

**FIRM VALUE DETERMINATION WITH INFLATION AND EXCHANGE  
RATE AS A MODERATING VARIABLE  
(STUDY ON THE MANUFACTURING INDUSTRY  
RECORDED IN INDONESIA SHARIA STOCK INDEX)**

Socharjoto<sup>1</sup>, Miyasto<sup>3</sup> and Tatik Mariyanti<sup>2</sup>

<sup>1,2</sup>Faculty of Economics and Business, Trisakti University, Jakarta,  
Indonesia,

<sup>3</sup>Faculty of Economics and Business, Diponegoro University, Semarang,  
Indonesia

**ABSTRACT**

**Purpose** - Aims of this study is to determine the factors that influence the firm value of manufacturing industry listed on Indonesia Sharia Stock Index.

**Design/methodology/approach** - Used panel data regression method from 2013-2018, than obtained 30 manufacturing industry companies after purposive sampling. Syariah stock investors who rationally and religiously behave are accommodated in the variables used. Dependent variable is firm value and independent variable are return on equity, current ratio, debt to equity ratio, total assets turn over, Islamic social reporting, with exchange rate and inflation as the moderating variable.

**Finding** - Result shown that return on equity with inflation as a moderating variable have a positive effect on firm value. Islamic social reporting has a positive effect on firm value. Debt to equity ratio with the exchange rate as a moderating variable has a negative effect on firm value. Current ratio and total assets turn over are not significant to firm value.

**Practical Implication** - To increase the firm value, it is necessary to improve human resources and the application of environmentally friendly technology, planning in production and expansion, transparency and application of sharia principles, professional and fair managers.

**Originality/value** - This study combines company's financial ratios, Islamic social reporting and macroeconomic condition that beyond management control. Tobins' Q is used to corporate values approach. All

*Vol. 29, No. 2 August 2021*

*© Centre for Indonesian Accounting and Management Research  
Postgraduate Program, Brawijaya University*

of these, reflect that firm value is influenced by company performance, society, and government.

**Keywords** - Firm Value, Financial Ratio, Islamic Social Reporting, Sharia Enterprise Theory, Macroeconomics, Indonesia Sharia Stock Index

## **INTRODUCTION**

Manufacture industry greatly contributes to economic growth and employment in Indonesia. This industry requires large investments, so it is necessary to look for alternative financing through capital market (Soeharjoto, 2016). Indonesia with a moslem majority population, develops the economy with sharia principles (Soekapdjo, Nugroho, Badawi, & Utami, 2018). Sharia principles need to be applied because they aim not to curb excessive individual freedom, create a macroeconomic and ecological balance, or weaken family and social solidarity, as well as the existence of moral ties that exist in society (Chapra, 2001). This, has an impact on the rapid growth of sharia-based business (Nugroho, Utami, Doktorlina, Soekapdjo, & Husnadi, 2017). Therefore, government makes a strategic policy by establishing Islamic capital market financial institutions.

Investor of capital market calculate company's external and internal factors also sharia principles when taking decisions. All these factors, will affect the stock price, which is also a representative of the firm value (Modigliani & Miller, 1958). This indicates that the Islamic capital market players are rational and religious ([Kahf](#), 1978).

Process of communicating the social and environmental impacts of an organization's activities on society is contained in the Corporate Social Responsibility (CSR) report (Kitzmueller & Shimshack, 2012). All of these,

indicating that religious also influences individual preferences, managerial attitudes and decision making (Longenecker, McKinney, & Moore, 2004). This situation, in accordance with Islam which recognizes that the owner of the company has the right to benefit, but not make other communities loss (Angelidis & Ibrahim, 2004).

CSR in this research using Islamic Social Reporting (ISR), which is a sharia-based corporate social performance reporting standard, developed from reporting standards based on the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) (Sarea & Hanefah, 2013). For disclosure, ISR index uses five themes funding and investment, products and services, employees, the community, and the environment (Haniffa, 2002). Then, it develops again by adding one disclosure theme, namely corporate governance (Othman, Thani, & Ghani, 2009).

Manufacturing industry is the driver of Indonesian economics. Therefore, government established the Islamic capital market to facilitating its majority moslem population. The Indonesia Sharia Stock Index (ISSI) is an indicator of sharia stock prices on the Indonesia Stock Exchange (IDX). Investors are behave rationally and religiously when they invest, so to improve the performance of the Islamic capital market, so that, needs an internal and external rationally and religious research to accommodate using ISR, so companies have an attraction for investors. It is necessary to have a research about the factors that affect the firm value of manufacturing industry listed in ISSI.

## **LITERATURE REVIEW**

### **Theoretical Background**

Agency theory reveals the relationship between owners and managers who have different roles, that will have an impact on the occurrence of information gaps (Jensen & Meckling, 1976). Stakeholder theory considers the existence of a powerful stakeholder position, will have an impact on managers in carrying out their activities effectively and efficiently (Belkaoui & Riahi, 2003). Signal Theory assumes that the desire of companies to provide financial statement information to external parties, will be able to avoid asymmetric information, so the company will avoid investor actions that can harm the company (Akerlof, 1970). In the implementation of providing information, legitimacy theory considers the actions taken by the entity, is the desired action and in accordance with existing norms, so that the legitimacy of the community towards the company is a strategic factor for the company (Mathew, 1993). Enterprise theory pays attention to all parties involved or have interests, both directly and indirectly, with the company or entity (Harahap 2018). Thus, enterprise theory is the forerunner to developing sharia enterprise theory, which reveals that the existence of a company aims to bring prosperity to stockholders, stakeholders, society and the environment (Triwiyono, 2011). Financial theory has evolved from financial activities, which were for personal interests into partnerships and conducted in sharia (Choudury, 2019). The firm value is the market value of the debt securities and corporate equity in circulation (Keown, Martin, & William 2017). There are several ratios to measure the company's market value, one of which is Tobin's Q. This ratio is considered to provide the best information, because it can explain various phenomena in the company's activities (Tobin, 1969). Firm value is very important, because high

company value will be followed by increasingly high shareholder prosperity (Bringham & Davis, 2007).

## **Hypothesis Development**

### **Effect of ROE on firm value with inflation as a moderating variable.**

ROE is used to measure how much net income will be generated from each fund invested into equity (Berman, Knight, & Case, 2013). High profitability reflects a company's ability to generate high profits for its shareholders, so investors will be increasingly interested in investing their capital in the company, which will ultimately increase the value of the company (Bidhari, Salim, & Aisjah, 2013). However, if there is a decrease in inflation, it will further reduce operational costs, which will result in increased profits, also the profits that will be distributed to investors, and will trust the investors and more interested in investing in the company, and will increase firm value (Karakus & Ibrahim, 2017).

Hypothesis 1: ROE has a positive effect on firm value with inflation as a moderating variable.

### **Effect of CR on firm value.**

CR can be used to measure a company's ability to meet due short-term obligations, using the total current assets available (Wertheim & Robinson, 1993). Companies that have a high level of liquidity, will minimize the company's failure to meet short-term financial obligations to creditors, and vice versa. High and low of this ratio, will affect investors interest to invest their funds, so that the greater the ratio will make the company's performance better, because of the efficiency in using the company's current assets, so investors will be more trusting and

interested in investing their funds in the company, which in will ultimately affect the increase in firm value (Marsha & Murtaqi, 2017).

Hypothesis 2: CR has a positive effect on firm value.

#### **Effect of TATO on firm value.**

TATO is used to measure the effectiveness of total assets owned by the company to generate sales or to measure how many sales are generated from each fund invested in total assets (Horne & Wachowicz, 2008). A good company will be very effective in using its assets to generate high enough sales, so that it will increase investor confidence to increase its capital, which has an impact on increasing the firm value (Gharaibeh & Qader, 2017).

Hypothesis 3: TATO has a positive effect on firm value.

#### **Effect of ISR on firm value.**

Providing performance reports the better company will be more transparent, because more informative and correct providing reports, will further increase investor confidence (Herath & Albarqi, 2017). Disclosure the ISR will increase Muslim stakeholders confidence, because their trust will increasing at companies with sharia principles, to increase investment, which will ultimately increase the firm value (Lidyah, Amir, Yacob, & Rahayu , 2019).

Hypothesis 4: ISR has a positive effect on firm value.

**Effect of DER on firm value with the exchange rate as a moderating variable.**

DER is used to find out the ratio between amount of funds provided by creditors and which coming from company owners (Said, 2013). Impact of companies that have high leverage, have large risk of loss, because debt reflects that company is not careful and will result in disrupting the company's ability to streamline existing funds, to fund its operations or will be a burden of loss, if the company unable to finance a large debt, so that investor confidence will decrease and discourage investment, which will ultimately reduce the firm value (Sukmawardani & Ardiansar, 2018). Company condition getting worse with the depreciation of the exchange rate, because it will impact to increase in production costs and company burden, thus making investors more unwilling to make investments because their profits derived will decrease, which will decline the firm value (Karakus & Ibrahim, 2017).

Hypothesis 5: DER has a negative effect on firm value with the exchange rate as a moderating variable.

**METHOD**

Regression method with panel data is used at this study. Firm value, its proxied by Tobin's Q, while rational investor behavior uses company internal factors which are proxied by ROE, CR, TATO, DER and external factors which are proxied by inflation and exchange rates, for religious are proxied by ISR. Firm value is used as dependent variable and the independent variable uses ROE, CR, DER, TATO, ISR, with exchange rate and inflation as the moderating variable. Using purposive sampling, got 30 manufacturing company registered at ISSI. ISR index uses six themes when it expressing funding and investment, products and services,

employees, community, environment, and corporate governance using 43 indicators. Data sourced from Badan Pusat Statistik (BPS), Bank Indonesia (BI), Otoritas Jasa Keuangan (OJK) in 2013-2018.

The equation:

$$FV_{it} = \beta_{0it} + \beta_1 ROE_{it} * INF_{it} + \beta_2 CR_{it} + \beta_3 TATO_{it} + \beta_4 ISR_{it} + \beta_5 DER_{it} * ER_{it} + \varepsilon_{it}$$

Information:

FV	= Firm Value.
INF	= Inflation.
ROE	= Return on Equity.
CR	= Current Ratio.
TATO	= Total Assets Turn Over.
ISR	= Islamic Social Reporting.
DER	= Debt to Equity Ratio.
ER	= Exchange Rate.

## DISCUSSION

Descriptive statistics from 2013-2018 from ROE, CR, TATO, ISR, firm value, exchange rates and inflation. ROE has an average value of 0.1226, with a standard deviation of 0.0961. CR has a downward trend which has an average value of 3.3933, with a standard deviation of 2.3946. ISR has increasing trend with an average value of 0.5161, with a standard deviation of 0.1044. DER has a fluctuating trend that produces an average value of 0.4281, with a standard deviation of 0.2355. Firm value with fluctuating trends that have an average value of 1.6118, with a standard deviation of 1.2525. The exchange rate has a declining trend which results in an average exchange rate of 1.2775, with a standard



deviation of 0.1251. Inflation has a declining trend that has an average value of 0.0527, with a standard deviation of 0.0189.

Tabel 1. Descriptive Statistic of Research Variable

Variable	Average	Deviation Standard	Minimum	Maximum
ROE	0.12258	0.096088	-0.115	0.655
CR	3.39332	2.394639	0.378	15.165
TATO	0.99950	0.402003	0.038	2.109
ISR	0.51612	0.104430	0.233	0.740
DER	0.42811	0.235512	0.080	1.460
Exchange Rate	1.27750	0.125215	1.046	1.424
Inflation	0.05267	0.018900	0.032	0.083
Firm Value	1.61183	1.252460	0.290	6.320

Source: data processed

Chow testing is to select a model that matches Common Effect Model (CEM) or Fixed Effect Model (FEM). Results of the processing obtained the probability value of the cross section chi-square at  $0,000 < 0.05$ , so it can be concluded that the right model is Fixed Effect Model (FEM). Hausman testing is carried out if Chow test selected is a FEM model. Testing is done to choose whether Random Effect Model (REM) or Fixed Effect Model (FEM) as a right model. Probability value from processing results of a random cross section is  $0.0004 < 0.05$ , so that the right model is the Fixed Effect Model (FEM). Results of the Goodness of Fit Model test on Company Value obtained adjusted R-squares value of 0.874009, which means the ability of ROE\*INF, CR, TATO, ISR, DER\*ER is able to explain the behavior of firm value of 87.40 percent and the rest which is

12.60 percent, can be explained by other variables that can affect the firm value, but not included in the model. Results indicate that firm value model has good goodness of fit as a prediction tools. Processing for the global testing of the company value model obtained a statistical F value of 37,52926, with a F-stat probability value of  $0.0000 < 0.05$ , which means that it was proven that there was at least one of ROE\*INF, CR, TATO, ISR, DER\*ER which has a significant effect on firm value.

Tabel 2. Result of Individual Hypothesis Test

Variable	Coefisient	t-statistic	Probability	Summary
ROE*INF	11.21325	8.033103	0.0000	Supported Hypothesis
CR	-0.000833	-0.417901	0.6766	Not Supported Hypothesis
TATO	-0.080340	-1.712646	0.0888	Not Supported Hypothesis
ISR	1.202281	4.300274	0.0000	Supported Hypothesis
DER*ER	-0.099282	-2.076025	0.0396	Supported Hypothesis

Source : data processed

There are results for individual testing of the effect of ROE\*INF, CR, TATO, ISR, DER\*ER on firm value. Estimated coefficient value of ROE moderated by inflation on firm value obtained the estimated coefficient value of 11.2133 with a probability t-statistic value of  $0.0000 < 0.05$ , so it can be concluded that it is proven to have a positive effect on ROE moderated by inflation on firm value. CR influence on firm value is obtained by the estimated coefficient value of minus 0.0008, probability value of t-statistic is  $0.6766 > 0.05$ , so it can be concluded that there is no evidence that CR has a positive effect on firm value. TATO effect on firm value is obtained the estimated coefficient value of minus 0.0803, with a probability value of t-statistic of  $0.0888 > 0.05$ , so it can be concluded that it is not proven that TATO has a positive effect on firm value. Effect of ISR

on firm value is obtained the estimated coefficient value of 1.2023, with a t-statistic probability value of  $0.0000 < 0.05$ , so it can be concluded that ISR has a positive effect on firm value. The influence of the DER which is moderated by the exchange rate on the firm value is obtained by the estimated coefficient value of minus 0.0993, with a t-statistic probability value of  $0.0396 < 0.05$ , so it can be concluded that the DER is moderated by exchange rate and has negative effect on the firm value.

TATO is not significant because it has an average value below one, which means the company has not been efficient, because sales from the manufacturing industry are below assets. CR has not significant impact to the firm value, as a result the company cannot finance their short-term debt. DER with exchange rate as moderating negatively affects the firm value, which is due to an increase in real debt will increase the burden of the company which has an impact on decreasing the firm value, so the company in financing its activities to borrow funds in accordance with their abilities. ISR has a positive effect on the firm value which is the impact of good behavior of companies that are transparent and implement Islamic principles, will increase the blessing and trust of the community, so that eventually the company will increase in value. ROE with inflation as a moderating variable has a positive effect on firm value, mean that companies with sharia principles will be implemented fair and professional, which will improve company performance, also increasing real profits, which will increase firm value.

Manufacturing industry can increase their efficiency by optimizing human resources and environmentally friendly technology, so the products can compete and increasing sales. As for the impact, value of TATO will increase above one, then increasing the firm value. TATO which is above one will make the company more established, which will have an

impact on increasing the ability to finance CR. Companies in production and expansion are carried out in accordance with the capabilities and macroeconomic conditions, so that it will reduce the burden of its obligations to pay debts, which ultimately DER\*ER decreases and will increase the firm value. In conducting activities, companies need to be transparent and improve behavior in accordance with sharia principles, so that it will increase public trust, because by increasing it ISR will increase the firm value.

A trustworthy manager will professional and fair, which results in an increase in ROE\*INF will increase the firm value For further research, it is better to maintain the use of variables that can accommodate rational and religious capital market investor behavior by developing the use of other related variables and ISR index indicators, as well as creating models for industry types and as a whole.

## **CONCLUSION**

Research on the effect of ROE, CR, DER, TATO, and ISR on the firm value of manufacturing industry listed on ISSI with inflation and exchange rates as a moderating variable, was conducted in 2013-2018. The method used panel data regression with purposive sampling obtained by 30 manufacturing industry companies. Results of ROE with inflation as a moderating variable have a positive effect on firm value. ISR has a positive effect on firm value. DER with the exchange rate as a moderating variable has a negative effect on firm value. CR and TATO are not significant to firm value. Companies that seek to increase firm value need to anticipate rational and religious investor behavior. Company optimizes the use of human resources and environmentally friendly technology, production and expansion in accordance with capabilities and macroeconomic

conditions, is transparent and applies sharia principles, and managers behave professional and fair.

## **REFERENCES**

Akerlof, G. A. 1970. The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, 84(3), 488-500.

Angelidis, J. & Ibrahim, N. 2004. An Exploratory Study of the Impact of Degree of Religiousness upon an Individuals Corporate Social Responsive Orientation. *Journal of Business Ethics*, 51, 119-128.

Belkaoui & Riahi, A. 2003. Intellectual Capital And Firm Performance Of US Multinational Firms: A Study Of The Resource-Based And Stakeholder Views. *Journal Of Intellectual Capital*, 4(2), 215-226.

Brigham, E. F. & Davis, P. R. 2007. *Intermediate Financial Management*. Thomson, New York.

Bidhari, S. C., Salim, U., & Aisjah, S. 2013. Effect of Corporate Social Responsibility Information Disclosure on Financial Performance and Firm Value in Banking Industry Listed at Indonesia Stock Exchange. *European Journal of Business and Management*, 5(18), 39-47.

Berman, K., Knight, J., & Case, J. 2013. *Financial Intelligence. A Manager's Guide to Knowing What the Number Really Mean*. Harvard Business School Press, USA.

Chapra, M. U. 2001. *What is Islamic Economics*. IRTI-IDB, Jeddah.

- Choudhury, M. A. 2019. *The Tawhidi methodological worldview: a transdisciplinary study of Islamic economics*, Springer Nature, Singapore.
- Gharaibeh, A. M. O. & Qader, A. A. A. A. 2017. Factors Influencing Firm Value as Measured by the Tobin's Q: Empirical Evidence from the Saudi Stock Exchange (TADAWUL). *International Journal of Applied Business and Economic Research*, 15(6), 333-347.
- Horne, J.C.V. & Wachowicz, J.M. 2008. *Fundamentals of Financial Management*, Prentice-Hal, USA.
- Haniffa, R. 2002, Social Reporting Disclosure-An Islamic Perspective. *Indonesian Management & Accounting Research*, 1(2), 128-146.
- Herath, S. K. & Albarqi, N. 2017. Financial Reporting Quality: A Literature Review. *International Journal of Business Management and Commerce*, 2(2), 1-14.
- Harahap, S. S. 2018. *Analisis Kritis Atas Laporan Keuangan*. PT. Raja Grafindo Persada, Jakarta.
- Jensen, M. C. & Meckling, W. H. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Kahf, M. 1978. *The Islamic Economy: Analytical Study of the Functioning of the Islamic Economic System*. American Trust Publication, Indiana.
- Kitzmuller, M. and Shimshack, J. 2012. Economic Perspectives on Corporate Social Responsibility. *Journal of Economic Literature*, 50(1), 51-84.
- Keown, A. J., Martin, J. D. & William, P. J. 2017. *Foundations of Finance*, Pearson.

- Karakuş, R. & Ibrahim, B. 2017. *The Effect of Financial and Macroeconomic Factors on Firm Value: An Empirical Analysis in Borsa Istanbul*. 4<sup>th</sup> RSEP Multidisciplinary Conference, Prague, Czechia, 29-30 June. 27-34.
- Longenecker, J. G., McKinney, J. A. & Moore, C. W. 2004. Religious intensity, evangelical Christianity, and business ethics: An empirical study. *Journal of Business Ethics*, 55, 373– 386.
- Lidyah, R., Amir, A., Yacob, S. & Rahayu, S. 2019. The Effect of Board of Director, Board of Commissioner and Audit Committee on Value of Firm to Islamic Social Reporting as A Mediating Variable. *Journal of Business Studies and Management Review*, 2(2), 82-87.
- Modigliani, F. and Miller, M. H. 1958. The cost of capital, corporate finance and theory of investment. *American Economic Review*, 48(3), 261-297.
- Mathew, M. R. 1993. *Socially Responsible Accounting*, Chapman & Hall. UK.
- Marsha, N. & Murtaqi, I. 2017. The Effect of Financial Ratios on Firm Value in The Food and Beverage Sector of The IDX. *Journal of Business and Management*, 6(2), 214-226.
- Nugroho, L., Utami, W., Doktorlina, C. M., Soekapdjo, S. & Husnadi, T. C. 2017. Islamic Banking Capital Chalanges to Increase Business Expansion (Indonesia Cases). *International Journal of Commerce and Finance*, 3(2). 10-26.
- Othman, R., Thani, A. M. & Ghani, E. K. 2009. Determinants of Islamic Social Reporting Among Top Shariah-Approved Companies in Bursa Malaysia. *Research Journal of International Studies*, 12(10), 4-20.

- Sarea, A. M. & Hanefah, M. M. 2013. The need of accounting standards for Islamic financial institutions. *International Management Review*, 9(2), 50-59.
- Said, H. B. 2013. Impact of Ownership Structure on Debt Equity Ratio: A Static and a Dinamic Analytical Framework. *International Business Reseach*, 6(6), 162-180.
- Soeharjoto. 2016. Pengaruh Penanaman Modal Asing dan tingkat Daya Saing Terhadap Ekspor Industri Manufaktur Indonesia. *Media Ekonomi*, 24(2), 161-174.
- Soekapdjo, S., Nugroho, L., Badawi, A. & Utami, W. 2018. Bad Debt Issues in Islamic Bank: Macro and Micro Influencing (Indonesia Cases). *International Journal of Commerce and Finance*, 4(1). 10-26.
- Sukmawardini, D. & Ardiansari, A. 2018. The Influence of Institutional Ownership, Profitability, Liquidity, Dividend Policy, Debt Policy on Firm Value. *Management Analysis Journal*, 7(2), 211-222.
- Tobin, J. 1969. A General Equilibrium Approach to Monetary Theory. *Journal of Money Credit and Banking*, 1(1). 15-29.
- Triwiyono, I. 2011. Mengangkat “Sing Liyan” Untuk Formulasi Nilai Tambah Syari’ah. *Jurnal Akuntansi Multiparadigma*, 2(2). 186-368.
- Wertheim, P. & Robinson, M.A. 1993. Earning Versus Cash Flow: The Information Provided About Change in Company Liquidity. *Journal of Applied Business Research*, 9(4), 65-75.