

Role of Islamic Stock Market and Capital Formation Promoting Indonesia's Economy

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Abstract—Capital formation and Indonesia's economy. The study employed ARDL bounds-testing for the long run relationship and ECM for the short run dynamics. The data used in this study were annual secondary data in the form of time series from 1995 to 2020. The data for the study were obtained from multiple sources such as World Bank database, Asian Development and publication from relevant plurals. To measure stock market development was proxied with stock value traded. The results of the data analyzed showed that there might with no a short run significant relationship between islamic capital market, capital formation and Indonesia's economy. In the long run VECM shows that capital formation has a significant positive association with Indonesia's economy and a negative and non-significant relationship between islamic stock market and Indonesia's economy. Investors and policymakers should take into account the information and fluctuations the future movements of Islamic stock price. The companies and the government has a strong commitment to increase investment promotion, facilitate and development, the create a conducive investment climate to encourage increased Indonesia's economy. Recovery of the Indonesian economy might put Islamic stock market at advantage because there is possibility that global investors will switch back their investment.. There is no literature review on Islamic stock market, capital formation and economic growth. Therefore, we are going to fill this gap to investigates the link between three variabel empirically using VAR model.

Keywords: Islamic Stock Market; Capital Formation; Economic Growth

1. INTRODUCTION

The most profound and widespread financial phenomenon is the explosive growth in international financial transactions and capital flows between developed and developing countries as a result of the liberalization and complexity of financial market instruments and their integration in the international financial system have made it easy for capital flows to flow between countries. The free capital in flow will increase the allocation of global capital that will allow the transfer of resources from one country to another, Indonesia from developed countries to developing countries. The inflow of foreign capital into Indonesia is due to the tendency to improve external and internal factors such as the amount of excess liquidity on the stock market, high potential return, thus encouraging investors to place excess liquidity on investment instruments, the opportunity for risk diversification and portfolio investment (Al-Smadi, 2018). This is what makes the attractiveness of investors to invest their capital in Indonesia and such conditions must be addressed wisely by the Indonesian government to revive the economy, along with the increasing confidence of foreign investors to invest their capital in the islamic stock market.

The islamic stock market does not only function as an investment vehicle for investors but is also a source of long-term funding for economic actors. With a strong islamic stock market, quality economic growth is more easily achieved. The stock market is an integral part of the financial system. A strong financial system will have a positive impact on increasing stability and economic growth. Therefore, the development of the stock market should not be ignored by the economy of any country, because the development of the stock market contributes positively to the improvement of economic growth (Ross & Zervos, 1998). Economic growth is a situation that illustrates the increase in gross domestic product per capita of a country (Minges, 2015; Ramadhan, et. al. 2016 and Rashid, et al. 2016). Economic growth is defined as an increase in potential output over time or increase in the ability of an economy to produce goods and services. Economic growth is measured as the annual percent change of gross domestic product (GDP). GDP per capita is a measure of economic activity and the core indicators of economic growth. Economic growth is one indicator or relevant reference for investors in determining whether or not to invest funds in the stock market. Moreover, foreign investment will enter a country that has good fundamentals, so that it will help develop the domestic financial system.

A strong financial system will have a positive impact on growth and economic stability. Stock market is an integral part of financial system and a replica of the strength of the economy of a country. Economic growth were explained by the stock market development. Therefore, the stock market development makes a substantial contribution to the increase

of economic growth. Economic growth spurs stock markets development, because the growth of economy is one of relevant information for investors to determine whether to invest their funds into stock in capital market. A country that needs to meet its economic development goals requires capital formation. The capital is formed with the purpose of investing in various ways. In this regard, the concept of investment is a broader concept including investment in all types of capital assets. The development of Indonesia capital markets takes place through competition among institutional investors. The best economic performance in the Indonesia is determined by domestic forces and the space for government policy support. This competition brings efficiency of capital allocation and can be a driver for the development of the stock market

The stock market is closely related to the economic conditions of a country. When economic conditions neglect growth, the stock market will be bullish, but when the country's economic conditions fall, the stock market will be bearish. In other words, the bullish or bearish stock market is caused by economic growth. Economic growth can affect the level of investor confidence to invest in the stock market. Because, with a good growth rate, the market will automatically trust domestic conditions. Therefore, the islamic stock market performance must have a strategic development in the future in order to investment and sources of financing for economic actors and be able to facilitate the risk mitigation needs of market participants and be able to encourage transaction efficiency in the stock market through improvements quality of the stock market infrastructure. If the ability of the stock market can be implemented well, it will be certain that the stock market can compete at a global level.

The uncertainty of the global capital market as a result of the slowing economy of the US, which is influenced by limited fiscal stimulus, structural problems of the workforce, and decreased business confidence. But on the contrary, the Indonesian stock market has improved, this is evidenced by the flow of foreign investors' funds in the fthe beginning of 2021 reaching Rp 36.6 trillion. The islamic stock market has a strategic role as a source of funding for economic activity and be able to encourage transaction efficiency in the stock market through improvements quality of the stock market infrastructure. The stock market is also a source of capital formation.

Capital formation has a role in all types of economy. Development is impossible without capital formation. The capital is formed with the purpose of investing in various ways. The concept of investment in this case is a broader concept including investment in all types of capital assets, both physical assets and financial assets. Initially, capital formation is designed to provide an overview of investment and real economic growth in which goods and services are produced using tangible capital assets. Capital formation is the process of adding new physical net inventory in an economy to increase total output. Capital formation is designed to provide a picture of investment and real economic growth. However, the growth of the international financial sector can create structural changes in the way of investment and capital financing. The capital formation can encourage savings.

Harrod-Domar said the higher the savings invested, the higher the output. Therefore, if you want to grow, the economy must save and invest a certain proportion of total output. Capital formation is where the community does not use all of its production activities for consumption needs and wants at this time, but using only part for the manufacture of capital goods; tools and equipment, machinery and transport facilities, factories and equipment of any kind of real capital that can rapidly increase the benefits of productive endeavors. The partial transfer of some resources to the community is aimed at increasing the supply of capital goods, thus enabling the expansion of output that can be consumed in the future. Working capital formation can provide benefits to countries such as creating market expansion, addressing the problem of payments, and can solve the problem of foreign debt.

The existence of a relationship between stock market, capital formation and economic growth seems incontestable as many researchers have worked on the issue. The study is debatable is the effect between stock market, capital formation and economic growth. The Effect has been described by Evan (2022); Andiansyah, et. al. (2022); Gani, et. al. (2020) and Rasyidin & Sulong (2019). Islamic capital market contributes to the Malaysian economy by way of capital formation and the efficiency of the capital served as channels of transmitting growth. In the short run, only Islamic capital market contributes to the Malaysian economy (Gani, et. al. 2020). Rasyidin & Sulong (2019) examines the long- run linkage between stock market, capital formation and economic development in Indonesia. The study reveals that stock market and capital formation caused economic growth. The study reveals that stock market and capital formation caused economic growth. Evan (2022) investigate the impact of stock market capitalization on economic growth in Kenya. The study revealed that the stock market capitalization had a negative and significant long run relationship on economic growth.

2. RESEARCH METHODS

2.1 Literature Review

2.1.1 Islamic Stock Market and Economic Growth

The stock markets provide a long-term capital for economic growth (Niranjala, 2015 and Rashid, et. al. 2016). Therefore, the stock market development of a country cannot be separated from the economic development of the country. It is expected that high economic growth and good business conditions will boost share price because the share price is determined by the supply of shares from the seller and the demand for shares of the buyer. If more people want to buy shares (demand) from people who want to sell (supply), then the price moves up. Conversely, if more people want to sell stocks than buy them, there would be a greater supply than demand, and the price will fall. When the performance of

share price is high, everyone wants to buy in. This makes a higher demand in the market, and lead to a higher price. Conversely, if the demand is less than the supply, then the price will be reduced.

Several studies have confirmed that the stock market can accelerate economic growth (Boubakari & Jin, 2010; Beck, 2011 and Seven & Yetkiner, 2016). Various policies and breakthroughs made by the Government to increase the development of the stock market such as the improvement of infrastructure development facilities that are the basis of economic growth. Coşkun, et al. (2017) explores the relationship between developing capital market sub-components such as mutual funds/pension funds, corporate bonds, stock markets, and government bonds, and economic growth. The results concluded that there is a long-term cointegration relationship between capital market development and economic growth. In his study also found a direct causality between the development of capital markets with economic growth. These results are also consistent with the (Ugochukwu & Chinyere, 2013) study which found that the stock market has a positive and significant relationship to economic growth.

Boubakari & Jin (2010) in his study using the Granger causality test said that the causality relationship between the stock market and economic growth only occurs in countries that have a highly liquid and active stock market. A liquid stock market can increase economic growth because it will make it easy for foreign investors to invest in instruments with more varied risks and returns. In other words, investors can diversify their investments better. Meanwhile, the business world can obtain permanent access to long-term funds through the issuance of shares. Thus, a liquid stock market will be able to help the business world to finance long-term projects that provide higher returns. This investment activity will ultimately have a positive impact on economic growth. Economic growth can be increased through the stock market development (Naceur & Ghazouani, 2007; Shahbaz & Ndidi, 2008 and Hoque & Yakob, 2017)

Nordin & Nordin (2016) also states that the stock market has a positive and significant influence on the Malaysian economy. While Edweib, et al. (2013) states that the stock market has a big role in driving economic growth. Therefore, the government must have a financial policy to encourage companies to contribute to the stock market, especially primary sector companies and to develop the stock market. The stock market can increase economic growth through the capital formation of long-term (Hong & Stein, 2007). Economic growth is one of the relevant information for investors in determining investment in the stock market. Stock market conditions are closely related to economic conditions. If economic conditions can be maintained, the capital formation will increase

2.1.2 Capital Formation and Economic Growth

A country that needs to meet its economic development goals requires capital formation (physical capital stock) or capital accumulation. The capital is formed with the purpose of investing in various ways. In this regard, the concept of investment is a broader concept including investment in all types of capital assets, both physical assets and financial assets. Initially, capital formation is designed to provide an overview of investment and real economic growth in which goods and services are produced using tangible capital assets. The capital formation is an important factor in economic growth (Ugochukwu & Chinyere, 2013; Ongo & Vukenkeng, 2014 and Bal, et al. 2016). Ogbuabor, et al. (2014) tested the simultaneity modeling between capital formation and economic growth using the method of the two least-squares (2SLS). The results of his study stated that capital formation on economic growth has more impact in the long term compared to the short term. The research is in line with studies conducted by Mehta & Qamruzzaman (2021) in India. The results reveal that there is a long-term and short-term relationship between capital formation and economic growth.

Ugochukwu & Chinyere (2013) used the least-squares model (OLS) in testing the impact of capital formation on economic growth in Nigeria. The results show a positive and significant impact both in the long and short term between capital formation and good economic growth. Bal, et al. (2016) examined the impact of capital formation on economic growth in India during the period 1970 - 2012 using the autoregressive distributed lag (ARDL) model. The results of his study show that capital formation positively influences economic growth. the government increases the rate of capital formation to achieve a higher level of economic growth.

Ikechi & Ozurumba (2014) examined the impact of capital formation on economic growth. The results show that gross fixed capital formation has a positive long-term association with economic growth. Harrod and Domar said the need for capital formation was a condition for long-term economic growth to be achieved. If the capital formation has been carried out in the previous period, then in the next period the economy will be able to produce goods in greater quantities. The effects of economic growth fade in capital formation equations where the effects of private capital flows are tested, meaning that private capital flows has influence on capital formation (Alley, 2017). Ikechi & Ozurumba (2014) investigated the impact of capital formation on economic growth in Nigeria by multiple regression techniques. VAR model of analysis were employed to analysis the data. The study found that gross fixed capital formation had positive long run relationships with Nigeria' economy.

According to Adegboyega & Odusanya (2014) assessed the long-term relationship between trade openness, capital formation, foreign direct investments and economic growth ini Nigeria using annual data from 1986 to 2011. The study employed the stationarity tests (ADF and PP unit root test), Johansen-Juselius co-integration and vector error correction model. The study found that trade openness, capital formation, foreign direct investments has a positive correlation on economic growth. Nanywa & Lonwabo (2016) examined the impact of investment activities on economic growth in South Africa based on the time series data for the period 1960 to 2014 using The Johansen co-integration, Vector Error Correction Model and Granger causality. The results indicate that investment activities as measured by gross fixed capital formation will impact positively and significant on economic growth both in the short and the long run.

Shuaib & Ndidi (2015) investigated the effect of capital formation on economic development of Nigeria. The

results indicated that there is a significant relationship between capital formation and economic growth in Nigeria. (Ugochukwu & Chinyere, 2013) investigated the impact of capital formation on economic growth in Nigeria. The study employed Ordinary least square (OLS) technique and Johansen co-integration test. The finding indicated that capital formation has positive and significant impact on economic growth.

2.2 Data Analysis Methods

The data used in this study were annual secondary data in the form of time series from 1995 to 2020. The data for the study were obtained from multiple sources such as World Bank database, Asian Development and publication from relevant journals. To measure stock market development was proxied with stock value traded. The literature provides a wide range of papers that drive a consensus that the best indicator for measuring capital formation is gross fixed capital formation (Gibescu, 2010) and we use the gross domestic product to estimate the size of the economic growth (Zandi, et al. 2013 and Minges, 2015) using unit root tests. This unit root test was performed because the characteristics of the time series data were stochastic. So a unit root test was needed on all variables before estimating the model. This test was to detect that all research variables are stationary at the level or I (0). If all of the variables are stationary at I (0), then stationarity testing will be carried out at the first difference or I (1).

In this study, the ARDL model was used. In the ARDL model testing the classical assumptions of the model. There are several assumptions that must be met, in principle, linear regression being built should not deviate from the BLUE (Bias, Linear, Unbiased and Estimator) assumption, in other words, the built model must escape from the assumption deviations. The assumption test used in this research is normality test, autocorrelation test, heteroscedasticity test and multicollinearity test. To clarify the Autoregressive Distributed Lag (ARDL) Cointegration Test, the following were the stock market development, capital formation and economic growth models in Indonesia. All variables were transformed in the form of logarithms (Ln) except control variables.

3. RESULTS AND DISCUSSION

In the Autoregressive Distributed Lag (ARDL) method the unit root test is not mandatory, but it is good to be done to ensure that the data used are not stationary at the second difference or I (2) level. In this study, the unit root test was carried out with the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. The summary result of this study includes the ADF and PP test for unit root test to determine the time series characteristics of each variable. In addition the result of the unit root test is as follows:

Table 1. ADF and PP Unit Root Test

Model	Variable	ADF Test Statistic		PP Test Statistic	
		Intercept	Trend and Intercept	Intercept	Trend and Intercept
Level I(0)	Ln_GDP	-2.7734(3)*	-0.7363(3)	-0.3170(3)	-2.4375(3)
	Ln_JII	-1.0622(0)	-3.9114(5)**	-1.0447(1)	-1.7965(0)
	Ln_GFCF	-3.7286(3)**	-1.2833(3)	-0.2615(1)	-2.2020(1)
	IR	-5.4207(0)***	-3.3319(4)*	-5.4207(0)***	-5.6189(2)***
	Inf	-2.0529(2)	-3.7223(5)**	-3.7910(2)***	-7.3246(18)***
1st Different I(1)	Ln_GDP	-4.8126(0)***	-4.7776(0)***	-4.8130(1)***	-4.7781(1)***
	Ln_JII	-5.5117(0)***	-5.4061(0)***	-5.4095(2)***	-5.3113(2)***
	Ln_GFCF	-3.6685(0)**	-3.7273(0)**	-3.6685(0)**	-3.7273(0)**
	IR	-3.7853(5)**	-3.7905(5)**	-17.729(9)***	-18.842(10)***
	Inf	-4.1545(5)***	-3.5885(5)**	-14.885(19)***	-15.243(20)***

Note: *, **, and *** are 10%, 5% and 1% of significant levels.

Table 1 above shows that the unit root test is based on the ADF and PP tests at the level varying stationary and all stationary variables at first difference, so that it can be stated that it meets the criteria for using the ARDL model.

Table 2. Results of Diagnostic Tests

Serial Correlation	Normality	Heteroscedasticity
1.195	5.962	0.376
[0.418]	[0.057]	[0.939]

Note: The numbers in brackets [] are p-value.

The diagnostic test results shown in Table 2 shows that all models have passed diagnostic tests. For heteroscedasticity the p value of 0.939 was found indicating that there is no Heteroscedasticity in the residuals. The serial correlation test had a probability value of 0.418 (> 0,05) meaning that we do not reject the hypothesis and conclude that there is no serial correlation within the model. The normality test indicated a probability value of 0.057 (> 0.05) and therefore we do not reject the hypothesis and the residuals are normally distributed. The model shows no evidence of serial correlation and has no heteroscedasticity effect. Also, the Jarque-Bera normality test shows that the errors of each

model are normally distributed and all models are well stated.

Table 3. ARDL Bounds F-test

Test Statistic	F-Statistic	k
F-Statistics	8.85***	4
Sign of level	I(0) Bound	I(1) Bound
10%	2.451	3.516
5%	2.857	4.012
1%	3.735	5.056

Note: *, **, and *** are 10%, 5% and 1% of significant levels.

Table 3 shows the results of the ARDL bounds F statistical test for co-integration between islamic capital market, capital formation and economic growth. Based on the Akaike Information criteria (AIC) to determine the optimum lag value of three is set for each model. The critical value for the economic growth model. The statistical F value is above I (1) bounds, which is $8.85 > 5.06$, so it can be concluded that this research variable has cointegration in the long run.

Table 4. Estimation of Short Run

Variable	Coefficient
$\Delta \text{Ln_GDP}_{t-1}$	0.132491 (0.135392)
$\Delta \text{Ln_GDP}_{t-2}$	0.099533 (0.117657)
$\Delta \text{Ln_GFCF}_t$	0.993296** (0.121512)
$\Delta \text{Ln_GFCF}_{t-1}$	-0.119690 (0.297367)
$\Delta \text{Ln_GFCF}_{t-2}$	-0.296113 (0.164142)
$\Delta \text{Ln_JII}_t$	-0.023022 (0.023457)
$\Delta \text{Ln_JII}_{t-1}$	0.172880*** (0.014785)
$\Delta \text{Ln_JII}_{t-2}$	0.053645 (0.026304)
ΔINF_t	-0.004084 (0.003598)
ΔINF_{t-1}	0.008702** (0.001774)
ΔIR	-0.007586 (0.003779)
ΔIR_{t-1}	0.012306** (0.001588)
ΔIR_{t-2}	0.007398** (0.000905)
ECT_{t-1}	-0.769536 (0.337258)

Note: *, **, and *** are 10%, 5% and 1% of significant levels.

The short-term estimation results in Table 4 shows that the value of ECT_{t-1} is -0.769536 with a prob of 0.1500, meaning that there is no cointegration in the model. a negative cointEq beta value indicates that the model will be headed for equilibrium at a rate of 7.69536 percent per year.

Table 5. Estimation of Long Run

Variable	Coefficient
C	8.396930*** (0.618738)
Ln_GFCF	1.181094** (0.273828)
Ln_JII	-0.460266 (0.272212)
INF	-0.020729* (0.006261)

Variable	Coefficient
IR	-0.044705 (0.028112)

Note: *, **, and *** are 10%, 5% and 1% of significant levels.

The results of long-term estimates show that capital formation has a positive and significant effect on economic growth. The results of this study are consistent with studies conducted by (Ugochukwu & Chinyere, 2013; Adegboyega & Odusanya, 2014; Ikechi & Ozurumba, 2014; Bal, et al. 2016; Ncanywa & Lonwabo, 2016 and Alley, 2017) which show that capital formation revealed positive correlation with economic growth in the long-term.

Gibescu (2010) says that capital formation has a positive effect on economic growth. While the stock market development has a negative but not significant effect on economic growth. This negative effect is due to low stock prices, companies are forced to reduce costs and labor. Difficult to the source of funding causes limited companies to develop investment in new projects so that the impact on reducing economic growth. The result is contrary to that of Naceur & Ghazouani. 2007; Shahbaz, et. al., 2008; Baoubakari & Jin, 2010; Beck, 2011; Ugochukwu & Chinyere, 2013; Niranjala, 2015; Nordin & Nordin, 2016; Rashid, et. al, 2016; Seven & Yetkiner, 2016; Coşkun, et al. 2017; and Hoque & Yakob, 2017).

4. CONCLUSION

The objective of the study was to examine the relationship between islamic capital market, capital formation and Indonesia's economy. The results of the study concluded that the three variables are not cointegrated (long-term relationship). While in the short term relationship capital formation has a positive and significant effect on Indonesia's economy. While the Islamic stock market has a negative effect, but it is not significant. This research implies that the development of the stock market does not have a significant impact on economic growth in Indonesia in the study period. Based on the findings and policy implications, this research recommends collaboration between companies (the private sector) and the government to create a conducive investment climate to encourage increased Indonesia's economy.

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