

THE IMPACT OF MONETARY POLICY TOWARDS CONVENTIONAL AND SHARIA FINANCIAL MARKET IN INDONESIA: (2010-2014)

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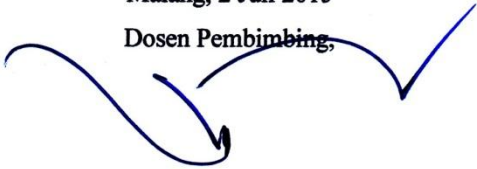
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ABSTRAK

The target of monetary economy is always how to influence the behavior of individual or firms in microeconomic and aggregate behavior in macroeconomic. Most of the discussion in microeconomic is on the function of money and interest rates in determining the behavior of individuals in using money either for investment or consumption. Therefore, monetary policy has the ability to influence the financial market. This paper tries to challenge the influence and impact of monetary policy towards the development of financial market especially when Indonesia has adopted two system in the economy which are sharia and conventional systems. By using VECM, the result indicates strong significant influence in both base money and interest rate in the long run towards these both financial markets. However, the impact of both monetary policies towards conventional financial market is contradictory with sharia financial market. In the short run, there is no contradictory of impact by monetary policy in regards of principle differences. Interest rate is insignificant towards all financial market but base money is significant only towards both sharia (JII) and conventional (IHSG) stock market but insignificant towards sukuk (SBIX) and conventional bond (VBIX) market.

Keywords: Monetary Policy, Financial Market, Sharia and Conventional

A. BACKGROUND

Indonesia exhibited an excellent economic performance reflected by the GDP growth. In comparison to other regions such as United States and European Union, Indonesia managed to show resistance during global economic crisis by 6% economic growth. However, in 2009, Indonesia hit the lowest growth from 2007. But in the end of the 4th quarter, it bounced back and hit 5% growth.

Among the other sharia pioneer nations such as Bangladesh, Turkey, Malaysia and Saudi Arabia, the stock traded in Indonesia was the second lowest after Bangladesh which is 10% of the GDP in 2012. In Indonesia, the stock ownership and the foreign trading activities have a very significant proportion in Indonesia Stock Exchange (IDX). At the end of the first semester in 2011, the foreign ownership reach 63,43% of total stock values in IDX. In the other hand, stock trading by foreigners reach 33,76% of total transaction in IDX (Bandono, bayu et al : 2011).

The market capitalization of stock market is declining 50% in 2008, it shows that Indonesian capital market is affected by the world wide financial crisis in US and EU. During financial crisis in 2008, JII drop 228% from 493.01 to 216.19. The other two indices which are IHSG only drop 202% and LQ45 drop 220% from the previous year. The growth of JII is also being considered as the lowest among two other indices. During 2010 – 2013, the growth of JII is stagnant in the level of 530 – 590.

The proportion of the Islamic financial instrument is very small in comparison to the conventional financial instrument in global financial market. The size of the sharia financial market is exceeding 1 trillion USD. But it only represents 1% of global financial system (Bennet and Iqbal, 2011). Overall, sharia financial market still holds potential growth to be enormous in the future.

In bond market, among Asian nations, Indonesian bond is still dominated with government bond. In comparison to other nations and emerging East Asian nations, the government bond ratio of Indonesia is still above 85%. For the past 5 years, both government and corporate bond of Indonesia was having a very slow growth in comparison to the bond markets in Singapore, Thailand, and Malaysia. In comparison to government bond issuance, Sukuk is far lower in amount. After crisis effect in 2010, sukuk outstanding falls from 6.121,00 to 5.876,00 in 2011. It is contrast with government and corporate bonds that are increasing from 2009. The growth of sukuk outstanding is insignificant in comparison to government and corporate bond.

The recent events and anomaly within the fluctuation of sharia and conventional financial markets shows there are influence from both macroeconomic and monetary policy. Study by Amaninah and Safiih (2011), the study tried to observe the price movements of Kuala Lumpur Syariah Index (KLSI) market return by using GARCH model analysis. It tried to challenge whether KLSI price movements has different behavior from the conventional one. The result of the study suggests that KLSI price movements are high and on par with other index components such as conventional components. This shows that there is no significant difference of the factors that cause price movements with the conventional stock market.

The similarity of performances between sharia stock market and conventional stock market is supported by Setiawan and Oktariza (2013). The research tried to challenge whether there is a significant difference in risk and returns between Sharia stocks and conventional stocks of selected public companies listed on Indonesia Stock Exchange (IDX) during the period of 2009-2011. The result indicates there is no significant difference on the performances of both market in terms of adjusted risk and return.

Antonio et al (2013) tried to analyze the short and long term relationship among the specified global and domestic macroeconomic variables from each country (Fed rate, crude oil price, Dow Jones Index, interest rate, exchange rate and inflation) for Indonesia and Malaysia Islamic capital market (Jakarta Islamic Index (JII) and FTSE Bursa Malaysia Hijrah Shariah Index (FHSI). The finding shows in the long term, all macroeconomic variables except Dow Jones Index have significant impact in both Islamic stock markets. The contradiction occurred in the short term where FHSI is not being influenced by any macroeconomic variables while JII surprisingly is being influenced by selected macroeconomic variables such as inflation, exchange rate and crude oil.

The research gap between all the researches are highlighted on the lack of attempt in examining the influence of monetary policy such as the change of interest rates and base money towards the movement of stock market and bond market both in the sharia and conventional one, especially IBPA (*Index Bond Pricing Agency*) has issued the new indices that differentiate sharia and conventional Bond. Most of the sharia financial market research focusing on the difference of the risk and return.

This research will focus on how far monetary policy can impact and propagate the sharia and conventional stock market, bond and sukuk by observing from the speed and intensities. The monetary policy will consist of the fluctuation of the money supply or base money (Mo) and interest rates (r). The targets of this research are financial markets that consist of capital and bond markets. The capital markets are conventional stock market that will be represented by Indeks Harga Saham Gabungan (IHSG) and Sharia stock market that will be represented by Jakarta Islamic Index (JII). The bond markets are Conventional bond that will be represented by IBPA Conventional Bond Index (VBIX) and sukuk will be represented by IBPA Sukuk Index (SBIX).

B. LITERATURE REVIEW

Monetary Policy

Monetary economy is mainly about the explanation of money and interest rates, and its impact towards economy as a whole. The activities discussed in the monetary economy are the monetary within itself, financial markets, fluctuation and determination of interest rates. The pinpoint of the discussions are to determine the influence towards the macroeconomic variables and its contextualization. The product of the monetary economy is the determination of monetary policy which formally regulated by the central bank or monetary authority by using the manipulation and formulation of money supply and interest rates.

According to Handa (2008) in table 2.1, the monetary policy tools, targets and goals may vary in different nations. It is due to the different interest and adjustment of every nation. There is no rigid and fix standard about the monetary policy. The central bank can manipulate the policy instruments, operating targets, and goals to achieve the ultimate goals. The lag between targets and variables of monetary policy to generate desired impact also vary. The process, time and final impact are usually unpredictable by nature.

There are two options that can be the target of monetary policy. The first one is the stable price and the second one is the inflation rate. Many economists believe that maintaining a low targeting inflation rate is more preferable in comparison to the stable price. For the stable price, if the price lower down then the central bank will try hard to lift it back up. But it is usually unable to be reversed when the price hiked. The central government needs extra effort and cost to get the

price down; more over it may compromise the output level and unemployment rate. Therefore, inflation targeting framework is more preferable. The low rate of inflation is often considerably good for the economy. It allows the economy to run in smooth and less fluctuation which reflects the good growth and investment environment.

The correlation of both monetary policy instruments which are interest and base money are shown from the derivative function of Friedman and Schwartz money supply function.

$$M = \frac{M0}{\left[\frac{C}{M} + \frac{BR}{D} - \frac{C}{M} \times \frac{BR}{D} \right]} \dots\dots\dots (1)$$

Where

- M = Money Supply
- C = Currency in the hands of the public
- BR = Banks Reserve
- D = Demand Deposits
- M0 = Monetary Base = BR + C

The model can be simplified by

$$M = \alpha M0 \dots\dots\dots (2)$$

Where

$$\alpha = \frac{1}{\left[\frac{C}{M} + \frac{BR}{D} - \frac{C}{M} \times \frac{BR}{D} \right]} \dots\dots\dots (3)$$

Where α is the “monetary base (to money supply) multiplier” $\partial M / \partial M0$, R is the nominal interest rate and Y is nominal national income. The next general form of the money demand function would be:

$$m^d = m^d(y, R) \dots\dots\dots (4)$$

$$\alpha \cdot M0 = P \cdot m^d(y, R) \dots\dots\dots (5)$$

With the assumption of economic certainty, the targets of the monetary policy will be P at P* and Y at Y*, according to the function (8), the central bank can achieve the target by benefiting the relationship between M0 and R. The central bank or financial authority can set the montary base M0 at M0* and letting the economy dtermine R. The function works in reverse as well, the central bank can set R at R* and letting the economy determine the money supply needed to support R*. Therefore, this formula is the evidence that shows a policy can be pursued with or without using both M0 and R.

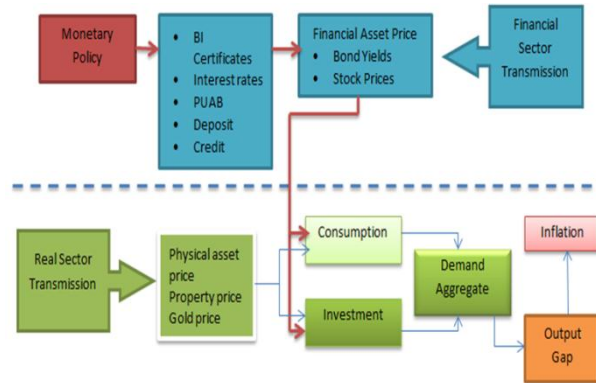
Bank Indonesia Monetary Policy Transmission towards Financial Market

The main target of monetary policy is to maintain the stability of the economy that is reflected by the stable and low rates of inflation. To achieve this target, Bank Indonesia controls the interest rate (BI Rate) as the main instrument of monetary policy that will influence the economic activities and at the same time, inflation rates. However, this transmission of monetary policy until affecting the inflation rates requires a very complex mechanism and scenarios of economy. Moreover, it requires time to achieve the target of inflation (time lag).

In determining the inflation rates and base money, the mechanism can be observed through the interaction between central bank, banking stakeholders, financial sectors and real sectors. The change of interest rates may influence these stake holders from many ways such as credit rate, exchange rate, asset price, and bank interest.

Figure 1 explains the effect of monetary policy in asset price in financial market will eventually affect the activities in real sector. The transmission mechanism is through the wealth effect where the changes of income of individuals from the financial asset and physical assets will affect the consumption rate. However, it is not limited to individuals but also corporations. This is caused by the changes of asset price such as bond yields and stock return will affect the cost of capital that have to be spent for the production and investment activities of corporations. Every target of monetary policy in Indonesia is aiming to stabilize inflation rate. One of the channels is through financial market.

Figure 1: **Monetary Policy Transmission through Asset Price Channels**



Source: Bank Indoneisa (www.bi.go.id), 2015

In Indonesia, conventional economic instrument is still dominating in most of the sectors. Bank Indonesia is using fiat money, unlike the ideal standard of Dinnar and Dirham as the sharia economic supposed to be. Islamic economic grow in Muslim majority countries. Therefore, it resulted into less different settings and mechanism within the contemporary Islamic financial institution from conventional ones. Because of this fact, the monetary policy instrument may be similar as well as the transmission process

Previous Studies

The previous studies regarding the impact of monetary policy towards the financial market will be explained in table 1.

Table1. **Previous Studies**

Authors	Title	Year	Research Method	Result
Hespeler	A VECM evaluation of monetary transmission in Uzbekistan	2011	VECM	Interest rate is not strong enough in influencing the economy and capital market, exchange rate does
Rao and Agrawal	Impact of Monetary Policy Impulses in an Evolving Debt Market in India	2011	VECM	Reverse Repo and Repo rates are a better and important monetary transmission channels to reverse declining debt market in india
Qayyum and Anwar	Impact of Monetary Policy on the Volatility of Stock Market in Pakistan	2011	Bivariate EGARCH	Monetary stance is significant towards price movements of stock market. the central bank should choose whether the stance is expansive or vice versa
Ameer	What Moves the Primary Stock and Bond Markets? Influence of Macroeconomic Factors on Bond and Equity Issues in Malaysia and Korea	2007	VECM	There are two ways relationship between interest rate changes and bond issuance in south korea. Stock issuance is significantly influenced by bond issuance in Malaysia
Andritzky <i>et al</i>	The Impact of Macroeconomic Announcements on Emerging Market Bond	2005	VECM	Changing in global interest rates and rating announcements will most likely cause greater impact towards bond price movements than domestic data and policy announcements

Source: Data Processed, 2015

C. RESEARCH METHODOLOGY

Data Gathering Methodology

The data in this paper is secondary data that are extracted from Bank Indonesia, Indonesian Stock Exchange, and Indonesia Bond Pricing Agency (IBPA). The data gathered from these institutions are monthly data from 2010 - 2014. The variables that will be observed within this minor thesis are money supply or base money (Mo), interest rates (r), conventional stock market will be represented by Indeks Harga Saham Gabungan (IHSG) and Sharia stock market that will be represented by Jakarta Islamic Index (JII). Conventional bond will be represented by IBPA Conventional Bond Index (VBIX) and sukuk will be represented by IBPA Sukuk Index (SBIX). Within this minor thesis, VBIX and SBIX will only be using Clean Price (CP) as the variables that represent indices. Clean price is counted based on the increasing or declining price of the bond without counting the accumulation of accrued interest.

VAR/VECM Model Function

Vector Error Correction Model (VECM) is a model to assess the long term issue where VAR model is unable to explain. The general function of VECM according to Ward and Siregar (2000) is

$$\Delta y_t = \sum_{i=1}^{k-1} i \Delta y_{t-i} + \mu_0 + \mu_t t + \alpha \beta^{t-1} + \varepsilon_t \dots \dots \dots (6)$$

Where

- Δy_t = $y_t - y_{t-1}$
- Γ_i = matrix coefficient regression
- μ_1 = vector coefficient regression
- β' = vector cointegration
- $(k-1)$ = Ordo VECM from VAR
- μ_0 = Vector Intercept
- a = matrix loading
- y_t = Variable in level

This general model of VAR where monetary policy variables are being included as the endogenous variables with order k (example $k = 3$) will be adjusted to the variables determined within this minor thesis. Order k will be adjusted through lag estimation. The functions of variables are

$$\begin{aligned} IHSG_t &= \alpha_1 + a_{11}BM_{t-1} + a_{12}IR_{t-1} + a_{13}VBIX_{t-1} + a_{14}IHSG_{t-1} + a_{15}SBIX_{t-1} + a_{16}JII_{t-1} + \dots + c_{11}BM_{t-3} \\ &+ c_{12}IR_{t-3} + c_{13}VBIX_{t-3} + c_{14}IHSG_{t-3} + c_{15}SBIX_{t-3} + c_{16}JII_{t-3} + e_{1t} \end{aligned} \quad (7)$$

$$\begin{aligned} JII_t &= \alpha_2 + a_{21}BM_{t-1} + a_{22}IR_{t-1} + a_{23}VBIX_{t-1} + a_{24}IHSG_{t-1} + a_{25}SBIX_{t-1} + a_{26}JII_{t-1} + \dots + \\ &c_{21}BM_{t-3} + c_{22}IR_{t-3} + c_{23}VBIX_{t-3} + c_{24}IHSG_{t-3} + c_{25}SBIX_{t-3} + c_{26}JII_{t-3} + e_{2t} \end{aligned} \quad (8)$$

$$\begin{aligned} VBIX &= \alpha_3 + a_{31}BM_{t-1} + a_{32}IR_{t-1} + a_{33}VBIX_{t-1} + a_{34}IHSG_{t-1} + a_{35}SBIX_{t-1} + a_{36}JII_{t-1} + \dots + \\ &c_{31}BM_{t-3} + c_{32}IR_{t-3} + c_{33}VBIX_{t-3} + c_{34}IHSG_{t-3} + c_{35}SBIX_{t-3} + c_{36}JII_{t-3} + e_{3t} \end{aligned} \quad (9)$$

$$\begin{aligned} SBIX_t &= \alpha_4 + a_{41}BM_{t-1} + a_{42}IR_{t-1} + a_{43}VBIX_{t-1} + a_{44}IHSG_{t-1} + a_{45}SBIX_{t-1} + a_{46}JII_{t-1} + \dots + \\ &c_{41}BM_{t-3} + c_{42}IR_{t-3} + c_{43}VBIX_{t-3} + c_{44}IHSG_{t-3} + c_{45}SBIX_{t-3} + c_{46}JII_{t-3} + e_{4t} \end{aligned} \quad (10)$$

Procedure of Analysis

The first step is all variables in nominal should be transformed into a real number. In this model, the variables should be then transformed into natural logarithm because of two reasons: (1) the variables will be interpreted as elasticity value and (2) all first difference variables will be regarded as growth rates. By this mechanism, all variables will not be regarded as unit but growth rates. if all values of parameters times 100 percent, all of the unit growth will be equal in form of percentage. For the variables that originally from percentage form such as interest rate, it is not necessary to transform it into natural logarithm.

The second step is Unit Root Test. The goal is to find whether the variable that is being used consists of unit root (not stationary). Forecasting using the non-stationary variables will resulted into spurious regression and stray result (Dickey et al., 1994 and Verbeek, 2000). The unit root test will be conducted using Augmented Dickey Fuller (ADF) test. If the probability of the data from ADF test is less than 5% therefore the data is stationary. The stationary test can be obtained by comparing the t-stat with the critical value on the t table (1%, 5% and 10%). If the t-stat is lower than the critical value, therefore the data is not stationary. The data stationary depends on the level, 1st difference or 2nd difference. If the data of all variable is non-stationary but there

is cointegration at the same level or degree therefore VECM (Vector Error Correction Model) should be applied.

The third step is the Granger Causality Test. It is used to determine the causality among variables (Ascarya, 2009). The function is to see whether the dependent variable and independent variables is cointegrated. Among the variables, it will be determined whether there is one or two way relationship.

The fourth step is finding out the optimum lag. The purpose of the optimum lag determination is to eradicate the autocorrelation problems in the VAR model. In the other hand, optimum lag shows the time lag the reaction of a variable towards the other variables (Nurlayla, 2012). The optimum lag can be obtained after the Unrestricted VAR test. The optimum lag test can be measured based on Likelihood Ration (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwartz Information Criterion (SC), and Hannan-Quin Information Criterion (HQ). The optimum lag will be chosen by the most lag suggested by most of the test indicator above.

The fifth step is defining the cointegration rank of all variables. The goal is to find out whether the variables have long term relationship. In this step, the test that will be used is Johansen Cointegration Test. Johansen tested the hypothesis about the equilibrium relationship between variables. This will allow research studies conducting a test of one or more coefficients in the Cointegration relationship (Brooks, 2008). Within Johansen test, it will be identified the amount of appropriate cointegrating vectors that will be used in VECM through maximum eigenvalues and trace statistic. If the trace statistic and max-eigen statistic pass the critical value, it indicates that there is cointegration within the model. Therefore, VECM is eligible to be applied.

The sixth step is Vector Error Correction Model. When johansen cointegration test shows the significant cointegration among variables, VECM is eligible to be used. VECM serves to estimate both short term and long run relationship in time series. VECM will consider in using the amount of cointegrating vector derived from Johansen Cointegration test and lags interval from ADF test.

The seventh step is seeing the dynamic respond of variables because of the shocks from other variables measured in deviation standard. In this step, IRF analysis will be conducted. The focus of this minor thesis is finding the shock relationship between the monetary instrument shock which is BI rates and Base Money and other variables.

The final step is analyzing the proxy variable in monetary policy and determining the variable with the biggest influence in financial sector. This procedure is using variance decomposition where this method could trace with variables that has the biggest influence towards the movement of the financial sectors or variables.

D. RESULT AND ANALYSIS

Sharia and Conventional Financial Market Development in Indonesia

The history of sharia financial market in Indonesia was initiated by PT Danareksa Investment Management in 1997. Further development is the initiation of Jakarta Islamic Index from the cooperation between Indonesia Stock Exchange (IDX) and PT Danareksa Investment Management in 2000. JII is a sharia representative index that classifies stocks and investment based on sharia principle.

The development of sharia financial market is growing to a new level in 2008. It was the first issuance of Sukuk initiated by the government of Indonesia. Sukuk is one of the investment options besides bond. Bond is a popular instrument in the emerging market. Therefore, since 2008 the growth of sharia based financial market is increasing and becoming one of the potential financial markets in the future. As the economy is growing in its complex form supported by the sophisticated technology, the sharia based instrument is growing to the next level shown by the emerging new instruments of sharia based principle within 10 years of its first issuance.

The growth of sharia based financial market is manifested through many forms such as sharia banking, and financial instruments such as stock and sukuk. In Islamic banking, Bank Muamalat is one of the examples and currently there are many banking companies that has sharia subsidiaries such as BRI sharia, Mandiri Sharia, etc. in Indonesia, two banking system is applied; those are interest rate system and profit loss sharing system. Therefore, Bank Indonesia created a transmission mechanism towards sharia based financial market through Sharia Interbank Money Market (PUAS) and Bank Indonesia Sharia Certificate (SBIS) (Sanrego and Rusydiana, 2013).

However, the practice of the sharia financial instrument and monetary policy is relatively new and there is insignificant distinction between sharia and conventional monetary policy. In some ways, sharia monetary policy is still being influenced by BI rates.

The trend of interest rate is constant in the whole year of 2010 in the rate of 6,5% and increase to 6,75% January 2011. The declining trend start from September 2011 to January 2012 at the lowest level in the whole 4 years which is 5,5%. However, in 2013 the Indonesian rupiah is weakening towards IDR that cause the increase of interest rate from May 2014 to the highest level in january 2014 which is 7,75% and keep in the constant rate until the end of the year.

The trend of base money is increasing for the past 4 years. Small decline is not significant towards the trend movements. The amount of base money is doubled within 4 years. This phenomenon indicates the activities in financial and real sector are actively healthy and growing.

Unit Root Test

By using Eviews 7 unit root test will be using Augmented Dicky-Fuller test statistic. If the probability value is more than 5%, the variable is not stationary. The table below shows the result of stationary test. Unit Root Test is same for all models.

Table 2. **Unit Root Test**

Variable	ADF test level		ADF test 1 st difference	
	Prob.	Explanation	Prob.	Explanation
LIHSG	0.1374	Not stationary	0.0000*	Stationary
BM	0.0012*	Stationary	0.0000*	Stationary
IR	0.8521	Not Stationary	0.0025*	Stationary
LJII	0.0322*	Stationary	0.0000*	Stationary
SBIX	0.7322	Not Stationary	0.0000*	Stationary
VBIX	0.7564	Not Stationary	0.0000*	Stationary
Note : *significant at 5%				
*significant at 10%				

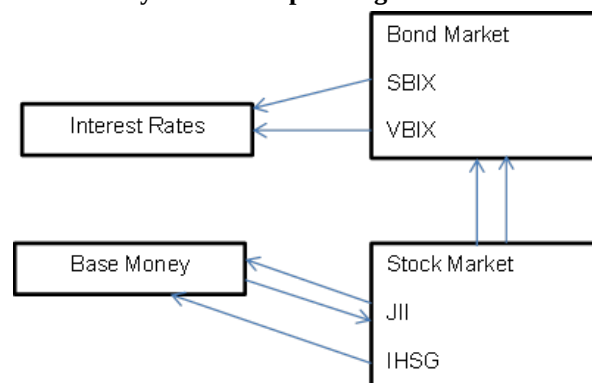
Source: Data Processed, 2015

Based on the unit root test result, it can be concluded that BM and LJII is stationary at 5% in level, meanwhile the other variables are not stationary. However, all variables are stationary at 5% in 1st difference. Therefore, all variables are declared stationary at 1st difference.

Granger Causality Test

There is no causality relationship among interest rates and base money. Base money is the amount of money produced and used meanwhile interest rates are used to influence the demand deposit to withdraw the money from the market without necessarily reducing the amount of money itself. Therefore, interest rates and base money can be called as a separate monetary policy.

Figure 2. **Causality Relationship among Variables**



Source: Researcher Illustration, 2015

In figure 2, the stock market both JII and IHSG cause both type of bond markets but not vice versa. Therefore, there is strong unidirectional relationship between stock market towards bond market. It is in line with the findings of Fang et al (2006). However, the changes bond market price cause the changes of interest rates, because shocks from bond market will be

responded by the government through BI Rates manipulation. The reason is because mainly both conventional bond and sukuk in the market are issued by the government of Indonesia. The ratio of bond issued in 2014 is 85,2% government bond and 14,8% corporate bonds

Optimum Lag Order

Based on table 3, the optimum lag order is 1. All test criteria are good; however the optimum lag is being determined by the majority of criteria (Hossain, 2009). FPE, HQ and SC suggest the lag at 1. Therefore, future analysis will use lag optimum 1.

Table 3. Optimum Lag Order

No	Criteria	Optimum Lag
1	Likelihood Ratio (LR)	3
2	Final Prediction Error (FPE)	1
3	Akaike Information Criterion (AIC)	5
4	Schwartz Information Criterion (SC)	1
5	Hannan-Quin Information Criterion (HQ)	1

Source: Data Processed, 2015

Johansen Cointegration Test

Cointegration test is determined to analyze the cointegration among variables which indicates the influence of variables to one another. General test summary indicates the model to choose linear intercept trend as it is suggested by Akaike Information Criteria. If trace statistics > critical value or prob < 0.05, the variables indicates cointegration (Hossain, 2009).

Table 4. Johansen Cointegration Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None*	0.612155	162.7999	117.7082	0.0000
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.612155	54.93462	44.49720	0.0027

Source: Data Processed, 2015

Based on table 3, cointegration among variables does exist. Trace statistic shows 4 cointegration eqn(s) at the 0.05 level in and Max-eigenvalue shows 2 cointegration at the 0, 05 levels in.

VECM (Interest Rates Comparison)

Table 4. Interest Rates Impact on Financial Market VECM result

Long Term					
Conventional			Sharia		
IHSG	Coefficient	0.0155	-0.016	Coefficient	JII
	t-stat	1.29	-1.28	t-stat	
VBIX	Coefficient	0.47	-0.30	Coefficient	SBIX
	t-stat	1.28	-1.28	t-stat	
Short Term					
IHSG	Coefficient	-0.021	-0.028	Coefficient	JII
	t-stat	-0,49	-0.65	t-stat	
VBIX	Coefficient	1.023	0.719	Coefficient	SBIX
	t-stat	0.35	0.39	t-stat	
t-table 5% = 1,68					
t-table 10% = 1.30					

Source: Data Processed, 2015

In the short term, interest rates impact is not significant towards every single financial market regardless sharia or conventional financial markets. VBIX and SBIX get positive impact of interest rates positive changes. However, the financial stock market shows a contrary result compare to bond markets. IHSG and JII get negative impact of interest rates positive changes. The goal of interest rate changes is to address economic instability which is reflected by the inflation

rate through inflation targeting framework. Therefore, in the short run, interest rate changes are insignificant towards all financial market.

But in the long run, most of them can be regarded either significant or not significant, because t-stat is significant at 10% and all of the financial markets are not reaching the t table. Most of the financial markets t-stats are around 1.28 and 1.29, therefore in this paper, it is inconclusive to generalize whether interest rates has significant impact towards the changes of all type of financial markets or not.

In the long run, interest rate play significant role in influencing the stock market. The main reason is because interest rate is one of the main indicators that drive the economy which influence macroeconomic variables such as inflation rate, consumption rate and exchange rates. Therefore, in the long run when the macroeconomic variables changes as government desired, it will eventually change the course of financial markets. Therefore, all of the financial markets regardless sharia or conventional and bond or stock markets will significantly be influenced by interest rate changes in the long run. Bond market shows indifferent in the level of significances of interest rates.

In the long run, sharia based market will be influenced negatively by interest rates and conventional based market will be influenced positively. The main reason is because each of the instruments based on conventional and sharia based on different transactional process. Sharia financial market is not using interest rates and the main reason sharia financial market emerges is in order to address the lack and insufficiencies of interest rates based model. Moreover, increasing interest rates are an important indicator for investors. According to the random walk theory, a negative response from JII and SBIX occurs because the increase of interest rates is viewed as bad news for the investor in the Indonesian capital market (Antonio, 2013).

VECM (Base Money Comparison)

Table 5. Base Money Impact on Financial Market VECM result

Long Term					
Conventional			Sharia		
IHSG	Coefficient	-0.714	0.758	Coefficient	JII
	t-stat	-11.33	10.87	t-stat	
VBIX	Coefficient	-21.90	13.89	Coefficient	SBIX
	t-stat	-7.84	7.65	t-stat	
Short Term					
IHSG	Coefficient	-0.32	-0.304	Coefficient	JII
	t-stat	-2.04	-1.91	t-stat	
VBIX	Coefficient	-14.16	-6.75	Coefficient	SBIX
	t-stat	-1.37	-1.01	t-stat	
t-table 5% = 1,68					
t-table 10% = 1,30					

Source: Data Processed, 2015

In the long run, all financial markets are significantly influenced by the base money. However, the growths of sharia based financial markets are contrary in comparison to the conventional based financial markets. Every growth of 1% base money will trigger the positive growth of JII 0.75% and 13.89% SBIX. Meanwhile, every growth of 1% base money will generate negative growth of IHSG 0.714% and 21.9% of VBIX.

In the short run, base money creates negative growth towards all financial markets regardless sharia or conventional based financial markets. Every growth of 1% base money will generate negative growth of IHSG 0.32%, JII 0.304%, VBIX 14.16%, and 6.75% SBIX. The only difference is exhibited by SBIX. All financial markets except SBIX are significantly influenced by base money. There are few reasons that can explain the impact of base money growth that creates negative impact towards financial markets phenomenon. According to the IS and LM theory, the growth of base money or money will increase the supply of money towards the market which

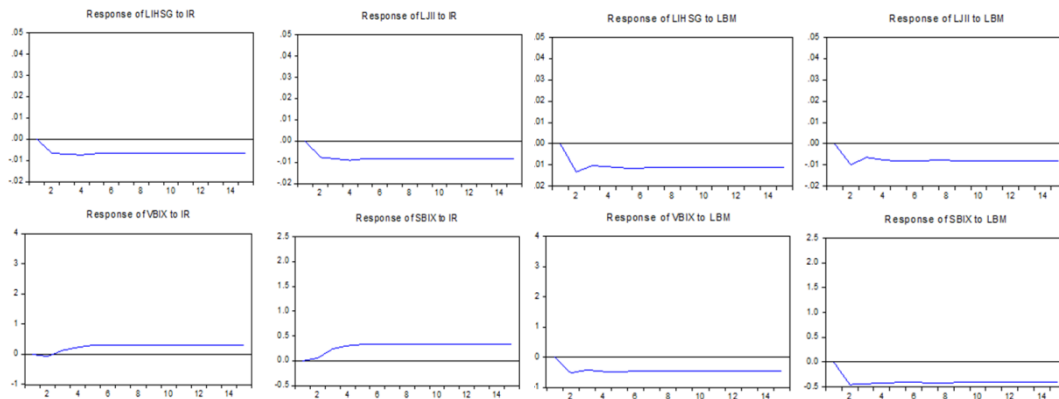
directly weaken the IS curve which is Investment and saving curves. However, the prices of goods are the one that reacts positive towards base money growth (Kimura et al, 2002).

The reason why in the short run, growth of base money is insignificant towards bond market is because the biggest profit can be gained by capital gain. Investing in the stock market is a lucrative investment to gain short capital gain. Therefore, the growth of base money will influence stock market more significantly in short run in comparison to the bond market. In the long run, bond market promises a rigid return structure that provide safer and constant return rate which makes bond market is more preferable or significantly influencing the growth of bond market.

The contradiction of sharia and conventional market is simple. In sharia based market, base money will give significant positive impact in the long run and in conventional based market, base money will give significant negative impact in the long run. In this section the highlight will be on base money differences. According to the theory of buffer stock demand of money, over supply of money will drive investors in investing their money on something more profitable and safer. Bond is relatively safer because of rigid coupon in comparison to stock; therefore changes of money supply will impact bond market more significant. The reason why sharia based financial market is more preferable because there are findings where sharia financial market has better portfolio performance in comparison to conventional financial markets (Reddy and Fu, 2006). Moreover, sharia financial instrument is till emerging and developing which makes it more lucrative to invest on (Pratama, 2015). Therefore, the risk of high money supply will tend to be averted into investing in sharia financial instruments.

Impulse Response Function

Figure 3. Impulse Response Function of Interest Rate (IR) and Base Money (BM) towards all Variables



Source: Data Processed, 2015

The response of interest rate changes is different between stock and bond market. Stock markets respond negatively towards the growth of interest rates and bond market display the opposite direction. The changes of interest rate are being responded by all financial markets in the first month. The shocks are stabilizing at the 5th period and this phenomenon is indifferent from all the financial markets.

The response of the variables towards the base money changes is directly responded from the 1st period. However, the difference is in how long does it takes for the base money shock to stabilize. Conventional based markets which are IHSG and VBIX only requires 6 periods for the base money shock to stabilize. However, in the sharia based financial market such as SBIX and JII, requires 8 periods to stabilize the shock from base money. The first response from all variables

is negative in the 2nd period and slightly increasing in the 3rd period. SBIX is the only variable that increased until 5th period. Therefore, SBIX is the only financial market that is not significantly influenced by base money.

Variance Decomposition

Variance decomposition explains how far the changes of monetary policy will result into the changes of the financial market. The result is both interest rate and base money is not a big indicator that influence the changes of financial market. Over 88% of financial market changes are caused by it. The proportion of base money and interest rate are in average 2% - 3% in influencing financial market changes.

E. Conclusion and Recommendation

Conclusion

Monetary policy impact towards all financial market is showing significant difference between sharia and conventional in the long run. In the short run, the difference between sharia and conventional financial market caused by the monetary policy is none. However, the difference is based on the type of market. Bond market in the short run is positively influenced by interest rates while stock market shows contrary result. But interest rate impact towards all financial market in the short run is not significant, therefore the contradictory among type of financial markets are considered as not significant. SBIX development is the most random amongst all, therefore neither base money nor interest rate are significantly influencing SBIX price movement meanwhile IHSG, JII, and VBIX are significantly influenced.

The similarity of base money impact in the short run is all financial markets are negatively influenced by positive growth of base money. This phenomenon is in line with IS and LM theory where in the short run, excess supply of LM will weakens IS. But the future equilibrium will be formed depend on the progress of real sector which moves IS curve to a new balance.

Judging with the ability to influence the financial market movements and developments, both interest rate and base money are not significant instruments that influence the financial market. The biggest portion of financial market movement is caused by itself. An efficient financial market is when the financial market is closer to the random walk theory where what influence the movement the most is the previous history of the financial market, transparency, and credibility. All of those factors are empowered through advanced technology application in the trading activities. This is the cause of interest rates insignificance towards the movement of financial markets. Indonesian financial market is growing and supported with adequate technology. Better computerized trading empowers the financial market efficiency (Abadi et al. 2013).

In the long run, the contradiction between sharia and conventional financial market is clearer than in the short run. In the long run, all monetary policy instruments which are base money and interest rate are significantly influence all financial markets. The differences are base money significantly gives positive impact towards sharia based financial markets and contrary towards the conventional based financial markets meanwhile interest rate gives positive impact towards conventional based financial markets and contrary towards the sharia based financial markets. In the long run, sharia based instrument is a less risk instruments in comparison to the conventional, moreover sharia based instrument is a potential investment opportunity that is growing. Interest rate is being considered as an opposition or substitute instrument of sharia based financial investment; therefore in the long run if the growth of interest rate is outweigh the profit offered by the sharia based financial instrument, it will create substitution effect and investor consider this phenomenon as a bad news for investing in sharia based instrument (Antonio, 2013).

There is no causality relationship between interest rates and base money. Base money is the amount of money produced and used meanwhile interest rates are used to influence the demand deposit to withdraw the money from the market without necessarily reducing the amount of money itself. Therefore, interest rates and base money can be called as a separate monetary policy.

Both base money and interest rate spend the equal time of shock impact. The shock from base money and interest rate is being responded from the 1st period and end in the 5th period.

There is no significant difference between the model comparisons from the monetary policy that being considered as the exogenous or endogenous variables.

Recommendation

1. Global economy is in the stage of slow growth and for developed nations such as US, Europe and China, those nations growth of GDP and financial sector are declining throughout 2014. According to the research conducted by China, there is a strong correlation between the declining of China economy towards the growth of emerging market in Asia. However, the declining economy of US impacts stronger towards Asia emerging market in comparison to China. This phenomenon validates the tapering policy of US which makes USD drained from the developing nations back into US (BI, 2014). This is in line with the quantitative easing policy that currently enacted by Europe and Japan to protect and endorse their economic growth. Because of the lack of capital inflows in the nations it is a need for Indonesian government to add the base money supply and following the same policy which is quantitative easing to endorse growth of economy in Indonesia. In 2014, Indonesia GDP growth is slowing down from the 1st semester until the end of the year. Based on the finding on this research, in order to develop the growth of all financial markets, adding base money is an important indicator for the growth. Even if it reacts negative towards conventional financial market in the long run, it is still give positive growth towards the sharia financial market in the long run. Sharia based financial market is a lucrative and potential market to be developed. Therefore, expansive monetary policy from 2015 is a suitable policy for Indonesia to escape from the global economy negative growth spillover and at the same time support the financial market developments in Indonesia.
2. Interest rate development in Indonesia is high which 7.75% until September 2014 is. The main reason is to endorse the money supply to the bank and lift up the value of rupiah. The main reason why rupiah is weak because the declining export activities and increasing import activities which makes the balance of trade gap increasing in 2014. However, Indonesian authorities should be aware that increasing the interest rates will makes the economy growth becomes slower and harder to bounce back. The economic activities will not be stimulated. In order to support the increasing base money which is expansive policy, interest rate should be lowered. This quantitative easing policy in the other hand, will endorse the development of conventional financial market. Indonesia is having two distinct financial market principles which is the uniqueness within itself. And both of these policies are supporting the growth of both financial markets in its own way. Therefore, the quantitative easing is a win-win solution for Indonesia in 2015 and the future.

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