirós et al., 2018; Przychodzen et al., 2016; Saini and Singhania, 2019). Many studies examined the effect of variables that affect stock returns, which can be significantly influenced by financial performance (Iqbal et al., 2013; Heryanto 2016; Lai and Cho 2016; Mahmoudabadi 2017; Tahir and Gul 2019; Al-Qudah 2020). The different results found that financial performance does not significantly affect stock returns (Kurniati 2019; Ozturk and Karabulut 2020; Endri et al., 2021).

Due to the gap in literature, this study aims to analyze the effect of ESG Score, Financial Performance, and Macroeconomics on stock returns of companies listed on the Sri-Kehati and IDX ESG leaders indexes between 2015 and 2020. This will be very useful to investors who do not focus on only profits but also on companies that pay attention to environmental preservation, social relations, and the implementation of good corporate governance. The novelty of this study is to use the ESG Score as a variable that affects stock return.

2. LITERATURE REVIEW

The Behavior Asset Pricing Model was developed from an existing financial standard such as the Capital Asset Pricing Model – CAPM and Arbitrage Pricing Theory – APT (Shefrin and Statman 1985; Shefrin and Statman 1994). The Behavior Asset Pricing Model's expected rate of return on an asset is decided by utilitarian and expressive benefits, as well as investors' cognitive and emotional erros. For example, the expected return on a company's stock depends on risk, liquidity, social responsibility, prestige, excitement, as well as cognitive and emotional errors (Leković, 2019; Shefrin, 2009). A higher expressiveness and emotionality lead to lower utilitarian benefits. Therefore, the optimal portfolio of behavioral finance will yield lower expected returns than the quality optimal portfolio of financials for the identical level of risk (Statman, 2017).

Financial standards such as the CAPM and APT completely ignore the influence of expressive levels within the process of pricing assets, while the BAPM model recognizes its importance. Influence is an unavoidable component of human judgment and decision-making, while expressiveness could be a short-term positive or negative feeling that hastens the decision-making process (Statman, 2014). In general, Asset Pricing Theory, shows how assets are valued with the associated risk, and the APT became an influential style of the price theory (Ross, 1976). The APT could be a general type of the CAPM (Sharpe, 1964). Meanwhile, the CAPM suggests that asset prices or expected returns are driven by one general factor, and the APT suggests that they are driven by several macroeconomic factors.

The signaling theory was first proposed by Spence (1973) which stated that the sender (of information) provides a condition or signal that reflects the condition of a company which is beneficial to the recipient (investor). The signal can be in the form of information that explains management's efforts in realizing the owner's wishes. This information is considered an important indicator for investors and business people in making decisions (Brigham and Houston, 2019). Also, the information published as an announcement provides proof for investors in making decisions. When the announcement contains a positive value, then it is expected that the market will react. When the data is announced and market participants have received the knowledge, the information is first interpreted and analyzed as an honest or a nasty signal. In addition, when the announcement is made, there will be a change in the volume of stock trading (Jogiyanto, 2013).

Signaling theory explains why companies have the urge to provide financial statement information to external parties. The company urges to provide information because there is information asymmetry between the company and outsiders because the company knows more about the company and its future prospects than outside parties (investors and creditors). Lack of information to outsiders about the company causes them to protect themselves by charging a low price for the company. Firms can increase firm value by reducing information asymmetry. One way to reduce information asymmetry is to give signals to outsiders.

Study on Environmental, Social, and Governance (ESG) was not widely carried out. Torre et al. (2020) tested the effect of the ESG index on the rate of return on shares listed on Eirostoxx50. The results showed ESG index had a positive effect on stock returns. The study supported Yoon and Lee (2018) which showed that the ESG score had a significant effect on stock prices. This is not in accordance with Meher et al. (2020) which showed the ESG score does not affect stock returns.

3. METHODOLOGY

This study used 26 companies listed on the Sri-Kehari and IDX ESG Leaders indexes in Indonesia between 2015 and 2020. The sample was selected using the purposive sampling technique, which was based on criteria related to the objectives. The criteria include (1) Being listed on the ESG index consecutively between 2015 and 2020, (2) Published their financial statements during the period, and (3) Registered in the ESG ranking published by the Sustainalytics. The ESG score data were also used, which were issued by the Sustainalytics Institute, company annual financial reports, and Indonesian macroeconomic publication data from 2015 to 2020. The dependent variable used is stock return, while the independent are ESG score, financial performance (ROA, DER, and Firm Size), and macroeconomics (Exchange and Interest Rates, Inflation, Gross Domestic Product Growth, and Crude Oil Price). In addition, the Pandemic period was used as a dummy variable. The equation of the model is as follows:

$$R_{ii} = \beta_0 + \beta_1 ESGS_{ii} + \beta_2 ROA_{ii} + \beta_3 DER_{ii} + \beta_4 Size_{ii}$$

+ \beta_5 ER_i + \beta_6 IR_i + \beta_7 IF_i + \beta_8 GDP_i + \beta_9 COP_i + \beta_{10} P_i + \varepsilon_{ii} (1)

Where R is Return, ESGS is ESG Score, ROA is Return on Assets, DER is Debt to Equity Ratio, Size is Firm Size, ER is Exchange Rate, IR is Interest Rate, IF is Inflation, GD is GDP Growth, COP is Crude Oil Price, β_0 is intercept, $\beta_{1.9}$ is coefficients of variables, and ε_{it} is error term.

The stepwise regression is one of the procedures for selecting the best set of predictor variables. The stratified analysis is a procedure for selecting the dominant independent variable Xi to be used as an input for the regression model to estimate the size of the dependent variable Y in each Xi unit. Meanwhile, the stepwise regression is a combination of two methods, namely backward procedure analysis and forward selection. The stratified model begins by entering the independent variable with the highest simple correlation to Y, followed by calculating the partial correlation coefficient, and the highest value is entered into the model (Fahrmeir et al., 2013).

The panel data regression is a technique that combines time series data with cross-sectional, and is analyzed using Eviews software. The regression model estimation method can be carried out through three approaches, namely the common, fixed, and the random effect models (Gujarati and Porter, 2013).

4. EMPIRICAL RESULTS

4.1. Data

The panel data of ESG Score and financial performance used in this study came from 26 non-banking companies in the period between 2015 and 2020. Table 1 shows the sector listed on the ESG index. The ESG risk rating measures the extent to which a company in danger is driven by ESG factors or, more technically, how risk is not being managed. Furthermore, the rating consists of a quantitative score and a risk category. The assessment measures the extent to which the implementation of ESG is carried out by the listed company in each business field. The lowest ESG score of 11.77 was achieved by Erajaya Swasembada Tbk in the non-primary consumer goods sector. Meanwhile, the highest score of 44.45 was achieved by Indofood Sukses Makmur Tbk from the primary consumer goods sector. Therefore, a lower score indicates that the company has effectively handled the risk.

In Table 2, PT Unilever Indonesia Tbk has the highest return on assets in the ESG category for 6 consecutive years. The calculation and analysis of Return on Assets show the amount of money owned per asset. Hence, a higher return on asset value indicate that the business will be more profitable and efficient. PT Tower Bersama Infrastructure has the highest debt to equity ratio for 5 consecutive years from 2015 to 2020, which is more than 100%. It indicates the lower the DER ratio, the better the fundamental condition of the company. Meanwhile, a low ratio shows the company's debt is smaller than the number of its assets. The size of companies listed on the ESG index category is large with the highest value being PT Astra International Tbk.

According to Table 3, the Indonesia's macroeconomic factors for the last 5 years shows the exchange rate has decreased for 3 consecutive years from 2015 to 2017. Meanwhile, in 2018, it experienced a significant increase and decreased again in 2019 and during the pandemic in 2020. The real interest rates decreased in 2015, 2016, 2019, and a significant decline in 2020. The country's inflation rate during the 5 years before the pandemic was at an average of 3, but during the pandemic, it fell to 1.68. The GDP continued to decline from 2015 to 2019, but at the end of 2020, it was the same as at the end of 2019. The fluctuations in world crude oil prices for the last 6 years showed the price decreased in 2015 and 2018, while in the same period, others increased.

4.2. Tests for Stepwise Regression

The stepwise regression is a combination of two methods, namely backward procedure analysis and forward selection. The stratified model begins by entering the independent variable that has the highest simple correlation to Y, followed by calculating the partial correlation coefficient, and the highest value is entered into the model.

In this study, the stepwise regression method was carried out by (1) entering the regression model using all the variables, and (2) reducing macroeconomic variables into the model, followed by determining the step with the best significance level. Table 4 above shows that in step 1, by entering all variables into the model, the results are not significant with an Adj R Square value of 1.9%. Step 2 eliminates macroeconomic variables in the model, and the regression results showed a significant value at the 10% level and the Adj R Square value of 3%. The final step is to choose the best model that uses ESG Score, ROA, DER, Size, and Dummy Period as the independent variable and stock return as the dependent.

Table 1: ESG Score Companies at 2015-2020

Sector	Code	2015	2016	2017	2018	2019	2020	Category
Energy	AKRA	18.42	18.42	18.42	18.42	18.42	18.42	Low
	PGAS	28.26	29.08	28.92	29.32	27.81	28.17	Medium
Basic Materials	INTP	28.09	25.92	27.22	28.09	27.87	27.89	Medium
	SMGR	28.02	27.24	26.89	28.12	28.14	27.99	Medium
Industrials	ASII	28.42	28.49	28.42	28.42	28.42	28.42	Medium
	UNTR	41.16	40.33	41.21	41.52	40.85	36.02	High
Consumer Non-Cyclicals	HMSP	25.73	25.73	25.73	25.73	25.73	25.73	Medium
	INDF	43.96	44.11	43.89	44.17	44.45	44.31	Severe
Consumer Cyclicals	ACES	18.42	18.42	18.42	18.42	18.42	18.42	Low
	ERAA	11.77	11.77	11.77	11.77	11.77	11.77	Low
	MAPI	21.99	20.5	20.51	21.99	21.99	21.99	Medium
	MNCN	18.49	18.49	18.49	18.49	18.49	18.16	Low
	RALS	20.11	20.45	20.11	20.11	20.11	20.11	Medium
	SCMA	19.73	16.57	19.73	19.73	19.73	19.73	Low
	SRIL	18.81	19.63	18.81	18.81	18.81	18.76	Low
	UNVR	18.66	18.48	18.48	18.66	18.66	17.42	Low
Health Care	KLBF	30.24	31.2	31.21	30.84	31.36	31.41	High
Properties and Real Estate	BSDE	22.03	22.76	22.76	22.03	22.03	22.03	Medium
	CTRA	27.03	27.03	27.03	27.03	27.03	27.03	Medium
	DMAS	26.31	26.31	26.31	26.31	26.31	26.31	Medium
	PWON	26.92	24.97	26.92	26.92	26.92	26.92	Medium
Infrastuctures	EXCL	25.51	25.65	25.65	25.51	25.52	25.51	Medium
	JSMR	14.08	11.45	14.08	14.08	14.08	14.08	Low
	TBIG	27.71	27.71	27.71	27.71	27.71	27.71	Medium
	TLKM	25.31	26.76	26.76	25.31	25.31	25.31	Medium
	TOWR	27.65	27.13	27.65	27.65	27.65	27.65	Medium

Source: Data

Table 2: Return on assets, debt to equity ratio, and firm size descriptive analysis

	2015	2016	2017	2018	2019	2020
ROA						
Min	-0.11821	0.00684	0.006663	-0.05722	0.015322	-0.03316
	MNCN	EXCL	EXCL	EXCL	PGAS	MAPI
Max	0.372017	0.381631	0.370486	0.466601	0.358018	0.348851
	UNVR	UNVR	UNVR	UNVR	UNVR	UNVR
Mean	0.103163	0.109934	0.103947	0.101932	0.09831	0.07199
DER						
Min	0.045477	0.056232	0.066388	0.043337	0.17261	0.177101
	HMSP	DMAS	DMAS	DMAS	DMAS	MAPI
Max	13.33203	13.54323	7.036151	6.91228	4.589376	3.201173
	TBIG	TBIG	TBIG	TBIG	TBIG	JSMR
Mean	1.575895	1.398237	1.195039	1.188543	1.132271	1.137219
Size						
Min	14.99955	15.13221	15.30365	15.47241	15.54713	15.48042
	ACES	ACES	ACES	RALS	RALS	RALS
Max	19.31854	19.3833	19.5053	19.65822	19.67902	19.63916
	ASII	ASII	ASII	ASII	ASII	ASII
Mean	16.92904	17.03053	17.12599	17.23461	17.30155	17.36589

Source: Data

Table 3: Indonesian macroeconomics factor

Tuble of Indonesian macroconomics factor							
	2015	2016	2017	2018	2019	2020	
Exchange Rate	5.757	4.54077	2.37795	4.79056	3.14317	2.77385	
Interest Rate	-0.004261	-0.006049	0.002144	0.006153	-0.017153	-0.004958	
Inflatiom	3.35	3.02	3.61	3.13	2.72	1.68	
GDP Growth	-0.022578	-0.001133	-0.010216	-0.008341	-0.031064	-0.031064	
COP Growth	-0.16511	0.111312	0.064352	-0.090178	0.082817	0.0848	

Source: Data

Table 4: Model summary

Model	F	Sig.	R	R Square	Adj R Square
1	1.296	0.238	0.286	0.082	0.019
2	1.972	0.086*	0.248	0.062	0.03

*Sig at 10%. Source: Researcher's computation using SPSS software

Model 1 uses 10 independent variables. The results of the partial regression in table 5 showed that only the Debt to Equity Ratio (DER) variable has an effect on stock returns at a significance level of 5%, while others have no effect. All variables of macroeconomics have no effect to stock return so that variabnles

must be deleted from the model. Furthermore, Model 2 shows the Debt to Equity Ratio variable has a significant effect on stock returns, while the ESG Score, ROA, and firm size variables do not have effects.

4.3. Test for Panel Regression

The regression model estimation method using panel data can be carried out through three approaches, namely common, fixed, and random effect models. The common effect model is the simplest approach to the panel data model because it only combines time series and cross section data. This model does not pay attention to the dimensions of time or individuals, so it is assumed that the behavior of company data is the same in various time periods. Ordinary Least Squares (OLS) method is used to estimate the common effect model. Fixed effect model is a panel data model which assumes that differences between individuals can be accommodated from differences in intercepts. To estimate the

Table 5: Coefficients

Model	Variable	Unstandardized	t	Sig	Description
		Coefficients			
		Beta			
1	Constant	0.231	0.312	0.755	Not Sig
	ESGS	-0.104	-0.642	0.522	Not Sig
	ROA	0.108	0.307	0.759	Not Sig
	DER	-0.044	2.501	0.013**	Sig
	SIZE	-0.041	-1.382	0.169	Not Sig
	ER	-0.21	-0.59	0.556	Not Sig
	IR	-5.759	-1.026	0.306	Not Sig
	INF	0.218	1.293	0.198	Not Sig
	GDP	-0.033	-0.613	0.541	Not Sig
	COP	-0.092	-0.6	0.55	Not Sig
	P	-0.3	-1.09	0.913	Not Sig
2	Constant	0.728	1.451	0.149	Not Sig
	ESGS	-0.82	-0.523	0.602	Not Sig
	ROA	0.114	0.327	0.744	Not Sig
	DER	0.043	2.48	0.014**	Sig
	SIZE	-0.043	-1.505	0.134	Not Sig
	P	-0.77	-0.938	0.35	Not Sig

^{**}Sig at 5%. Source: Researcher's computation using SPSS software

fixed effect model, a dummy variable technique is used to capture the intercept differences between companies. The random effect model is a panel data model in which the error terms may relate to each other over time and between individuals. In the random effects model, the intercept difference is accommodated by the error terms of each company.

According to Baltagi (2008) to choose the most appropriate model using panel data, there are several tests, namely: The Chow test was conducted to select the estimated model between the common effect model and the fixed effect model, The Hausman test was conducted to select the estimated model between the fixed effect model and the random effect model, and Lagrange Multiplier (LM) test was conducted to select the estimated model between the common effect model and the random effect model.

Table 6 showed the Pooled Least Square test that was conducted to select the estimated model between the common effect model and the random effect model. The probability of cross-section fixed value is 0.086 which is smaller than 0.10, hence, the null hypothesis is rejected. This means the selected model is the fixed effect. The results of the Chow Test in Table 7 showed the probability of cross-section fixed is 0.243 which is greater than 0.10. This indicates that the null hypothesis is accepted, which means the selected model is the common effect. The Hausman test was conducted to select the estimated model between the fixed and random effect models. The results showed the probability of cross-section fixed value is 0.086 which is smaller than 0.10, hence, the null hypothesis is rejected. This means the selected model is the fixed effect. According to Table 8, the results of the Chow Test showed the probability of cross-section fixed is 0.243 which is >0.10. This indicates that the null hypothesis is accepted, which means the selected model is the common effect.

The panel data regression showed the independent variable that has a significant effect is the Debt to Equity Ratio, while

Table 6: Result of common effect or pooled least square

	Dependent Variable: SR						
Method: Panel Least Squares							
		Periods included: 6					
	Cro	oss-sections included: 26					
	Total pane	el (balanced) observations: 156					
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
С	0.727824	0.501439	1.451470	0.1487			
DESGS	-0.082433	0.157758	-0.522527	0.6021			
ROA	0.113975	0.348819	0.326746	0.7443			
DER	0.043330	0.017472	2.479986	0.0142			
SIZE	-0.043279	0.028754	-1.505146	0.1344			
DUMMY	-0.076782	0.081820	-0.938431	0.3495			
R-squared	0.061679	Mean dependent var		0.037728			
Adjusted R-squared	0.030402	S.D. dependent var		0.382867			
S.E. of regression	0.377003	Akaike info criterion		0.924573			
Sum squared resid	21.31965	Schwarz criterion		1.041875			
Log likelihood	-66.11670	Hannan-Quinn criter.		0.972216			
F-statistic	1.972012	Durbin-Watson stat		2.334358			
Prob (F-statistic)	0.085969						

Source: Researcher's computation using EViews 10 software

Table 7: Result of fixed effect model – Chow test

Table 7. Result of fixed effect model. Chow test								
Dependent Variable: SR								
	Method: Panel Least Squares							
	Periods	included: 6						
	Cross-section	ns included:	26					
Total	panel (balan	ced) observa	tions: 156					
Variable	Coefficient	Std. Error	t-Statistic	Prob.				
С	-0.568152	1.566097	-0.362782	0.7174				
DESGS	-0.107235	0.171510	-0.625239	0.5330				
ROA	2.028267	0.888034	2.283997	0.0241				
DER	0.100421	0.034043	2.949829	0.0038				
SIZE	0.016834	0.091329	0.184324	0.8541				
DUMMY	-0.038444	0.086835	-0.442725	0.6587				
	Effects S	Specification						
Cros	s-section fixe	ed (dummy v	ariables)					
R-squared	0.223286	Mean deper	dent var	0.037728				
Adjusted	0.036875	S.D. depend	lent var	0.382867				
R-squared								
S.E. of regression	0.375742	Akaike info	criterion	1.056066				
Sum squared resid	17.64776	Schwarz criterion 1.66212						
Log likelihood	-51.37315							
F-statistic	1.197815	Durbin-Wat	son stat	2.731312				
Prob (F-statistic)	0.243350							

Source: Researcher's computation using EViews 10 software

Table 8: Result of random effect model - Housman test

Table 8: Result of random effect model - Housman test								
Dependent Variable: SR								
Method: Pa	nel EGLS (C	cross-section	random effe	ects)				
	Periods	included: 6						
	Cross-section	ons included:	26					
Total	panel (balan	ced) observa	tions: 156					
Swamy and	Swamy and Arora estimator of component variances							
Variable Coefficient Std. Error t-Statistic Prob.								
С	0.727824	0.499763	1.456339	0.1474				
DESGS	-0.082433	0.157231	-0.524280	0.6009				
ROA	0.113975	0.347653	0.327843	0.7435				
DER	0.043330	0.017413	2.488306	0.0139				
SIZE	-0.043279	0.028658	-1.510196	0.1331				
DUMMY	-0.076782	0.081546	-0.941580	0.3479				
	Effects S	Specification						
			S.D.	Rho				
Cross-section rando	om		0.000000	0.0000				
Idiosyncratic rando	m		0.375742	1.0000				
Weighted Statistics								
R-squared	0.061679	Mean depen	0.037728					
Adjusted	0.030402	S.D. depend	0.382867					
R-squared								
S.E. of regression	0.377003	Sum square	d resid	21.31965				
F-statistic	1.972012	Durbin-Watson stat 2.3343						
Prob (F-statistic)	0.085969	59						

Source: Researcher's computation using EViews 10 software

the ESG Score, ROA, Size, and the pandemic period do not affect stock returns. The stock returns of companies listed on the SRI-Kehati and ESG Leaders indexes are not influenced by the ESG Score. This indicates that when making decisions, investors do not see the company's ESG Score that has been assessed by other parties. Also, the Debt to Equity Ratio has a significant effect on stock profits, which means the company's debt is an indicator for investors in making decisions. These

results are different from previous studies which showed the DER variable did not affect stock returns. Macroeconomic variables have no effect on stock returns because investors with the same ESG index pay more attention to the fundamental indicators of financial statements. Furthermore, the pandemic period as a dummy variable has no effect because investment in ESG index stocks is not affected by the pandemic that occurred in Indonesia. Even though the stock's profit rate had dropped at the start of the pandemic, it did not last long, because stock prices started to recover in mid-2020.

5. CONCLUDING REMARKS

This study analyzed the causal relationship between the independent variables ESG Score, financial performance (ROA, DER, Size), microeconomics (Exchange rate, interest rate, GDP inflation, and COP), and the pandemic period as a dummy variable on stock returns. The method used include stepwise and panel data regression on 26 companies listed on the SRI-Kehati and the ESG Leaders indexes between 2015 and 2020. The stepwise regression was used to select the best model and the variables used. The results of the first step showed the model is not significant, and the second step is to reduce macroeconomic variables. Therefore, the second capital used in the model is the ESG Score and financial performance variables. The last step is to select the best model, namely the second model which shows the relationship between ESG Score, ROA, DER, and Size that affect stock returns.

This study has implications for investors to start investing in shares of companies that care about the environment, social, and good corporate governance. Green investment is currently being promoted, hence, investors are not only oriented to stock profits but also the company's ESG factor. It is recommended that further studied should provide the ESG variable in more detail which can be used as an indicator for determining investor decision making.

REFERENCES

Al-Qudah, H.A. (2020), The impact of financial performance of stock prices of Jordanian Islamic banks (during period from 2010 to 2018). International Journal of Economics and Financial Issues, 10(1), 228-234.

Baltagi, B.H. (2008), Econometrics. 2nd ed. Berlin, Heidelberg: Springer. Bhandari, V., Tripathi, V. (2015), Performance of socially responsible portfolios do economic conditions matter? Journal of Commerce and Accounting Research, 4(1), 20-30.

Brigham, E.F., Houston, J.F. (2019), Fundamentals of Financial Management. 15th ed. Boston, Massachusetts: Cengage Learning.

Diouf, D., Hebb, T., Touré, E.H. (2016), Exploring factors that influence social retail investors' decisions: Evidence from Desjardins fund. Journal of Business Ethics, 134(1), 45-67.

Endri, E., Rinaldi, M., Ian, D.A., Saing, B., Aminudin, A. (2021), Oil price and stock return: Evidence of mining companies in Indonesia. International Journal of Energy Economics and Policy, 11(2), 110-114.

Fahrmeir, L., Kneib, T., Lang, S., Marx, B. (2013), Regression: Models, Methods and Applications. Berlin: Springer.

Gujarati, D.N., Porter, D.C. (2013), Basic Econometrics. 4th ed. New York: McGraw Hill Higher Education.

- Halbritter, G., Dorfleitner, G. (2015), The wages of social responsibilitywhere are they? A critical review of ESG investing. Review of Financial Economics, 26, 25-35.
- Heryanto. (2016), Effect of liquidity and profitability to bank stock return in Indonesia stock exchange (IDX). International Journal of Academic Research in Accounting, Finance and Management Sciences, 6(3), 131-145.
- Iqbal, N., Khattak, S.R., Khattak, M.A. (2013), Does fundamental analysis predict stock returns? Evidence from non-financial companies listed on KSE. Knowledge horizons. Economics, 5(4), 182-190.
- Jogiyanto, H. (2013), Teori Portfolio dan Analisis Investasi (Kelima). Yogyakarta: BPFE.
- Kengatharan, L., Kengatharan, N. (2014), The influence of behavioral factors in making investment decisions and performance: Study on investors of colombo stock exchange, Sri Lanka. Asian Journal of Finance and Accounting, 6(1), 1-9.
- Khan, A.R., Azeem, M., Sarwar, S. (2017), Impact of overconfidence and loss aversion biases on investment decision: Moderating role of risk perception. International Journal of Transformation in Accounting, Auditing and Taxation, 1(1), 23-35.
- Kurniati, S. (2019), Stock returns and financial performance as mediation variables in the influence of good corporate governance on corporate value. Corporate Governance (Bingley), 19(6), 1289-1309.
- Lai, P., Cho, K. (2016), Relationships between stock returns and corporate financial ratio based on a statistical analysis of corporate data from the Hong Kong stock market. Public Finance Quarterly, 61(1), 110-123.
- Leković, M. (2019), Behavioral portfolio theory and behavioral asset pricing model as an alternative to standard finance concepts. Ekonomski Horizonti, 21(3), 255-279.
- Mahmoudabadi, H.K. (2017), Explaining the impact of real options theory on stock returns: Evidence from Tehran stock exchange. International Journal of Economic Perspectives, 11(4), 1101-1109.
- Meher, B.K., Hawaldar, I.T., Mohapatra, L., Spulbar, C., Birau, R. (2020), The effects of environment, society and governance scores on investment returns and stock market volatility. International Journal of Energy Economics and Policy, 10(4), 234-239.
- Miralles-Quirós, M.M., Miralles-Quirós, J.L., Gonçalves, L.M. (2018),

- The value relevance of environmental, social, and governance performance: The Brazilian case. Sustainability, 10(3), 10030574.
- Ozturk, H., Karabulut, T.A. (2020), Impact of financial ratios on technology and telecommunication stock returns: Evidence from an emerging market. Investment Management and Financial Innovations, 17(2), 76-87.
- Przychodzen, J., Gómez-Bezares, F., Przychodzen, W., Larreina, M. (2016), ESG issues among fund managers-factors and motives. Sustainability (Switzerland), 8(10), 1-20.
- Ross, S.A. (1976), The arbitrage theory of capital asset pricing. Journal of Economic Theory, 13(3), 341-360.
- Saini, N., Singhania, M. (2019), Performance relevance of environmental and social disclosures The role of foreign ownership, Benchmarking, 26(6), 1845-1873.
- Sharpe, W.F. (1964), Capital asset prices: A theory of market equilibrium under conditions of risk. The Journal of Finance, 19(3), 425-442.
- Shefrin, H. (2009), Behavioralizing finance. Foundations and Trends in Finance, 4(1-2) 1-184.
- Shefrin, H., Statman, M. (1985), The disposition to sell winners too early and ride losers too long: Theory and evidence. The Journal of Finance, 40(3) 777-790.
- Shefrin, H., Statman, M. (1994), Behavioral capital asset pricing theory. The Journal of Financial and Quantitative Analysis, 29(3) 323-349.
- Spence, M. (1973), Job Market Signalling. The Quarterly Journal of Economics, 87(3), 355-374.
- Statman, M. (2014), Behavioral finance: Finance with normal people. Borsa Istanbul Review, 14(2), 65-73.
- Statman, M. (2017), Portfolios for Normal People. Finance for Normal People: How Investors and Markets Behave. Oxford: Oxford University Press. p43-47.
- Tahir, M., Gul, A. (2019), The causality between macroeconomic factors on stock returns: A study of Pakistan. Equity Market, 11(4), 212-223.
- Torre, M.L., Mango, F., Cafaro, A., Leo, S. (2020), Does the ESG index affect stock return? Evidence from the Eurostoxx50. Sustainability, 12, 6387.
- Yoon, B., Lee, J.H. (2018), Does ESG performance enhance firm value? Evidence from Korea. Sustainability, 10, 3635.