THE INFLUENCE OF TRANSMISSION OF DUAL MONETARY SYSTEM AND FINANCIAL RATIO TO THE FINANCING TO DEPOSIT RATIO (FDR) OF ISLAMIC BANKS IN INDONESIA (2004 – 2011)

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Abstrak: Tulisan ini bertujuan untuk mengetahui faktor-faktor dalam transmisi sistem moneter ganda dan rasio keuangan yang mempengaruhi FDR bank syariah. Studi akan menggunakan pendekatan kuantitatif. Metode analisis menggunakan regresi linear berganda untuk menguji apakah delapan variabel bebas berpengaruh dan berhubungan terhadap FDR. Dengan menggunakan nilai alpha sebesar 0,10 diketahui bahwa terdapat tiga variabel bebas yang berpengaruh secara signifikan terhadap FDR bank syariah, yaitu BI Rate, inflasi dan DPK. Lima variabel bebas yang lain, yaitu penempatan di SBI Syariah, nisbah, CAR, NPF dan BOPO tidak berpengaruh secara signifikan terhadap FDR bank syariah. Uji F menunjukkan bahwa secara serempak variabel bebas mempengaruhi variabel terikat, karena nilai probabilitas F-statistic lebih kecil dari 0,05. Dari delapan variabel bebas yang digunakan, terdapat lima variabel bebas yang berhubungan positif terhadap FDR bank syariah, yaitu nisbah, inflasi, CAR, DPK dan NPF. Sedangkan tiga variabel lainnya yaitu BI Rate, penempatan pada SBI Syariah dan BOPO berhubungan negatif terhadap FDR bank syariah selama jangkauan penelitian ini.

Keywords: Transmission of Monetary System; Financial Ratio; Financing to Deposit Ratio (FDR)

Preface

Money represents an inexhaustible matter due to its importance and crucial role in every line in the modern economy. As Goldfeld says that one need not be an economist to realize the importance of money in the economy. Money in the modern economy is no longer just a unit of account and transaction media (because it has become a commodity), so it creates a world for money itself that is well-known as monetary sector (Maski, 2007: 1). The growth of monetary sector is a very dynamic development, but tends to be wild. Hence then appears policy that seeks to ensure that the monetary sector can promote economic growth in the real sector. This policy is commonly called transmission of monetary policy or monetary system that will be the academic research in this study.
In addition, this research also laid on the following conditions. *First*, market share of Islamic banking industry in Indonesia until 2009, is still in a very small-scale, i.e. not more than 3% of total market share of the national banking industry. Even the market share of the financial resources (deposits) is only 1.7%. So it is hard to deny that the intermediary function of sharia banking in Indonesia is still tenuous.

*Second*, restricted deposits of Islamic banks above have a very large effect on the financing extended by Islamic banks. This is because 87.4% of the funds resource held by Islamic banks comes from the deposits, so the smaller deposits they collected, the financing can be also getting smaller, and vice versa.

*Third*, although the market share of Islamic banks is still relatively insignificant, but on the other hand, FDR extended by Islamic banks is in great quantities, approximately 90%. In 2009 for example, FDR of Islamic banks was by an average of 97.2%. This number is certainly preferable than the numbers of Lending to Deposit Ratio (LDR) of conventional banks that is on average only by 62%.

Islamic banking industry is one of transmission links of the monetary system in Indonesia. This transmission has very significant change when the implementation of the dual banking system, as a consequence of the nascent of interest-free banking, has began. These changes have implications for the practice of dual monetary transmission. The first transmission of the monetary system is based on the monetary transmission rates, while the second is an interest-free monetary transmission earmarked for the Islamic financial institutions and interest-free banking.

However, although the Islamic banking has been driven through the transmission of interest-free monetary system, but Islamic banking can not be freed completely from the influence of the transmission of interest-based monetary system.

FDR is one of important indicators to determine the intermediary function held by Islamic banks. When the FDR level is high, this means that Islamic banks can provide more financing to make its intermediary function can be performed properly. Because of its main playing-field is on the real sector investment, so the high FDR can be interpreted as an increase in output of the real sector of economy. This shows us the
importance of FDR. Therefore, the transmission of the monetary system should be completely direct and ensure that FDR is in contact with real sector investment, and not merely consumption wants that will be the 'fuel' of inflation.

Time series 2004 till 2010 in this study is based on several considerations: first, at the beginning of the 2000s is a period of economic recovery in Indonesia after the economic crisis experienced by Indonesia in the late of second millennium. Second, in the year 2008 - 2009 macro-economic conjuncture was in very vulnerable to the economic crisis as the impact of the global economic crisis. Third, many strategic policies (both from BI, legislative and executive) dealt with Islamic banking in Indonesia emerged in 2004 until 2010. Fourth, in those years, BI has always 'fail' in achieving the target growth of national market share of Islamic banks in Indonesia.

Prior to Research

1. Transmission of Monetary System

Previous studies have attempted to explain the variables that predispose the FDR of Islamic banks in Indonesia. Research conducted by Aam Slamet Rusydiana revealed that two instruments in the transmission of dual monetary system, SBI and SBI Sharia, negatively related to the financing extended by Islamic banks. The findings are in line with the results found by Anggoro Yosi M, which concluded that SBI Sharia significantly brings over the financing of Islamic banks with negative relationship. But other studies showed a different conclusion as Karjadi and Charisma Vina Dewi (2004) showed on their research that the Sharia SBI has positive relationship to Sharia Islamic bank financing.

Three studies developed by Fahrizal Ahmad Latif, Septiana Ambarwati (2009) and Karjadi (2004) concluded that the transmission of monetary system based on interest rate have a positive influence on FDR of Islamic banks.

Related to independent variable, equivalent of profit-loss sharing ratio (nisbah), Nurul Chotimah and Dudy Roesmara have explored that the equivalent ratio is significant and has positive influence on FDR of Islamic banks. Those studies are consistent with the results developed by Rival (2007), Irbid and Zarka (2001) who
concluded that rate of profit (equivalent ratio) also influences the customers of Islamic banks.

2. Financial Ratio

Research developed by Nurhayati Siregar, concluded that the deposits as one of indicators of the banking financial ratio, has significant effect on FDR of Islamic banks. Almost all studies show that the deposits predispose significantly to FDR of Islamic banks.

The next financial ratios is CAR (Capital Adequacy Ratio) and NPF (Non Performing Financing). Several studies have shown that CAR has a significant influence and positive relationship to FDR of Islamic banks. By using OLS (Ordinary Least Square) regression method, study conducted by Ismi Rahimatun (2009) shows that CARs positively related to FDR. Meanwhile, research at Bank Syariah Mandiri undertaken by A. Asri Suwarsi (2009) also draws conclusion that CAR significantly and positively affected FDR.

Method

This library research used quantitative approach. The data are derived from the secondary data that are held by Bank Indonesia and the Central Bureau of Statistics (BPS). Source of data obtained from a variety of forms, such as BI annual reports, Indonesian Banking Statistics, Indonesian Economic and Financial Statistics (SEKI), BPS reports, online BI website, and other valid sources through the process of source criticism.

Dependent variable in this study is FDR of Islamic bank, while the independent variables consist of two components, namely the transmission of dual monetary system and financial ratios. Transmission for the monetary system consists of BIRate; placement of Sharia Islamic banks in the SBI Sharia; equivalent of profit sharing ratio (nisbah), and inflation. While the financial ratios consist of CAR, deposits, NPF and BOPO (ratio of operational costs to operating income). Population in this study are all Islamic banks in Indonesia, either BUS or UUS. The data are collected and analyzed using multiple linear regression analysis.
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method that will be tested first through the classical assumptions, which include test of multicollinearity, autocorrelation, and heteroscedasticity. Regression equation used in the analysis process as follows:

\[ FDR_{BS} = \beta_0 + \beta_1 SBIS_t + \beta_2 SBI_t + \beta_3 EKUI_t + \beta_4 INF_t + \beta_5 CAR_t + \beta_6 DPK_t + \beta_7 NPF_t + \beta_8 BOPO_t + e_t \]

Hypotheses to be tested are as follows:

H1: The transmission of dual monetary system (SBI, SBI Sharia, Inflation and Equivalent Ratio) individually influences on FDR of Islamic banks.

H2: The transmission of dual monetary system (SBI, Sharia SBI, Inflation and Equivalent Ratio) simultaneously affects FDR of Islamic banks.

Findings

Because this study aims to determine the predictive power and influence of independent variables on the dependent variable, linear regression test using the Ordinary Least Square (OLS) is used. Results of the main regression are as follows:

```
Dependent Variable: FDR
Method: Least Squares
Date: 9/23/10   Time: 20:56
Sample: 1 26
Included observations: 26

<table>
<thead>
<tr>
<th>Variable</th>
<th>t-Statistic</th>
<th>Std. Error</th>
<th>Coefficient</th>
<th>Prob.</th>
</tr>
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<tbody>
<tr>
<td>C</td>
<td>1.672828</td>
<td>7.298049</td>
<td>12.20838</td>
<td>0.1127</td>
</tr>
<tr>
<td>BIRATE</td>
<td>-1.822529</td>
<td>0.499221</td>
<td>-0.909845</td>
<td>0.0860</td>
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<tr>
<td>SBISY</td>
<td>-1.185139</td>
<td>0.299021</td>
<td>-0.354382</td>
<td>0.2523</td>
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<tr>
<td>NISBAH</td>
<td>0.233263</td>
<td>0.371331</td>
<td>0.086618</td>
<td>0.8183</td>
</tr>
<tr>
<td>INFASISI</td>
<td>2.493893</td>
<td>0.193263</td>
<td>0.481976</td>
<td>0.0232</td>
</tr>
<tr>
<td>CAR</td>
<td>0.031081</td>
<td>0.185278</td>
<td>0.005759</td>
<td>0.9756</td>
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<tr>
<td>DPK</td>
<td>32.10148</td>
<td>0.028548</td>
<td>0.916443</td>
<td>0.0000</td>
</tr>
<tr>
<td>NPF</td>
<td>1.664843</td>
<td>0.291891</td>
<td>0.485953</td>
<td>0.1143</td>
</tr>
<tr>
<td>BOPO</td>
<td>-1.471572</td>
<td>0.066336</td>
<td>-0.097618</td>
<td>0.1594</td>
</tr>
</tbody>
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Mean dependent var | 26.25654 | R-squared | 0.996041
S.D. dependent var | 14.22232 | Adjusted R-squared | 0.994177

Jurnal Hukum Islam (JHI) Volume 10, Nomor 1, Juni 2012
http://journal.stain-pekalongan.ac.id/index.php/jhi
ISSN (P): 1829-7382
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<table>
<thead>
<tr>
<th>Akaike info criterion</th>
<th>3.268937</th>
<th>S.E. of regression</th>
<th>1.085258</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schwarz criterion</td>
<td>3.70432</td>
<td>Sum squared resid</td>
<td>20.02234</td>
</tr>
<tr>
<td>F-statistic</td>
<td>534.5673</td>
<td>Log likelihood</td>
<td>-33.49618</td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.000000</td>
<td>Durbin-Watson stat</td>
<td>2.033204</td>
</tr>
</tbody>
</table>

Table 1 Regression Output

\[ Y = 12.20837995 - 0.9098447619 \times \text{BIRATE} - 0.3543816237 \times 0.08661770158 \times \text{ratioSBISY} + 0.4819761041 \times 0.005758700968 \times \text{INFLATION} + \text{CAR} + 0.4859530876 + 0.9164434079 \times \text{Deposits} \times \text{NPF} - 0.0976181509 \times \text{BOPO}. \]

On alpha value of 10% (\( \alpha = 0.10 \)), it is discovered that there are three independent variables that significantly affect the FDR of Islamic banks. Three of these variables have a probability value below 0.10, i.e. BIRate by 0.0860; INFLATION variable 0.0232; and deposits 0.000. Whereas the other five independent variables do not affect Islamic banks as FDR probability value is above 0.10. These variables include SBI Sharia, equivalent ratio (nisbah), CAR, NPF and BOPO. Probability of SBI Sharia variable has a value 0.2523; profit-loss sharing ratio 0.8183; CAR 0.9756; NPF 0.1143, and 0.1594 for BOPO value.

Based on \( R^2 \) value, it can be concluded that the model developed in this study is an adequate one, as shown in column Goodness of Fit that value of \( R^2 \) is 0.996041 and Adjusted \( R^2 \) is 0.994177. Simultaneously tests as shown by the F-statistic gives us a chance to draw that all independent variables have an influence on the dependent variable. This is because the F-statistic which its value is 534.5673 has probability value 0.000 (a smaller than alpha value 0.05).

Statistics Test

The following test after main regression are T-test, F-test and the test of determination.

1. T-test

Referring to the main regression results, it can be concluded that there are only three independent variables that significantly affect FDR. This is with reference to the t-statistic and t-table. Three independent variables are BIRate through t-statistic -
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1.8222; inflation 2.493; and deposits 32.101. Whereas the other five independent variables, namely SBI Sharia, equivalent ratio, CAR, NPF and BOPO insignificantly influence FDR because the statistic of those five independent variables are outside the Ho acceptance area.

2. F-test

The F-test is used to determine if all the independent variables simultaneously have an influence on the dependent variable. It is known that F-statistic value 534.5673 is greater than the value of F-table 2.54. It can be interpreted that Ho is rejected, which means that the monetary transmission system (BI Rate, SBI Sharia, inflation, equivalent ratio) and financial ratios (CAR, FPK, NPF, BOPO) simultaneously affect FDR, with a probability value 0.000.

3. Test of Determination

Test of determination $R^2$ (R-squared) is held to find out the strength of independent variables tested simultaneously in influencing and predicting the dependent variable. Referring to the results of regression analysis, the obtained rate of $R^2$ is 0.996041. The figure shows that 99.6% FDR of Islamic banks during the study was conducted is influenced by the eight independent variables included in the transmission of dual monetary system of Islamic banking and financial ratios. While the 0.4% change in FDR influenced by other factors.

4. Classical Test Assumptions

Multicollinearity

Partial regression (auxiliary regression) test enables this research to avoid multicollinearity. Multicollinearity test is performed by comparing $R^2$ values from main regression with $R^2$ values of each independent variable in partial regression. Multicollinearity is not the case (avoided) if the $R^2$ values in the primary model is higher than the value of $R^2$ from the auxiliary regression. The output of the auxiliary regression lead to the conclusion that there is no multicollinearity between independent variables with the other independent variables. This can be evidenced by the value of $R^2$ in auxiliary regression that is smaller than $R^2$ in the main regression as shown below.
Table 2 R² in Main and Auxilliary Regression

<table>
<thead>
<tr>
<th>R² in Main Regression</th>
<th>R² in Auxilliary Regression</th>
</tr>
</thead>
<tbody>
<tr>
<td>99.6</td>
<td>94.27</td>
</tr>
<tr>
<td>BI Rate</td>
<td>42.35</td>
</tr>
<tr>
<td>CAR</td>
<td>39.47</td>
</tr>
<tr>
<td>SBI Sharia</td>
<td>67.33</td>
</tr>
<tr>
<td>Equivalent Ratio</td>
<td>92.29</td>
</tr>
<tr>
<td>Inflation</td>
<td>74.17</td>
</tr>
<tr>
<td>Deposits</td>
<td>58.92</td>
</tr>
<tr>
<td>NPF</td>
<td>45.17</td>
</tr>
</tbody>
</table>

**Heteroscedasticity**

This research uses a graphical method to impose heteroscedasticity. This method is done by showing the scatterplot of the squared residual variable and independent variables. Variables squared residual can be generated from residual variables. Variables will be calculated after performing the regression, where the scatterplot generated is shown in figure 1.

If the scatterplot graphs configures a specific pattern then heteroscedasticity occurs; but if the plot is in a random scatter pattern, so heteroscedasticity is not in case. Referring to the picture above, the regression analysis in this study has no heteroscedasticity because the scatterplot does not form a specific pattern.

**Autocorrelation**

Jurnal Hukum Islam (JHI) Volume 10, Nomor 1, Juni 2012
http: e-journal.stain-pekalongan.ac.id/index.php/jhi
ISSN (P): 1829-7382
Autocorrelation test in this study uses the Breusch-Godfrey test, or known as Lagrange-Multiplier test. This test results the Obs*R-squared value 4.081108 with a probability 0.129957. Autocorrelation occurs if the probability is less than the value α = 0.05. Based on the Breusch-Godfrey test it appears that the probability for the Obs*R-squared is higher than the value α = 0.05 so that we can draw a conclusion that there is no autocorrelation.

Discussion
1. Influencing Variables

By using a significance level at 10% level it is discovered that there are three independent variables that significantly influence FDR of Islamic banks. Three variables are BI Rate, inflation and deposits. Related to this, the researcher attempts to provide an analysis and discussion. BI Rate has significant effect on the FDR with negative relationship. This means that if the BI Rate increases, the FDR Islamic banks will decrease and vice versa. The explanation is, the BI Rate is the conventional monetary transmission made to govern the price level, inflation and the currency of rupiah. If inflation happens, BI rate will be increased to reduce the amount of circulating money so that the demand for money dwindle. At the macro economy, this condition will wear off the level of demand for credit (for conventional banks) and finance (for Islamic banking).

A forward question is, how the roles and functions of a national Islamic bank in reducing and controlling the rate of inflation. Islamic banks as an economic institution, is an important and integrated pillar to the Islamic economic system. Because the Islamic economic system is based on the real sector, the main core of Islamic banks is also laid on the real sector. In this case, the Islamic bank will curb inflation caused by derivative products that are highly speculative because they will hold financing only for products based on underlying assets. The necessity of real assets will be a 'brake' against those who are toying with the level of supply and demand in the financial sector.

Islamic banking sector's role in contributing the inflation rate is also less compared to the contribution of inflation from conventional banking. Research conducted by BI revealed that conventional bank accounts for the causes of inflation...
81.4%, while Islamic bank ‘only’ 6.4%. This is an explanation of why inflation is precisely is positively related to FDR of Islamic banks.

Furthermore, related to the influence of deposits to FDR, this is a logical explanation.

a) Funds held by the majority of Islamic banks come from deposits (87%), so it makes sense that deposits have a significant influence on FDR of Islamic banks.

b) The average of FDR held by Islamic banks above 90%. This means that collected funds are used directly by Islamic banks for their financial products.

2. Non-influencing Variables

Of the eight independent variables tested, five variables do not significantly affect FDR, i.e. SBI Shariah, profit-loss sharing ratio, CAR, NPF and BOPO. The explanation is that SBI Shariah represents a monetary instrument used to overcome the liquidity in Islamic banking. In the event of over-liquidity, the funds will be deposited in SBI Sharia. Over-liquidity is an indicator that the function of intermediary in the financing is in substandard degree. Therefore, if a growing number of funds placed in Sharia SBI increase, so the funds allocated for financing is going to be reduced. This is the reason that SBI Sharia has a negative relationship with FDR of Islamic banks.

And what about the profit sharing ratio that does not significantly affect on the FDR? Financing extended by Islamic banks are basically consists of two types, namely the sale and purchase financing (murabaha) financing based on partnership pattern (mudaraba and musharaka). Profit sharing ratio only applied to the type of partnership funding, so the profit sharing ratio will only affect the mudaraba and musharaka financing. While the murabaha financing will not be influenced by the profit sharing ratio for customers is subjected to a margin that is fixed return for the bank. As it is widely known, this type of financing is the “most interesting” product for customers of Islamic bank.

Three financial ratios, namely CAR, NPF and BOPO also do not significantly influence FDR. CAR and NPF have a positive relationship, while BOPO is in negative relationship. CAR is essentially to provide security to bank customers, both
depositors and borrowers due to the availability of liquidity and capital for Islamic banks in question. But in many circumstances, customers do not pay much attention to the amount of CAR. So, it is reasonable if CAR does not affect significantly to FDR.

On contrary to the general theory which declares that if NPF (NPL) is in high degree so does FDR (LDR) rate, this study reveals that NPF does not influence FDR. The small amount of FDR experienced by Islamic banks, will not be considered as an “impedance” for their liquidity and cash-flow. On the other side, Islamic banks always keep on giving priority to the prudential principles so the existence of underlying assets is un-negotiable. This, undoubtedly, will provide and make Islamic banks feel secure in extending their murabaha financing.

The last variable is BOPO that has negative relationship to FDR. This negative relationship is very plausible, because the low value of BOPO can be interpreted that Islamic banks are more efficient and profitable. Therefore the low value of BOPO makes the Islamic bank to encourage expanding their funds considering to the efficiencies they have done.

Conclusion

Based on the previous discussion, it can be drawn several following conclusions:

1. This research reveals that there are three independent variables that significantly influence FDR of Islamic banks, i.e. BI Rate, inflation and deposits. Five other independent variables, the placement of the SBI Sharia, profit-loss sharing ratio, CAR, NPF and BOPO have no influence to the FDR. It is found that $R^2$ value is 0.996041 which means that the effect of independent variables by 99.6% to FDR. F-statistic 534.5673 with probability value 0.000 indicates that all independent variables simultaneously affect dependent variable.
2. Of the eight independent variables tested in this study, there are five independent variables having positive relationship to FDR, i.e. profit-sharing ratio, inflation, CAR, DPK and the NPF. The other three variables, BI Rate, placement on Sharia SBI and BOPO negatively related to FDR over scope of this study.

**Theoretical Implications and Research Recommendations**

There are some further theoretical implications and need indepth research in subsequent studies.

1. Inflation and the positive influence of inflation to FDR shows that Islamic banks are more resistant to inflation shocks, and even the rate of inflation would encourage the increase of the FDR. This condition is certainly contrary to the general theory of inflation, by which will make people are reluctant to invest and apply to bank financing. So it is recommends to further reserach to explore the factors that encourage banks to provide financing when inflation rises. Similarly, research needs to be done deals with the factors that influence people to apply for financing in Islamic banks in times of high inflation.

2. Profit sharing ratio is not significant variables for FDR. Then, it strengthens more previous research resulting that murabaha (that will not be influenced by profit-loss sharing ratio) has always been 'excellent' products both by banks and customers.

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Journal/Report/Under & Post-Graduate Thesis


Jurnal Hukum Islam (JHI) Volume 10, Nomor 1, Juni 2012
http: e-journal.stain-pekalongan.ac.id/index.php/jhi
ISSN (P): 1829-7382


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