

# The Effect of Islamic Financing, Indonesia Sharia Stock Index (ISSI), and Distribution of Zakah, Infaq and Sadaqah (ZIS) on Economic Growth in Indonesia

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**Keywords:** Islamic Financing, Indonesia Sharia Stock Index (ISSI), Zakah Infaq and Sadaqah (ZIS), Economic Growth, GDP, Error Correction Model (ECM)

**Abstract:** This research aims to analyze the effect of the short-run and long-run of Islamic Financing, Indonesia Sharia Stock Index (ISSI), and the distribution of Zakah, Infaq and Sadaqah (ZIS) on Economic Growth during the period 2011 to 2015. This research uses secondary data, it is a quarterly time series data with 24 quarterly observation period, since the first quarter of 2010 until the fourth quarter of 2015. The analysis techniques of this research is Error Correction Model (ECM). The result of the research shows that there is effect or an equilibrium between the short-run towards the long-run of the independent variable Islamic Financing on the dependent variable GDP. While the independent variable Indonesia Sharia Stock Index (ISSI) only gives long-run effect on the dependent variable GDP. Conversely, the independent variable Zakah, Infaq and Sadaqah (ZIS) only gives short-run effect on the dependent variable GDP. Thus, Islamic Financing and distribution of Zakah, Infaq and Sadaqah contribute to the increase of economic growth in the short-run. Indonesia Sharia Stock Index (ISSI) and Islamic Financing contribute to the increase of economic growth in the long-run.

## 1 INTRODUCTION

Economic growth is the development of activities in the economy where goods and services produced in the community grows. The high economic growth is the desires and goals for each country. When a country's economic growth has increased by a certain time, it can be said that the country's economy is increase or has a positive value. Economic growth calculated through the GDP (Gross Domestic Product) might be an indicator of the rate of the economy, in terms of demand and aggregate supply, consumption and saving, as well as the level of investment (Todaro, 1997). Economic growth is strongly influenced by the policies of the government in order to balance the economic condition of a country. The government policy can be either monetary or fiscal policy.

Bank is an institution that has an important role in monetary policy. When the Islamic banks funding the community through Islamic financing for the

productive economic sectors, this will increase the capital of economic sectors to increase its productivity in order to support economic growth. There is a significant character of Islamic financing that has positive impact on the real sector and economic growth, Islamic financial institutions put more emphasis on improving productivity. Islamic financial institution is financial institution that emphasize the concept of asset and production based system as the main idea. Through that financing pattern then the real sector and the financial sector will move in a balanced manner. The greater the performance of Islamic banking, the greater the contribution to economic growth (Habibullah & Eng, 2006).

Besides the banking sector, the existence of capital market in a country has very important role as economic driving force. It is because the capital markets function provides the facility to ease companies and emitens to raise funds, and for investors to distribute funds with the expectations of

gaining profit sharing. The Islamic capital market investment in Indonesia is become more lively with the presence of Indonesia Sharia Stock Index (ISSI). It is published by Bapepam-LK and the National Sharia Council of Indonesian (DSN-MUI) on May 12, 2011. ISSI is Islamic stocks consisting of all shares listed on Indonesia Stock Exchange and incorporated in the List of Islamic Securities. When it was first established, the number of ISSI shares is 214 stocks. These days the development of ISSI for each period is significant.

The government has also an important role in running the economy by setting policy. One of the government policy to boost the economy is fiscal policy. In the Islamic economic system, the fiscal policy has been applied since the ancient time of Prophet Muhammad. In the reign of Rasulullah, the income of the country not only came from tax, but also from the Zakah, Infaq and Sadaqah. Revenue from Zakah, Infaq and Sadaqah is different from tax, and is not treated like a tax. Zakah is a Muslim obligation, it is part of The Five Pillars of Islam. Infaq and Sadaqah is a reflection observance of a Muslim to Allah. Zakah, Infaq and Sadaqah is a fundamental element in Islam which is the imperative of the pillars of Islam. In the reign of Rasulullah and Khulafaurrasyyidin Zakah was the main state revenue as an obligation of Muslim people, while the non-muslim people was required to pay tax. The effective of state revenue and the efficient of allocation of state assets have led to prosperity and peaceful among the people at that time.

Based on Baznas and IPB research in 2015, the annual potential zakah is estimated to reach Rp 217 trillion nationwide (Asworo, 2015). This number is based on GDP in 2010. As GDP rises, the potential of Zakah increases as well.

Table 1 and 2 show the growth of GDP, the total of Islamic Financing, the total capitalization of Indonesia Sharia Stocks Index (ISSI), and the total distribution of Zakah, Infaq and Sadaqah (ZIS) within the last five years.

Table 1: The Growth of GDP and Islamic Financing 2011-2015

Year	GDP (Rp, billion)	Islamic Financing (Rp, billion)
2011	7.287.635	102.655
2012	7.727.083	147.505
2013	8.158.194	184.122
2014	8.568.116	199.330
2015	8.976.932	212.996

Source: BPS, BI 2016

Table 2: The Growth of ISSI and ZIS 2011-2015

Year	ISSI (Rp, billion)	ZIS (Rp, billion)
2011	1.968.091	38,5
2012	2.451.334	39,8
2013	2.557.847	44,3
2014	2.946.893	55,9
2015	2.600.851	26,5

Source: OJK, BAZNAS 2016

Table 1 and 2 show that during the period 2011-2015 the growth of GDP, Islamic Financing, ISSI, and ZIS tends to increase significantly each year. Any increase in economic instruments whether it is big or small will have an impact on the economy of the country. The increase in total Islamic Financing, Indonesia Sharia Stocks Index (ISSI), and the total distribution of Zakah, Infaq and Sadaqah (ZIS) either directly or indirectly will have an impact on the economy in Indonesia. This study aims to analyze more deeply the effect of Islamic Financing, Indonesia Sharia Stocks Index (ISSI), and the total distribution of Zakah, Infaq and Sadaqah (ZIS) on Economic Growth.

## 2 THEORITICAL FRAMEWORK

### 2.1 Economic Growth

Generally, economic growth is defined as an increase in the ability of an economy to produce goods and services. Economic growth refers to the change in quantitative and is usually measured by using data of Gross Domestic Product (GDP) or national income or output per capita. GDP is the total market value of all goods and services produced by all economy units of a country in a certain period (Nanga, 2001).

GDP calculation using the two kinds of prices, the GDP at current prices (nominal GDP) and GDP at constant prices (Real GDP). GDP at current prices describe the value added of goods and services which is calculated by using the prevailing price every year, while the GDP at constant prices calculated using prices in a certain year as the base year. GDP at constant prices used to determine economic growth from year to year, while the GDP at current prices used to see economic shifts and economic structure. There are three approaches in calculating GDP. They are expenditure approach, income approach and production approach (Nanga, 2001).

The calculations of GDP by Expenditure Approach is the amount of expenses incurred for household consumption and private non-profit

institutions, government consumption, gross fixed capital formation, changes in inventories/stocks, and changes in net exports (exports minus imports).

Calculations of GDP by the Income Approach is the amount of compensations received by production factors which participate in the production process in a country in a certain period of time (usually one year). The compensations and benefits include wages and salaries, rent for land, capital interest, and profit, all before income tax and other direct taxes. In this definition, GDP includes depreciation and net indirect taxes (indirect taxes minus subsidies).

The calculation of GDP by Production Approach is the added value of final goods and services produced by the various production units (total output) in the territory of a country in a certain period of time (usually one year). The calculation method with this approach is to divide the economy into sectors of production. Total output of each sector is the output of the entire economy. To avoid double counting or even multiple counting. So that, calculation of GDP by production method is the total sum of value added in each sector. Value added is the difference between the output values with inbetween-value.

Conceptually, the calculation of GDP by these three approaches will give the same result. Thus, the amount of expenditure will be equal to the amount of final goods and services produced and should be equal to total income for the factors of production. In practice, the calculation of GDP that is often used is the expenditure approach.

## 2.2 Economic Growth According to Islamic Economics

Economic growth in Islam is not only about material production activities, but it is overall production activity which is closely related to the justice of distribution. Moreover, economic growth is not only measured by economic aspects, but human activity aimed to growth and progress of material and spiritual sides at once. In Islam known as the real welfare concerning the happiness of the world and the hereafter. Islamic Economics in the sense of an economic system (*Nidhom al-Iqtishad*) is a system that can take humanity to the real *Falah* or real welfare. Therefore, in analysing the economic welfare in Islam must recognize how the interaction of instruments waqf, Zakah, infaq and Sadaqah in improving the welfare of the people. In essence, Islamic economy should be able to provide a way to measure economic prosperity and social welfare based on moral and social system of Islam

(Sudarsono, 2003).

In the perspective of Islamic economics, guidance how to achieve material prosperity within the framework of Islamic values requires (Chapra, 1998):

1. Not to be achieved through the production of goods and services that are not in accordance with Islamic moral standards.
2. Not widen the social gap between the rich and the poor.
3. Not pose a danger to present and future generations with the physical and moral damage to the environment.

In the paradigm of Islamic economics, economic growth must be consistent with justice and equitable distribution of income. Islam emphasizes social-economic justice in economic growth. So that the wealth is not concentrated in certain people because a high economic could be only in the hands of a particular conglomerate. This is in accordance with the Quran surah Al-Hashr verse 7 which means: "*Wealth should not be only continuously circulated among rich people*".

## 2.3 Islamic Financing

Islamic financing is banking product that is based on Islamic principles. Financing instrument in Islamic bank is different from conventional bank. Islamic financing apply interest-free financing instrument based on two principles, the profit and loss-sharing and the principle of additional margin (mark-up margin). Meanwhile, the conventional bank apply loan based on the interest (*riba'*) (Rivai & Arifin, 2009).

The significant character of Islamic financing that has positive impact on the real economy sector and economic growth is Islamic financial institutions put more emphasis on increasing production. Islamic financial institutions are financial institutions that emphasize the concept of asset and production based system. Through the financing pattern, then the real economy sector and the financial sector can move in a balanced manner.

The theory of The Growth-Led Finance Hypothesis or The Demand-Following View developed by Robinson explains that the development of the financial sector following the economic growth, or entrepreneurial activity (enterprise) encourage the growth of the financial sector (Robinson, 2003). If the economy expanded, the demand for banking products and services will also increase, so the banking sector will also increase by itself. One of the empirical research

supports this hypothesis is the research conducted by Habibullah and Eng in Asian countries found that Malaysia, Myanmar and Nepal support The Growth-Led Finance Hypothesis (Habibullah & Eng, 2006).

## 2.4 Islamic Stocks

Islamic stocks are securities that represent equity into a company. The equity inclusion conducted on the companies which business activities and the management is not contrary to Islamic principles. The stock is halal if the stocks issued by a companies whose business activities are in line with Islamic principles and/or the intention of the stock purchase is for investment, not for speculation (Soemitra, 2009).

Rules and norms of Islamic stocks trading guideline refers to buying and selling goods in Islamic trade. The fulfilment of the pillars, terms and conditions, aspects of '*an taradhin*, protected from the elements *maysir*, *gharar*, *riba*', *haram* and *najasy*. The transaction practice such as *forward contracts*, *short selling*, *options*, and *insider trading* are not allowed in Islamic stocks trading. Furthermore, the concept of *preferred stock* is also not allowed because of the fixed gain (predeterminant revenue) is categorized as *riba*'. Another reason is that the owner of preferred stock get the privilege, especially when the company is liquidated. It is considered as injustice (Andri Soemitra, 2016).

Generally buying and selling stocks in the capital market has two main functions, the economic function and financial functions. In the function of the economy, the stocks market provides a facility to reconcile the two interests, those who have excess funds (investors) and those who need the funds (emiten). At the capital markets, the parties that have excess funds may invest with expectation of gaining halal profit and appropriate with Islamic law, while the emiten may use the funds for the benefit of the company's operations. In the function of the financial, the stocks markets provide the possibility and the opportunity to obtain a compensation for investors in accordance with the characteristics of the selected investments. The capital market is expected to boost economic activity, because the capital market is an alternative to long term financing for the company, so the company can operate with a larger scale and eventually will increase its profit and prosperity of the wider society (Sholahuddin, 2004).

## 2.5 Zakah, Infaq and Sadaqah

Etymologically the word Zakah means evolve (*an-namaa*), purify (*at-thabaratu*) and blessing (*al-barakatu*). In terminology, the concept of Zakah is giving some treasure to poor people (*mustahik*) with certain requirements (Hafidhuddin, 2011). Zakah is an obligation for muslims who are grown-up (*baligh*), sensible and already have sufficient treasure (*nishab*) in 12 months (*haul*).

According to Hidayat the concept of Infaq is someone's voluntary donation every time he gets sustenance as much as he pleases (Hidayat, 2014), while according to Hafidhuddin Infaq comes from the word "*anfaqa*" which means give out something valuable (treasure) for certain interest, e.g., the construction of mosques, school, home-library etc (Hafidhuddin, 2011).

Sadaqah is a voluntary donation from people to others, especially to the poor (Hidayat, 2014). Sadaqah is sunnah, therefore, to distinguish it from zakah (obligation), the *fugaha* use the term *sadaqah* or *an ash shadaqah nafilah* (Hafidhuddin, 2011).

ZIS funds can be distributed on two activities, consumptive activities and productive activities. Productive activity is the provision of funds for productive business activities so that it could give medium and long-term impact for *mustahik* (Antonio, Hermawan, Hendri, & Ghofur, 2017).

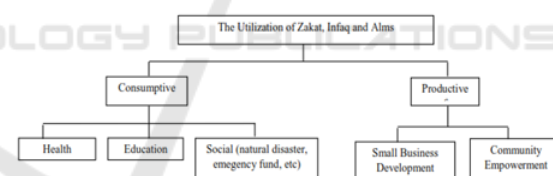


Figure 1: The Utilization of Zakah, Infaq and Sadaqah

ZIS can play a very significant role in the distribution of income and wealth in muslim society. The implications of Zakah is the growing wealth due to zakah can be explained through its influence on income, consumption, savings, investment and labor. Another implication of Zakah is the multiplier effect to the whole economy (Pramanik, 2002).

ZIS contribute to economic growth both through aggregate demand and aggregate supply lines. The combination of ZIS impact on consumption and investment will boost aggregate demand through the multiplier effect in the economy, this will lead to an increase in national income. The purchasing from ZIS will increase the consumption of the poor, which would trigger an increase in the production of goods and services. The increase in production will



certainly drive the economy broadly a demand for input factors of production such as labor, physical capital, energy, raw materials and demand for intermediary input, especially the basic needs of goods and services which are generally produced by domestic manufacturers. Application of the ZIS will also have a positive effect on the savings of the poor and at the same time giving a neutral impact on the savings of the rich. Thus, in aggregate, national savings will increase. The increase of savings will encourage an increase in investment. The increase in investment eventually will result an increase production of goods and services, lower the prices and increase the real incomes of society (Mohammed Yusoff, 2010).

### 3 REVIEW OF THE LITERATURE

Yunan in his research entitled "Analysis of Factors Affecting Economic Growth in Indonesia" concluded that GDP of Indonesia GDP will increase significantly if the banking credit, government spending and the labor force increased (Yunan, 2009).

Hidayati in her research entitled "Analysis of Financial Systems Performance Relationship (Banking and Capital Markets) towards Indonesian Economic Growth Period 1990-2008". The results indicate the bi-directional causality or correlation interplay between economic growth and development of the volume of bank credit, as well as a one-way causal relationship between the development of the stock market capitalization and economic growth (Hidayati, 2008).

Densumite and Yusoff conducted a study entitled "Zakah Distribution and Growth in the Federal Territory of Malaysia". By using Granger causality test and VECM concluded that Zakah has a long-term relationship positively to real GDP and indicates that zakah could boost GDP in the federal territory of Malaysia both for short term and long term (Yusoff & Densumite, 2012).

Research conducted by Rachmawati and Laila entitled "The Macroeconomic Factors Affecting Stock Price Movement in Indonesia Sharia Stock Index (ISSI) at the Indonesia Stock Exchange (BEI)" concluded that the exchange rate gives significant negative effect on ISSI (Rachmawati & Laila, 2015).

Research conducted by Noverianto and Ratnawati, entitled "Analysis of Effectiveness of Islamic Financing towards GDP of Small and Medium Enterprises in Indonesia" by the method of Vector Auto Regression (VAR) concludes that

Islamic financing contributed the most to the increase in GDP of Small and Medium Enterprises (Noverianto & Ratnawati, 2014).

Juita, Wardi and Aimon in their study about "Analysis of the Economic Growth and IHS in Indonesia" by using the method of simultaneous equations. The result concluded that (1) Investment and exchange are simultaneously significant effect on economic growth in Indonesia; (2) Exchange rate, money supply, SBI interest rates and economic growth are significant effect on IHS (Juita, Wardi, & Aimon, 2014).

Research conducted by Hamzah and Syahnur entitled "The Impact of Productive Zakah on Poverty Alleviation in North Aceh". The results of the study revealed that the provision of productive zakat in the form of venture capital had a positive impact and could reduce the poverty rate in North Aceh Regency by 0.02% (Hamzah & Syahnur, 2013).

Kader, Harun and Suprayitno in their research entitled "The Impact of Zakah on Aggregate Consumption in Malaysia" concluded that zakah has a positive impact on aggregate consumption, but the effect is only short-run (Suprayitno, Kader, & Harun, 2013).

Furthermore, Yusoff conducted a study entitled "Zakah Expenditure, School Enrolment and Economic Growth in Malaysia" by using panel data methods. The result concludes that zakah and the increase of school enrolment are important factor of economic growth in Malaysia (Yusoff, 2011).

Furkani in his research entitled "Improving Indonesia's Gross Domestic Product through Zakah Empowerment" with a qualitative descriptive approach. The result concluded that zakah can improve Indonesia's GDP through income, consumption and production approach (Furkani & Islam, 2010).

Research conducted by Muttaqiena entitled "Productive Zakah Optimization as an Effort to Solve Inequality of Income Distribution" with a qualitative descriptive approach resulted in the conclusion that optimizing zakah can increase aggregate demand, aggregate supply, expanding employment, improving output and eventually encourage the social balance (Muttaqiena, 2010).

Yusoff conducted a study entitled "An Analysis of Zakah Expenditure and Real Output: Theory and Empirical Evidence". By using a data panel regression method gives results that zakah significantly increase production, zakah is a potential instrument of fiscal policy in stabilizing the macro-economic conditions (Yusoff, 2010).

Suprayitno's research, entitled "The Effect of Zakah on Indonesia Macroeconomic Variables" by using a simultaneous equation model and the aggregated data across the province in the year 2000 concluded that the amount of zakah distributed by BAZ/LAZ in each province gives positive and significant impact on the increase of aggregate consumption as well as reducing the number of poor people in the area (Suprayitno & Si, 2004).

The Model Framework of the research

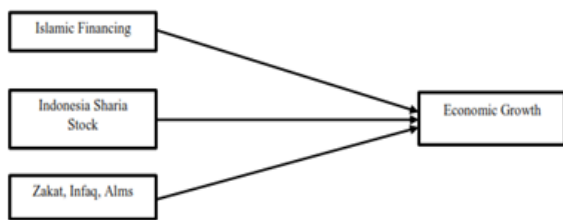


Figure 2: The Framework Scheme

Islamic financing that emphasize the concept of asset and production based system where the funds is used for business purpose may increase capital investment in the productive sectors of the economy. Through the financing pattern like that then the real economy sector and the financial sector will rise together in a balanced manner, which will eventually increase the GDP.

Indonesia Sharia Stock Index (ISSI) can role as driving force for national economy by facilitating the companies that need funds (emitens) and investors who have excess funds. So that companies obtain long term financing that can be used to increase working capital and production. Furthermore, investors also gain profit sharing for the funds invested. This can increase the activity of the national economy that would contribute to an increase of GDP.

Distribution of Zakah, Infaq and Sadaqah (ZIS) can be used for consumptive and productive activities. ZIS in Indonesia is more widely used for consumptive activities. ZIS for consumptive activities contribute to the improvement of both aspects of consumption in GDP (aggregate demand) as well as from the aspect of investment (aggregate supply) through a multiplier effect in the economy. The purchasing from ZIS will increase the consumption of the poor, which would trigger an increase in the production of goods and services. The increase in production will certainly drive the economy broadly a demand for input factors of production such as labor, physical capital, energy,

raw materials and demand for intermediary input, especially the basic needs of goods and services which are generally produced by domestic manufacturers. This will eventually increase the GDP.

## 4 METHODOLOGY

The scope of this study to analyse the effect of Islamic Financing, Indonesia Sharia Stock Index (ISSI), Zakah, Infaq Zakah and Sadaqah (ZIS) on Economic Growth. The data used in this research is secondary data in the form of quarterly time series with 24 quarters observation period during the first quarter of 2010 until the fourth quarter of 2015. The type of secondary data to be processed include GDP at constant prices in 2010; total Islamic Financing; Indonesian Islamic stocks total capitalization of ISSI; total distribution of ZIS. Due to limited data published of ZIS, the observation period can only be carried out until 2015. Source of data is obtained from various official publications, they are BPS, Bank Indonesia, OJK, and BAZNAS.

This study uses Error Correction Model (ECM) in order to see the effect of short-run and long-run. Error Correction Mechanism is the analysis of time series data is used for variables that have a dependency that is often referred to cointegration. ECM method used to balance short-run economic correlation between variables that have had long-run economic correlation. Cointegration test between variables intended to indicate a long-run correlation/balance of the independent variable on the dependent variable. However, in the short-run there is a possibility that an imbalance between these variables. The imbalance is often encountered in economic behaviour due to the inability of economic agents to quickly adjust the changes that occur in the behaviour of economic variables. Because of this imbalance, the Error Correction Model mechanism is used. ECM mechanism using residual/error of long-run to balance short-run. Error Correction Model (ECM) dividing equation of mutually-cointegrated variables into two equations, they are long-run equation and short-run equation (Nachrowi & Usman, 2002).

This study uses an ECM Domowitz-Elbadawi model, it is based on the fact that the economy is in a state of imbalance. This ECM model assumes that economic agents will always find that what is planned is not always the same as reality. This deviation is likely to occur because of the shock

variable, so the variable Y is not always equilibrium with X (Widarjono, 2013).

ECM Domowitz-Elbadawi used in this study is:

$$\Delta Y_t = \beta_0 + \beta_1 \Delta X_t + \beta_2 X_{t-n} + \beta_3 ECT \quad (1)$$

Changes of Y or  $\Delta Y_t$  present (t) is affected by changes in the variables X or  $\Delta X_t$  present and previous changes of variable X ( $X_{t-n}$ ), and also by errors imbalance or error correction term (ECT). Equation (1) is ECM model that can be adjusted on the first difference ( $(t-1)$ ) or to continue formulate ECM on a second difference ( $(t-2)$ ), depending on the stationary test and cointegration test earlier. According to this model, the model ECM is valid if the sign of ECT coefficient is positive and lies between 0 and 1.

The coefficient  $\beta$  in equation (1) is a short-run analysis. While the coefficient on the level which is the level of long-run coefficients (equilibrium) are as follows:

$$Y_t = h_0 + h_1 X_t \quad (2)$$

$$h_0 = B_0/B_3$$

$$h_1 = (B_2 + B_3)/B_3$$

The period of time in variables that have a short-run balance is adjusted to the time intervals of time series data observed. While the period of time on a variable that has a long-run balance is above 5 or 10 years for monthly or quarterly time series data.

#### The Empirical Model

This study describes the effect of long-run and short-run between Islamic Financing (IF), Indonesia Sharia Stock Index (ISSI) and Zakah, Infaq, Sadaqah (ZIS) on Economic Growth (GDP). The model is formed into a dynamic model that includes a lag, known as Model ECM Domowitz-Elbadawi, as follows:

$$\begin{aligned} \ln GDP_t = & \beta_0 + \beta_1 DIF_t + \beta_2 DISSI_t + \beta_3 DZIS_t \\ & + \beta_4 IF_{t-2} + \beta_5 ISSI_{t-2} + \beta_6 ZIS_{t-2} \\ & + \beta_7 ECT \end{aligned} \quad (3)$$

- GDP = Gross Domestic Product
- IF = Islamic Financing
- ISSI = Indonesia Sharia Stock
- ZIS = Zakah, Infaq and Sadaqah
- $\beta_0$  = Constants
- $\beta_1 - \beta_7$  = Regression Coefficients
- D = Short-run Effect
- (t-2) = Long-run balance adjustment or backward lag operator
- ECT = Error Corection Term

In the model above, the changes of IF, ISSI and ZIS to GDP in the long-run would be offset by ECT. In the equation DP, DSSI, DZIS describe 'interference' short-run of IF, ISSI and ZIS, and t-2 is an adjustment to the long-run balance. Thus, if the coefficient  $\beta_4, \beta_5, \beta_6$  significant, the coefficient will be the adjustment of the variables were observed between short-run leading to long run correlations.

## 5 RESULT AND DISCUSSION

### 5.1 Result

By discovering there is phenomenon of long-run relationships to each variable (see Appendix) then the next step is to approach Error Correction Model (ECM) to see whether there is any relationship between variables in the short-run. ECM is an approach to analyse the time series model that is used to see consistency between the short-run relationships with a long-run relationship of the variables tested. To determine whether the ECM model is valid or not, the coefficient of Error Correction Term (ECT) should be significant.

From the results of ECM data processing, Table 2 shows that the ECT coefficient is 0.123450 with probability 0.0384. The sign is positive and is between 0 and 1, as well as significant at confidence level of  $\alpha$  0.05. Therefore, the model of ECM is valid.

Table 3: The Result of Error Correction Model Test

Dependent Variable: D(GDP)				
Method: Least Squares				
Sample (adjusted): 2011Q1 2015Q4				
Included observations: 20 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic Prob.	
C	0.062954	0.045841	1.373317	0.0419
D(IF)	1.046657	6.84E-07	1.531159	0.0151
D(ISSI)	8.382811	6.24E-09	1.343751	0.2039
D(ZIS)	0.003856	0.001091	3.534841	0.0041
IF(-2)	3.269057	1.76E-07	1.860594	0.0375
ISSI(-2)	1.699364	4.60E-09	0.369240	0.0284
ZIS(-2)	0.004922	0.001334	3.688057	0.7031
ECT	0.123450	6.06E-09	1.854443	0.0384
R-squared	0.632282	Mean dependent var	0.013373	
Adjusted R-squared	0.417780	S.D. dependent var	0.024549	

S.E. of regression	0.018732	Akaike info criterion	4.827990
Sum squared resid	0.004211	Schwarz criterion	4.429697
Log likelihood	56.27990	Hannan-Quinn criter.	4.750239
F-statistic	2.947670	Durbin-Watson stat	2.438460
Prob(F-statistic)	0.048234		

The coefficient of ECT also indicates that the difference between the actual values of current GDP with short-run equilibrium value of 0.123450 will be adjusted within 3 months. It is adapted to the interval period of the observed time series data.

Furthermore, the amount of long-run regression coefficients are as follows:

Table 4: The Result of ECM Coefficient Calculation

Variable	Symbol	Coefficient	
		Short-run	Long-run
Constants	C	0.062954	0.50995545
Islamic Financing	IF	1.046657	27.4808181
Indonesia Sharia Stock	ISSI	8.382811	14.7656055
Zakah, Infaq, Sadaqah	ZIS	0.003856	1.0387039

Based on Table 4, the ECM regression equation in the short-run and long-run are as follows:

$$D(\text{GDP}) = 0.062954 + 1.046657D(\text{IF}) + 8.382811D(\text{ISSI}) + 0.003856D(\text{ZIS}) + 27.4808181IF_{(-2)} + 14.7656055ISSI_{(-2)} + 1.0387039ZIS_{(-2)} + 0.123450 \text{ ECT} \quad (4)$$

Short-run constant value of 0.062954 indicates if the value of the independent variables constant, the amount of revenue for the short-run GDP increased by 0.062954 percent. Long-run constant value of 0.50995545 indicates if the value of the independent variables constant, the amount of revenue for long-run GDP increased by 0.50995545 percent.

### 5.1.1 The Effect of Islamic Financing on GDP

Short-run : The coefficient of D(IF) is 1.046657 with a probability 0.0151 which means significant at

$\alpha$  0.05 implies that there is a short-run equilibrium correlation between variables Islamic Financing and GDP, where the increase of one percent Islamic Financing will affect to GDP in the short-run by 1.046 657 percent within 3 months.

Long-run : From the calculation of the ECM coefficient on IF (-2), the results 27.4808181 with the probability 0.0375 which has been significant at  $\alpha$  0.05. This implies that there is a long-run relationship between the variables Islamic Financing and GDP, which if Islamic Financing increased by one percent will increase long-run GDP by 27, 4808181 percent within a period of 10 years.

Thus, there are significant short-run and long-run. In other words, there is consistency or the balance between short-run leading to long-run correlations of variables Islamic Financing and GDP. Where in the long-run Islamic Financing gives significant positive effect on GDP.

### 5.1.2 The Effect of Indonesia Sharia Stock Index (ISSI) on GDP

Short-run : The coefficient of D (ISSI) is 8.382811 with a probability 0.2039 which means the probability is not significant at  $\alpha$  0.05 implies that there are no short-run equilibrium correlation between variables ISSI and GDP.

Long-run : From the calculation of the ECM coefficient on ISSI (-2), the results 14.7656055 with the probability 0.0284 which has been significant at  $\alpha$  0.05. This implies that there is a long-run relationship between the variables ISSI and GDP, which if ISSI increased by one percent will increase long-run GDP by 14.7656055 percent within 10 years.

Thus there is only long-run effect between variables ISSI and GDP. Where ISSI gives significant positive effect on GDP in the long-run.

### 5.1.3 The Effect of Distribution of Zakah, Infaq and Sadaqah on GDP

**Short-run:** The coefficient of D (ZIS) is 0.003856 with a probability 0.0041, which means significant at  $\alpha$  0.05 implies that there is a short-run equilibrium relationship between variables ZIS and GDP, where the increase of one percent Zakah, Infaq and Sadaqah will affect to GDP in the short-run by 0.003856 percent within 3 months.

Long-run: From the calculation of the ECM coefficient of ECM on ZIS (-2), the results 1.03987039 with probability 0.7031 which means not significant at  $\alpha$  0.05. This implies that there are



no long-run relationship between the variables of Zakah, Infaq and Sadaqah on GDP.

Thus, there is only short-run effect between variables ZIS and GDP. Where in the short-run Zakah, Infaq and Sadaqah gives significant positive effect on GDP.

## 5.2 Discussion

Islamic Financing gives significant positive effect both in short-run and long-run on economic growth. This means if Islamic Financing increases both in the short-run and long-run, the economic growth will also increase, and vice versa, if there is a decrease on the Islamic Financing, the economic growth will decline. This is consistent with the theory of The Growth-Led Finance Hypothesis by (Robinson, 2003), which states entrepreneurial activity encourages the growth of the financial sector, followed by a rise in economic growth. This results are consistent with the results of (Habibullah & Eng, 2006) which concluded that the financing in Islamic banking is more positive impact on the growth of the real sector in Malaysia, Myanmar and Nepal. This results are also consistent with research conducted by (Noverianto & Ratnawati, 2014), (Yunan, 2009) and (Hidayati, 2008) which concluded that the Islamic and conventional financing contributed to revenue growth of small and medium enterprises (SMEs) and the economy.

ISSI or Indonesia Sharia Stock Index is not significantly affect on economic growth in the short-run. This means that the increase or decrease in the short-run of ISSI does not give any effect on economic growth in the short-run, while in the long-run there is an effect on economic growth. This means that if buying and selling of ISSI increased in a long-run, economic growth will rise, and vice versa, if the buying and selling of ISSI decline, economic growth will decline as well. ISSI can contribute to economic growth due to the emitens that have listed their shares on Indonesia Stock Exchange obtain substantial funding from investors who are interested to invest in these companies. This fund is an alternative to long run funding that is sufficient to increase company productivity and to improve the company's operations. The results are consistent with the theory of economic growth stated by many economist. Harrod-Domar, Solow and Romer agreed that investment has a very important role in increasing productivity, especially affecting on economic growth for the long-run.

The distribution of Zakah, Infaq and Sadaqah (ZIS) gives a significant positive effect on economic

growth only in the short-run, although the effect is not as big as on the Islamic Financing and ISSI. If the distribution of ZIS increases in the short-run then economic growth will also increase, and vice versa, a decrease in the distribution of ZIS will affect the decline of economic growth in the short-run. While in the long-run ZIS does not effect on economic growth. Distribution of ZIS is divided into two: for consumptive and productive activities. They have an impact on both aggregate demand and aggregate supply, so the ZIS has a multiplier effect in the economy. Consumptive activities from distribution of ZIS effect on economic growth in the short-run through aggregate demand, while productive activities from distribution of ZIS effect on economic growth in the medium to long-run through aggregate supply. In this study, ZIS effect in the short-run due to the distribution of ZIS in Indonesia are mostly used for consumptive activities, so that the mechanism of multiplier effect in increasing the economic growth is effectively limited to only short-run. The result of this study is not consistent with the research of (Yusoff & Densumite, 2012) that zakah has a positive long-run correlation on real GDP. Yet, this study is consistent with the research of (Suprayitno et al., 2013) that the distribution of zakah only has small influence in short-run. This research is also in accordance with the theory presented by Mark Skousen in (Yusoff, 2010) and (Pramanik, 2002) that ZIS has a multiplier effect in the economy.

## 6 CONCLUSION

The positive and significant effect of Islamic Financing on the economic growth both in the short-run and long-run, so it is suggested that Islamic banks keep continuing to improve its performance on funding, so that the contribution of Islamic banking to economic growth is more obvious and noticeable.

The positive effect of Indonesia Sharia Stock Index on economic growth in the long-run shows that ISSI is an alternative to long-term funding, so it is suggested that IDX—as an intermediary for Islamic stock exchange—collaborates with DPS and DSN-MUI need to increase socialization to community regarding to investment in Islamic stock exchange. The more emitens included in ISSI, the more investors to join. Thus, ISSI can be a driving force for national economic growth.

There is an interesting finding that zakah does not give effect on economic growth in the long run,

whereas the major population of Indonesia is Muslim. It means the awareness to pay zakah still needs to be improved. Another factor is because most *mustahik* uses ZIS as consumptive zakah. This means Badan Amil Zakat Nasional (BAZNAS) as an official institution which is authorized by the government to collect and distribute ZIS has a big task to increase the potential and distribution of ZIS in Indonesia, because the effect will be great on economic growth. BAZNAS should be actively socialize and establish BAZNAS provincial, district/city and Lembaga Amil Zakat (LAZ), as well as disseminate to the Muslim in Indonesia to distribute ZIS through BAZNAS or LAZ.

It is suggested that BAZNAS and LAS should perform actively on fundraiser of ZIS and promoting the utilization productive zakah for *mustahik*, so the effect on economic growth is greater. It is can be done by innovation and creativity through unique programs to attract *muzakki*, IT infrastructure support, an excellence management of ZIS, a transparent and accountable of ZIS financial reports, the bureaucratic system, administrative system, monitoring and regulation system which is able to ensure the management of ZIS funds is entirely for the benefit of the people (*ummah*).

There are three pillars of the sector should be built so that the economy is getting stronger and growing. They are the real sector; financial sector and zakah, infaq, sadaqah and waqaf sectors. The inequality one of these three sectors will hamper the entire economic development. It would be better if the government could create an Islamic economic national committee to connect these sectors, so that the economy in Indonesia is becoming increasingly strong. This committee is expected to provide direction for the development of economic and Islamic finance in Indonesia, so that all sectors of the economy and Islamic finance can be integrated and connected to one another.

Due to the limited data available, future research is suggested to be able to extend the observation period, especially on ZIS and ISSI. Further, the data coverage can be added to ZISWAF (Zakah, Infaq, Sadaqah and Waqaf) because the discussion on ZISWAF and ISSI from a macroeconomic perspective is still rare.

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## APPENDIX

### Stationarity Test (Unit Root Test)

Based on the table of ADF Unit Root Test, it can be seen that almost all data (at *Current Level*) are not stationary, except for the ZIS. So it can be concluded that there are unit root problems on variables at the *Current Level* (the original data), so the data needs

to go to next level of Degree of Integration Test on the first or second difference.

Table of Unit Root Test (Augmented Dickey-Fuller) on *Current Level*

Variable	ADF test	ADF Mc. Kinnon CV 5%	Probability < 0.05	Explanation
GDP	-1.296877	-2.998064	0.6130	Not Stationary
IF	-1.497554	-3.004861	0.5161	Not Stationary
ISSI	-1.361096	-2.998064	0.0051	Not Stationary
ZIS	-3.240607	-2.998064	0.0304	Stationary

### Degree of Integration Test

Based on the table of ADF Unit Root Test on *First Difference*, it can be seen that variable GDP, ISSI and ZIS are stationary. It is proved by the absolute value of the ADF test is greater than Mc. Kinnon Critical Value 5% and also the probability is less than 0.05. However, the variable IF is not stationary, because the absolute value of the ADF test is smaller than Mc. Kinnon Critical Value 5% and the probability is greater than 0.05.

Table of Unit Root Test (Augmented Dickey-Fuller) on *First Difference*

Variable	ADF test	ADF Mc. Kinnon CV 5%	Probability < 0.05	Explanation
GDP	-14.21517	-3.012363	0.0000	Stationary
IF	-2.102834	-3.004861	0.2454	Not Stationary
ISSI	-3.582688	-3.004861	0.0150	Stationary
ZIS	-9.233006	-2.91263	0.0000	Stationary

The conclusion of the data processed that  $H_0$  is accepted, because variable IF is not stationary at the level of the *first difference*, so it needs to go to the next level (*Second Difference*).

Table of Unit Root Test (Augmented Dickey-Fuller) on *Second Difference*

Variable	ADF test	ADF Mc. Kinnon CV 5%	Probability < 0.05	Explanation
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GDP	-10.14272	-3.020686	0.0000	Stationary
IF	-5.738628	-3.012363	0.0001	Stationary
ISSI	-4.636657	-3.020686	0.0017	Stationary
ZIS	-10.61563	-3.020686	0.0000	Stationary

Based on the table of ADF Unit Root Test on *Second Difference*, it can be seen that all variables are stationary. It is proved by the absolute value of the ADF test is greater than Mc. Kinnon Critical Value 5% and also the probability is less than 0.05. The conclusion of the data processed that  $H_0$  is rejected which all variables are stationary at the *Second Difference*, so the test can go to the next test. It is Cointegration Test.

### Cointegration Test

This Cointegration Test is to see long-run correlation from the model. In this study used the method of Engle-Granger cointegration.

Table of Cointegration Test

Null Hypothesis: D(RESIDCOINTEGRATION,2)  
has a unit root  
Exogenous: Constant  
Lag Length: 1 (Automatic - based on SIC,  
maxlag=1)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test-statistic	-7.385041	0.0000
Test critical 1% level values:	-3.808546	
5% level	-3.020686	
10% level	-2.650413	

\*MacKinnon (1996) one-sided p-values.

Cointegration Test shows that the absolute value of the ADF test  $>$  Critical Value 5% .

It is  $|-7.385041| > |-3.020686|$ , with a probability of 0.0000 so  $H_0$  is rejected. This means the residual of the equation has been stationary on the second degree of integration. So that each variable is cointegrated, in other words, there are indications of long-run correlations.

The indication of long-run correlations cannot be used as evidence that there is an equilibrium correlation between the variables in the short-run and to determine which variable cause changes in another variable, then using Error Correction Model.