

PERFORMANCE ANALYSIS OF SHARIA SHARE COMPANIES USING THE PIOTROSKI F-SCORE METHOD

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Abstract

Indonesia is a region that has the largest Muslim population in the world. It is a promising market opportunity to develop the Indonesian Islamic capital market. This study aims to analyze public company performance in determining the quality of sharia stocks. This study used the secondary data in historical data, namely the annual financial statements in 2017 and 2018. Meanwhile, the sample used in this study is 30 sharia stock issuers registered in the Jakarta Islamic Index. The analytical method used is the Piotroski F-Score. The study results found that there are four sharia stocks with perfect financial conditions, twenty five sharia stocks with moderate financial conditions, and one sharia stock whose financial conditions were relatively weak. This study also shows that the Piotroski F-Score method can identify Islamic stocks' quality in the Indonesian capital market.

Keywords: *Performance, Sharia Stock Investment, Piotroski F-Score*

I. Introduction

The Indonesian Capital Market, which is managed by the Indonesia Stock Exchange (IDX), has continuously had significant growth. This can be seen from the Composite Stock Price Index (IHSG), which shows an increasing pattern every year. However, it must be realized that generally, in stock investment, the more it offers a profit rate, the higher the risk it has. (Yovita, 2017).

One of the highlights of the Indonesian capital market system is the existence of the Islamic stock index. It is commonly known that Indonesia has the largest Muslim population in the world. Accordingly, this is

a promising market opportunity for the Indonesian Islamic capital market. Puspitasari et al. (2020) stated that overall, the level of Islamic financial inclusion in Indonesia has increased from 2015–2018.

There are two classifications of the Indonesian Islamic capital market launched by the IDX, namely the Indonesian Sharia Stock Index (ISSI) and the Jakarta Islamic Index (JII). However, this study focuses on publicly listed companies with the category of Islamic stocks and are members of the Jakarta Islamic Index (JII).

JII membership consists of exclusively 30 of the most liquid sharia stocks, and the review process of Islamic stocks is carried

out by the Financial Services Authority (OJK) twice a year (May and November) (IDX, 2019b).

A public company should meet several liquidity criteria to be determined and selected as the 30 sharia shares of JII members. Those criteria are: (1) Sharia stocks have been listed on ISSI for the last six months, (2) Sorted based on the highest average market capitalization for the past one year, (3) Thirty stocks were selected with the highest average daily transactions in the stock capital market and (4) The thirty shares that were selected then subsequently assigned as members of sharia shares (IDX, 2019b).

According to Asmadi et al. (2015), the achievement of company goals can be seen from the performance that can be accomplished by all components involved in the company management. Performance of the company is considered from the operational capability and from the financial performance, especially for public companies to increase trust level from the investors.

One of the investment strategies for investors is the ability to review financial statements. Financial reports reflect the company's performance over a certain period. The ability of investors to combine the strategy of value investment and

financial statement information is believed to produce greater returns (Cho et al., 2012).

One of the fundamental analysis that can be used to evaluate a public company's financial performance is by using the Piotroski F-Score method, an analysis based on the scoring principle of determining financial variables (Hartanto, 2014).

The Piotroski F-Score method was first developed by a Professor of Accounting at Stanford University, Joseph D. Piotroski. The F-Score method is defined as an aggregate signal consisting of nine fundamental signals, which are used to measure three areas of a company's financial performance conditions, including profitability, liquidity, and company operational efficiency (Hyde, 2013; Mohr, 2012; Yovita, 2017). These three areas are divided into nine scoring criteria for companies (Piotroski, 2000).

Several previous studies have been conducted, including by Hyde (2013) using the F-Score method, and the results show that there is a significant premium on stocks with a high F-Score value. Still, it is not related to the size, value, and momentum of the premium. However, in this study, it was found that there is information about investor neglect of stocks with high F-Score, namely the value of capitalization and momentum, which causes the usual explanation for the strength of the F-Score

value. That raises other assumptions that could lead to confirmation bias against stocks with high F-Score values. There should be unnecessary for investors to ignore the value of capitalization and momentum because investors who buy high-quality assets without paying premium prices are just as important as value investments as buying average quality assets at a discount (Novy-marx, 2012).

Subsequent research was carried out by examining an investment strategy's relevance based on the F-Score's fundamentals in adding stock value. This strategy is used to eliminate companies with bad prospects from the entire portfolio of good value stocks. In particular, long-term strategies generate returns that outperform the relevant benchmark indexes. This study's results reveal that the market-adjusted mean return on shares, meeting all F-score values, is significantly greater and returns with the same weight are higher. In all cases, there is a statistically significant return rate. This finding also reaffirms that high benefits can be obtained from implementing the fundamental value strategy (Hyde, 2018; Krauss et al., 2015; Singh & Kaur, 2015).

Meanwhile, research on Islamic stock valuation is carried out by constructing an active Islamic stock portfolio using a multi-style rotation strategy derived from three

prominent styles; momentum, value, and investment quality. The results of this study provide intuitive explanatory recommendations for each premium that changes over time and suggest promising strategies for Islamic equity investors to outperform the market. There is an interesting side about this type of Islamic stock, where the stock value tends to be more stable at a certain momentum. It was found that there was a significant positive value of abnormal returns on a few days around the momentum that occurred, which means that the market responded to this momentum as good news (Dewandaru et al., 2015; Zulfikar & Mayvita, 2018).

Based on the description above, the authors are interested in researching performance analysis of sharia share companies using the Piotroski F-Score method. This study's results are expected to provide several contributions, including information for investors in determining investment activities, learning information for academia, and information for companies to continuously upgrade and improve their performance.

In determining population and samples, this study used a non-probability sampling technique in which all of the population was considered samples. This technique is also known as the saturated sampling technique (Sugiyono, 2011).

The samples of this research are the Islamic stock companies included in the account of JII from June to November 2019 consisted of thirty Islamic stocks stipulated in No. Peng-00220/BEI.POP/05-2019 (IDX, 2019a). The list of Islamic stocks can be seen in table 1.

Table 1
List of Shares for the Account of Jakarta Islamic Index (JII) During the period of June-November 2019

No.	Code	Company name
1	ADRO	Adaro Energy Tbk.
2	AKRA	AKR Corporindo Tbk.
3	ANTM	Aneka Tambang Tbk.
4	ASII	Astra International Tbk.
5	BRPT	Barito Pacific Tbk.
6	BSDE	Bumi Serpong Damai Tbk.
7	BTPS	Sharia National Pension Savings Bank Tbk.
8	CPIN	Charoen Pokphand Indonesia Tbk.
9	CTRA	Ciputra Development Tbk.
10	ERAA	Erajaya Swasembada Tbk.
11	EXCL	XL Axiata Tbk.
12	ICBP	Indofood CBP Sukses Makmur Tbk.
13	INCO	Vale Indonesia Tbk.
14	INDF	Indofood Sukses Makmur Tbk.
15	INDY	Indika Energy Tbk.
16	INTP	Indocement Tunggul Prakarsa Tbk.
17	ITMG	Indo Tambangraya Megah Tbk.
18	JPFA	Japfa Comfeed Indonesia Tbk.
19	JSMR	Jasa Marga (Persero) Tbk.
20	KLBF	Kalbe Farma Tbk.
21	LPPF	Matahari Department Store Tbk.
22	PTBA	Bukit Asam Tbk.
23	PTPP	PP (Persero) Tbk.
24	SCMA	Surya Citra Media Tbk.

25	SMGR	Semen Indonesia (Persero) Tbk.
26	TLKM	Telekomunikasi Indonesia (Persero) Tbk.
27	UNTR	United Tractors Tbk.
28	UNVR	Unilever Indonesia Tbk.
29	WIKA	Wijaya Karya (Persero) Tbk.
30	WSBP	Waskita Beton Precast Tbk.

All data shown in Table 1. is the secondary data obtained from the company's annual financial statements for the period 2017 and 2018 which have been audited and published.

There are nine assessment criteria in the Piotroski F-Score method, the analytical tool used in this study. The shares that match specific criteria will be given a scoring 1, and the maximum score for overall the Piotroski F-Score is 9. Thus, shares with a scoring 8-9 can be declared to have healthy financial condition while stocks with a score of 1-2 tend to have a poor financial condition (Piotroski, 2000).

Table 2
Assessment Criteria of the Piotroski F-Score Method

No.	Variable	Criteria
1	Net Income	If the net income is positive, the score is 1
2	Operating Cash Flow	If the operating cash flow is positive, the score is 1
3	Return on Asset	If ROA greater than previous year's ROA, the score is 1
4	Quality of Earning	If operating cash flow greater than net income, the score is 1

5	Long Term Debt vs. Assets	If the ratio of long-term debt to assets is less than the previous year, the score is 1 (scoring 1 is also given if the company does not have debt even though the assets are increasing).
6	Current Ratio	If the current ratio increases compared to the previous year, the score is 1
7	Outstanding Shares	If the number of the outstanding shares is not greater than the previous year, the score is 1
8	Gross Margin	If the gross margin is higher than the previous year, the score is 1
9	Asset Turnover	If the sales growth is higher than the growth of assets (asset turnover greater than compared to last year), the score is 1

After all the annual financial report data was collected, the data processing was carried out using the Piotroski F-Score method assessment criteria listed in Table 2. Next, the results analysis process was undertaken using the performance evaluation criteria of public companies listed in Table 3. Finally, the quality level of Islamic stocks public companies regarding financial or fundamental conditions was discovered either low, medium, or good.

Table 3
Performance Analysis Criteria for
Sharia Stock Companies

No.	Piotroski F-Score	Information
1.	If the shares of the public company have an F-Score value ≤ 3	Financial conditions tend to be poor
2.	If the shares of the public company have a value of $4 \leq \text{F-Score} \leq 7$	Medium financial condition, worth considering for investment
3.	If the shares of the public company have an F-Score value ≥ 8	Excellent financial condition and highly worth considering for investment

II. Discussion

This study's results consider the performance conditions of publicly listed companies based on annual financial reports for the last two years, the period of 2017 through 2018.

These financial statements reflect the company's performance in terms of the undertaken business activities. For investors, both personally and professionally, evaluating financial conditions is a primary requirement in considering their investment activities to minimize the potential risks they might deal with (Krauss et al., 2015).

	No./Kode Emiten														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	ADRO	AKRA	ANTM	ASII	BRPT	BSDE	CPIN	CTRA	EXCL	ICBP	INCO	INDF	INDY	INTP	ITMG
Piotroski F Score Indicator															
Net Income	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
Operating cash Flow	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
Quality of Earnings	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1
Shares outstanding	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
Return on Assets (%)	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0
Long Term Debt vs Assests	1	1	0	0	0	0	1	0	0	1	1	1	1	1	0
Current Ratio	0	0	0	0	1	1	1	1	0	0	0	0	1	0	0
Gross margin	0	0	1	1	0	0	1	1	1	1	1	0	1	0	0
Asset Turnover	1	1	1	0	1	0	0	1	0	0	1	0	1	1	1
F Score Total	6	4	7	5	6	5	8	7	4	7	8	5	8	6	5

	No./Kode Emiten															
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	JSMR	KLBF	LPPF	PTBA	PTPP	SCMA	TLKM	UNTR	UNVR	WIKA	WSBP	JPFA	SMGR	ERAA	BTPS	
Piotroski F Score Indicator																
Net Income	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Operating cash Flow	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	
Quality of Earnings	0	1	1	1	0	1	1	1	0	1	1	0	1	0	0	
Shares outstanding	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	
Return on Assets (%)	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	
Long Term Debt vs Assests	1	0	0	1	0	1	0	0	1	0	0	1	1	1	1	
Current Ratio	0	1	0	0	0	1	0	0	1	1	0	0	1	0	0	
Gross margin	1	0	0	0	0	0	0	1	0	1	0	1	1	1	1	
Asset Turnover	1	0	1	0	0	0	0	0	0	0	1	0	1	1	0	
F Score Total	6	5	5	6	3	6	4	6	6	7	6	5	9	5	5	

Figure 1
The results of data processing using the Piotroski F-Score

Based on the study results in several public companies in the category of Islamic stocks included in the Jakarta Islamic Index (JII) list, several stocks were found as sharia stocks worth considering for investment because their financial status was excellent. Some others were worth considering with moderate financial conditions. However, there was one Islamic stock not eligible for investment due to its poor financial condition.

Based on the results of data processing showed in Figure 1, it can be seen that among the thirty Islamic stocks public companies studied in this research, four companies had Piotroski F-Score ≥ 8 . It indicates that the performance of companies with Islamic stocks is declared to have an excellent financial condition, making it feasible for investment. The codes of those public companies are SMGR, CPIN, INCO and INDY.

Meanwhile, there were twenty-five public companies with Islamic stocks having Piotroski F-Score $4 \leq \text{F-Score} \leq 7$. That

shows, that Islamic stock company's performance is stated to have a moderate financial condition, and is still feasible for investment. In other words, assuming that the financial performance conditions and business processes in the future are going well, then the opportunity for profit can still be achieved by investors.

The last one is a publicly listed sharia stock company, PTPP, which produces an F-Score ≤ 3 and considered having poor financial condition. It was the only company in this study with poor performance for 2017 through 2018.

Overall, it can be stated that Islamic stocks listed in the Jakarta Islamic Index (JII) has a number of thirty stocks for June-November 2019 have quite good financial reports and are worth considering for investment activities.

Several measured company performances can provide important information about the performance from a fundamental point of view. Those companies in the moderate category can improve their business processes to boost their financial performance for the upcoming year.

This study's results have also presented that the Piotroski F-Score method can provide an overview of company performance based on financial statement information. It can detect the condition of

financial performance from various variables employed in this research. The Piotroski F-Score method can also profitably be incorporated into a value and/or momentum investment strategy in emerging markets (Hyde, 2013). Accordingly, for the Indonesian capital market especially the Islamic stock sector, the Piotroski F-Score method is still reliable.

However, the Piotroski F-Score method still has a weakness, that the hypothesis previously proposed to explain the strength of the F-Score is not complete. It even allows for confirmation bias and still leaves questions unanswered, such as why stocks with low value/low momentum generate higher premiums than stocks with low value/high momentum or stocks with high value/low momentum (Hyde, 2018).

Based on this statement, it can be stated that a confirmation process on the company's financial condition is still required to avoid confirmation bias. Hence, the condition of the company's financial performance that genuinely reflects the quality of the shares being marketed can be recognized. Since this study focuses on historical data for the last two years, it is suggested that in the future an analysis of the results of the last ten years of annual financial report. Results can be carried out to produce a complete picture of the issuer's performance, especially its financial

condition. The results of this study can provide several contributions, including providing information for investors in determining and deciding the value of investment, learning information for academics in using the Piotroski F-Score method to analyze the performance of Islamic stocks and providing important information for companies to improve their performance and stock quality.

III. Conclusion

This study indicates that the Piotroski F-Score method can identify the quality level of Islamic stocks in the Indonesian capital market. This quality level reflects a public company's performance that can provide critical information for the investors' value investment based on the company's financial condition.

Based on the Piotroski F-Score method's indicators, there are four Islamic stock listed companies have the right financial conditions, twenty-five public stock companies with moderate financial conditions, and one Islamic stock publicly listed company whose financial condition is relatively low.

It is recommended that future research consider the amount of data analyzed, at least using historical data for the last ten years, to compare the effectiveness of the Piotroski F-Score method.

It is also suggested for future research to use other methods in analyzing the performance of public companies in determining stock quality, especially in the Islamic stock sector in Indonesia.

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